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Renewable Energy Projections as Published in the National Renewable Energy Action Plans of the European Member States

Covering all 27 EU Member States with updates for 20 Member States

L.W.M. Beurskens
M. Hekkenberg
P. Vethman

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Disclaimer

This report has been compiled with great care. Focus has been on data tables in the original NREAP documents and in all supplementary information provided by the European Member States. The original NREAP documents remain the authentic versions. The Energy research Centre of the Netherlands (ECN) and the European Environment Agency (EEA) cannot assure any responsibility for any remaining errors, if and when applicable, of the data in this report and in the underlying database.

Abstract

This report presents an overview of all data that have been published in the National Renewable Energy Action Plans (NREAPs). In this version of the document (dated 28 November 2011) all 27 European Union Member States have been covered, and for 20 countries supplementary information provided by the Member States has been integrated. These Member States are: Austria, Belgium, Bulgaria, Cyprus, Denmark, Finland, France, Greece, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Romania, Spain, Sweden and the United Kingdom. For the following Member States no additional information is available: the Czech Republic, Estonia, Germany, Italy, Poland, Slovakia and Slovenia, so data from the original NREAP have been used for these countries.

The report highlights a set of cross-sections of the database that has been compiled from the NREAP documents. The underlying database and the images from the report are available at http://www.ecn.nl/nreap. Moreover a separate summary report is available from this location.

Keywords

National Renewable Energy Action Plans (NREAPs), renewable energy in the European Union

Scanning the two-dimensional barcode (QR) at the left with a camera phone equipped with appropriate software will open the URL http://www.ecn.nl/nreap, which redirects to the ECN Policy Studies project pages (http://www.ecn.nl/units/ps/themes/renewable-energy/projects/nreap). From this location the reports, the database files (in comma-separated values and a spreadsheet in Open Document Format) and the image files are available for download.

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Summary

The Renewable Energy Directive (2009/28/EC)[1] addresses various subjects related to the development of renewable energies in the European Member States, among others the legally binding share of renewable energy in gross final energy consumption. In Article 4 of the Directive each Member State is requested to provide a National Renewable Energy Action Plan (NREAP) by 30 June 2010. In order to draft this plan, a template[2] was published by the Commission. Each Member State is requested to complete a set of tables in this template on how it expects to meet its 2020 target, including the technology mix and the trajectory to reach it. The current report makes use of the fact that these tables have been defined in a consistent way. All data have been collected from the NREAP documents and they are available as a data report (this report), a database containing all data from the NREAPs (in plain-text and in spreadsheet format) and a set of figures from the datareport (in PDF and PNG). The purpose has been to allow easy comparison for further analysis by the audience[3].

The focus of this work is on the numbers and figures of the renewable energy projections. All other subjects addressed in the documents, such as renewable energy policies, costs and benefits and grid integration issues have not been considered in the current analysis. Moreover, it was not the objective of this analysis to check whether the proposed policies indeed result in the projections made.

Whereas the data report focuses on the projections for the individual Member States, this summary section focuses on the aggregate results for all European Member States: Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovenia, Slovakia, Spain, Sweden and the United Kingdom. For 20 countries supplementary information provided by the Member States has been integrated. These Member States are: Austria, Belgium, Bulgaria, Cyprus, Denmark, Finland, France, Greece, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Romania, Spain, Sweden and the United Kingdom. For the following Member States no additional information is available: the Czech Republic, Estonia, Germany, Italy, Poland, Slovakia and Slovenia, meaning that for these countries data from the original NREAP have been used.

In the following, figures from all Member States have been combined to yield estimates for 'total values' for all 27 Member States of the European Union (EU-27). Two methods have been applied to do this:

a. Using the aggregate tables from the individual NREAPs (Tables 3 and 4, resulting in a total RES share of 20.7% in 2020;

b. Using the technology-specific tables from the NREAPs (Tables 5 to 12, page 21 onwards, resulting in a total RES share of 20.8%.

For calculating the overal RES share the thus derived total RES estimates have compared to the gross final energy use as projected in the 'additional energy efficiency scenario' (Table 2).

The charts and tables in this report present primary data (numbers directly taken from the NREAP documents) and secondary data (data derived from the primary data). For the secondary data, four parameters have been presented consistently throughout the report: an indicator on full load hours

[1] At http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0028:EN:NOT the Renewable Energy Directive is available for download in all European languages.

[2] The Template is available from http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT.

[3] At http://www.ecn.nl/nreap the report, the database and the image files are available for download.

(applies to electricity options only), an indicator on growth rates calculated from the projected energy production (for electricity options also for changes in capacity), and indicators on per capita and per surface area achievement. Although for the two latter indicators a bias exists between countries depending on their population density, these indicators enable comparison of large and small countries in a more meaningful manner (see Section 1.4.2). The indicators depicted in the report show the merits of presenting the data using these indicators: large countries with high projections for certain renewables countries are averaged out when presented on a per capita or a per surface area basis. The indicator on full load hours shows expected deviations between Southern European countries and Northern European countries for solar electricity technologies.

Gross final energy consumption

The NREAPs all provide projections for gross final energy consumption in the period 2010 – 2020. Most Member States have specified two scenarios: a '*reference*' and an '*additional energy efficiency scenario*'. Gross final energy consumption has been reported for electricity, heating and cooling and transport separately.

The gross final energy consumption according to these two scenarios for some Member States has been reduced in order to compensate for a relatively large share of aviation in their gross final consumption of energy (see Article 5.6 in the Renewable Energy Directive (2009/28/EC) and the introduction section on page 62). This results in a value '*before aviation reduction*' and in a value '*after aviation reduction*'. Table 1 presents for the reference scenario the resulting energy consumption data for all 27 Member States of the European Union (EU-27), the relative shares and the average annual growth rates. Table 2 presents the same for the additional energy efficiency scenario.

For the purpose of calculating the overall renewable share the relevant parameter is the gross final energy consumption after aviation reduction (in Table 2 the last row, indicating '*Total after aviation*'). In the year 2020 this value amounts to 1180 Mtoe.

All renewable energy sources (RES)

Table 3 indicates that the total gross production from renewable energy sources (RES) amounts to 244.6 Mtoe in the year 2020. The largest contributions of renewable energy originate from heating and cooling (RES-H/C, 46% in 2020) and from renewable electricity (RES-E, 42% in 2020).

Table 1: *Total gross final energy consumption in the reference scenario for all demand sectors for the aggregate of all 27 European Union Member States. See Tables 47, 49, 51, 53 and 55 for details.*

	Energy				Share	Average annual growth		
	2005 [Mtoe]	2010 [Mtoe]	2015 [Mtoe]	2020 [Mtoe]	[%][a]	'05 – '10 [%/year]	'10 – '15 [%/year]	'15 – '20 [%/year]
Electricity	268	286	307	329	25	1.3	1.4	1.4
Heating and cooling	552	556	569	581	44	0.1	0.5	0.4
Transport	299	322	337	349	27	1.5	0.9	0.7
Total before aviation	1166	1213	1266	1317	100	0.8	0.9	0.8
Total after aviation	1162	1208	1259	1307	99	0.8	0.8	0.8

[a] The percentage refers to the share of the demand sectors (electricity, heating and cooling and transport) in total gross final energy consumption before aviation reduction in the year 2020.

Renewable transport (RES-T) contributes 13% to the overall renewable energy in 2020. On average this projection results in an annual growth for overall renewables of approximately 6% annually for the period 2010 - 2020. The presented data have been taken from the aggregate table in the individual NREAPs[4].

The share of renewable energy in gross final energy consumption

Based on the above-mentioned parameters, Table 4 integrates the EU-27 contribution from renewable energy sources (the denominator in the quotient for calculating the share of renewables, available from Table 3) and the gross final energy consumption (the numerator, available from Tables 1 and 2). From this table it can be seen that in the year 2020 the overall share of renewables in the 'additional energy efficiency scenario' after applying the aviation reduction slightly overshoots the EU-27 target of 20% renewable energy in the year 2020, arriving at 20.7%. In the reference scenario the EU-27 target is not being met (less than 19% in 2020); this is a logical result of the fact that all projections have been designed to meet the target for the additional energy efficiency scenario. The 'aviation reduction' applied to the gross final energy consumption results in an increase of the overall renewable share of 0.1%-point (from 20.6% to 20.7%).

Table 4 also presents the share of renewables in transport according to the Directive definition (see table footnote b). For the year 2020 the target largely surpasses the target of 10%: a share of 11.3% is being reached.

Looking at the overall growth rates per renewable energy type, it can be observed that for the period 2010 – 2020 the growth rates are smallest for renewable heating and cooling (between 4.5% and 5.7% annually, depending on the period), and that renewable transport is growing fastest (7.2% to 8.5% annually, with a very high growth rate for the period 2005 - 2010 (31.2% per year, caused by the relatively low energy contribution of 3.9 Mtoe for 2005). Renewable electricity has a growth rate of 6.2% to 6.8% annually. It should be noted however that these growth rates are *average* values, and that the conventional renewable technologies (hydropower electricity, solid biomass heating) constitute a large part of the renewable energy stock. From the summary section on detailed RES-specific projections (starting on page 21) it can be observed that average growth rates for new renewables (wind power, solar electricity and solar thermal energy, heat pumps and biofuels for example) are significantly higher (Tables 6, 8 and 10).

[4]The aggregate table mentioned here refers to the NREAP Template Table 4a, see footnote 2 .

Table 2: *Total gross final energy consumption in the additional energy efficiency scenario for all demand sectors for the aggregate of all 27 European Union Member States. See Tables 48, 50, 52, 54 and 56 for details.*

	Energy				Share	Average annual growth		
	2005 [Mtoe]	2010 [Mtoe]	2015 [Mtoe]	2020 [Mtoe]	[%][a]	'05 – '10 [%/year]	'10 – '15 [%/year]	'15 – '20 [%/year]
Electricity	268	283	293	304	26	1.1	0.7	0.7
Heating and cooling	552	543	532	521	44	-0.3	-0.4	-0.4
Transport	299	313	315	312	26	0.9	0.1	-0.2
Total before aviation	1166	1189	1192	1189	100	0.4	0.0	0.0
Total after aviation	1162	1184	1185	1180	99	0.4	0.0	-0.1

[a] The percentage refers to the share of the demand sectors (electricity, heating and cooling and transport) in total gross final energy consumption before aviation reduction in the year 2020.

Table 3: *Total contribution from renewable energy sources (RES) for all 27 European Union Member States (EU-27). This table has been compiled based on the aggregate RES values as specified in the NREAPs. See report Tables 57 to 60 (pages 76 to 79) for country-specific details.*

	Energy				Share	Average annual growth		
	2005 [Mtoe]	2010 [Mtoe]	2015 [Mtoe]	2020 [Mtoe]	2020 [%][a]	2005 – 2010 [%/year]	2010 – 2015 [%/year]	2015 – 2020 [%/year]
RES-E	41.1	55.0	76.3	103.1	42	6.0	6.8	6.2
RES-H/C	54.7	67.9	84.8	111.6	46	4.4	4.5	5.7
RES-T	3.9	15.1	21.4	32.1	13	31.2	7.2	8.5
RES-T*[b]	4.1	15.8	22.8	35.3	-	30.8	7.6	9.1
Total RES[c]	98.7	137.0	181.0	244.6	100	6.8	5.7	6.2

[a] The percentage refers to the share of the renewable energy types (electricity, heating and cooling and transport) in total renewable energy in the year 2020.

[b] In 'RES-T*' the amount of renewable energy in transport is reported according to the Renewable Energy Directive (2009/28/EC). Renewable electricity in electric road vehicles is to be accounted for 2.5 times the energy content of the input of electricity from renewable energy sources (Article 3.4c). Moreover, the contribution of biofuels produced from wastes, residues, non-food cellulosic material, and ligno-cellulosic material is to be considered twice that of other biofuels (Article 21.2).

[c] Note that the column 'Total RES' is not corresponding to the sum of the individual RES subcategories. Reason for this is the required correction for 'renewable electricity in transport'. This correction has not by all Member States been consistently performed. See Tables 48, 50, 52, 54 and 56 for details (column 'All RES' versus column 'RES-E,H/C,T'). All 27 European Union Member States (EU-27) have been considered in this table. This regards the following countries: Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovenia, Slovakia, Spain, Sweden and the United Kingdom.

Table 4: *Overall renewable energy share in the aggregate of all 27 European Union Member States. Data calculated from Table 11 on renewable energy and Tables 1 and 2 on gross final energy consumption according to the two scenarios. The 'additional efficiency scenario' after aviation reduction is leading for calculating the renewable energy share.*

	Reference scenario				Additional efficiency scenario			
	2005 [%]	2010 [%]	2015 [%]	2020 [%]	2005 [%]	2010 [%]	2015 [%]	2020 [%]
Electricity	15.3	19.3	24.9	31.3	15.3	19.4	26.1	34.0
Heating and cooling	9.9	12.2	14.9	19.2	9.9	12.5	15.9	21.4
Transport[a]	1.3	4.7	6.3	9.2	1.3	4.8	6.8	10.3
Transport target[b]	1.4	4.9	6.8	10.1	1.4	5.0	7.2	11.3
Total before aviation reduction	8.5	11.3	14.3	18.6	8.5	11.5	15.2	20.6
Total after aviation reduction	8.5	11.3	14.4	18.7	8.5	11.6	15.3	20.7

[a] The share for transport simply expresses the share of RES-T (excluding double counting of renewable electricity, hydrogen and biogas in transport, as specified in Article 5.8 in the Directive) in gross final energy consumption and is not to be interpreted as the renewable share in transport.

[b] In 'Transport target' the share of renewable energy in transport is reported according to the Renewable Energy Directive (2009/28/EC). See footnote *b* in Table 3.

Detailed information from RES-specific projections

This section takes the technology-specific tables from the NREAPs as a starting point, which yields slightly different values compared to the findings from Table 4. The reason for this can be found in internal inconsistencies in the NREAP documents (in some cases total values do not match the categories they sum, see also footnote [e] in Table 9 and footnote [c] in Table 3).

Renewable electricity (RES-E)

Table 5 shows the breakdown of the renewable electricity technologies into subcategories (where applicable) and Table 6 shows calculated growth rates. For new renewables such as wind power, solar PV and tidal, wave and ocean energy double-digit growth rates result. For individual countries data can be found in the tables in the technology-specific chapters of the report (relevant page numbers have been indicated in the last columns).

Taking a closer look at the mix of renewable electricity technologies for the year 2020 (Table 5), it can be observed that the most important contribution is expected from wind power (40.7% of which onshore wind power contributes 28.9%-point). The second largest technology is expected to be hydropower (30.4% of all RES-E in 2020, of which large hydropower takes 25.4%-point). Biomass electricity is responsible for 19.1% and solar electricity for 8.5% (6.9%-point from photovoltaics).

Renewable heating and cooling (RES-H/C)

Table 7 shows the contribution of the renewable heating and cooling technologies in detail and Table 8 shows calculated growth rates. For renewable heating and cooling the largest share in the year 2020 is from biomass (81.1%), notably solid biomass (72.6%). Second is renewable energy from heat pumps (10.9%), followed by solar thermal (5.7%) and deep geothermal heat (2.4%). In the original NREAP for Romania the technology breakdown of renewable heating and cooling was not available, reason for which this table deviates significantly from the one in the February 1^{st}, 2011 version of the current report. In 2011 Romania has provided the information in a seperate update which has been integrated in this version of the report. Looking at Table 8 it can be seen that growth rates generally are higher for the non-biomass options (except biogas).

Renewable energy in transport (RES-T)

Table 9 shows the contribution of the renewable transport energy carriers and Table 10 shows calculated growth rates. According to this table, biodiesel has the largest contribution in 2020 (65.9%), followed by bio-ethanol / bio-ETBE (22.2%). In the original NREAP for Romania the technology breakdown of renewable transport was not available, reason for which this table deviates significantly from the one in the February 1^{st}, 2011 version of the current report. In 2011 Romania has provided the requested information in a seperate update which has been integrated in this version of the report (see also Section 1.8.23 for other issues on the Romanian 2011 update). The tables in the report (see the page numbers in the last column of Table 9) provide more information about the shares of Article 21.2 biofuels and imported biofuels. Renewable electricity also has a significant contribution, but this does not count towards the overall renewable energy production as specified in Article 5.1 of the Directive. Romania is the first European Member States projecting a small contribution from renewable hydrogen in transport (see footnote c in Table 9).

Table 5: *Total renewable electricity (RES-E) capacity and energy for all 27 European Union Member States*

		2005	2010	2015	2020	[%][a]	[%][b]	*Page*
Hydropower < 1MW	[GW]	2.7	2.9	3.1	3.4			*100*
	[TWh]	11.3	11.0	11.7	12.6			*103*
	[Mtoe]	1.0	0.9	1.0	1.1	1.0	0.4	-
Hydropower 1MW – 10 MW	[GW]	9.4	9.9	11.2	12.5			*100*
	[TWh]	34.0	34.1	36.6	40.3			*103*
	[Mtoe]	2.9	2.9	3.1	3.5	3.3	1.4	-
Hydropower >10MW	[GW]	101.4	99.1	104.6	112.4			*100*
	[TWh]	294.8	291.8	299.3	309.5			*103*
	[Mtoe]	25.3	25.1	25.7	26.6	25.4	10.8	-
Pumped storage hydropower	[GW]	23.4	28.1	32.0	39.5			*100*
	[TWh]	23.9	23.6	27.7	32.6			*103*
	[Mtoe]	2.1	2.0	2.4	2.8	n.a.	n.a.	-
Hydropower (subtotal excluding pumped storage)	[GW]	119.4	122.4	130.0	139.7			*100*
	[TWh]	340.9	342.7	354.0	369.3			*103*
	[Mtoe]	29.3	29.5	30.4	31.8	30.4	12.9	-
Geothermal	[GW]	0.7	0.8	1.0	1.6			*108*
	[TWh]	5.5	6.0	7.3	10.9			*110*
	[Mtoe]	0.5	0.5	0.6	0.9	0.9	0.4	-
Solar photovoltaic	[GW]	2.2	25.5	54.4	84.4			*118*
	[TWh]	1.5	20.1	51.8	83.4			*121*
	[Mtoe]	0.1	1.7	4.5	7.2	6.9	2.9	-
Concentrated solar power	[GW]	0.0	0.6	3.6	7.0			*118*
	[TWh]	0.0	1.2	9.0	20.0			*121*
	[Mtoe]	0.0	0.1	0.8	1.7	1.6	0.7	-
Solar (subtotal)	[GW]	2.2	26.1	58.0	91.4			*118*
	[TWh]	1.5	21.3	60.8	103.3			*121*
	[Mtoe]	0.1	1.8	5.2	8.9	8.5	3.6	-
Tidal, wave and ocean energy	[GW]	0.2	0.2	0.4	2.3			*126*
	[TWh]	0.5	0.5	0.9	6.5			*128*
	[Mtoe]	0.0	0.0	0.1	0.6	0.5	0.2	-
Onshore wind	[GW]	39.8	82.2	126.7	168.8			*136*
	[TWh]	66.9	155.5	257.7	351.8			*139*
	[Mtoe]	5.7	13.4	22.2	30.2	28.9	12.3	-
Offshore wind	[GW]	0.7	2.6	15.6	44.2			*136*
	[TWh]	1.9	8.7	49.9	142.5			*139*
	[Mtoe]	0.2	0.7	4.3	12.2	11.7	5.0	-
Wind power (subtotal)	[GW]	40.4	84.9	143.2	213.6			*136*
	[TWh]	70.4	164.6	309.2	494.8			*139*
	[Mtoe]	6.1	14.1	26.6	42.5	40.7	17.3	-
Solid biomass	[GW]	10.6	14.4	20.8	27.7			*146*
	[TWh]	55.1	76.8	113.8	154.9			*149*
	[Mtoe]	4.7	6.6	9.8	13.3	12.7	5.4	-
Biogas	[GW]	2.7	5.4	7.9	11.2			*146*
	[TWh]	12.5	28.7	43.9	64.0			*149*
	[Mtoe]	1.1	2.5	3.8	5.5	5.3	2.2	-
Bioliquids	[GW]	0.4	1.0	1.4	1.7			*146*
	[TWh]	1.5	8.6	10.9	12.7			*149*
	[Mtoe]	0.1	0.7	0.9	1.1	1.0	0.4	-
Biomass (subtotal)	[GW]	15.7	22.6	32.4	43.6			*146*
	[TWh]	60.2	103.7	169.0	232.0			*149*
	[Mtoe]	5.2	8.9	14.5	19.9	19.1	8.1	-
Total renewable electricity	[TWh]	479.0	638.7	901.2	1216.8			-
	[Mtoe]	41.2	54.9	77.5	104.6	100.0	42.5	-

'Pumped storage hydropower' has not been considered in the values for totals and subtotals

[a] The percentage refers to the share of the individual technologies in total renewable electricity in the year 2020

[b] The percentage refers to the share of the individual technologies in total renewable energy (electricity, heating and cooling and transport) in the year 2020

Table 6: *Average annual growth of renewable electricity (RES-E) capacity and energy for all 27 European Union Member States*

		2005 – 2010 [%/year]	2010 – 2015 [%/year]	2015 – 2020 [%/year]	*Page*
Hydropower < 1MW	Capacity	1.0	1.8	1.7	-
	Energy	-0.6	1.2	1.5	-
Hydropower 1MW – 10 MW	Capacity	1.1	2.5	2.1	-
	Energy	0.1	1.4	1.9	-
Hydropower >10MW	Capacity	-0.4	1.1	1.4	-
	Energy	-0.2	0.5	0.7	-
Pumped storage hydropower	Capacity	3.8	2.6	4.3	-
	Energy	-0.2	3.3	3.3	-
Hydropower (subtotal excluding pumped storage)	Capacity	0.5	1.2	1.5	*99*
	Energy	0.1	0.7	0.9	*102*
Geothermal	Capacity	1.9	5.0	9.1	*109*
	Energy	1.8	4.2	8.2	*111*
Solar photovoltaic	Capacity	62.9	16.4	9.2	-
	Energy	68.8	20.8	10.0	-
Concentrated solar power	Capacity	n.a.	41.2	14.5	-
	Energy	n.a.	51.0	17.2	-
Solar (subtotal)	Capacity	63.7	17.3	9.5	*117*
	Energy	70.7	23.4	11.2	*120*
Tidal, wave and ocean energy	Capacity	0.4	8.7	43.4	*127*
	Energy	-1.3	11.5	49.7	*129*
Onshore wind	Capacity	15.6	9.1	5.9	-
	Energy	18.4	10.6	6.4	-
Offshore wind	Capacity	30.5	43.2	23.2	-
	Energy	35.2	41.9	23.4	-
Wind power (subtotal)	Capacity	16.0	11.0	8.3	*135*
	Energy	18.5	13.4	9.9	*138*
Solid biomass	Capacity	6.3	7.7	5.9	-
	Energy	6.9	8.2	6.4	-
Biogas	Capacity	15.2	7.8	7.3	-
	Energy	18.1	8.9	7.8	-
Bioliquids	Capacity	23.1	6.7	3.5	-
	Energy	42.5	4.9	3.1	-
Biomass (subtotal)	Capacity	7.5	7.4	6.1	*145*
	Energy	11.5	10.3	6.5	*148*
Average renewable electricity	Energy	5.9	7.1	6.2	-

The growth rates for subcategories of technologies in this table have been calculated from the projections in Table 5

Table 7: *Total renewable heating and cooling (RES-H/C) energy for all 27 European Union Member States*

	2005 [Mtoe]	2010 [Mtoe]	2015 [Mtoe]	2020 [Mtoe]	Share [%][a]	Share [%][b]	*Page*
Geothermal	0.4	0.7	1.3	2.6	2.4	1.1	*154*
Solar thermal	0.7	1.4	3.0	6.3	5.7	2.6	*160*
Solid biomass	47.7	56.6	66.2	81.0	72.6	32.9	*168*
Biogas[c]	0.6	1.5	2.9	5.1	4.5	2.1	*168*
Bioliquids	1.1	3.6	4.1	4.4	4.0	1.8	*168*
Biomass (subtotal)	52.6	61.7	73.1	90.4	81.1	36.8	*168*
Aerothermal heat pumps	0.1	2.3	3.7	6.3	5.6	2.6	*174*
Geothermal heat pumps	0.2	1.2	2.4	4.2	3.8	1.7	*174*
Hydrothermal heat pumps	0.0	0.2	0.4	0.6	0.5	0.2	*174*
Renewable energy from heat pumps (subtotal)	0.6	4.0	7.2	12.2	10.9	4.9	*174*
Total renewable heating and cooling[d]	54.3	67.8	84.7	111.5	100.0	45.4	-

[a] The percentage refers to the share of the individual technologies in total renewable heating and cooling in the year 2020.
[b] The percentage refers to the share of the individual technologies in total renewable energy (electricity, heating and cooling and transport) in the year 2020.
[c] In 'biogas' the value for 'Bio-SNG for grid feed-in' as specified in the Dutch NREAP has been included.

Table 8: *Average annual growth for renewable heating and cooling (RES-H/C) energy for all 27 European Union Member States*

	2005 – 2010 [%/year]	2010 – 2015 [%/year]	2015 – 2020 [%/year]	*Page*
Geothermal	9.8	14.4	14.3	*155*
Solar thermal	16.0	15.8	16.0	*161*
Solid biomass	3.5	3.2	4.1	-
Biogas[a]	18.8	13.9	11.8	-
Bioliquids	26.3	2.4	1.5	-
Biomass (subtotal)	3.2	3.5	4.3	*167*
Aerothermal heat pumps	74.6	10.4	10.9	-
Geothermal heat pumps	37.1	15.2	12.3	-
Hydrothermal heat pumps	50.6	9.5	9.7	-
Renewable energy from heat pumps (subtotal)	45.5	12.5	10.9	*173*
Average renewable heating and cooling	4.5	4.6	5.7	-

[a] In 'biogas' the value for 'Bio-SNG for grid feed-in' as specified in the Dutch NREAP has been included
The growth rates for subcategories of technologies in this table have been calculated from the projections in Table 7

Table 9: *Total renewable transport (RES-T) energy for all 27 European Union Member States*

	2005 [Mtoe]	2010 [Mtoe]	2015 [Mtoe]	2020 [Mtoe]	Share [%][a]	Share [%][b]	*Page*
Bioethanol / bio-ETBE	0.5	2.9	5.0	7.3	22.2	3.0	*180*
Biodiesel	2.4	11.0	14.5	21.6	65.9	8.8	*186*
Hydrogen from renewables[c]	0.0	0.0	0.0	0.0	0.0	-	*190*
Renewable electricity	1.1	1.3	2.0	3.1	9.5	-	*198*
Other biofuels	0.2	0.2	0.3	0.8	2.4	0.3	*204*
Total renewable transport[d]	4.2	15.3	21.7	32.9	100.0	-	-
Total renewable transport Article 5.1[e]	3.1	14.0	19.8	29.7	90.5	12.1	-

[a] The percentage refers to the share of the individual technologies in total renewable transport in the year 2020.
[b] The percentage refers to the share of the individual technologies in total renewable energy (electricity, heating and cooling and transport) in the year 2020. This value is not available for electricity and hydrogen from renewable energy, see footnote *d*.
[c] Romania reported in the updated Template Table 12 (2011) a contribution of 2.4 ktoe 'Renewable hydrogen' (0.0024 Mtoe) and is the only Member State that provided a non-negative estimate for this energy carrier.
[d] The value 'Total renewable transport' has not been corrected as indicated in Article 5.1 of Directive 2009/28/EC.
[e] The 'Total renewable transport Article 5.1' has been calculated by substracting electricity and hydrogen from renewable energy values from 'Total renewable transport'. This is to avoid double counting as indicated in Article 5.1 of Directive 2009/28/EC. The category 'other biofuels' has not been applied for the correction. The resulting values are used for determining the overall renewable energy production in Table 11.

Table 10: *Average annual growth for renewable transport (RES-T) for all 27 European Union Member States*

	2005 – 2010 [%/year]	2010 – 2015 [%/year]	2015 – 2020 [%/year]	*Page*
Bioethanol / bio-ETBE	40.3	11.6	8.0	*179*
Biodiesel	35.7	5.8	8.3	*185*
Hydrogen from renewables[c]	n.a.	n.a.	n.a.	*191*
Renewable electricity	3.7	8.6	9.6	*197*
Other biofuels	1.2	4.9	24.1	*203*
Average renewable transport	29.6	7.2	8.6	-

Table 11: *Total contribution from renewable energy sources (RES) for all 27 European Union Member States. See Tables 7 to 10 for underlying data. The values have been calculated from the detailed, technology-specific NREAP projections and differ slightly from the values presented in Table 3, which has been compiled based on aggregate RES values as available from the NREAPs as well.*

	Energy				Share	Average annual growth		
	2005 [Mtoe]	2010 [Mtoe]	2015 [Mtoe]	2020 [Mtoe]	[%][a]	2005 – 2010 [%/year]	2010 – 2015 [%/year]	2015 – 2020 [%/year]
RES-E	41.2	54.9	77.5	104.6	43	5.9	7.1	6.2
RES-H/C	54.3	67.8	84.7	111.5	45	4.5	4.6	5.7
RES-T [b]	3.1	14.0	19.8	29.7	12	35.2	7.1	8.5
Total RES	98.6	136.8	182.0	245.9	100	6.8	5.9	6.2

[a] The percentage refers to the share of the renewable energy types (electricity, heating and cooling and transport) in total renewable energy in the year 2020

[b] Total renewable energy for transport has been corrected for electricity and hydrogen from renewable energy sources as indicated in Article 5.1 of Directive 2009/28/EC. See Table 9.

All 27 European Union Member States (EU-27) have been considered in this table. This regards the following countries: Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovenia, Slovakia, Spain, Sweden and the United Kingdom.

Renewable energy share according to detailed projections

Table 11 indicates that the total gross production from renewable energy sources (RES) (excluding pumped storage hydropower and for renewable transport corrected for double counting according to Article 5.1 of the Directive) amounts to 245.8 Mtoe in the year 2020[5]. Note that this value, calculated from the detailed renewable energy projections for RES-E, RES-H/C and RES-T, differs from the value reported in Table 3 (244.5 Mtoe). As the deviations are relatively small, it can be observed that the different contributions from renewable energy largely are in line with the data presented in Table 3. Renewable heating and cooling contributes 45% in 2020 instead of 46% and renewable electricity 43% in 2020 instead of 42%. Renewable transport (RES-T) remains unchanged with a 12% contribution to the overall renewable target, as does the value for the average annual growth.

Using these slightly different RES projections as input to calculate the shares in gross final energy consumption, the resulting shares also will be different. This has been displayed in Table 12. For the year 2020 the 'additional efficiency scenario after aviation reduction' results in a share of 20.8%, slightly higher than the 20.7% reported in Table 4. The reason for this is that some NREAP documents have internal inconsistencies, i.e. aggregate values do not match between tables. This can be observed also from the country tables in this report (pages 209 to 261). This has been improved with the 2011 update provided by the Member States, but some issues still remain. Based on the detailed projections no share of renewable transport has been calculated.

Differences between the two approaches

Comparing Table 4 to Table 12 it becomes clear that differences exist between the two approaches introduced on page 17. The reason for this can be found in internal inconsistencies in the NREAP documents, which highlights the need for a thorough check of all projections from the Member States, and a recalculation of the NREAP for some of the Member States.

[5]The NREAP for Romania doesn't pronounce on detailed projections for renewable heating and cooling and renewable transport (Template Tables 11 and 12 are missing), these projections have been taken from the data overview presented in Tables 57 to 60 for the purpose of this overview table.

Table 12: *Overall renewable energy share in the aggregate of all 27 European Union Member States. Data calculated from Table 3 on renewable energy (based on detailed projections) and Tables 1 and 2 on gross final energy consumption according to the two scenarios. The 'additional efficiency scenario' after aviation reduction is leading for calculating the renewable energy share. Note that the value 20.8% differs slightly from the value 20.7% from Table 4. This is caused by internal inconsistencies in the NREAPs.*

	Reference scenario				Additional efficiency scenario			
	2005 [%]	2010 [%]	2015 [%]	2020 [%]	2005 [%]	2010 [%]	2015 [%]	2020 [%]
Electricity	15.3	19.2	25.3	31.8	15.3	19.4	26.5	34.5
Heating and cooling	9.8	12.2	14.9	19.2	9.8	12.5	15.9	21.4
Transport[a]	1.0	4.4	5.9	8.5	1.0	4.5	6.3	9.5
Total before aviation reduction	8.5	11.3	14.4	18.7	8.5	11.5	15.3	20.7
Total after aviation reduction	8.5	11.3	14.5	18.8	8.5	11.5	15.4	20.8

[a] The share for transport simply expresses the share of RES-T (excluding double counting of renewable electricity, hydrogen and biogas in transport, as specified in Article 5.8 in the Directive) in gross final energy consumption and is not to be interpreted as the renewable share in transport. Based on the detailed projections no share of renewable transport has been calculated.

1 Introduction

The Renewable Energy Directive (2009/28/EC) discusses various subjects related to the development of renewable energies in the European Member States, among others the legally binding share of renewable energy in gross final energy consumption. In Article 4 of the Directive each Member State is requested to provide a National Renewable Energy Action Plan (NREAP) by 30 June 2010. In order to draft this plan, a template was published by the Commission. Each Member State is obliged to complete a set of tables in this template on how it expects to meet its 2020 target, including the technology mix and the trajectory to reach it.

This report makes use of the fact that these tables have been defined in a consistent way. All data have been collected from the NREAP documents and three products are available from this:

- A data report: the current document integrates and aggregates where possible data from the individual countries, presents tables in various cross-sections and presents the data graphically. In addition, a summary report is available;
- A set of figures: all figures from the data-report are available as separate graphic files;
- A database: all data have been entered in a database for further analysis by the audience. The database is available in two layouts: comma-separated values in a plain-text file and a spreadsheet in Open Document Format

These products are freely available for download from http://www.ecn.nl/nreap.

This first chapter explains the characteristics of this work, the target audience, limitations, countries considered. Data types are discussed, technical notes on the process of data transfer to the database are presented and the chapter ends with a listing of changes compared to the previous version of database and report. The further chapters in the report contain the actual figures and tables. Where necessary, figure and table captions and footnotes mention important information.

1.1 Target audience

This report is difficult to digest without context. It is therefore not the intention of the authors to provide a document for the general public, but rather to facilitate specialists to evaluate the NREAPs in an aggregate way. This target audience consists of researchers, national and European policy makers, journalists of on-topic magazines or other groups. The current report provides a general overview, where some details have been omitted in order to assist the reader. The above-mentioned database is available in various formats.

1.2 Limitations of this work

Most NREAP documents have been provided in the national language. For collecting the data from these documents, the focus has been on the *tables* in the documents, notably Template[6] Tables 1, 2, 3, 4a, 4b, 6, 7, 7a, 8, 9, 10a, 10b, 11 and 12. The originally submitted documents can contain important additional information in the text belonging to the data tables, but the NREAP text has not been processed for this work.

Focus in the current report on evaluating the NREAP documents has been on the numbers and figures. All other subjects addressed in the documents, such as renewable energy policies, costs and benefits and grid integration issues have not been considered in the current analysis. Also, it was not the objective of this analysis to check whether the proposed policies indeed result in the projections made.

[6]The Template is available in all European languages from http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

1.3 Countries considered in this version of the report

The deadline for submitting the NREAP documents was 30 June 2010. In practice, the first NREAPs were available for download from the European transparency platform starting from 2 July 2010. On 31 July 2010 a total number of 14 documents had been officially released. At the time of releasing the first version of this report (10 September 2010) a total of 19 Member State NREAP documents were available from the Transparency Platform. Two intermediate updates have been released, and the version of February 1^{st}, 2011 was the first to contacin *all* Member States. This version of the data report and database (28 November 2011) covers all 27 countries, including the supplementary information provided by the Member States. See Table 13 for the release dates of the NREAPs and Table 15 for information regarding the updates.

1.4 Primary and secondary data

The figures and tables in the current report present two data categories:

- Primary data: numbers directly taken from the NREAP documents, at times in a different cross-section or in a different unit;
- Secondary data: data derived from the primary data, at times using other parameters.

Table 13: *Overview of release dates of the National Renewable Energy Action Plans (NREAPs). The months refer to the year 2010, except for the Hungarian NREAP (released January 2011).*

Country	Code	Jul	Aug	Sep	Oct	Nov	Dec	January 2011
Belgium	BE						x	
Bulgaria	BG	x						
Czech Republic	CZ			x				
Denmark	DK	x						
Germany	DE		x					
Estonia	EE						x	
Ireland	IE	x						
Greece	EL	x						
Spain	ES	x						
France	FR		x					
Italy	IT		x					
Cyprus	CY	x						
Latvia	LV				x			
Lithuania	LT	x						
Luxembourg	LU		x					
Hungary	HU							x
Malta	MT	x						
Netherlands	NL	x						
Austria	AT	x						
Poland	PL						x	
Portugal	PT		x					
Romania	RO			x				
Slovenia	SI	x						
Slovakia	SK				x			
Finland	FI	x						
Sweden	SE	x						
United Kingdom	UK	x						
Number of countries		14	5	2	2	0	3	1

The country codes have been chosen in line with recommendations from the *Interinstitutional Style Guide*, http://publications.europa.eu/code/en/en-370100.htm, sourced June 2010.

The report presents figures of both primary and secondary data. For secondary data, mainly grey tones are used for the bars, in order to clearly distinguish from the primary data figures, for which more colors have been used. Primary and secondary data are discussed in more detail in the following sections.

1.4.1 Primary data

The primary data directly use the numbers from the action plans. They are presented in graphical and tabular form, mostly in a five-year interval. If applicable, all data are aggregated and listed as *total* or *average* numbers. The database available from www.ecn.nl/nreap only contains primary data.

1.4.2 Secondary data

Taking the primary data as input, various derived parameters can be obtained. These secondary data assist the reader in further evaluating the primary data and/or to compare individual countries and/or to rank them. Note that the merit of these derived indicators is not so much to underpin the NREAP projections: they rather serve to correct for differences in country size and to find outliers. Four examples of derived secondary indicators are discussed below.

The *indicator on full load hours* applies to electricity options only. Based on primary electricity capacity [MW] and electricity production [GWh] as available through tables 10a and 10b of the NREAPs it shows the average amount of full load hours for all renewable electricity technologies. The indicator is meant to provide a common base for comparing the way in which technology parameter assumptions have been used in the various NREAP documents. The value does not necessarily represent a reference to technology characteristics in the real world.

The *indicator on growth rates* provides information on past and future average annual growth rates, based on the renewable energy projections. In the current version of the report, these rates have been calculated for a five-year and a ten-year period, both for the past (2005 - 2010) and prospective required growth rates (starting from the year 2010). For the reader it is interesting to see the resulting growth rates based on the projections, because these indicate the level of suitability of each renewable technology to individual Member States.

The *indicator on per capita achievement* relates the projected energy yield for each renewable technology to the number of inhabitants of a country. See table 14 for the assumptions. Note that instead of using a projection of the population data for the period under consideration, a fixed value has been chosen as a reference (namely the 2008 status). For the electricity options the per capita indicator has only been calculated for *production*, not for *capacity*. This yields a more common base of comparison, without the country-specific number of full load hours blurring the indicator value.

The *indicator on per surface area achievement* relates the projected energy yield for each renewable technology to the surface area of a country. See table 14 for underlying data.

Note that for the latter two indicators a bias exists among countries depending on their population density. As can be seen in Figure 1 most countries are characterised reasonably well by the line indicating the average European population density. A minority of countries vary significantly from this average value: countries with a higher population density are Malta, Belgium, the Netherlands, Italy, the United Kingdom and Germany. Countries with a relatively low population density are Estonia, Latvia, Lithuania, Finland and Sweden.

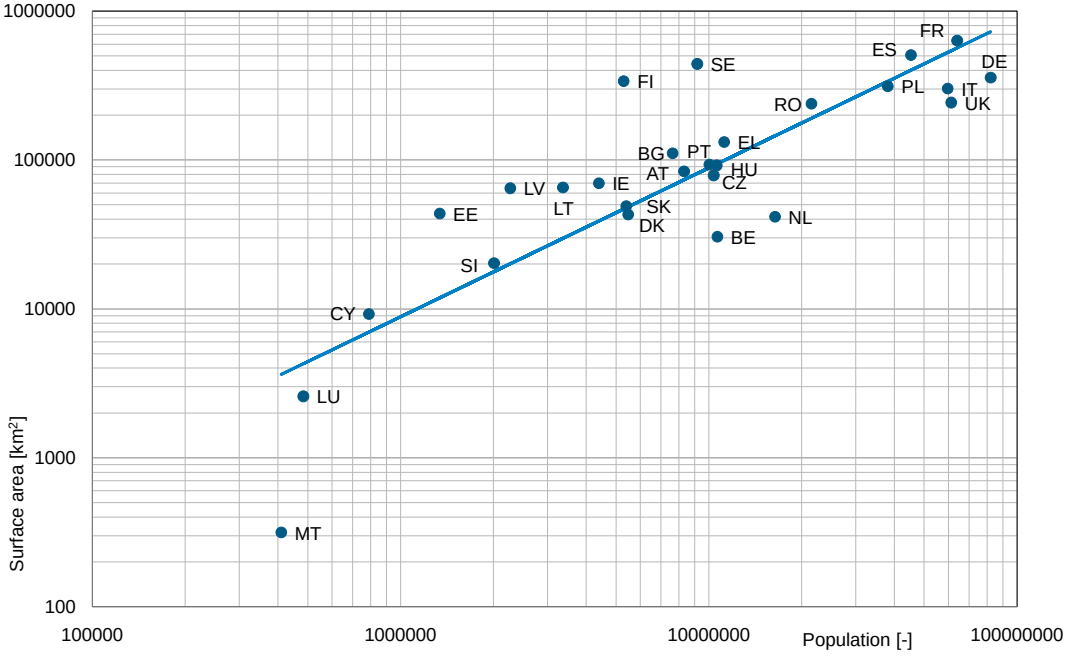


Figure 1: *Bias in countries based on population and surface area from Table 14. More densely populated countries can be found to the right of the line indicating the average population density*

Table 14: *Country data used for calculating indicators*

Country	Country code	Population 2008 [-]	Surface area [km^2]
Belgium	BE	10666866	30528
Bulgaria	BG	7640238	111002
Czech Republic	CZ	10381130	78867
Denmark	DK	5475791	43098
Germany	DE	82217837	357030
Estonia	EE	1340935	43698
Ireland	IE	4401335	69797
Greece	EL	11213785	131957
Spain	ES	45283259	505997
France	FR	63982881	632834
Italy	IT	59619290	301336
Cyprus	CY	789269	9250
Latvia	LV	2270894	64589
Lithuania	LT	3366357	65300
Luxembourg	LU	483799	2586
Hungary	HU	10045401	93030
Malta	MT	410290	316
Netherlands	NL	16405399	41528
Austria	AT	8318592	83871
Poland	PL	38115641	312685
Portugal	PT	10617575	92002
Romania	RO	21528627	238391
Slovenia	SI	2010269	20273
Slovakia	SK	5400998	49034
Finland	FI	5300484	338145
Sweden	SE	9182927	441370
United Kingdom	UK	61179256	243069
European Union (27 countries, total)	EU-27	497649125	4401582

Source: Eurostat, July 2010 (*Population on 1 January 2008* and *Area of the regions (2004)* respectively)

1.5 Technical notes on the database transfer

All available data from the abovementioned set of tables from the Template have been entered into the database. In most cases this process was straightforward, but for a few data-entries difficulties emerged. In this section these difficulties are highlighted on a per-country basis, but not further elaborated. Examples of problems that occurred:

- Changed data labels (i.e. a row has been added to the Template);
- Data split into more categories than the Template prescribes;
- Alternative units used (this has been adopted as much as possible in the database);

Another important limitation faced in the process of the data-entry transfer is that footnotes and remarks in the texts in most cases have not been processed.

In case *total* values have not been displayed in an Action Plan, but the subcategories have, this has not been corrected in the database. In the current report a total sum has been calculated for completeness. The idea behind this is to keep the database as close as possible to the original templates and not to commit errors in cases where the totals have been omitted on purpose.

Note that the table numbers in the sections below refer to the Template and not to the current report, unless otherwise stated[7].

When mentioning 'the Directive' this means Directive 2009/28/EC[8].

The sections below report database issues up to the report version of February 2011. Issues that have been encountered when evaluating the supplementary information provided by the Member States during 2011 have been documented in Section 1.8.

1.5.1 Belgium

Template Table 6 is not reported on, different units have been used in Template Tables 7 and 7a.

1.5.2 Bulgaria

For Template Tables 7 and 7a it is not clear what the unit is in which the data have been provided. It has been entered into the database as 'Unknown'.

1.5.3 Czech Republic

The data series for item (C) in Tables 4a/b ('Expected final consumption of energy from RES in transport') do not correspond: in Table 4a the series of item (J) ('Expected RES contribution to transport for the RES-T target') from Table 4b has been referred to. Moreover, the data series of item (J) ('Expected RES contribution to transport for the RES-T target') in Table 4b has not been calculated correctly. Probably the '-1' component to calculate the series has been neglected. In Table 6 only total values are reported, reason for which the table in the databasee has been left empty. Table 8 only reports an aggregate value, which cannot be considered in the database.

[7]The Template is available in all European languages from http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT. For the purpose of compiling the current report the version in English has been used as a reference.

[8]The Directive is available in all European languages from http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0028:EN:NOT. For the purpose of compiling the current report the version in English has been used as a reference.

The values for wind power in Tables 10a/b have been reported for the aggregate of onshore and offshore wind. In the database the entry for onshore wind power has been defined to be equal to the aggregate value (i.e. no offshore wind power in the Czech Republic). In Table 11 the values for deep geothermal seem not to have been added to the total.

1.5.4 Denmark

The trajectory as depicted in Template Table 3 differs from the trajectory calculated from Annex I of the Directive. This is presented in more detail in Table 22 on page 53 of the current report. The value '1197 ktoe' in the year 2012 for '*Final RES consumption in transport*' in Template Table 4a might not be correct but has been left unchanged in the database. In Template Table 6 more detail is presented than prescribed by the Template. These values have not been considered in the database. Template Table 7 differs slightly from the predefined format. It is unclear what values refer to production and consumption, so the data have not been considered in the database.

1.5.5 Germany

In the German Action Plan Template Table 6 is not reported. Several issues have occured in Template Tables 7 and 7a: for the year 2006 imports from EU and non-EU countries are combined. All values have been reported in the database under 'EU'. For Template Table 8 other types of agricultural area have been specified. These however have not been considered for the database. In Template Table 12 upper and lower values have been specified for Article 21.2 fuels; lower values have been included in the database.

1.5.6 Estonia

The percentages calculated in Table 3 are not a result from dividing data from Table 4a by data from Table 1, as recommended in the Template. Missing Template Tables: 6 and 8. In Template Table11 'biomass in households' is provided as a percentage instead of ktoe, most probably referring to the data for 'solid biomass' in the same table. The information however hasn't been entered into the database.

1.5.7 Ireland

Row headers seem to be mixed in Template Table 1. Under 'Reduction for aviation limit' the total consumption after reduction for aviation limit seems to be reported. The aviation reduction has been recalculated and appears to be nonzero for the years 2005 and 2010 (both scenarios) only. For Table 7 and 7a the Action Plan does not report total values per subcategory. These total values have been calculated and entered into the database. For Table 12 the 2005 total value ('1 ktoe') does not correspond to the sum of the subcategories ('2.28 ktoe'). The same row has more rounding and sum problems (possibly related to the way 'renewable electricity' has been considered.

1.5.8 Greece

An obvious error occurs in Template Table 1: the data series for 'Total consumption after reduction for aviation limit' is equal to the series in 'Final consumption in aviation'. This error is confirmed by the value '24144' in 'Expected total adjusted energy consumption in 2020' of Template Table 2. In the database no data will be reported for 'Total consumption after reduction for aviation limit' (from the third version onwards, see also Section 1.7).

1.5.9 Spain

No data provided for Template Tables 6 and 8. Tables 10a and 10b exclude both capacity and electricity generation for 'pumped storage hydropower' in the 'total', whereas only in electricity generation this category should not be considered.

1.5.10 France

The French action plan reports values for 2008, which haven't been considered for the database and the current report. Table 4a in the first row has a typesetting problem for the year 2015: the value '8' is not considered (the English translation mentions '150408' which probably is not correct). Also in Table 4a ambiguity is introduced between rows D and G, which differ for the years 2017 to 2019. In Table 6 values for commercial and public sectors are aggregated under 'tertiary sector'. In the database, the aggregated values have been put under 'commercial' in the database. In Table 7 the export of biomass is subdivided into 'EU' and 'non-EU'. In the database both categories have been merged. The units have not been explicitly mentioned for category (A), it is assumed that the units are in line with the Template (m^3). Moreover, two values are reported for C1 (biodegradable fraction of municipal solid waste including biowaste). The value entered into the database is 50% of the waste incineration plus the amount of digestion input. In Table 7a for category B2 (by-products and processed residues from agriculture and fisheries) a value for dry and wet mass is provided. The dry mass value has been included in the database. In Table 8 (land used for other energy crops) France reports the value to be negligible, which has been interpreted as *zero* in the database. In Template Tables 10a/b the capacity for pumped storage hydropower has been added to total hydropower, which is not according to the template. In Table 11 renewable energy from heat pumps aggregate values have been specified for geothermal and hydrothermal sources. In the database these values are reported under 'geothermal'. In Table 2 the value for S2005 has been adapted. According to the Directive a value of 10.3% should be reported, but a value of 9.6% is mentioned. The latter corresponds to the value provided for 2005 in Table 3. This lower value has been used as an input for calculating the indicative trajectory, which results in different reference values, see Table 28 of the current report.

1.5.11 Italy

Template Table 6 has been completed in a different way than has been done for the other countries: all categories add up to 100% instead of providing per-sector shares.

1.5.12 Cyprus

In Table 1 the application of the aviation reduction seems to be not correct, resulting in a value for 'Total consumption after reduction for aviation limit' which is too low. Applying the correction correctly would yield a value for gross final energy of 2124 ktoe instead of 2023 (-125 ktoe). Consequently, the share of renewable energy in 2020 would not be 13.0%, but 12.2% (underperformance of -0.8%). The database and the tables in the current report show the original NREAP figures. In Template Table 4b row J values reported in percentages instead of ktoe. No values have been entered into the database for this category. In Template Table 6 'industry' and 'services' are aggregated. In Table 7 imports from EU and non-EU countries have been aggregated.

1.5.13 Latvia

Template Table 6 mixes renewable electricity and renewable heat, which cannot be entered into the database. Template Table 7 does not match the prescribed format and has not been considered.

Template Tables 7a, 8 and 9 are missing.

1.5.14 Lithuania

Template Table 6 is not reported on. For Template Table 7 it is unclear in what unit is reported for 'Amount of domestic resource'. It is assumed for the database that all data are in m^3. In Template Table 10a/b there is no subdivision made for hydropower below 10 MW. In the database the reported category '<10 MW' is entered in the database category '1 – 10 MW' and the category '<1 MW' is reported 'not available'. The value for onshore and total wind power in 2017 is reported as '5000 MW' while both 2016 and 2018 are reported '500 MW', with energy productions similar for all three years. This obvious typing error is corrected in the database: the 2017 value is put at '500 MW' (this error has not been corrected in the 'further information' document, see Section 1.8.15. In Template Table 11 no subcategorisation is specified for heat pumps. In Template Table 12 total values differ slightly from the sum of the individual contributions. Only for the year 2019 this is large: the value reported is 19% higher than calculated. In the database, the reported value has been entered.

1.5.15 Luxembourg

In Template Table 7 EU-import and non-EU-import have been aggregated.

1.5.16 Hungary

In Template Table 2 the Hungarian target value is 13% (table entry B), but in the NREAP the projected value of 14.65% is reported. In the database the target value of 13% has been entered, but the 'expected amount of energy from renewable sources' for 2020 has been unchanged ('2879 ktoe' instead of the (calculated) '2554 ktoe'. A minor deviation occurred for the trajectory value for the period 2015-2016: 8.21% was reported instead of the calculated value 8.22%. In the Hungarian NREAP Template Table 6 is not reported and Template Tables 7/7a have the energy content reported in PJ instead of ktoe. In Template Tables 10a/b and 11 no data are specified for the year 2005.

1.5.17 Malta

In Table 1 the application of the aviation reduction seems to be not correct, resulting in a value for 'Total consumption after reduction for aviation limit' which is too low. Applying the correction correctly would yield a value for gross final energy of 578.5 ktoe instead of 534.5 (-44.0 ktoe). Consequently, the share of renewable energy in 2020 would not be 10.0%, but 9.4% (underperformance of -0.6%). Template Table 6 could not be entered into the database as the categorisation doesn't correspond to Template. Template Table 10a/b specify 'small wind' separately. The values have been added to 'onshore wind' in the database.

1.5.18 Netherlands

In Template Tables 7, 10a/b, 11 and 12 only subcategory data have been reported, these have been summed and entered into the database. In Template Table 7 category C1 also specifies an additional amount of landfill gas (1.9 TJ) which has not been covered in the subtotal in *ton ns* (wet basis). In Template Table 11 an additional energy carrier is introduced: bio-SNG for grid feed-in. This option has been entered under the same name in the database.

1.5.19 Austria

The in NREAP calculated historic overall share of renewables for 2005 differs from the value in Annex I of the Directive. For the year 2005 the value from Template Tables 2 is thus not equal to the value in Template Table 3. This has been corrected in the 2011 update, see Section 1.8.20.

1.5.20 Poland

In Template Table 1 the unit is Mtoe instead of ktoe. In Template Table 6 'commercial' also comprises the 'industrial' sector. In Template Tables 7 and 7a different units have been applied, in Template Table 7a also a different categorisation. For Template Table 9 the categories of the Polish Action Plan do not match the template: data have not been entered into the database. In Template Tables 10a and 10b an additional category has been defined for wind power: 'małe instalacje' is assumed to be 'small installations' or micro-turbines, but the category is not considered in the database and 'onshore wind' and 'total wind' will not be equal (the difference being micro-turbines for 2005 – 2019).

1.5.21 Portugal

Most table numbers in the Action Plan do not correspond to the numbers in the Template. In Template Table 2 the 2005 share of renewable energy does not correspond to the value in Annex A of the Directive (for example reported is 19.8% while Annex I mentions 20.5%). Also the trajectory from the Template Table 3 differs from the calucalated trajectory. For details see Table 39 on page 58 in the current report.

1.5.22 Romania

Table 3 has been reported in multiple tables: in the database these tables have been merged. Table 4b has been reported in a different layout. This has been adjusted to match the Template. Percentages in Table 6 sum to 100% for each year instead of indicating the share of renewable energy per subsector. Moreover, series for 'Commercial' and 'Public' have been aggregated into 'Services'. In the database these aggregate values have been reported under 'Commercial' while 'Public' has been defined as not available. Finally, Table 11 (renewable heating) and Table 12 (renewable transport) have not been reported.

1.5.23 Slovenia

Minor deviations from Annex I of the Directive for the calculated renewable share in 2005 and the trajectory (2015 – 2019, see Table 41 on page 58 in the current report).

1.5.24 Slovakia

Problems occur in Template Table 7 and 7a regarding the units used, the availability of (sub)totals and incomplete data. Countardictory information is provided in a separate table (10c) on electricity from pumped storage installations. Data from Table 10c in the Slovak Action Plan have been integrated in Template Table 10a and 10b for use in the database.

1.5.25 Finland

For Template Table 1 only one scenario is reported. The data are assumed to refer to the 'Additional energy efficiency scenario'. Template Tables 7a and 8 are not reported on. In Table 12 the total for the year 2010 is not equal to the sum of the categories.

1.5.26 Sweden

In Template Tables 7 different units have been applied. In Template Table 8, the category 'Land used for other energy crops' a nonnumerical value of 'less than 1000 ha' (<1000) has been entered into the database (the English translation however simply mentions '1000'). In Template Tables 10a/b the capacity and energy for pumped storage hydropower has been added to total hydropower, which is not according to the template. In Template Tables 10a/b and 11 the values for liquid biomass seem not to to be added to the 'total biomass' category. Because they do appear to be included in the total value, no changes have been made regarding the database. Note that this has been corrected in the 2011 Member State update, see Section 1.8.27.

1.5.27 United Kingdom

Subcategorisation for hydropower differs from Template Table 10a/b, the breakdown has 20 MW as a reference value for most hydropower plants. This different subcategorisation cannot be considered in the database. Total values have been calculated for the period 2010 – 2020 by adding both provided categories. In Template Table 9 a deficit is reported, which is probably defined for a two-year period. As this does not meet the database format, the values have been attributed to the first years of the period mentioned (2011, 2013 and 2015). A formatting issue gives several values defined under 'district heating' and 'biomass in households' in Template Table 11 (2016 and 2020). Template Table 12 reports the values for 'imported biofuels' in [%] instead of [ktoe]. In database versions one to four (see Section 1.7) the percentage values have been entered into the database as as energy values (i.e. '83%' appeared as '0.83 ktoe' and '91%' appeared as '0.91 ktoe'). In the fifth version of the data report and database the percentage has been used to calculate the energy values in [ktoe].

1.6 A living document

All European Member States have been published an NREAP and all have been included in this report. Still, updates of the data report and database are possible, for instance to present that additional graphs, tables or indicators, or to correct erroneous data in the databse. The reader might recognise that the graphs in the current report are not available on the level of individual technologies (for example *onshore* and *offshore* wind power) but only address the aggregate technologies (*wind power* in this example). The breakdown tables however do specify on the individual technologies for primary data, but not (yet) for secondary data, the derived indicators. Requests for additional cross-sections of the database or new indicators can be communicated to nreap@ecn.nl. Also corrections or other remarks remain welcome.

1.7 Changes compared to previous versions of the report

After all NREAP documents were handed in by the Member States in January 2011, the European Commission started evaluating the plans. In this evaluation process additional information has been provided by the Member States. Various corrections and amendments to the NREAPs have

been published on the Renewable Energy Transparency Platform[9] during 2011. At the time of writing this **fifth version** of the report, dated 28 November 2011, 20 Member States provided additional information, which has been integrated in this report. Six Member States had not provided any additional information: the Czech Republic, Estonia, Italy, Poland, Slovenia and Slovakia, where further updates may be expected. Table 15 lists for all Member States their status at the release date of the fifth report version. The current version of this report incorporates all data changes that have been made available by the Member States. In section 1.8 these changes have been documented.

Moreover, a few additional cross-sections have been added to the report. This regards 'Biomass supply' data, based on the figures provided in NREAP Template Table 7 (for 2006) and 7a (for 2015 and 2020), which have been displayed at pages 82 to 84 of this report. In addition, data on land use (page 92) and estimates for using flexible mechanisms (page 94 and 95) have been incorporated.

Finally, in this fifth version of the report some errors have been corrected compared to the fourth version. For Luxembourg errors have been corrected in Table 7 (all years): units were not correctly considered in the database, resulting in a factor 1000 difference for the 'Amount of domestic resource'. See also Section 1.8.16. For France Table 7 reported different values for 'Amount of domestic resource' and ' Net amount' in category C1, which has been corrected in the November 2011 update. For Greece typing errors have been found in the database and in the report. In Table 1 this is the case for 'heating and cooling' in the 'additional energy efficiency' scenario for

[9]Renewable Energy Transparency Platform is available at http://ec.europa.eu/energy/renewables/transparency_platform/transparency_platform_en.htm

Table 15: *NREAP update per Member State. Fourteen countries provided a document with 'further information', four countries resubmitted their NREAP and two countries provided an update. For six countries no further information is available*

	Resubmitted NREAP report	Updated report	Further information	No information	See section (page)
Belgium			x		1.8.2 (42)
Bulgaria	x				1.8.3 (43)
Czech Republic				x	1.8.4 (43)
Denmark			x		1.8.5 (44)
Germany					1.8.6 (44)
Estonia				x	1.8.7 (44)
Ireland			x		1.8.8 (44)
Greece	x				1.8.9 (44)
Spain			x		1.8.10 (45)
France		x			1.8.11 (45)
Italy				x	1.8.12 (45)
Cyprus			x		1.8.13 (46)
Latvia			x		1.8.14 (46)
Lithuania			x		1.8.15 (46)
Luxembourg			x		1.8.16 (46)
Hungary			x		1.8.17 (46)
Malta	x				1.8.18 (47)
Netherlands			x		1.8.19 (47)
Austria			x		1.8.20 (47)
Poland				x	1.8.21 (47)
Portugal			x		1.8.22 (47)
Romania		x			1.8.23 (47)
Slovenia				x	1.8.24 (48)
Slovakia				x	1.8.25 (48)
Finland	x				1.8.26 (48)
Sweden			x		1.8.27 (48)
United Kingdom			x		1.8.28 (49)

2010 (is now '8644 ktoe', was '8655'), for ' Gross final energy consumption' in 2005 (is now '21649 ktoe', was '21643') and 2010 ('additional energy efficiency' scenario, is now ' 22418 ktoe', was '22428'). Also typing errors occurred in Table 4a, where the value for 'expected total RES consumption' in 2013 is now 2856 ktoe' (was '2845'). For the year 2010, 'Expected gross final consumption of electricity from RES' (now '674 ktoe', was '671' [10]) and 'Expected RES consumption adjusted for target' (now '1793 ktoe', was '1993') were not correct. In Table 7 the value reported under $C1$ referred to biogas production (from landfill deposit) in the database. This has been corrected to the amount of Municipal Solid Waste (5800000 ton in 2006, 6000000 ton in 2015 and 2020). Finally, an error in the database has been corrected in Table 12, 'renewable electricity of which road transport' for 2017 (is now '1.6 ktoe', was '4.6'). Finally, for Malta various Tables have now additional decimal values, in line with the NREAP. The 2017–2018 value for 'Surplus for cooperation mechanism' in Table 3 was not correct in the database: it is now '3.14%' (was '1.7%'). Finally, for five countries the hydropower subcategory datalabels were not correct in the database, resulting in 'n.a.' entries in the data report table on hydropower for Austria, Belgium, Estonia, Hungary and Poland. Typing errors have been corrected for Portugal ('biogas installed capacity' in 2010 is now '39 MW' (was '37') and in 2014 it is now '105 MW' (was '100'). furthermore, for Portugal the 'biogas gross electricity generation' in 2010 is now '138 GWh' (was '130') and in 2014 it is now '368 GWh' (was '308'). Finally, for Portugal ('hydropower $>$ 10 MW installed capacity' in 2005 is now '4493 MW' (was '4496'). For Slovenia, 'onshore wind gross electricity generation' in 2019 is now '191 GWh' (was '11'). For the Czech Republic in Table 10a a typing error occured: 'electricity production from photovoltaics' in 2013 is now '1698 GWh' (was '1696'). Furthermore, in Table 12 data for the period 2018 – 2020 previously were reported under 2017 – 2019 for 'Renewable electricity non-road transport', which has been corrected. For Ireland Table 12 erroneously had the values '21.2 ktoe' reported for 2005 in the categories for 'biofuels article 21.2', whereas the original table shows empty cells. For Poland the database mentioned in Table 10 a value of '1050 GWh' for 'Offshore wind' in 2020, but this should be '1500 ktoe'.

For the United Kingdom, Template Table 12 reports the values for 'imported biofuels' in [%] instead of [ktoe]. In all previous database versions the percentage values have been entered into the database as as energy values (i.e. '83%' appeared as '0.83 ktoe' and '91%' appeared as '0.91 ktoe'). In the fifth version of the data report and database the percentage has been used to calculate the energy values in [ktoe], which have now been entered into the database.

In the (**fourth version** of the data report and the database, dated 1 February 2011 and for the first time covering all 27 Member States) Hungary is the last and final country added. A few conceptual changes have occured in this update. To begin, this version of the report includes a section on gross final energy consumption for two scenarios (see page 62) and a section on the aggregated renewable energy data as reported in the NREAPs (see page 80). Secondly, the 'one-page overview tables' at the last section of the report have been modified: they now also express the share of the renewable technologies relative to the sector-specific final demand and total final demand, resulting in four columns lising percentages (see footnotes *a* to *d* for an explanation). Thirdly, *data ranges* in principle were not reported (this mainly concerned Template Table 7 and 7a in the database). In the fourth version of the database the ranges have been entered in the database separated by the word '*to*': '*minimum value* to *maximum value*'. This is the case for Germany (also Table 12, 'bio-ethanol/bio-ETBE' and 'other biofuels'), France and Cyprus (the Netherlands already features data ranges in the second version of the database). France: in Template Table 7 the export of biomass is subdivided into 'EU' and 'non-EU'. In the database both categories have been merged starting from the fourth version. Also in the fourth version a change has been made to the data for Denmark in Template Table 1: previously the data series

[10] Note that the total value in 2013 of '2050 ktoe' is now not correct and should be '2053 ktoe'. Likewise, the value for 'Expected RES consumption adjusted for target' should be corrected (from '1793 ktoe' to '1796'. This correction has not been performed in the database.

under ‘Total transport (excl. electricity)’ was reported, which has been changed into the data series reported under ‘Transport, cf. Article 3(4) (a)’.

In the **third release** of the data report and database, dated 13 December 2010 and covering 26 Member States) five countries have been added: Belgium, Estonia, Latvia, Poland and Slovakia. In this version a few errors were discovered. In the Polish NREAP Template Table 1 has a unit of Mtoe instead of ktoe, which was overlooked in the third version of the database, resulting in a factor 1000 lower energy use. A typing error occurred for Finland in Template Table 1: the ‘additional efficiency scenario’ in 2017 erroneously was mentioned as ‘2770’ instead of ‘27770’ ktoe.

In the third version several errors were present, which have all been corrected in the fourth version. In Template Table 1 for Poland typing errors occured for the ‘reference scenario’ for ‘heating and cooling’ in 2018 (‘32400 ktoe’ was reported instead of ‘43200 ktoe’) and for ’electricity’ in 2016 (‘17500 ktoe’ was reported instead of ‘15700 ktoe’). Also the value for ‘electricity’ in the ‘additional energy efficiency scenario’ was wrong for 2019 (‘13400 ktoe’ was reported instead of ‘14300 ktoe’) as well as the value for ‘transport’ in 2012 (‘12700 ktoe’ was reported instead of ‘17200 ktoe’). In Template Table 4b for Poland the value in 2016 was not correct for row (J) ‘RES contribution to transport for the RES-T target (including double counting)’ (‘1235 ktoe’ was reported instead of ‘1523 ktoe’). Furthermore, several data-problems occured for hydropower. Non-zero values were reported previously for pumped storage hydropower in Slovakia, but this should be a zero contribution. In Estonia pumped storage hydropower is available from 2017 onwards, which was not in the database. The value for ‘hydropower 1 MW –10 MW’ in France in 2020 was incorrect (1897 instead of 1807). The electricity production for Portugal in 2012 was reported ‘854 GWh’ instead of ‘10854 GWh’. Finally, the value for ‘hydropower >10 MW’ in Slovenia in 2020 was not correct (1194 instead of 1176). All these errors have been corrected in the fourth version of the database and in the report. Typing errors in other entries: for Lithuania the value for onshore and total wind power in 2017 has been changed into ‘500 MW’ instead of ‘5000 MW’ (see Section 1.5.14). For Finland an error occured for the entry ‘solid biomass’ in renewable heat (Template Table 11) for the year 2012, where ‘6040 ktoe’ was reported instead of ‘3040 ktoe’. For France the 2012 value for ‘Total biomass in households’ in renewable heat was changed from ‘645’ into ‘6945’. In the fourth version of the database and data report these errors all have been corrected.

For the **second version** of the data report and database (dated 1 October 2010 and covering 21 Member States) several users of the report and database have reported data-issues. These were all corrected in the third version. In the database for Portugal in Template Table 1 wrong data were entered for 2005 - 2015 and no data for 2015 - 2020, which resulted in problems in the ‘Country table’ for Portugal in the data report. For France, a data mismatch occured for the final consumption in aviation and for the last row presenting the total consumption after aviation reduction in Template Table 1 (wrong data for 2005 - 2016 and no data for 2016 - 2020). For the Netherlands, in the database a typing error occured in template Table 7 for the ‘ktoe’ entry for ‘Agriculture and fisheries (by-products)’ referring to the year 2006. For the same year the value for primary energy production in category ‘Waste (municipal)’ was corrected to ‘67 ktoe’ (12 + 9 + 46) resulting in a subtotal of ‘1354 ktoe’ for category ‘Biomass from waste’. The Dutch data for Template Table 7a were reported in data ranges that have been included starting from the third version of the database. Subtotals for template Table 7a were calculated and entered into the database in ranges if applicable. For Finland a typing error has been corrected in the third version of the report and database in template Table 12: for the year 2013 an amount of ‘140 ktoe’ was reported for biodiesel, this has been corrected into ‘240 ktoe’. For Spain a typing error occured in Template Table 1: the figure for ‘heating and cooling’ in 2010 was reported ‘3334’ but should be ‘33340’, which resulted in a data problem in the ‘Country table’ of the data report. An obvious error occurs for Greece in Template Table 1: the data series for ‘Total consumption after reduction for aviation limit’ is equal to the series in ‘Final consumption in aviation’. The

first and second version of the data report and database simply reported the erroneous values (in the data report visible in the 'Country table' for Greece). In the database no data will be reported for 'Total consumption after reduction for aviation limit' from the third version onwards.

In the section containing the 'Country tables' (page 149 and further) several countries were concerned as a result of the following two problems. Firstly, the value for 'target 2020' in the figure titles erroneously referred to the (rounded) value of the *achieved* share of renewables instead of the Annex I target value. Moreover, in the rows for the 'Co-operation mechanisms' the values from template Table 4a 'Transfer of RES from other Member States and 3rd countries' and 'Transfer of RES to other Member States' were swapped.

In the database values in Template Table 7a were indicated as referring to 2006 instead of 2020. This has been corrected in the database version of 13 December 2010.

In the **first version** of the data report (dated 10 September 2010 and covering 19 Member States) a problem occured in the country tables (page 149 up to the end of the document): the data entries for 'Other biofuels' in the category 'Renewable production' in 'Transport' erroneously have been put at 'n.a.' for all countries. This has been corrected in the second version, for the country table and as a result for the country figures as well (where applicable).

For Ireland data updates were communicated by an Irish Government representative. This regards template Table 7a (values for 2020 (B1 / B2 / total B) changed to 335 / 440 / 775 ktoe) and template Table 11: values for Solid Biomass for 2016 and 2017 have been adjusted to 394 and 399 ktoe.

1.8 'Further information' provided by the Member States (update 2011)

1.8.1 General remarks

Table 16 indicates for all Member States in which Template Tables changes have been reported. For more detailed information see Sections 1.8.2 to 1.8.28. After processing the 'further information' that the Member States provided on their earlier submitted NREAP it can be observed that for several Member States the tables still contain a small number of errors. For example, it remains an issue whether countries consistently provided information on normalised electricity production from wind and hydropower. On electricity production from hydropower some Member States include pumping capacity in the total reported, while others do not. For a considerable number of Member States no information is provided on the import and/or export of biomass resources in the 'biomass supply' tables (7 and 7a). Member States report differently on the primary energy production from biomass: some explain this figure to be actually the primary energy value of the biomass (i.e. of the unprocessed raw material), whereas others explain that it represents the final energy value of the biomass. Quite a number of Member States report 'optional information' for table 7 as mentioned in the Template. This information has not been reported on separately in the database and in the report but it has been considered by totalling all this information when applicable. Some Member States provide additional conversion factors and assumptions for Template Tables 7 and 7a, which is not further reported on here. For Table 6 it appears the share of renewable energy in public buildings generally is not reported on, or a *total share* of renewable energy in buildings has been reported instead, which has not been further considered as it is not in line with the Template.

1.8.2 Belgium

For Template Table 6 *overall* figures have been presented only, instead of building-sector specific values. This has not been entered into the database. Corrected Template Tables 7 and 7a ('Biomass supply') have been provided, with various data updates. It has been noted that the sum

of the subcategories in Template Table 7a does not always match the value presented as 'total' (largest difference for 'net amount' in category B, approximately 1.5%). For Template Tables 10a and 10b detailed information is provided for hydropower categories, wind offshore and onshore and the electricity generation in CHP. In Template Table 11 detailed information is provided for the type of heat pumps, and for biomass in households (the detailed information on the Belgian regions has not been considered in the database). The 'further information' document confirms that in Template Table 12 for 'renewable electricity in road transport' the values have been presented with a weight factor of 2.5, which is not in line with the Template[12].

1.8.3 Bulgaria

Bulgaria resubmitted the NREAP document, in which all data tables have been updated. Table 1 and table 4b have been reported in two versions. For both tables the second version has been considered for the database. Table numbering deviated from the Template for Tables 8 to 10a.

1.8.4 Czech Republic

For the Czech Republic no further information has been published at the Transparency Platform at the release date of this report.

[12]For example, in Table 4b the 2020 value for 'renewable electricity in road transport' is '16.6 ktoe' while in Template Table 12 a value of '41.5 ktoe' (2.5 times 16.6) has been reported. This is not correct.

Table 16: *Data table update per Member State. The table numbers refer to the Template for filling in the NREAP*

Table number	1	2	3	4a	4b	6	7	7a	8	9	10a	10b	11	12	Page
Austria		x	x		x			x							47
Belgium							x	x			x	x	x		42
Bulgaria	x	x	x	x	x		x	x		x	x	x		x	43
Cyprus			x		x			x					x		46
Czech Republic															43
Denmark			x				x	x						x	44
Estonia															44
Finland						x	x	x	x		x	x	x		48
France				x			x	x				x	x		45
Germany															44
Greece	x			x			x	x				x		x	44
Hungary	x							x						x	46
Ireland			x								x	x			44
Italy															45
Latvia					x		x	x	x					x	46
Lithuania								x			x	x			46
Luxembourg							x	x							46
Malta								x						x	47
Netherlands											x	x			47
Poland															47
Portugal															47
Romania													x	x	47
Slovakia															48
Slovenia															48
Spain			x[11]						x						45
Sweden			x								x	x			48
United Kingdom								x			x	x			49

1.8.5 Denmark

In February 2011 the Danish government has released the 'Energy Strategy 2050', in which the vision of fossil-fuel indepency has been formulated. Following this report[13], the share of renewable energy could become 33% by 2020 (current EU-target for Denmark is 30%). New initiatives from this strategy have not been reported on in the 'further information' document for Denmark. In Template Table 3 the values for 'Overall RES share (%)' and the 'RES minimum trajectory' (both in % and in 'ktoe') were modified. In table 7 the categories 'domestic resources' and 'primary energy production' from the Template are respectively presented as 'production' and 'consumption' in the document providing 'further information'. The unit for the 'consumption' is not mentioned explicitly, and is thus assumed equal to the column for 'production'. In table 7a 'primary energy production' is denoted as 'domestic supply'. Furthermore, in Table 7 and 7a for category B1 no figures are reported as these are included in category A1 (perennial energy crops) and B2 (others crops such as grasses). Template Table 12: in the original NREAP the figures provided for bioethanol/bio-ETBE and biodiesel indicated that all biofuels in these categories are expected to be second-generation biofuels. This has been corrected now: starting from 2015 second generation biofuels will penetrate up to 50% of the consumption by 2020. The sum of the second generation biofuels in Table 12 now is consistent with data provided in Template Table 4b.

1.8.6 Germany

For Germany no further information has been published at the Transparency Platform at the release date of this report.

1.8.7 Estonia

For Estonia no further information has been published at the Transparency Platform at the release date of this report.

1.8.8 Ireland

For Ireland the following tables have been updated: 3, 10a and 10b. In Table 3 the overall RES share has been corrected for the anticipated surplus for cooperation mechanisms for the period 2011—2018. For Tables 10a/b hydropower pumped storage capacity was provided (292 MW, assumed for the whole period 2005–2020), but no energy data [GWh], reason for which data in the database have been changed from 0 (original NREAP) to 'n.a.'. For consistency reasons 'total hydropower capacity' has not been adjusted, as the further information provided is not explicit enough (breakdown of additional pumped storage capacity into capacity ranges is missing).

1.8.9 Greece

Greece resubmitted the NREAP document. In Table 1 the 'expected final electricity consumption' for 2017 for the 'additional energy efficiency' scenario was changed (is now '5470 ktoe', was '5490'). Note that in Table 1 also some typing errors have been corrected in the fifth report version, see section 1.7. In Template Table 4a the figure reported for expected total RES consumption (D) was adapted but (G) was not adjusted accordingly. In Template Table 7 only the top row of A) Biomass from forestry reports zero imports and exports. However in the database

[13] '*Energy Strategy 2050 – from coal, oil and gas to green energy*' by the Danish government, February 2011, http://www.ens.dk/Documents/Netboghandel-publikationer/2011/Energy_Strategy_2050.pdf

all imports and exports of biomass in this table are set at 0, as domestic resources and net quantities reported are equal for all categories. Total values reported in Table 12 are not a result from summing the subcategories.

In Tables 7 and 7a the values for ' Biomass from forestry' have been updated, and various missing data were provided for all reference years (2006, 2015 and 2020). Subcategories have been summed to yield total values for each of the categories A to C. For table 10a and b an additional subcategory has been inserted in the NREAP to report separately on 'solid co-fired biomass'. In the database the figures for this subcategory have been included in the 'biomass solid' figures.

1.8.10 Spain

Spain announces in the further information the forthcoming release of the '*2011-20 Renewable Energy Plan'* (not yet available at the time of submission of the 'further information' document[14]). This document announces important changes in the RES projections. These however have not been considered in the current update of this report. Regarding the data update: in Table 3 the share of RES-T for the year 2011 is announced to be 6.2% instead of the value 6.1% mentioned in the original NREAP. For consistency reasons (i.e. changes in the underlying data are not available), no amendments have been made to the database. Furthermore, 'Agricultural land use for production of dedicated energy crops' as reported in Table 8 for the year 2006 has been changed from 'n.a.' to '0'.

1.8.11 France

Various issues in the first NREAP version (see 1.5.10) have *not* been corrected in the 'updated report' nor in the 'further information' document. This is the case for Table 4a (typesetting problem for the year 2015: '150408' instead of '15040') and in Table 11, where for renewable energy from heat pumps aggregate values have been specified for geothermal and hydrothermal sources (the database reports the sum of both values under 'geothermal'. Problems that have been adjusted are the following: in Table 4a the value for 'Expected RES consumption adjusted for target' has been corrected for the years 2018 and 2019 (now '32576' and '34357' respectively). The unit of the biomass resources reported in Table 7 under category A 'Biomass resulting from forestry' probably is 'm^3 of roundwood equivalent (RWE)'. The updated NREAP has corrected values for category B 'Biomass resulting from agriculture and fishing' (both B1 and B2, total value unchanged). In category C2 an additional source is reported for the 'primary energy production': for 'biogas from industrial sewage sludge' an additional value of 24 ktoe is mentioned for the years 2006 (table 7), 2015 and 2020 (Table 7a). For consistency reasons this value has not been entered into the database. In Table 10b a few data changes occurred with respect to the first NREAP version: 'total hydropower energy' for 2016 is now '70631 GWh' (was '70961'). Likewise, solar total in 2015 is now '2981 GWh' (was '2987'). Furthermore, electric capacity for 'Tide, wave, ocean' is now '302 MW' (was '301') and 'solid biomass' in 2017 is now '1871 MW' (was '1870').

1.8.12 Italy

For Italy no further information has been published at the Transparency Platform at the release date of this report.

[14] Available at the time of writing this report: *Resumen del Plan de Energías Renovables 2011–2020*, 26 July 2011, http://www.idae.es/index.php/mod.documentos/mem.descarga?file=/documentos_Resumen_PER_2011-2020_26-julio-2011_58f27847.pdf

1.8.13 Cyprus

In the original NREAP Table 3 the 'RES minimum trajectory' had been provided in '%' instead of 'ktoe' and in Template Table 4b the 'Expected RES contribution to transport for the RES-T target' had been provided in '%' instead of 'ktoe', which has been corrected in the 'further information' document. In Template Table 7a additional energy carriers have been added to the 'primary energy production' for category B, Biomass from agriculture and fisheries: for $B1$ information has been added for 'Biodiesel for biofuel production', and for $B2$ information has been added for biogas, either coming from animal farm waste and used for heat production or coming from waste and used for electricity generation. The database entries have been updated to cover this additional information. In a revised Template Table 11 estimates for the quantity of biogas and solid biomass have been provided.

1.8.14 Latvia

In Template Table 4b some small changes have been suggested. New data have been provided for Template Tables 7, 7a (units unknown), 8 and 12 (small changes).

1.8.15 Lithuania

The document providing 'further information' for Lithuania provides a total share of energy from renewable sources in buildings, which have been incorporated in Table 6 (years 2005 and 2020 only). In Table 7a the 'further information' document provides data for the 'amount of domestic resource'. In Template Tables 10a/b 'pumped storage hydropower' has been added. The installed capacity has been added to the 'total hydropower' and the grand 'total' value in the table. For electricity generation this has not been done (which is in line with the Template).

1.8.16 Luxembourg

For Luxembourg the following tables have been updated: 7 and 7a. Total imports of biomass of 45 ktoe in 2020 is given as further information to table 7a, a value which is not foreseen to be reported in the Template (not considered in the database). The unit for the 'Amount of domestic resource' in the year 2006 was reported as '1000 t', which previously was not correctly entered into the database (factor 1000 was missing). For the years 2015 and 2020 the unit was not mentioned in the original NREAP. For the database it was assumed that these are identical to the year 2006, values have been corrected accordingly for all years.

1.8.17 Hungary

The document providing 'further information' for Hungary is presented in the country's national language. For Template Table 1 new data have been presented, mainly referring to the series for 'heating and cooling' and 'gross final energy consumption', in the 'additional energy efficiency' scenario for various years. For table 7a corrections have been presented for the 'primary energy production' in the category A2 ('Indirect supply of wood biomass for energy generation'). An important update in Template Table 12 refers to the fact that *all* 'other biofuels' are expected to be of the 'Article 21.2' category. In addition, the 2013 value for 'renewable electricity in non-road transport' has been updated (is now '10 ktoe', was '13').

1.8.18 Malta

In the resubmitted NREAP of Malta the layout of table 6 still deviates from that of the Template. In table 7a of the NREAP the figure for category C1 includes the quantity of category C2, and some data have been modified in the resubmitted NREAP. In Table 12 of the resubmitted NREAP some errors have been corrected: a.) the row for 'bio-ethanol/bio-ETBE *Article 21(2)*' has been copied to '*total* bio-ethanol/bio-ETBE', b.) the row for 'biodiesel *Article 21(2)*' has been shifted to '*total* biodiesel' and the values for the years 2019 and 2020 have been modified, c.) the data for 'renewable electricity in transport' have been modified, and d.) data for 'non-road transport' have been removed entirely from the table. As the values for 'renewable electricity in road transport' were not changed, the modifications involve no consequences for Template Table 4b.

1.8.19 Netherlands

For Template Tables 10a/b three changes have been presented: a) normalised electricity production has been given for the year 2005 for hydropower, overriding the realised values for that year, b) power capacity subcategories have been presented for hydropower , and c) a contribution from 'Tide, wave, ocean' has been made explicit (starting from 2016 onwards, previously reported under 'hydropower').

1.8.20 Austria

Data have been updated for various Template Tables. In Table 3 a deviation occurs from the Template for the 'RES minimum trajectory', both in % and in ktoe: data apparently have not been calculated using the suggested rules. Values provided for the years 2005 and 2010 for the 'RES minimum trajectory' have not been entered in the database.

Although it is stated in the 'further information' document that in Table 4b the series for '(C) Expected RES consumption in transport' has been brought in line with the series '(C) Expected final consumption of energy from RES in transport' in Table 4a for most of the years this is still not the case. The new values from Table 4b have been entered into the database. The text in the 'further information' document mentions approximate figures for import of biomass in the year 2020 (700 ktoe import from EU-countries regarding sources indirectly available for energy production (category A2) and 450 ktoe import from EU-countries regarding 'biomass from agriculture' (category B)). These data however have not been entered into the database since the Template doesn't require these numbers.

1.8.21 Poland

For Poland no further information has been published at the Transparency Platform at the release date of this report.

1.8.22 Portugal

No data changes have been reported in the 'further information' document for Portugal.

1.8.23 Romania

Romania has submitted Template Tables 11 and 12, which have been left empty in the NREAP. The total values for 'renewable heating and cooling' from Table 11 is consistent with the data

reported in Table 4a of the Template. In the new Template Table 12 however two problems occur: firstly, the 'total' value has been derived by summing all rows (thereby double counting all subcategories). In the database the 'wrong' total values from template Table 12 have been entered, but in this report the 'total' value for renewable transport in Table 9 on page 25 of this report has been determined by summing all subcategories, thereby by-passing the problem. Secondly, both series of 'total' values do not match the values reported in Template Table 4b under '(C) Expected RES consumption in transport'.

1.8.24 Slovenia

For Slovenia no further information has been published at the Transparency Platform at the release date of this report.

1.8.25 Slovakia

For Slovakia no further information has been published at the Transparency Platform at the release date of this report.

1.8.26 Finland

Finland resubmitted the NREAP. The following tables have been updated: 6, 7, 7a, 8, 10a, 10b and 11. As in the first NREAP, Table 1 in the resubmitted NREAP contains only the 'additional energy efficiency' and not a 'reference' scenario. In table 4b the year 2006 is mentioned in the table instead of 2005. For reasons of database consistency the 2006 value is reported under the year 2005. The same occurs for table 7a, where 2016 is mentioned instead of 2015, but this is interpreted as a typing error. A mismatch is reported between values in Table 4a column C and Table 4b. As mentioned in the question in the 'further information' document, one of the data entries should be corrected in order to report exactly the same figures, but the document doesn't provide sufficient information. No changes have been made to the database and report regarding this issue. In table 7 category A2 a non-standard energy-unit has been used: an optional information of 259.000 tonnes of processed wood-fuel has reported in the NREAP, which has not been added to the subtotal of 34.7 million m^3 in the database because on inconsistency of units. The value of 193000 ton reported as 'exported processed wood-fuel' could be entered in the database without problems, but the remaining net amount of 66000 ton could not be added to the net amount of 34.7 million m^3. Amounts of biomass from waste (to be reported in [ton], categories C1 to C3 in Template Table 7) could not be added because of unit-inconsistencies and deviations from the Template: 'n.a.' has been reported. In table 10 non-zero capacity data [MW] are reported for solar photovoltaic energy for the years 2018 to 2020 while zero energy production [GWh] has been defined. For the year 2020, wind power has been split into onshore and offshore capacity and energy. In Table 11 the amount of energy in district heating for the year 2005 has been modified (from 830 ktoe to 450 ktoe). For the year 2005, 'bioliquids' in Table 10a and Table 11 have been included under 'solid biomass' of the respective tables.

1.8.27 Sweden

For Sweden in Table 3 the 'RES minimum trajectory in ktoe' have been updated for the years 2011–2018. For Template Tables 10a/b three changes have been presented: a) normalised electricity production has been given for the years 2005 to 2020 for hydropower, b) pumped storage hydropower has been removed from the subtotal for hydropower and the grand total for both power and electricity generation and c) the values for liquid biomass have been added to the 'total biomass' category, which previously was not the case (see Section 1.5.26).

1.8.28 United Kingdom

In Template Table 7a the figures for the different biomass domestic supply categories do not add up to the row of totals that is given (even when disregarding the contribution from sewage sludge, category $C3$). On primary energy production only total values are presented, no figures by category are given. In Template Tables 10a/b hydropower pumped storage capacity has been provided. As already has been the case for the original NREAP, subcategorisation for hydropower differs from the Template format: the breakdown has been based on ROC-eligibility (mostly 20 MW) as a reference value for most hydropower plants, which has not been considered in the database.

In the document mention is made of a UK Renewable Energy Roadmap[15], which is to provide more information on, among others, updated sectoral targets (i.e. renewable electricity versus heat versus transport).

[15] *UK Renewable Energy Roadmap*, Department of Energy and Climate Change, July 2011, http://www.decc.gov.uk/assets/decc/11/meeting-energy-demand/renewable-energy/2167-uk-renewable-energy-roadmap.pdf

2 Targets and trajectories

Annex I of Directive 2009/28/EC on the promotion of the use of energy from renewable sources (23 April 2009)[16] is composed of two important parts. Part A specifies the national overall targets for the share of energy from renewable sources for the year 2020 and a reference value for the year 2005. Part B defines by means of formulas an indicative trajectory for each Member State, that must be attained or exceeded in the reference years specified. As mentioned in Article 3.1 of the Directive, these mandatory national overall targets are consistent with a target of at least a 20% share of energy from renewable sources in the European Community's gross final consumption of energy in 2020.

In the current section the country-specific values for the reference values, the intermediate values and the final 2020 target for the individual Member States are presented. Table 17 shows the data from Annex I for all countries explicitly. Table 18 compares the 2005 and 2020 data from Annex I to the values from the NREAP documents. Both 2005 and 2020 values may vary; the first due to problems in reproducing the historic value and the latter for example by not reaching or by exceeding the target. Data from Table 18 are graphically displayed in Figure 2.

In Tables 20 to 45 the information from the abovementioned tables is compared on a per-country basis. It allows to see whether the trajectory is being met according to the NREAP documents.

[16]Directive 2009/28/EC is available from the Transparency Platform on renewable energy (http://ec.europa.eu/energy/renewables/transparency_platform/transparency_platform_en.htm). The direct link to the document in all European languages is http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0028:EN:NOT

Table 17: *Renewable energy shares from Annex I of the Directive [%]*

	Reference	Indicative trajectory				Target
	2005 [%]	2011-2012 [%]	2013-2014 [%]	2015-2016 [%]	2017-2018 [%]	2020 [%]
Belgium	2.2	4.4	5.4	7.1	9.2	13
Bulgaria	9.4	10.7	11.4	12.4	13.7	16
Czech Republic	6.1	7.5	8.2	9.2	10.6	13
Denmark	17.0	19.6	20.9	22.9	25.5	30
Germany	5.8	8.2	9.5	11.3	13.7	18
Estonia	18.0	19.4	20.1	21.2	22.6	25
Ireland	3.1	5.7	7.0	8.9	11.5	16
Greece	6.9	9.1	10.2	11.9	14.1	18
Spain	8.7	11.0	12.1	13.8	16.0	20
France	10.3	12.8	14.1	16.0	18.6	23
Italy	5.2	7.6	8.7	10.5	12.9	17
Cyprus	2.9	4.9	5.9	7.4	9.5	13
Latvia	32.6	34.1	34.8	35.9	37.4	40
Lithuania	15.0	16.6	17.4	18.6	20.2	23
Luxembourg	0.9	2.9	3.9	5.4	7.5	11
Hungary	4.3	6.0	6.9	8.2	10.0	13
Malta	0.0	2.0	3.0	4.5	6.5	10
Netherlands	2.4	4.7	5.9	7.6	9.9	14
Austria	23.3	25.4	26.5	28.1	30.3	34
Poland	7.2	8.8	9.5	10.7	12.3	15
Portugal	20.5	22.6	23.7	25.2	27.3	31
Romania	17.8	19.0	19.7	20.6	21.8	24
Slovenia	16.0	17.8	18.7	20.1	21.9	25
Slovakia	6.7	8.2	8.9	10.0	11.4	14
Finland	28.5	30.4	31.4	32.8	34.7	38
Sweden	39.8	41.6	42.6	43.9	45.8	49
United Kingdom	1.3	4.0	5.4	7.5	10.2	15

All percentages originate from Annex I of Directive 2009/28/EC. The indicative trajectory has been calculated from Part B of the Annex

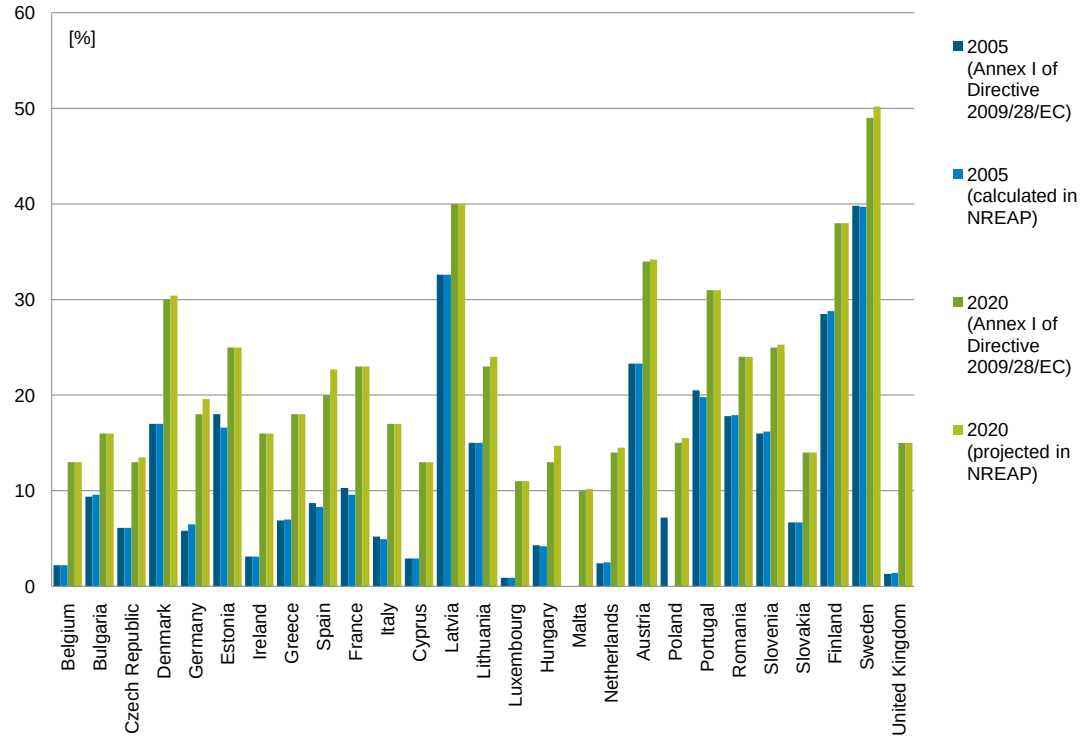


Figure 2: *Renewable energy shares according to Annex I of Directive 2009/28/EC and according to the NREAP documents (Table 3 of the Template)*

Table 18: *Renewable energy shares according to Annex I of Directive 2009/28/EC and according to the NREAP documents (Table 3 of the Template)*

	2005		2020	
	Target [%]	NREAP [%]	Target [%]	NREAP [%]
Belgium	2.2	2.2	13.0	13.0
Bulgaria	9.4	9.6	16.0	16.0
Czech Republic	6.1	6.1	13.0	13.5
Denmark	17.0	17.0	30.0	30.4
Germany	5.8	6.5	18.0	19.6
Estonia	18.0	16.6	25.0	25.0
Ireland	3.1	3.1	16.0	16.0
Greece	6.9	7.0	18.0	18.0
Spain	8.7	8.3	20.0	22.7
France	10.3	9.6	23.0	23.0
Italy	5.2	4.9	17.0	17.0
Cyprus	2.9	2.9	13.0	13.0
Latvia	32.6	32.6	40.0	40.0
Lithuania	15.0	15.0	23.0	24.0
Luxembourg	0.9	0.9	11.0	11.0
Hungary	4.3	4.2	13.0	14.7
Malta	0.0	n.a.	10.0	10.2
Netherlands	2.4	2.5	14.0	14.5
Austria	23.3	23.3	34.0	34.2
Poland	7.2	n.a.	15.0	15.5
Portugal	20.5	19.8	31.0	31.0
Romania	17.8	17.9	24.0	24.0
Slovenia	16.0	16.2	25.0	25.3
Slovakia	6.7	6.7	14.0	14.0
Finland	28.5	28.8	38.0	38.0
Sweden	39.8	39.7	49.0	50.2
United Kingdom	1.3	1.4	15.0	15.0

Both reference (due to problems in reproduing the historic value) and target (for example by not reaching or by exceeding it) may vary between Annex I of the Directive and the data from the NREAP documents

Table 19: *Belgium: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	4.4	4.4	4.4	5.2	4.8
2013-2014	5.4	5.4	5.8	6.8	6.3
2015-2016	7.1	7.1	7.5	8.6	8.1
2017-2018	9.2	9.2	9.5	10.7	10.1
2020	13.0	13.0	13.0		13.0

For more detail on Belgium see the country factsheet on page 209. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 20: *Bulgaria: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	10.7	10.7	10.7	10.7	10.7
2013-2014	11.4	11.4	11.4	11.4	11.4
2015-2016	12.4	12.4	12.4	12.4	12.4
2017-2018	13.7	13.7	13.7	13.7	13.7
2020	16.0	16.0	16.0		16.0

For more detail on Bulgaria see the country factsheet on page 211. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 21: *Czech Republic: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	7.5	7.5	9.4	10.1	9.8
2013-2014	8.2	8.2	10.8	11.3	11.1
2015-2016	9.2	9.2	11.8	12.1	12.0
2017-2018	10.6	10.6	12.5	12.9	12.7
2020	13.0	13.0	13.5		13.5

For more detail on Czech Republic see the country factsheet on page 213. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 22: *Denmark: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	19.6	19.6	23.4	24.2	23.8
2013-2014	20.9	20.9	27.3	27.2	27.3
2015-2016	22.9	22.9	27.6	28.2	27.9
2017-2018	25.5	25.5	28.6	29.1	28.9
2020	30.0	30.0	30.4		30.4

For more detail on Denmark see the country factsheet on page 215. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 23: *Germany: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	8.2	8.2	10.8	11.4	11.1
2013-2014	9.5	9.5	12.0	12.8	12.4
2015-2016	11.3	11.3	13.5	14.4	14.0
2017-2018	13.7	13.7	15.7	16.7	16.2
2020	18.0	18.0	19.6		19.6

For more detail on Germany see the country factsheet on page 217. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 24: *Estonia: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	19.4	19.4	21.2	22.0	21.6
2013-2014	20.1	20.1	23.3	23.4	23.4
2015-2016	21.2	21.2	23.6	23.7	23.7
2017-2018	22.6	22.6	24.2	24.5	24.4
2020	25.0	25.0	25.0		25.0

For more detail on Estonia see the country factsheet on page 219. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 25: *Ireland: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	5.7	5.7	6.7	7.6	7.2
2013-2014	7.0	7.0	8.6	9.1	8.9
2015-2016	8.9	8.9	10.3	10.7	10.5
2017-2018	11.5	11.5	11.9	13.0	12.5
2020	16.0	16.0	16.0		16.0

For more detail on Ireland see the country factsheet on page 221. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 26: *Greece: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	9.1	9.1	8.8	9.5	9.2
2013-2014	10.2	10.2	9.9	10.5	10.2
2015-2016	11.9	11.9	11.4	12.4	11.9
2017-2018	14.1	14.1	13.7	14.6	14.2
2020	18.0	18.0	18.0		18.0

For more detail on Greece see the country factsheet on page 223. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 27: *Spain: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	11.0	11.0	14.2	14.8	14.5
2013-2014	12.1	12.1	15.4	16.5	16.0
2015-2016	13.8	13.8	17.4	18.3	17.9
2017-2018	16.0	16.1	19.4	20.4	19.9
2020	20.0	20.0	22.7		22.7

For more detail on Spain see the country factsheet on page 225. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 28: *France: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	12.8	12.2	13.5	14.0	13.8
2013-2014	14.1	13.5	15.0	16.0	15.5
2015-2016	16.0	15.5	17.0	18.0	17.5
2017-2018	18.6	18.3	19.5	20.5	20.0
2020	23.0	23.0	23.0		23.0

For more detail on France see the country factsheet on page 227. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 29: *Italy: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	7.6	7.6	8.7	9.2	8.9
2013-2014	8.7	8.7	9.9	10.5	10.2
2015-2016	10.5	10.5	11.2	12.0	11.6
2017-2018	12.9	12.9	12.9	13.8	13.4
2020	17.0	17.0	17.0		17.0

For more detail on Italy see the country factsheet on page 229. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 30: *Cyprus: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	4.9	4.9	6.8	7.1	7.0
2013-2014	5.9	5.9	7.8	8.4	8.1
2015-2016	7.4	7.5	9.0	9.7	9.4
2017-2018	9.5	9.5	10.4	11.2	10.8
2020	13.0	13.0	13.0		13.0

For more detail on Cyprus see the country factsheet on page 231. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 31: *Latvia: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	34.1	34.1	33.8	34.3	34.1
2013-2014	34.8	34.8	34.7	35.0	34.9
2015-2016	35.9	35.9	35.6	36.3	36.0
2017-2018	37.4	37.4	37.0	37.7	37.4
2020	40.0	40.0	40.0		40.0

For more detail on Latvia see the country factsheet on page 233. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 32: *Lithuania: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	16.6	16.6	17.0	18.0	17.5
2013-2014	17.4	17.4	19.0	20.0	19.5
2015-2016	18.6	18.6	21.0	22.0	21.5
2017-2018	20.2	20.2	24.0	24.0	24.0
2020	23.0	23.0	24.0		24.0

For more detail on Lithuania see the country factsheet on page 235. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 33: *Luxembourg: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	2.9	2.9	2.9	2.9	2.9
2013-2014	3.9	3.9	3.9	3.9	3.9
2015-2016	5.4	5.5	5.4	5.4	5.4
2017-2018	7.5	7.5	7.5	7.5	7.5
2020	11.0	11.0	11.0		11.0

For more detail on Luxembourg see the country factsheet on page 237. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 34: *Hungary: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	6.0	6.0	7.3	7.4	7.4
2013-2014	6.9	6.9	7.5	8.0	7.8
2015-2016	8.2	8.2	8.3	9.3	8.8
2017-2018	10.0	10.0	10.7	12.3	11.5
2020	13.0	13.0	14.7		14.7

For more detail on Hungary see the country factsheet on page 239. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 35: *Malta: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	2.0	2.0	2.3	2.6	2.5
2013-2014	3.0	3.0	3.8	5.4	4.6
2015-2016	4.5	4.5	5.5	6.8	6.2
2017-2018	6.5	6.5	9.7	9.6	9.7
2020	10.0	10.0	10.2		10.2

For more detail on Malta see the country factsheet on page 241. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 36: *Netherlands: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	4.7	4.7	4.6	5.6	5.1
2013-2014	5.9	5.9	6.6	7.7	7.2
2015-2016	7.6	7.6	8.5	9.7	9.1
2017-2018	9.9	9.9	10.9	12.1	11.5
2020	14.0	14.0	14.5		14.5

For more detail on Netherlands see the country factsheet on page 243. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 37: *Austria: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	25.4	26.3	31.4	31.6	31.5
2013-2014	26.5	27.3	31.8	32.1	32.0
2015-2016	28.1	28.7	32.3	32.6	32.5
2017-2018	30.3	30.6	32.9	33.3	33.1
2020	34.0	34.0	34.2		34.2

For more detail on Austria see the country factsheet on page 245. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 38: *Poland: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	8.8	8.8	10.1	10.6	10.3
2013-2014	9.5	9.5	11.1	11.5	11.3
2015-2016	10.7	10.7	11.9	12.5	12.2
2017-2018	12.3	12.3	13.1	13.8	13.5
2020	15.0	15.0	15.5		15.5

For more detail on Poland see the country factsheet on page 247. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 39: *Portugal: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	22.6	22.0	25.2	26.9	26.1
2013-2014	23.7	23.1	27.1	27.4	27.3
2015-2016	25.2	24.8	28.4	28.9	28.7
2017-2018	27.3	27.1	29.7	30.6	30.2
2020	31.0	31.0	31.0		31.0

For more detail on Portugal see the country factsheet on page 249. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 40: *Romania: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	19.0	19.0	18.0	19.0	18.5
2013-2014	19.7	19.7	19.4	19.7	19.6
2015-2016	20.6	20.6	20.1	20.6	20.4
2017-2018	21.8	21.8	21.2	21.8	21.5
2020	24.0	24.0	24.0		24.0

For more detail on Romania see the country factsheet on page 251. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 41: *Slovenia: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	17.8	17.8	18.2	18.7	18.5
2013-2014	18.7	18.7	19.5	20.1	19.8
2015-2016	20.1	20.0	21.2	21.8	21.5
2017-2018	21.9	21.8	22.4	23.6	23.0
2020	25.0	25.0	25.3		25.3

For more detail on Slovenia see the country factsheet on page 253. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 42: *Slovakia: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	8.2	8.2	8.2	8.2	8.2
2013-2014	8.9	8.9	8.9	8.9	8.9
2015-2016	10.0	10.0	10.0	10.0	10.0
2017-2018	11.4	11.4	11.4	11.4	11.4
2020	14.0	14.0	14.0		14.0

For more detail on Slovakia see the country factsheet on page 255. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 43: *Finland: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	30.4	30.4	30.1	31.0	30.6
2013-2014	31.4	31.4	31.6	32.2	31.9
2015-2016	32.8	32.8	32.6	33.6	33.1
2017-2018	34.7	34.7	34.7	35.7	35.2
2020	38.0	38.0	38.0		38.0

For more detail on Finland see the country factsheet on page 257. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 44: *Sweden: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	41.6	41.6	44.2	44.9	44.6
2013-2014	42.6	42.6	45.6	46.3	46.0
2015-2016	43.9	43.9	47.0	47.7	47.4
2017-2018	45.8	45.8	48.3	49.0	48.7
2020	49.0	49.0	50.2		50.2

For more detail on Sweden see the country factsheet on page 259. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Table 45: *United Kingdom: indicative trajectory for the overall renewable energy share [%] for the reference years as mentioned in Annex I part B of Directive 2009/28/EC*

Period	Annex I part B	NREAP			
		Template Table 3	First year	Second year	Average
	[%]	[%]	[%]	[%]	[%]
2011-2012	4.0	4.0	4.0	4.0	4.0
2013-2014	5.4	5.4	5.0	6.0	5.5
2015-2016	7.5	7.5	7.0	8.0	7.5
2017-2018	10.2	10.2	9.0	11.0	10.0
2020	15.0	15.0	15.0		15.0

For more detail on United Kingdom see the country factsheet on page 261. The reference to Table 3 is to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Gross final energy consumption

This section presents the gross final energy data as presented in Template Table 1. This table in the Template gives expected gross final energy consumption in heating and cooling, electricity and transport. Starting with an identical value for the base year 2005, two scenarios are available: a '*reference scenario*' and an '*additional energy efficiency scenario*'. The gross final energy consumption for the purpose of measuring target compliance and evaluating the indicative trajectory (see Table 17 on page 51) is corrected for those Member States that have a large share of aviation in their gross final consumption of energy (see Article 5.6 in the Renewable Energy Directive (2009/28/EC)[17]. The amount by which these countries exceed one-and-a-half times the European Community average gross final consumption of energy in aviation in 2005 will be partially exempted. This results in a value '*before aviation reduction*' and an a value '*after aviation reduction*', which have been reported in separate tables in this report.

As not all Member States apply the aviation reduction, the set of tables is not filled for each country. Unavailable data are replaced by data matching most closely. The countries without *Reference scenario*' (Finland, the Netherlands and Slovenia) will report the series for '*Additional energy efficiency*' for both scenarios. Member States without an '*aviation reduction*' report the values without the reduction only, also in the table '*after aviation reduction*'. Doing so, the sum of all countries can be detemined even in the case of data unavailability.

Table 46 indicates the availability of the scenarios and the aviation reduction for each Member State.

[17] At http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0028:EN:NOT the Renewable Energy Directive is available for download

Table 46: *Availability of scenarios and the aviation reduction for each Member State. Unavailable data are replaced by data matching most closely in order to report the sum of all countries.*

	Final consumption									
	Heating and cooling		Electricity		Transport		Total before aviation		Total after aviation	
Table (page)	Reference 49 (66)	Efficiency 50 (67)	Reference 47 (64)	Efficiency 48 (65)	Reference 51 (68)	Efficiency 52 (69)	Reference 53 (70)	Efficiency 54 (71)	Reference 55 (72)	Efficiency 56 (73)
Belgium	x	x	x	x	x	x	x	x	n.a.	n.a.
Bulgaria	x	x	x	x	x	x	x	x	n.a.	n.a.
Czech Republic	x	x	x	x	x	x	x	x	n.a.	n.a.
Denmark	x	x	x	x	x	x	x	x	x	x
Germany	x	x	x	x	x	x	x	x	n.a.	n.a.
Estonia	x	x	x	x	x	x	x	x	n.a.	x
Ireland	x	x	x	x	x	x	x	x	x	x
Greece	x	x	x	x	x	x	x	x	n.a.	n.a.
Spain	x	x	x	x	x	x	x	x	x	n.a.
France	x	x	x	x	x	x	x	x	n.a.	x
Italy	x	x	x	x	x	x	x	x	n.a.	n.a.
Cyprus	x	x	x	x	x	x	x	x	x	x
Latvia	x	x	x	x	x	x	x	x	n.a.	n.a.
Lithuania	x	x	x	x	x	x	x	x	n.a.	n.a.
Luxembourg	x	x	x	x	x	x	x	x	x	x
Hungary	x	x	x	x	x	x	x	x	n.a.	n.a.
Malta	x	x	x	x	x	x	x	x	n.a.	n.a.
Netherlands	n.a.	x	n.a.	x	n.a.	x	n.a.	x	n.a.	x
Austria	x	x	x	x	x	x	x	x	n.a.	n.a.
Poland	x	x	x	x	x	x	x	x	n.a.	n.a.
Portugal	x	x	x	x	x	x	x	x	n.a.	x
Romania	x	x	x	x	x	x	x	x	n.a.	n.a.
Slovenia	n.a.	x	n.a.	x	n.a.	x	n.a.	x	n.a.	n.a.
Slovakia	x	x	x	x	x	x	x	x	n.a.	n.a.
Finland	n.a.	x	n.a.	x	n.a.	x	n.a.	x	n.a.	n.a.
Sweden	x	x	x	x	x	x	x	x	n.a.	n.a.
United Kingdom	x	x	x	x	x	x	x	x	x	x

Table 47: *Total final energy consumption [ktoe] electricity for the reference scenario*

	Scenario	2005 [ktoe]	2010 [ktoe]	2011 [ktoe]	2012 [ktoe]	2013 [ktoe]	2014 [ktoe]	2015 [ktoe]	2016 [ktoe]	2017 [ktoe]	2018 [ktoe]	2019 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	Reference scenario	7912	8670	8822	8973	9125	9276	9428	9539	9651	9762	9874	9985	3
Bulgaria	Reference scenario	3129	3130	3174	3218	3263	3309	3355	3402	3450	3498	3547	3597	1
Czech Republic	Reference scenario	6014	6151	6338	6480	6621	6761	6903	7039	7189	7309	7427	7563	2
Denmark	Reference scenario	3166	3144	3199	3247	3308	3367	3418	3454	3483	3507	3536	3564	1
Germany	Reference scenario	51813	51973	52063	52232	52331	52454	52554	52689	52728	52767	52733	52627	16
Estonia	Reference scenario	738	829	842	856	869	883	896	892	907	921	936	951	0
Ireland	Reference scenario	2341	2511	2525	2574	2632	2697	2764	2806	2840	2872	2904	2937	1
Greece	Reference scenario	5486	5061	5348	5376	5429	5456	5480	5586	5727	5842	6053	6179	2
Spain	Reference scenario	25080	25056	25616	26428	27571	28589	29647	30926	32072	33271	34517	35816	11
France	Reference scenario	45317	47378	47790	48202	48615	49027	49439	49851	50263	50676	51088	51500	16
Italy	Reference scenario	29749	29505	29908	30344	30814	31317	31853	32423	33025	33662	34331	35034	11
Cyprus	Reference scenario	374	464	486	508	530	551	573	595	617	639	661	683	0
Latvia	Reference scenario	581	588	603	618	636	657	686	733	764	795	827	860	0
Lithuania	Reference scenario	985	913	940	973	1005	1029	1053	1075	1097	1133	1168	1204	0
Luxembourg	Reference scenario	567	553	556	559	562	565	568	574	581	588	595	602	0
Hungary	Reference scenario	3609	3682	3801	3922	4001	4089	4169	4245	4316	4383	4444	4506	1
Malta	Reference scenario	n.a.	226	231	238	245	251	258	265	271	277	284	291	0
Netherlands	Additional efficiency	10347	10627	10743	10860	10976	11093	11210	11304	11398	11493	11587	11681	4
Austria	Reference scenario	5725	5634	5709	5795	5892	5991	6091	6199	6308	6425	6545	6666	2
Poland	Reference scenario	n.a.	12900	13400	14000	14400	14900	15300	15700	16200	16600	17100	17400	5
Portugal	Reference scenario	4558	4730	4748	4783	4825	4847	5076	5201	5327	5593	5655	5721	2
Romania	Reference scenario	4601	5350	5710	5864	5994	6066	6189	6445	6740	6980	7211	7439	2
Slovenia	Additional efficiency	1272	1196	1216	1235	1254	1274	1293	1303	1312	1322	1332	1342	0
Slovakia	Reference scenario	2412	2460	2603	2650	2698	2747	2796	2846	2898	2950	3003	3057	1
Finland	Additional efficiency	7530	7550	7770	7880	7990	8100	8210	8310	8400	8500	8640	8740	3
Sweden	Reference scenario	12987	13650	13783	13915	14048	14181	14314	14446	14579	14712	14844	14977	5
United Kingdom	Reference scenario	32100	31800	32000	32300	32600	32900	33100	33300	33500	33700	33900	34200	10
All Member States (total)	Mixed scenarios	268393	285731	289924	294030	298234	302377	306623	311148	315643	320177	324742	329122	**100**

For the Netherlands, Slovenia and Finland the 'Reference scenario' is not available. For these Member States, projections have been taken as reported for the 'Additional efficiency scenario', see Table 48.

For Malta and Poland no data are available for the year 2005. Consequently, the value reported here as EU total in 2005 is actually the value for the EU minus Malta and Poland (in the year 2010 together amounting to 13.1 Mtoe).

Table 48: *Final energy consumption [ktoe] for electricity for the additional energy efficiency scenario*

	Scenario	2005 [ktoe]	2010 [ktoe]	2011 [ktoe]	2012 [ktoe]	2013 [ktoe]	2014 [ktoe]	2015 [ktoe]	2016 [ktoe]	2017 [ktoe]	2018 [ktoe]	2019 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	Additional efficiency	7912	8371	8462	8554	8646	8737	8829	8968	9108	9247	9387	9526	3
Bulgaria	Additional efficiency	3129	3130	3164	3182	3181	3175	3171	3163	3155	3148	3144	3148	1
Czech Republic	Additional efficiency	6014	6036	6210	6329	6449	6568	6697	6807	6927	7022	7118	7232	2
Denmark	Additional efficiency	3166	3108	3130	3148	3179	3214	3234	3237	3235	3233	3238	3247	1
Germany	Additional efficiency	51813	51925	51830	51615	51352	51089	50588	50229	49799	49346	48844	48317	16
Estonia	Additional efficiency	738	829	840	851	862	873	884	880	894	909	923	938	0
Ireland	Additional efficiency	2341	2473	2469	2500	2540	2587	2636	2677	2713	2746	2779	2813	1
Greece	Additional efficiency	5486	5061	5215	5209	5227	5217	5285	5345	5470	5583	5752	5887	2
Spain	Additional efficiency	25080	25056	25513	26105	26951	27593	28264	29140	29863	30625	31421	32269	11
France	Additional efficiency	45317	45849	45955	46062	46168	46275	46381	46487	46594	46700	46807	46913	15
Italy	Additional efficiency	29749	30701	30856	31009	31161	31313	31465	31618	31770	31922	32075	32227	11
Cyprus	Additional efficiency	374	463	480	497	514	531	548	564	581	598	615	633	0
Latvia	Additional efficiency	581	584	596	608	620	633	646	665	684	704	725	746	0
Lithuania	Additional efficiency	985	911	937	970	1002	1025	1048	1069	1090	1124	1158	1193	0
Luxembourg	Additional efficiency	567	549	548	547	546	545	544	549	554	559	564	569	0
Hungary	Additional efficiency	3609	3675	3785	3898	3969	4047	4118	4185	4247	4308	4363	4418	1
Malta	Additional efficiency	n.a.	215	220	226	232	238	244	249	254	259	265	270	0
Netherlands	Additional efficiency	10347	10627	10743	10860	10976	11093	11210	11304	11398	11493	11587	11681	4
Austria	Additional efficiency	5725	5634	5656	5684	5719	5763	5817	5885	5971	6077	6210	6377	2
Poland	Additional efficiency	n.a.	12100	12300	12500	12700	12900	13100	13400	13700	14000	14300	14600	5
Portugal	Additional efficiency	4558	4730	4748	4783	4825	4847	5076	5169	5262	5491	5518	5547	2
Romania	Additional efficiency	4601	5350	5383	5432	5527	5568	5655	5790	5975	6098	6216	6334	2
Slovenia	Additional efficiency	1272	1196	1216	1235	1254	1274	1293	1303	1312	1322	1332	1342	0
Slovakia	Additional efficiency	2412	2460	2556	2586	2617	2649	2681	2713	2745	2778	2812	2866	1
Finland	Additional efficiency	7530	7550	7770	7880	7990	8100	8210	8310	8400	8500	8640	8740	3
Sweden	Additional efficiency	12987	13089	13109	13130	13150	13170	13191	13211	13232	13252	13273	13293	4
United Kingdom	Additional efficiency	32100	31700	31700	31800	31900	32000	32100	32100	32100	32200	32300	32400	11
All Member States (total)	Additional efficiency	268393	283372	285391	287200	289257	291024	292915	295017	297033	299244	301366	303526	**100**

For the ‘additional energy efficiency’ scenario all Member States have provided data.
For Malta and Poland no data are available for the year 2005. Consequently, the value reported here as EU total in 2005 is actually the value for the EU minus Malta and Poland (in the year 2010 together amounting to 12.3 Mtoe).

Table 49: *Total final energy consumption [ktoe] heating and cooling for the reference scenario*

	Scenario	2005 [ktoe]	2010 [ktoe]	2011 [ktoe]	2012 [ktoe]	2013 [ktoe]	2014 [ktoe]	2015 [ktoe]	2016 [ktoe]	2017 [ktoe]	2018 [ktoe]	2019 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	Reference scenario	21804	21804	21804	21804	21804	21804	21804	21804	21804	21804	21804	21804	4
Bulgaria	Reference scenario	4543	4851	4854	5036	5258	5461	5640	5765	5898	6008	6105	6193	1
Czech Republic	Reference scenario	17644	18326	18417	18419	18514	18645	18856	19008	19170	19554	19783	19992	3
Denmark	Reference scenario	8071	8161	8232	8320	8400	8467	8512	8542	8576	8614	8667	8727	2
Germany	Reference scenario	116842	111661	111063	110132	108794	107528	106215	105164	103420	101748	100172	98766	17
Estonia	Reference scenario	1615	1592	1601	1610	1619	1628	1637	1649	1661	1673	1686	1698	0
Ireland	Reference scenario	5516	5184	5233	5216	5248	5307	5388	5477	5546	5613	5668	5724	1
Greece	Reference scenario	8355	8644	8401	8439	8464	8595	8743	8875	9070	9228	9423	9600	2
Spain	Reference scenario	40254	33340	32649	32559	32393	32318	32315	32259	32180	32067	31932	31837	5
France	Reference scenario	68949	72333	73009	73686	74363	75040	75716	76393	77070	77747	78423	79100	14
Italy	Reference scenario	68501	64194	64491	64774	65041	65294	65532	65755	65963	66157	66335	66499	11
Cyprus	Reference scenario	530	480	483	489	499	508	517	525	533	540	546	551	0
Latvia	Reference scenario	2607	2271	2316	2361	2416	2493	2604	2779	2962	2994	3042	3114	1
Lithuania	Reference scenario	2583	2417	2448	2497	2545	2621	2697	2724	2750	2795	2841	2886	0
Luxembourg	Reference scenario	1189	1293	1303	1313	1324	1334	1344	1363	1381	1399	1417	1436	0
Hungary	Reference scenario	12192	10520	10780	10994	11322	11116	11008	10887	10759	10625	10476	10412	2
Malta	Reference scenario	n.a.	46	56	58	60	63	66	68	70	72	74	76	0
Netherlands	Additional efficiency	28436	24612	24614	24615	24616	24617	24618	24692	24766	24840	24914	24989	4
Austria	Reference scenario	13206	12007	12172	12360	12572	12788	13009	13245	13485	13743	14005	14274	2
Poland	Reference scenario	n.a.	31600	33000	34700	35900	37300	38800	40300	41800	43200	44700	46200	8
Portugal	Reference scenario	7927	7286	7370	7454	7538	7622	7706	7839	7972	8105	8238	8371	1
Romania	Reference scenario	18779	16056	16106	16643	17303	18093	18943	19179	19460	19790	20164	20696	4
Slovenia	Additional efficiency	2291	1996	2008	2019	2031	2043	2054	2049	2044	2039	2034	2029	0
Slovakia	Reference scenario	6162	5971	6019	6067	6114	6162	6210	6258	6306	6353	6401	6449	1
Finland	Additional efficiency	13970	14010	14380	14540	14670	14830	15000	15080	15120	15170	15260	15300	3
Sweden	Reference scenario	13190	15339	15769	16199	16628	17058	17488	17918	18347	18777	19207	19637	3
United Kingdom	Reference scenario	66900	60000	59200	58600	58100	57500	56900	56300	55800	55500	55100	54800	9
All Member States (total)	Mixed scenarios	552056	555994	557778	560904	563536	566235	569322	571897	573913	576155	578417	581160	**100**

For the Netherlands, Slovenia and Finland the 'Reference scenario' is not available. For these Member States, projections have been taken as reported for the 'Additional efficiency scenario', see Table 50.

For Malta and Poland no data are available for the year 2005. Consequently, the value reported here as EU total in 2005 is actually the value for the EU minus Malta and Poland (in the year 2010 together amounting to 31.6 Mtoe).

Table 50: *Final energy consumption [ktoe] for heating and cooling for the additional energy efficiency scenario*

	Scenario	2005 [ktoe]	2010 [ktoe]	2011 [ktoe]	2012 [ktoe]	2013 [ktoe]	2014 [ktoe]	2015 [ktoe]	2016 [ktoe]	2017 [ktoe]	2018 [ktoe]	2019 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	Additional efficiency	21804	21804	21804	21804	21804	21804	21804	21804	21804	21804	21804	21804	4
Bulgaria	Additional efficiency	4543	4492	4413	4462	4509	4538	4539	4494	4557	4611	4626	4638	1
Czech Republic	Additional efficiency	17644	17805	17837	17765	17778	17821	17963	18083	18205	18560	18742	18680	4
Denmark	Additional efficiency	8071	8042	8021	8021	8012	7991	7929	7858	7795	7732	7690	7653	1
Germany	Additional efficiency	116842	111597	110681	109081	107361	105498	103588	101581	99551	97449	95276	93139	18
Estonia	Additional efficiency	1615	1572	1573	1574	1575	1576	1577	1577	1578	1578	1579	1579	0
Ireland	Additional efficiency	5516	5160	5139	5065	5041	5043	5069	5102	5066	5029	4980	4931	1
Greece	Additional efficiency	8355	8644	8375	8376	8474	8517	8658	8859	9013	9166	9401	9674	2
Spain	Additional efficiency	40254	33340	32465	32349	31984	31671	31452	31181	30894	30546	30189	29849	6
France	Additional efficiency	68949	65966	65369	64773	64176	63580	62983	62386	61790	61193	60597	60000	12
Italy	Additional efficiency	68501	58976	59197	59418	59639	59860	60081	60301	60522	60743	60964	61185	12
Cyprus	Additional efficiency	530	480	480	484	492	499	509	512	517	521	525	527	0
Latvia	Additional efficiency	2607	2251	2285	2319	2354	2389	2425	2461	2497	2535	2573	2612	1
Lithuania	Additional efficiency	2583	2417	2428	2454	2481	2514	2601	2618	2634	2650	2667	2684	1
Luxembourg	Additional efficiency	1189	1235	1235	1235	1234	1234	1234	1241	1248	1255	1262	1268	0
Hungary	Additional efficiency	12192	10497	10724	10976	11195	10920	10742	10541	10360	10181	10028	9877	2
Malta	Additional efficiency	n.a.	45	55	56	58	60	63	65	67	69	71	73	0
Netherlands	Additional efficiency	28436	24612	24614	24615	24616	24617	24618	24692	24766	24840	24914	24989	5
Austria	Additional efficiency	13206	12007	12031	12061	12099	12145	12203	12276	12367	12481	12624	12802	2
Poland	Additional efficiency	n.a.	32400	32500	32700	32800	32900	33100	33400	33800	34100	34400	34700	7
Portugal	Additional efficiency	7927	7286	7370	7454	7538	7622	7706	7807	7906	8004	8101	8197	2
Romania	Additional efficiency	18779	15788	16184	16525	16840	17210	17572	17708	17818	17973	18140	18316	4
Slovenia	Additional efficiency	2291	1996	2008	2019	2031	2043	2054	2049	2044	2039	2034	2029	0
Slovakia	Additional efficiency	6162	5971	5923	5876	5828	5780	5732	5685	5661	5637	5613	5613	1
Finland	Additional efficiency	13970	14010	14380	14540	14670	14830	15000	15080	15120	15170	15260	15300	3
Sweden	Additional efficiency	13190	14448	14700	14951	15203	15455	15706	15958	16209	16461	16713	16964	3
United Kingdom	Additional efficiency	66900	60000	58900	58000	57100	56200	55300	54400	53500	52900	52200	51500	10
All Member States (total)	Additional efficiency	552056	542841	540691	538953	536892	534317	532208	529719	527289	525227	522973	520583	**100**

For the ‘additional energy efficiency’ scenario all Member States have provided data.
For Malta and Poland no data are available for the year 2005. Consequently, the value reported here as EU total in 2005 is actually the value for the EU minus Malta and Poland (in the year 2010 together amounting to 32.4 Mtoe).

Table 51: *Total final energy consumption [ktoe] transport for the reference scenario*

	Scenario	2005 [ktoe]	2010 [ktoe]	2011 [ktoe]	2012 [ktoe]	2013 [ktoe]	2014 [ktoe]	2015 [ktoe]	2016 [ktoe]	2017 [ktoe]	2018 [ktoe]	2019 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	Reference scenario	8493	9485	9522	9552	9589	9629	9661	9591	9530	9463	9399	9333	3
Bulgaria	Reference scenario	2642	2830	2857	2928	3021	3110	3191	3252	3315	3372	3423	3473	1
Czech Republic	Reference scenario	6007	6146	6169	6294	6389	6464	6506	6542	6577	6723	6584	6573	2
Denmark	Reference scenario	4145	4207	4293	4397	4397	4411	4428	4436	4443	4445	4458	4464	1
Germany	Reference scenario	53602	52427	52331	52268	52232	52221	52187	52150	52112	52073	52035	51996	15
Estonia	Reference scenario	746	789	809	828	847	867	886	900	913	927	940	954	0
Ireland	Reference scenario	3912	4605	4430	4578	4740	5043	5311	5464	5589	5706	5824	5913	2
Greece	Reference scenario	6568	6774	6769	6779	6816	6828	6864	6945	7037	7094	7180	7257	2
Spain	Reference scenario	32407	30891	30816	31433	32402	33460	34391	35382	36367	37380	38408	39410	11
France	Reference scenario	45080	53100	53500	53900	54300	54700	55100	55500	55900	56300	56700	57500	16
Italy	Reference scenario	39000	36467	36848	37190	37494	37759	37986	38174	38325	38436	38509	38544	11
Cyprus	Reference scenario	682	721	722	733	744	757	771	783	795	806	816	825	0
Latvia	Reference scenario	982	1099	1119	1145	1165	1190	1212	1231	1253	1274	1297	1320	0
Lithuania	Reference scenario	1133	1336	1376	1418	1461	1506	1554	1603	1654	1707	1761	1817	1
Luxembourg	Reference scenario	2416	2309	2337	2365	2392	2420	2448	2475	2502	2529	2557	2584	1
Hungary	Reference scenario	3964	4107	4405	4592	4744	4897	5005	5116	5228	5342	5417	5492	2
Malta	Reference scenario	n.a.	152	154	155	156	158	159	160	162	163	164	165	0
Netherlands	Additional efficiency	11351	11699	11643	11587	11531	11475	11419	11262	11105	10948	10791	10634	3
Austria	Reference scenario	8945	8336	8453	8587	8739	8895	9055	9228	9407	9603	9809	10065	3
Poland	Reference scenario	n.a.	16800	17000	17500	17500	17700	17900	18200	18400	18600	18900	19100	5
Portugal	Reference scenario	6223	6040	6028	6016	6003	5992	5980	5986	5990	5996	6002	6010	2
Romania	Reference scenario	4139	4856	5112	5259	5408	5556	5707	5814	5921	6027	6134	6239	2
Slovenia	Additional efficiency	1526	1735	1756	1777	1798	1819	1839	1862	1885	1907	1930	1953	1
Slovakia	Reference scenario	1744	2221	2269	2341	2436	2508	2556	2627	2699	2794	2866	2938	1
Finland	Additional efficiency	4220	4030	4060	4060	4080	4090	4100	4110	4150	4150	4120	4080	1
Sweden	Reference scenario	7473	7923	8013	8103	8193	8283	8373	8463	8553	8643	8733	8823	3
United Kingdom	Reference scenario	41704	40485	40935	41427	41746	41936	42002	42030	42013	41957	41878	41779	12
All Member States (total)	Mixed scenarios	299104	321570	323726	327212	330323	333674	336591	339286	341825	344365	346635	349241	**100**

For the Netherlands, Slovenia and Finland the 'Reference scenario' is not available. For these Member States, projections have been taken as reported for the 'Additional efficiency scenario', see Table 52.

For Malta and Poland no data are available for the year 2005. Consequently, the value reported here as EU total in 2005 is actually the value for the EU minus Malta and Poland (in the year 2010 together amounting to 17.0 Mtoe).

Table 52: *Final energy consumption [ktoe] for transport for the additional energy efficiency scenario*

	Scenario	2005 [ktoe]	2010 [ktoe]	2011 [ktoe]	2012 [ktoe]	2013 [ktoe]	2014 [ktoe]	2015 [ktoe]	2016 [ktoe]	2017 [ktoe]	2018 [ktoe]	2019 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	Additional efficiency	8493	9304	9306	9301	9304	9308	9306	9187	9077	8963	8852	8740	3
Bulgaria	Additional efficiency	2642	2776	2846	2872	2888	2895	2898	2900	2914	2929	2941	2952	1
Czech Republic	Additional efficiency	6007	6128	6139	6255	6342	6407	6429	6443	6456	6436	6416	6618	2
Denmark	Additional efficiency	4145	4191	4267	4361	4350	4353	4353	4355	4353	4344	4342	4332	1
Germany	Additional efficiency	53602	52355	52188	52021	51806	51575	51279	50655	50034	49414	48857	48302	15
Estonia	Additional efficiency	746	789	805	821	837	852	868	881	895	908	921	934	0
Ireland	Additional efficiency	3912	4564	4358	4482	4621	4905	5152	5308	5430	5542	5658	5747	2
Greece	Additional efficiency	6568	6528	6436	6324	6233	6214	6253	6279	6267	6279	6309	6336	2
Spain	Additional efficiency	32407	30875	30795	30746	31068	31180	31222	31292	31410	31502	31609	31681	10
France	Additional efficiency	45080	45700	45300	45000	44700	44300	44000	43700	43400	43000	42800	42100	13
Italy	Additional efficiency	39000	37054	36745	36437	36129	35821	35513	35205	34897	34589	34281	33972	11
Cyprus	Additional efficiency	682	720	716	720	727	736	744	750	756	761	765	768	0
Latvia	Additional efficiency	982	1096	1116	1136	1157	1178	1199	1218	1237	1257	1278	1299	0
Lithuania	Additional efficiency	1133	1333	1368	1405	1444	1484	1527	1566	1606	1648	1691	1734	1
Luxembourg	Additional efficiency	2416	2086	2111	2136	2161	2186	2211	2236	2260	2285	2309	2334	1
Hungary	Additional efficiency	3964	4083	4369	4544	4685	4825	4922	5020	5121	5223	5286	5349	2
Malta	Additional efficiency	n.a.	152	154	155	156	158	159	160	161	163	164	165	0
Netherlands	Additional efficiency	11351	11699	11643	11587	11531	11475	11419	11262	11105	10948	10791	10634	3
Austria	Additional efficiency	8945	8336	8341	8348	8356	8364	8374	8385	8396	8407	8414	8414	3
Poland	Additional efficiency	n.a.	16800	17000	17200	17400	17600	17800	18200	18600	19000	19500	19900	6
Portugal	Additional efficiency	6223	6040	6028	6016	6003	5992	5980	5932	5884	5836	5789	5743	2
Romania	Additional efficiency	4139	4725	4873	4999	5125	5252	5379	5434	5485	5536	5592	5628	2
Slovenia	Additional efficiency	1526	1735	1756	1777	1798	1819	1839	1862	1885	1907	1930	1953	1
Slovakia	Additional efficiency	1744	2221	2245	2293	2341	2409	2449	2491	2532	2603	2675	2747	1
Finland	Additional efficiency	4220	4030	4060	4060	4080	4090	4100	4110	4150	4150	4120	4080	1
Sweden	Additional efficiency	7473	7686	7728	7771	7813	7856	7898	7941	7983	8026	8068	8111	3
United Kingdom	Additional efficiency	41704	40485	40935	41427	41746	41936	42002	42030	42013	41957	41878	41779	13
All Member States (total)	Additional efficiency	299104	313491	313628	314194	314801	315170	315275	314802	314307	313613	313236	312352	**100**

For the ‘additional energy efficiency’ scenario all Member States have provided data.
For Malta and Poland no data are available for the year 2005. Consequently, the value reported here as EU total in 2005 is actually the value for the EU minus Malta and Poland (in the year 2010 together amounting to 17.0 Mtoe).

Table 53: *Total final energy consumption [ktoe] before aviation reduction for the reference scenario*

	Scenario	Aviation reduction	2005 [ktoe]	2010 [ktoe]	2011 [ktoe]	2012 [ktoe]	2013 [ktoe]	2014 [ktoe]	2015 [ktoe]	2016 [ktoe]	2017 [ktoe]	2018 [ktoe]	2019 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	Reference	Without reduction	38209	41012	41222	41426	41638	41852	42057	42119	42189	43055	42321	42386	3
Bulgaria	Reference	Without reduction	10314	10811	10885	11182	11542	11880	12186	12419	12663	12878	13075	13263	1
Czech Republic	Reference	Without reduction	29665	30623	30924	31193	31523	31870	32265	32589	32937	33585	33794	34128	3
Denmark	Reference	Without reduction	16475	16495	16738	17011	17168	17324	17453	17553	17648	17740	17861	17984	1
Germany	Reference	Without reduction	229092	223767	223249	222485	221243	220120	218926	218019	216347	214723	213122	211599	16
Estonia	Reference	Without reduction	3098	3210	3252	3294	3336	3377	3419	3440	3481	3522	3562	3602	0
Ireland	Reference	Without reduction	12807	13127	12855	13020	13285	13732	14181	14469	14707	14939	15166	15367	1
Greece	Reference	Without reduction	21649	22714	22424	22516	22670	22860	23150	23539	24007	24377	24826	25262	2
Spain	Reference	Without reduction	101845	93379	93169	94635	96613	98743	100923	103150	105417	107739	110108	112530	9
France	Reference	Without reduction	166689	179877	181423	182970	184518	186064	187610	189157	190704	192252	193798	195745	15
Italy	Reference	Without reduction	141226	134643	135841	137016	138167	139295	140399	141480	142536	143570	144580	145566	11
Cyprus	Reference	Without reduction	1884	1921	1949	1991	2043	2096	2150	2199	2247	2293	2338	2380	0
Latvia	Reference	Without reduction	4241	4060	4141	4231	4325	4451	4615	4862	5101	5191	5300	5434	0
Lithuania	Reference	Without reduction	4907	5034	5134	5273	5412	5555	5698	5797	5895	6029	6162	6296	0
Luxembourg	Reference	Without reduction	4605	4558	4599	4639	4680	4720	4760	4812	4864	4916	4967	5019	0
Hungary	Reference	Without reduction	19909	18309	18986	19508	20167	20205	20288	20355	20412	20462	20493	20525	2
Malta	Reference	Without reduction	n.a.	517	534	545	555	566	577	586	596	606	616	625	0
Netherlands	Additional efficiency	Without reduction	54010	51008	51146	51284	51422	51560	51698	51776	51854	51932	52010	52088	4
Austria	Reference	Without reduction	27610	25726	26083	26489	26948	27416	27893	28402	2892	29477	30043	30622	2
Poland	Reference	Without reduction	n.a.	61300	63400	66200	67800	69900	72000	74200	76400	78400	80700	82700	6
Portugal	Reference	Without reduction	19582	18592	18690	18782	18887	18989	19094	19293	19490	19680	19879	20082	2
Romania	Reference	Without reduction	27519	26261	26928	27766	28705	29716	30838	31438	32122	32797	33508	34374	3
Slovenia	Additional efficiency	Without reduction	5090	4927	4979	5031	5083	5135	5186	5214	5241	5269	5296	5323	0
Slovakia	Reference	Without reduction	10199	10653	10891	11058	11249	11417	11562	11731	11902	12098	12270	12443	1
Finland	Additional efficiency	Without reduction	26260	25730	26330	26610	26860	27140	27420	27600	27770	27910	28080	28170	2
Sweden	Reference	Without reduction	34519	37826	38487	39148	39810	40471	41132	41794	42455	43117	43778	44439	3
United Kingdom	Reference	Without reduction	154500	146600	146800	147300	147700	148100	148300	148200	148400	148600	148800	149000	11
All Member States (total)	Mixed scenarios	Mixed value	1165904	1212680	1221059	1232603	1243349	1254554	1265780	1276193	1286307	1297157	1306453	1316952	**100**

For the Netherlands, Slovenia and Finland the 'Reference scenario' is not available. For these Member States, projections have been taken as reported for the 'Additional efficiency scenario', see Table 54.

For Malta and Poland no data are available for the year 2005. Consequently, the value reported here as EU total in 2005 is actually the value for the EU minus Malta and Poland (in the year 2010 together amounting to 61.8 Mtoe).

Table 54: *Total final energy consumption [ktoe] before aviation reduction for the additional energy efficiency scenario*

	Scenario	Aviation reduction	2005 [ktoe]	2010 [ktoe]	2011 [ktoe]	2012 [ktoe]	2013 [ktoe]	2014 [ktoe]	2015 [ktoe]	2016 [ktoe]	2017 [ktoe]	2018 [ktoe]	2019 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	Additional efficiency	Without reduction	38209	40517	40630	40736	41121	40967	41076	41116	41164	41207	41254	41301	3
Bulgaria	Additional efficiency	Without reduction	10314	10398	10423	10516	10578	10608	10608	10557	10626	10688	10711	10738	1
Czech Republic	Additional efficiency	Without reduction	29665	29969	30186	30350	30568	30796	31089	31333	31587	32018	32275	32531	3
Denmark	Additional efficiency	Without reduction	16475	16324	16432	16576	16600	16629	16596	16553	16510	16458	16438	16419	1
Germany	Additional efficiency	Without reduction	229092	223584	222461	220479	218234	215869	213122	210089	206984	203760	200463	197178	17
Estonia	Additional efficiency	Without reduction	3098	3190	3218	3246	3273	3301	3329	3338	3366	3395	3423	3451	0
Ireland	Additional efficiency	Without reduction	12807	13024	12633	12700	12867	13220	13575	13784	13887	13984	14076	14142	1
Greece	Additional efficiency	Without reduction	21649	22418	21964	21864	21917	21960	22251	22596	22903	23216	23614	24114	2
Spain	Additional efficiency	Without reduction	101845	93226	92503	92974	93634	94116	94593	95078	95562	96055	96544	97041	8
France	Additional efficiency	Without reduction	166689	164349	163400	162553	161704	160758	159909	159060	158213	157264	156517	155268	13
Italy	Additional efficiency	Without reduction	141226	131801	131925	132049	132174	132298	132422	132546	132670	132794	132918	133042	11
Cyprus	Additional efficiency	Without reduction	1884	1919	1934	1963	2002	2041	2080	2116	2149	2180	2210	2240	0
Latvia	Additional efficiency	Without reduction	4241	4033	4101	4170	4240	4311	4383	4462	4542	4624	4709	4796	0
Lithuania	Additional efficiency	Without reduction	4907	5031	5111	5229	5347	5479	5610	5692	5773	5877	5980	6084	1
Luxembourg	Additional efficiency	Without reduction	4605	4273	4296	4318	4341	4364	4386	4415	4444	4472	4501	4530	0
Hungary	Additional efficiency	Without reduction	19909	18255	18878	19418	19849	19792	19782	19746	19728	19712	19677	19644	2
Malta	Additional efficiency	Without reduction	n.a.	506	522	532	542	551	561	570	578	587	595	603	0
Netherlands	Additional efficiency	Without reduction	54010	51008	51146	51284	51422	51560	51698	51776	51854	51932	52010	52088	4
Austria	Additional efficiency	Without reduction	27610	25726	25775	25836	25910	26001	26113	26248	26412	26608	26839	27109	2
Poland	Additional efficiency	Without reduction	n.a.	61300	61800	62400	62900	63400	64000	65000	66100	67100	68200	69200	6
Portugal	Additional efficiency	Without reduction	19582	18592	18690	18782	18887	18989	19094	19175	19252	19318	19392	19467	2
Romania	Additional efficiency	Without reduction	27519	25863	26439	26956	27493	28030	28606	28932	29278	29607	29949	30278	3
Slovenia	Additional efficiency	Without reduction	5090	4927	4979	5031	5083	5135	5186	5214	5241	5269	5296	5323	0
Slovakia	Additional efficiency	Without reduction	10199	10653	10724	10755	10786	10838	10862	10888	10938	11018	11100	11226	1
Finland	Additional efficiency	Without reduction	26260	25730	26330	26610	26860	27140	27420	27600	27770	27910	28080	28170	2
Sweden	Additional efficiency	Without reduction	34519	36089	36404	36718	37032	37346	37660	37974	38288	38603	38917	39231	3
United Kingdom	Additional efficiency	Without reduction	154500	146500	146200	146200	146100	145900	145600	145100	144800	144600	144300	144100	12
All Member States (total)	Additional efficiency	Without reduction	1165904	1189205	1189104	1190245	1191464	1191399	1191611	1190958	1190619	1190256	1189988	1189314	**100**

This dataset presents gross final energy consumption. It is the only cross-section of the NREAP data that is complete, so in this table no corrections have been applied (see also the footnotes in Tables 53, 55 and 56).

For Malta and Poland no data are available for the year 2005. Consequently, the value reported here as EU total in 2005 is actually the value for the EU minus Malta and Poland (in the year 2010 together amounting to 61.8 Mtoe).

Table 55: *Total final energy consumption [ktoe] after aviation reduction for the reference scenario*

	Scenario	Aviation reduction	2005 [ktoe]	2010 [ktoe]	2011 [ktoe]	2012 [ktoe]	2013 [ktoe]	2014 [ktoe]	2015 [ktoe]	2016 [ktoe]	2017 [ktoe]	2018 [ktoe]	2019 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	Reference	Without reduction	38209	41012	41222	41426	41638	41852	42057	42119	42189	43055	42321	42386	3
Bulgaria	Reference	Without reduction	10314	10811	10885	11182	11542	11880	12186	12419	12663	12878	13075	13263	1
Czech Republic	Reference	Without reduction	29665	30623	30924	31193	31523	31870	32265	32589	32937	33585	33794	34128	3
Denmark	Reference	After reduction	16475	16495	16738	17011	17168	17324	17453	17553	17648	17740	17861	17984	1
Germany	Reference	Without reduction	229092	223767	223249	222485	221243	220120	218926	218019	216347	214723	213122	211599	16
Estonia	Reference	Without reduction	3098	3210	3252	3294	3336	3377	3419	3440	3481	3522	3562	3602	0
Ireland	Reference	After reduction	12741	13106	12855	13020	13285	13732	14181	14469	14707	14939	15166	15367	1
Greece	Reference	Without reduction	21649	22714	22424	22516	22670	22860	23150	23539	24007	24377	24826	25262	2
Spain	Reference	After reduction	101845	93379	93169	94635	96613	98743	100866	102998	105147	107343	109579	111882	9
France	Reference	Without reduction	166689	179877	181423	182970	184518	186064	187610	189157	190704	192252	193798	195745	15
Italy	Reference	Without reduction	141226	134643	135841	137016	138167	139295	140399	141480	142536	143570	144580	145566	11
Cyprus	Reference	After reduction	1661	1744	1771	1810	1857	1904	1952	1996	2039	2081	2121	2159	0
Latvia	Reference	Without reduction	4241	4060	4141	4231	4325	4451	4615	4862	5101	5191	5300	5434	0
Lithuania	Reference	Without reduction	4907	5034	5134	5273	5412	5555	5698	5797	5895	6029	6162	6296	0
Luxembourg	Reference	After reduction	4457	4426	4469	4512	4555	4598	4641	4696	4750	4805	4860	4915	0
Hungary	Reference	Without reduction	19909	18309	18986	19508	20167	20205	20288	20355	20412	20462	20493	20525	2
Malta	Reference	Without reduction	n.a.	517	534	545	555	566	577	586	596	606	616	625	0
Netherlands	Additional efficiency	After reduction	53717	50240	50303	50366	50428	50491	50554	50550	50545	50541	50536	50532	4
Austria	Reference	Without reduction	27610	25726	26083	26489	26948	27416	27893	28402	28922	29477	30043	30622	2
Poland	Reference	Without reduction	n.a.	61300	63400	66200	67800	69900	72000	74200	76400	78400	80700	82700	6
Portugal	Reference	Without reduction	19582	18592	18690	18782	18887	18989	19094	19293	19490	19680	19879	20082	2
Romania	Reference	Without reduction	27519	26261	26928	27766	28705	29716	30838	31438	32122	32797	33508	34374	3
Slovenia	Additional efficiency	Without reduction	5090	4927	4979	5031	5083	5135	5186	5214	5241	5269	5296	5323	0
Slovakia	Reference	Without reduction	10199	10653	10891	11058	11249	11417	11562	11731	11902	12098	12270	12443	1
Finland	Additional efficiency	Without reduction	26260	25730	26330	26610	26860	27140	27420	27600	27770	27910	28080	28170	2
Sweden	Reference	Without reduction	34519	37826	38487	39148	39810	40471	41132	41794	42455	43117	43778	44439	3
United Kingdom	Reference	After reduction	150900	142800	142700	143000	143100	143200	143000	142500	142300	142200	142100	142000	11
All Member States (total)	Mixed scenarios	Mixed value	1161574	1207782	1215808	1227077	1237444	1248271	1258962	1268796	1278306	1288647	1297426	1307423	**100**

Not for all Member States the aviation reduction has been applied. This table presents all data for the total consumption after reduction for aviation limit for Denmark, Ireland, Spain (only for 2015 – 2020), Cyprus, Luxembourg, the Netherlands, and the United Kingdom. For the remaining countries, the values *before* the aviation reduction have been displayed. This regards Belgium, Bulgaria, the Czech Republic, Germany, Estonia, Greece, France, Italy, Latvia, Lithuania, Hungary, Malta, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden, . See also the third column in the table.

For the Netherlands, Slovenia and Finland the 'Reference scenario' is not available. For these Member States, projections have been taken as reported for the 'Additional efficiency scenario', see Tables 54 (Slovenia and Finland) and 56 (the Netherlands).

For Malta and Poland no data are available for the year 2005. Consequently, the value reported here as EU total in 2005 is actually the value for the EU minus Malta and Poland (in the year 2010 together amounting to 61.8 Mtoe).

For Spain the aviation reduction only applies to the years 2015 – 2020 in the 'Reference scenario'.

Table 56: *Total final energy consumption [ktoe] after aviation reduction for the additional energy efficiency*

	Scenario	Aviation reduction	2005 [ktoe]	2010 [ktoe]	2011 [ktoe]	2012 [ktoe]	2013 [ktoe]	2014 [ktoe]	2015 [ktoe]	2016 [ktoe]	2017 [ktoe]	2018 [ktoe]	2019 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	Additional efficiency	Without reduction	38209	40517	40630	40736	41121	40967	41076	41116	41164	41207	41254	41301	4
Bulgaria	Additional efficiency	Without reduction	10314	10398	10423	10516	10578	10608	10608	10557	10626	10688	10711	10738	1
Czech Republic	Additional efficiency	Without reduction	29665	29969	30186	30350	30568	30796	31089	31333	31587	32018	32275	32531	3
Denmark	Additional efficiency	After reduction	16475	16324	16432	16576	16600	16629	16596	16553	16510	16443	16395	16346	1
Germany	Additional efficiency	Without reduction	229092	223584	222461	220479	218234	215869	213122	210089	206984	203760	200463	197178	17
Estonia	Additional efficiency	Without reduction	3098	3190	3218	3246	3273	3301	3329	3338	3366	3395	3423	3451	0
Ireland	Additional efficiency	After reduction	12741	12996	12633	12700	12867	13220	13575	13784	13887	13984	14076	14142	1
Greece	Additional efficiency	Without reduction	21649	22418	21964	21864	21917	21960	22251	22596	22903	23216	23614	24114	2
Spain	Additional efficiency	Without reduction	101845	93226	92503	92974	93634	94116	94593	95078	95562	96055	96544	97041	8
France	Additional efficiency	Without reduction	166689	164349	163400	162553	161704	160758	159909	159060	158213	157264	156517	155268	13
Italy	Additional efficiency	Without reduction	141226	131801	131925	132049	132174	132298	132422	132546	132670	132794	132918	133042	11
Cyprus	Additional efficiency	After reduction	1661	1742	1757	1782	1816	1850	1884	1915	1943	1971	1997	2023	0
Latvia	Additional efficiency	Without reduction	4241	4033	4101	4170	4240	4311	4383	4462	4542	4624	4709	4796	0
Lithuania	Additional efficiency	Without reduction	4907	5031	5111	5229	5347	5479	5610	5692	5773	5877	5980	6084	1
Luxembourg	Additional efficiency	After reduction	4457	4123	4147	4171	4195	4219	4243	4274	4304	4335	4365	4396	0
Hungary	Additional efficiency	Without reduction	19909	18255	18878	19418	19849	19792	19782	19746	19728	19712	19677	19644	2
Malta	Additional efficiency	After reduction	n.a.	434	450	460	470	480	490	499	507	517	526	534	0
Netherlands	Additional efficiency	After reduction	53717	50240	50303	50366	50428	50491	50554	50550	50545	50541	50536	50532	4
Austria	Additional efficiency	Without reduction	27610	25726	25775	25836	25910	26001	26113	26248	26412	26608	26839	27109	2
Poland	Additional efficiency	Without reduction	n.a.	61300	61800	62400	62900	63400	64000	65000	66100	67100	68200	69200	6
Portugal	Additional efficiency	Without reduction	19582	18592	18690	18782	18887	18989	19094	19175	19252	19318	19392	19467	2
Romania	Additional efficiency	Without reduction	27519	25863	26439	26956	27493	28030	28606	28932	29278	29607	29949	30278	3
Slovenia	Additional efficiency	Without reduction	5090	4927	4979	5031	5083	5135	5186	5214	5241	5269	5296	5323	0
Slovakia	Additional efficiency	Without reduction	10199	10653	10724	10755	10786	10838	10862	10888	10938	11018	11100	11226	1
Finland	Additional efficiency	Without reduction	26260	25730	26330	26610	26860	27140	27420	27600	27770	27910	28080	28170	2
Sweden	Additional efficiency	Without reduction	34519	36089	36404	36718	37032	37346	37660	37974	38288	38603	38917	39231	3
United Kingdom	Additional efficiency	After reduction	150900	142700	142100	141800	141400	140800	140200	139200	138500	137900	137300	136700	12
All Member States (total)	Additional efficiency	Mixed value	1161574	1184210	1183763	1184527	1185366	1184823	1184657	1183419	1182593	1181734	1181053	1179865	**100**

For Cyprus and Malta the value for 'total final energy consumption after aviation reduction' might be an underestimate, see Sections 1.5.12 on page 35 and 1.5.17 on page 36

Not for all Member States the aviation reduction has been applied. This table presents all data for the total consumption after reduction for aviation limit for Denmark, Ireland, Cyprus, Luxembourg, Malta, the Netherlands and the United Kingdom. For the remaining countries, the values *before* the aviation reduction have been displayed. This regards Belgium, Bulgaria, the Czech Republic, Germany, Estonia, Greece, Spain, France, Italy, Latvia, Lithuania, Hungary, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland and Sweden. See also the third column in the table.

For Malta and Poland no data are available for the year 2005. Consequently, the value reported here as EU total in 2005 is actually the value for the EU minus Malta and Poland (in the year 2010 together amounting to 61.7 Mtoe).

Renewable aggregate data as reported in NREAP

Table 57: *Aggregate RES according to NREAP for the year 2005 (Template Table 4a, Table 4b (RES-T for target) and Table 12 (RES-E in road vehicles)*

	RES-E[a] [ktoe]	RES-H/C[a] [ktoe]	RES-T[a] [ktoe]	All RES[a] [ktoe]	All RES[b] [%]	RES-T target[c] [ktoe]	RES-E,H/C,T[d] [ktoe]	Difference[e] [ktoe]	RES-E[f] in transport [ktoe]	RES export[a] [ktoe]	RES import[a] [ktoe]	RES[a] after exchange [ktoe]	*Page*
Belgium	212	491	16	702	0.7	16	719	-17	16	0	0	702	*209*
Bulgaria	264	724	3	991	1.0	0	991	0	3	0	0	991	*211*
Czech Republic	269	1482	9	1760	1.8	9	1760	0	6	0	0	1760	*213*
Denmark	850	1869	9	2718	2.8	9	2728	-10	9	0	0	2718	*215*
Germany	5301	7706	2087	14926	15.1	2087	15094	-168	169	0	0	14926	*217*
Estonia	9	505	0	515	0.5	n.a.	514	1	0	n.a.	0	515	*219*
Ireland	180	193	1	373	0.4	1	374	-1	1	0	0	373	*221*
Greece	440	1066	1	1507	1.5	1	1507	0	n.a.	n.a.	n.a.	1507	*223*
Spain	4624	3550	366	8433	8.5	366	8540	-107	108	n.a.	n.a.	8433	*225*
France	6118	9397	544	15918	16.1	544	16059	-141	141	0	0	15918	*227*
Italy	4847	1916	179	6942	7.0	338	6942	0	139	n.a.	n.a.	6942	*229*
Cyprus	0	48	0	48	0.0	0	48	0	0	0	0	48	*231*
Latvia	261	1114	7	1377	1.4	9	1382	-5	4	n.a.	n.a.	1377	*233*
Lithuania	38	688	4	730	0.7	4	730	0	0	0	0	730	*235*
Luxembourg	18	20	2	40	0.0	2	40	0	1	n.a.	n.a.	40	*237*
Hungary	n.a.	n.a.	n.a.	n.a.	n.a.	5	n.a.	n.a.	0	n.a.	n.a.	n.a.	*239*
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	*241*
Netherlands	622	717	8	1339	1.4	8	1347	-8	8	0	0	1339	*243*
Austria	3480	3213	205	6735	6.8	214	6898	-163	162	0	0	6735	*245*
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	43	n.a.	n.a.	0	n.a.	n.a.	n.a.	*247*
Portugal	1337	2529	12	3866	3.9	12	3878	-12	12	0	0	3866	*249*
Romania	1347	3516	58	4921	5.0	58	4921	0	41	0	0	4921	*251*
Slovenia	362	465	0	828	0.8	4	827	1	4	0	0	828	*253*
Slovakia	404	361	8	772	0.8	8	773	-1	8	n.a.	n.a.	772	*255*
Finland	2030	5530	0	7560	7.7	20	7560	0	20	0	0	7560	*257*
Sweden	6605	7084	288	13689	13.9	301	13977	-288	121	n.a.	n.a.	13689	*259*
United Kingdom	1506	475	69	2050	2.1	69	2050	0	113	n.a.	n.a.	2050	*261*
European Union	41124	54659	3876	98740	100.0	4128	99659	-919	1086	0	0	98740	-

[a] As reported in Template Table 4a. The Template is available from http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT.

[b] Calculated indicator: contribution of each Member State to '*All RES*' as reported in Table 4a.

[c] 'RES-T target' refers to the row indicated (J) in Template Table 4b and takes into account Article 4c of the Directive (applying a factor 2.5 to electricity from renewable energy sources consumed by electric road vehicles) and Article 21.2 (considering twice the contribution made by biofuels produced from wastes, residues, non-food cellulosic material and ligno-cellulosic material).

[d] Calculated result: sum of columns '*RES-E*', '*RES-H/C*' and '*RES-T*' as reported in Template Table 4a.

[e] Difference between column '*All RES*' and the sum of columns '*RES-E*', '*RES-H/C*' and '*RES-T*' as reported in Template Table 4a (see also footnote *d*). Since none of the 27 Member States projected a contribution from renewable hydrogen in transport, the difference should be equal to the projection for renewable electricity in transport (Article 5.1 of the Renewable Energy Directive 2009/28/EC, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0028:EN:NOT).

[f] Renewable electricity in transport ('*road transport*' and '*non-road transport*') as reported in Template Table 12 (for Romania only '*renewable electricity in road transport*' from Template Table 4b has been considered).

Table 58: *Aggregate RES according to NREAP for the year 2010 (Template Table 4a, Table 4b (RES-T for target) and Table 12 (RES-E in road vehicles)*

	RES-E[a] [ktoe]	RES-H/C[a] [ktoe]	RES-T[a] [ktoe]	All RES[a] [ktoe]	All RES[b] [%]	RES-T target[c] [ktoe]	RES-E,H/C,T[d] [ktoe]	Difference[e] [ktoe]	RES-E[f] in transport [ktoe]	RES export[a] [ktoe]	RES import[a] [ktoe]	RES[a] after exchange [ktoe]	*Page*
Belgium	401	766	353	1520	1.1	353	1520	0	24	0	0	1520	*209*
Bulgaria	330	741	36	1107	0.8	30	1107	0	3	61	0	1046	*211*
Czech Republic	445	1811	250	2506	1.8	250	2506	0	7	0	0	2506	*213*
Denmark	1067	2480	42	3578	2.6	42	3589	-11	11	0	0	3578	*215*
Germany	9026	10031	3749	22588	16.5	3847	22806	-218	219	0	0	22588	*217*
Estonia	53	612	1	666	0.5	n.a.	666	0	0	n.a.	0	666	*219*
Ireland	504	220	135	859	0.6	138	859	0	1	0	0	859	*221*
Greece	674	1269	110	2050	1.5	111	2053	-3	2	257	n.a.	1793	*223*
Spain	7227	3764	1802	12693	9.3	1852	12793	-100	99	n.a.	n.a.	12693	*225*
France	7073	11124	2898	20912	15.3	2948	21095	-183	183	0	0	20912	*227*
Italy	5744	3851	1020	10615	7.7	1295	10615	0	170	n.a.	n.a.	10615	*229*
Cyprus	20	78	16	114	0.1	16.15	114	0	0	0	0	114	*231*
Latvia	261	1020	42	1320	1.0	44	1323	-3	3	n.a.	n.a.	1320	*233*
Lithuania	74	666	55	795	0.6	55	795	0	0	0	0	795	*235*
Luxembourg	22	26	43	89	0.1	43	91	-2	2	0	0	89	*237*
Hungary	244	949	150	1344	1.0	177	1343	1	6	0	0	1344	*239*
Malta	1.3	3.5	3	7.8	0.0	4.2	7.8	0	0	n.a.	n.a.	7.8	*241*
Netherlands	915	906	319	2128	1.6	475	2140	-12	12	0	0	2128	*243*
Austria	3902	3657	564	7952	5.8	564	8123	-171	171	0	0	7952	*245*
Poland	913	3980	981	5873	4.3	971	5874	-1	15	0	0	5873	*247*
Portugal	1956	2240	301	4476	3.3	305	4497	-21	20	0	0	4476	*249*
Romania	1435	2819	275	4529	3.3	275	4529	0	36	0	0	4529	*251*
Slovenia	388	445	40	874	0.6	46	873	1	5	0	0	874	*253*
Slovakia	471	452	90	1013	0.7	90	1013	0	8	n.a.	0	1013	*255*
Finland	1950	5210	220	7380	5.4	230	7380	0	20	0	0	7380	*257*
Sweden	7189	8237	528	15695	11.5	573	15954	-259	147	n.a.	n.a.	15695	*259*
United Kingdom	2720	518	1066	4304	3.1	1066	4304	0	136	n.a.	n.a.	4304	*261*
European Union	55005.3	67875.5	15089	136987.8	100.0	15800.35	137969.8	-982	1301	318	0	136669.8	-

[a] As reported in Template Table 4a. The Template is available from http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT.

[b] Calculated indicator: contribution of each Member State to '*All RES*' as reported in Table 4a.

[c] 'RES-T target' refers to the row indicated (J) in Template Table 4b and takes into account Article 4c of the Directive (applying a factor 2.5 to electricity from renewable energy sources consumed by electric road vehicles) and Article 21.2 (considering twice the contribution made by biofuels produced from wastes, residues, non-food cellulosic material and ligno-cellulosic material).

[d] Calculated result: sum of columns '*RES-E*', '*RES-H/C*' and '*RES-T*' as reported in Template Table 4a.

[e] Difference between column '*All RES*' and the sum of columns '*RES-E*', '*RES-H/C*' and '*RES-T*' as reported in Template Table 4a (see also footnote *d*). Since none of the 27 Member States projected a contribution from renewable hydrogen in transport, the difference should be equal to the projection for renewable electricity in transport (Article 5.1 of the Renewable Energy Directive 2009/28/EC, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0028:EN:NOT).

[f] Renewable electricity in transport ('*road transport*' and '*non-road transport*') as reported in Template Table 12 (for Romania only '*renewable electricity in road transport*' from Template Table 4b has been considered).

Table 59: *Aggregate RES according to NREAP for the year 2015 (Template Table 4a, Table 4b (RES-T for target) and Table 12 (RES-E in road vehicles)*

	RES-E[a] [ktoe]	RES-H/C[a] [ktoe]	RES-T[a] [ktoe]	All RES[a] [ktoe]	All RES[b] [%]	RES-T target[c] [ktoe]	RES-E,H/C,T[d] [ktoe]	Difference[e] [ktoe]	RES-E[f] in transport [ktoe]	RES export[a] [ktoe]	RES import[a] [ktoe]	RES[a] after exchange [ktoe]	*Page*
Belgium	1121	1435	541	3096	1.7	544	3097	-1	47	0	0	3096	*209*
Bulgaria	590	943	166	1699	0.9	115	1699	0	7	386	0	1313	*211*
Czech Republic	864	2359	455	3677	2.0	455	3678	-1	16	0	0	3677	*213*
Denmark	1477	2855	266	4579	2.5	292	4598	-19	19	833	0	3746	*215*
Germany	13553	12163	3479	28822	15.9	3613	29195	-373	374	0	0	28822	*217*
Estonia	117	626	42	786	0.4	n.a.	785	1	0	81	0	704	*219*
Ireland	855	451	300	1605	0.9	304	1606	-1	1	211	0	1394	*221*
Greece	1459	1548	393	3393	1.9	395	3400	-7	7	856	n.a.	2537	*223*
Spain	9545	4404	2695	16419	9.1	2902	16644	-225	224	n.a.	n.a.	16419	*225*
France	9407	15040	3215	27402	15.1	3372	27662	-260	260	0	0	27402	*227*
Italy	7045	6062	1775	14882	8.2	2356	14882	0	265	n.a.	n.a.	14882	*229*
Cyprus	46	101	23	170	0.1	24.55	170	0	0	0	0	170	*231*
Latvia	332	1179	53	1560	0.9	56	1564	-4	5	n.a.	n.a.	1560	*233*
Lithuania	182	849	111	1142	0.6	113	1142	0	2	0	0	1142	*235*
Luxembourg	49	57	84	186	0.1	85	190	-4	4	0	45	231	*237*
Hungary	333	1049	266	1648	0.9	310	1648	0	15	0	0	1648	*239*
Malta	17.1	4.9	5.1	27.1	0.0	6.7	27.1	0	0	n.a.	n.a.	27.1	*241*
Netherlands	2360	1380	591	4307	2.4	685	4331	-24	23	0	0	4307	*243*
Austria	4144	3808	631	8392	4.6	656	8583	-191	191	0	0	8392	*245*
Poland	1709	4532	1376	7617	4.2	1444	7617	0	23	0	0	7617	*247*
Portugal	2531	2462	466	5421	3.0	479	5459	-38	37	0	0	5421	*249*
Romania	2333	3000	436	5769	3.2	436	5769	0	45	0	0	5769	*251*
Slovenia	458	561	79	1099	0.6	86	1098	1	7	0	0	1099	*253*
Slovakia	617	627	147	1391	0.8	147	1391	0	10	305	0	1086	*255*
Finland	2200	6340	410	8950	4.9	510	8950	0	20	0	0	8950	*257*
Sweden	7772	9390	768	17702	9.8	844	17930	-228	173	n.a.	n.a.	17702	*259*
United Kingdom	5189	1537	2581	9307	5.1	2587	9307	0	192	n.a.	n.a.	9307	*261*
European Union	76305.1	84762.9	21354.1	181048.1	100.0	22817.25	182422.1	-1374	1968	2672	45	178420.1	-

[a] As reported in Template Table 4a. The Template is available from http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT.

[b] Calculated indicator: contribution of each Member State to '*All RES*' as reported in Table 4a.

[c] 'RES-T target' refers to the row indicated (J) in Template Table 4b and takes into account Article 4c of the Directive (applying a factor 2.5 to electricity from renewable energy sources consumed by electric road vehicles) and Article 21.2 (considering twice the contribution made by biofuels produced from wastes, residues, non-food cellulosic material and ligno-cellulosic material).

[d] Calculated result: sum of columns '*RES-E*', '*RES-H/C*' and '*RES-T*' as reported in Template Table 4a.

[e] Difference between column '*All RES*' and the sum of columns '*RES-E*', '*RES-H/C*' and '*RES-T*' as reported in Template Table 4a (see also footnote *d*). Since none of the 27 Member States projected a contribution from renewable hydrogen in transport, the difference should be equal to the projection for renewable electricity in transport (Article 5.1 of the Renewable Energy Directive 2009/28/EC, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0028:EN:NOT).

[f] Renewable electricity in transport ('*road transport*' and '*non-road transport*') as reported in Template Table 12 (for Romania only '*renewable electricity in road transport*' from Template Table 4b has been considered).

Table 60: *Aggregate RES according to NREAP for the year 2020 (Template Table 4a, Table 4b (RES-T for target) and Table 12 (RES-E in road vehicles)*

	RES-E[a] [ktoe]	RES-H/C[a] [ktoe]	RES-T[a] [ktoe]	All RES[a] [ktoe]	All RES[b] [%]	RES-T target[c] [ktoe]	RES-E,H/C,T[d] [ktoe]	Difference[e] [ktoe]	RES-E[f] in transport [ktoe]	RES export[a] [ktoe]	RES import[a] [ktoe]	RES[a] after exchange [ktoe]	*Page*
Belgium	1988	2588	798	5374	2.2	886	5374	0	97	0	0	5374	*209*
Bulgaria	654	1103	302	2059	0.8	204	2059	0	15	341	0	1718	*211*
Czech Republic	1038	2672	691	4383	1.8	691	4401	-18	19	0	0	4383	*213*
Denmark	1685	3042	291	4989	2.0	439	5018	-29	29	63	0	4926	*215*
Germany	18653	14431	6140	38557	15.8	6390	39224	-667	667	0	0	38557	*217*
Estonia	165	607	92	863	0.4	n.a.	864	-1	1	0	0	863	*219*
Ireland	1196	591	482	2269	0.9	575	2269	0	37	0	0	2269	*221*
Greece	2345	1908	634	4870	2.0	641	4887	-17	16.5	529	n.a.	4341	*223*
Spain	12903	5654	3885	22057	9.0	4322	22442	-385	381	n.a.	n.a.	22057	*225*
France	12729	19732	4062	36121	14.8	4427	36523	-402	402	0	0	36121	*227*
Italy	8504	10456	2530	21490	8.8	3445	21490	0	369	n.a.	1127	22617	*229*
Cyprus	101	124	38	263	0.1	77.12	263	0	0.56	0	0	263	*231*
Latvia	446	1395	83	1918	0.8	130	1924	-6	6	n.a.	n.a.	1918	*233*
Lithuania	254	1051	169	1474	0.6	173	1474	0	2.5	0	0	1474	*235*
Luxembourg	67	108	226	391	0.2	234	401	-10	10	0	93	484	*237*
Hungary	481	1863	535	2879	1.2	598	2879	0	24	0	0	2879	*239*
Malta	37.2	4.5	12.8	54.5	0.0	17.7	54.5	0	0.7	n.a.	n.a.	54.5	*241*
Netherlands	4326	2179	905	7340	3.0	1097	7410	-70	71	0	0	7340	*243*
Austria	4503	4179	856	9266	3.8	976	9538	-272	272	0	0	9266	*245*
Poland	2786	5921	2018	10725	4.4	2194	10725	0	50	0	0	10725	*247*
Portugal	3060	2507	535	6044	2.5	574	6102	-58	58	0	0	6044	*249*
Romania	2666	4038	564	7268	3.0	564	7268	0	52.7	0	0	7268	*251*
Slovenia	527	625	192	1344	0.5	204	1344	0	11	0	0	1344	*253*
Slovakia	688	820	207	1715	0.7	275	1715	0	17	143	0	1572	*255*
Finland	2870	7270	560	10700	4.4	800	10700	0	40	0	0	10700	*257*
Sweden	8356	10543	1008	19709	8.1	1116	19907	-198	198	n.a.	n.a.	19709	*259*
United Kingdom	10059	6199	4251	20510	8.4	4295	20509	1	267	n.a.	n.a.	20510	*261*
European Union	103087.2	111610.5	32066.8	244632.5	100.0	35344.82	246764.5	-2132	3114	1076	1220	244776.5	-

[a] As reported in Template Table 4a. The Template is available from http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT.

[b] Calculated indicator: contribution of each Member State to '*All RES*' as reported in Table 4a.

[c] 'RES-T target' refers to the row indicated (J) in Template Table 4b and takes into account Article 4c of the Directive (applying a factor 2.5 to electricity from renewable energy sources consumed by electric road vehicles) and Article 21.2 (considering twice the contribution made by biofuels produced from wastes, residues, non-food cellulosic material and ligno-cellulosic material).

[d] Calculated result: sum of columns '*RES-E*', '*RES-H/C*' and '*RES-T*' as reported in Template Table 4a.

[e] Difference between column '*All RES*' and the sum of columns '*RES-E*', '*RES-H/C*' and '*RES-T*' as reported in Template Table 4a (see also footnote *d*). Since none of the 27 Member States projected a contribution from renewable hydrogen in transport, the difference should be equal to the projection for renewable electricity in transport (Article 5.1 of the Renewable Energy Directive 2009/28/EC, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0028:EN:NOT).

[f] Renewable electricity in transport ('*road transport*' and '*non-road transport*') as reported in Template Table 12 (for Romania only '*renewable electricity in road transport*' from Template Table 4b has been considered).

Biomass supply

Table 61: *Biomass supply from forestry (total) for the years 2006 (including import and export), 2015 and 2020.*

	Amount of domestic resource						Imported (EU)		Imported (non-EU)		Exported (EU/non-EU)		Net amount		Primary energy production					
	2006		2015		2020		2006		2006		2006		2006		2006		2015			
Belgium	1166.68	kt	1892.78	kt	2227.631	kt	904.58	kt	49.48	kt	0	kt	2120.31	kt	818.07	ktoe	732.03	ktoe	868.59	ktoe
Bulgaria	2527513	t	2725	kt	2951	kt	0	t	0	t	99888	t	2427625	t	759	ktoe	860	ktoe	930	ktoe
Czech Republic	5867	m^3	9257	m^3	9901	m^3	55	m^3	0	m^3	517	m^3	5406	m^3	1536	ktoe	2529	ktoe	2716	ktoe
Denmark	3489000	ton	8265000	ton	8642000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	5326000	ton	922	ktoe	1006	ktoe
Germany	45313000	m^3	58832500	m^3	57621000	m^3	1840000	m^3	n.a.	m^3	n.a.	m^3	47153000	m^3	9792	ktoe	12217.5	ktoe	11966	ktoe
Estonia	3615000	m^3	n.a.	m^3	n.a.	m^3	1000	m^3	2000	m^3	85000	m^3	n.a.	m^3	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Ireland	1303374	m^3	1093000	m^3	1667	m^3	2182	m^3	1089	m^3	0	m^3	1305556	m^3	n.a.	ktoe	169.81	ktoe	258	ktoe
Greece	3225559	m^3	933333	m^3	933333	m^3	0	m^3	0	m^3	0	m^3	3225559	m^3	729	ktoe	164	ktoe	164	ktoe
Spain	10018750	ton	11923266	ton	13997093	ton	n.a.	ton	n.a.	ton	n.a.	ton	10018750	ton	2800	ktoe	3261	ktoe	3783	ktoe
France	59778254	m^3	71100000	m^3	79370000	m^3	1656455	m^3	174342	m^3	2503601	m^3	59105450	m^3	11029	ktoe	13455	ktoe	15229	ktoe
Italy	n.a.	m^3	4000000	m^3	10000000	m^3	n.a.	m^3	n.a.	m^3	n.a.	m^3	n.a.	m^3	n.a.	ktoe	1600	ktoe	4000	ktoe
Cyprus	16347	ton	n.a.	ton	n.a.	ton	8608	ton	n.a.	ton	n.a.	ton	24928	ton	9	ktoe	5.05	ktoe	5.05	ktoe
Latvia	2058	m^3	n.a.	m^3	n.a.	m^3	116.4	m^3	n.a.	m^3	3325.4	m^3	5499.8	m^3	3849.86	ktoe	n.a.	ktoe	n.a.	ktoe
Lithuania	3824	m^3	3490000	m^3	3122000	m^3	228	m^3	96	m^3	430/4	m^3	3714	m^3	728	ktoe	684	ktoe	612	ktoe
Luxembourg	274500	m^3	59000	m^3	85000	m^3	n.a.	m^3	n.a.	m^3	151800	m^3	132000	m^3	22.6	ktoe	49	ktoe	107	ktoe
Hungary	3328000	m^3	3500000	m^3	3800000	m^3	100000	m^3	100000	m^3	100000	m^3	3428000	m^3	24.73	PJ/year	25.29	PJ/year	27.46	PJ/year
Malta	0	m^3	n.a.	m^3	n.a.	m^3	0	m^3	0	m^3	0	m^3	n.a.	m^3	0	ktoe	n.a.	ktoe	n.a.	ktoe
Netherlands	2910	ktns	1683[a]	ktns	2605[b]	ktns	690	ktns	235	ktns	1463	ktns	2088	ktns	462	ktoe	376[c]	ktoe	558[d]	ktoe
Austria	16400000	ktoe	19500000	ktoe	21000000	ktoe	4170000	ktoe	n.a.	ktoe	50000	ktoe	20520000	ktoe	3725	ktoe	3588	ktoe	3870	ktoe
Poland	12493	m^3	11983	Mg	12456	Mg	n.a.	m^3	n.a.	m^3	n.a.	m^3	12493	m^3	4173	ktoe	2002	ktoe	2081	ktoe
Portugal	0	ton	10878000	ton	10684000	ton	0	ton	0	ton	0	ton	0	ton	2731	ktoe	2946	ktoe	2894	ktoe
Romania	5500000	m^3	6500000	m^3	7500000	m^3	0	m^3	0	m^3	500000	m^3	5000000	m^3	1200	ktoe	1560	ktoe	1800	ktoe
Slovenia	1726688	m^3	0	m^3	n.a.	m^3	4275	m^3	77579	m^3	247326	m^3	1561217	m^3	442	ktoe	n.a.	ktoe	n.a.	ktoe
Slovakia	1945000	ton	3718000	ton	4716000	ton	n.a.	ton	n.a.	ton	238000	ton	1707000	ton	453.4	ktoe	979	ktoe	1222	ktoe
Finland	21300000	m^3	41000000	m^3	47000000	m^3	0	m^3	0	m^3	193000	ton	43000000	m^3	7273	ktoe	6980	ktoe	8060	ktoe
Sweden	22951	ktdm	25724	ktdm	27029	ktdm	175	ktdm	175	ktdm	129	ktdm	23172	ktdm	8206	ktoe	9128	ktoe	9628	ktoe
United Kingdom	1855534	ton	3545000	ton	5225000	ton	81211	ton	n.a.	ton	n.a.	ton	1936744	ton	582	ktoe	n.a.	ktoe	n.a.	ktoe
All Member States	145388617[e]	m^3	190517090[f]	m^3	209442901[g]	m^3	3604311[h]	m^3	355106[i]	m^3	3591569[j]	m^3	163937895[k]	m^3	61320[l]	ktoe	64207[m]	ktoe	71758[n]	ktoe

Various countries have more detail reported on biomass supply in the introduction chapter of this report. See Section 1.5.1 to 1.5.27 and Section 1.8.2 to 1.8.28.
The Netherlands apply the unit 'kton ns' (wet base) in the NREAP, which has been abbreviated in this table as 'ktns'.
Sweden applies the unit 'kton dry matter' in the NREAP, which has been abbreviated in this table as 'ktdm'.

[a] For the Netherlands a datarange has been reported here: 759 to 2607 ktns. The table mentions the (calculated) average value. [b] For the Netherlands a datarange has been reported here: 910 to 4300 ktns. The table mentions the (calculated) average value. [c] For the Netherlands a datarange has been reported here: 207 to 545 ktoe. The table mentions the (calculated) average value. [d] For the Netherlands a datarange has been reported here: 248 to 868 ktoe. The table mentions the (calculated) average value.

[e] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2006 are the following countries: Belgium (1167 kt); Bulgaria (2527513 t); Denmark (3489000 ton); Spain (10018750 ton); Cyprus (16347 ton); Netherlands (2910 ktns); Austria (16400000 ktoe); Slovakia (1945000 ton); Sweden (22951 ktdm); United Kingdom (1855534 ton)

[f] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2015 are the following countries: Belgium (1893 kt); Bulgaria (2725 kt); Denmark (8265000 ton); Spain (11923266 ton); Netherlands (759 to 2607 ktns); Austria (19500000 ktoe); Poland (11983 Mg); Portugal (10878000 ton); Slovakia (3718000 ton); Sweden (25724 ktdm); United Kingdom (3545000 ton)

[g] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2020 are the following countries: Belgium (2228 kt); Bulgaria (2951 kt); Denmark (8642000 ton); Spain (13997093 ton); Netherlands (910 to 4300 ktns); Austria (21000000 ktoe); Poland (12456 Mg); Portugal (10684000 ton); Slovakia (4716000 ton); Sweden (27029 ktdm); United Kingdom (5225000 ton)

[h] Not considered in the EU-27 sum in the 'imported (eu)' for the year 2006 are the following countries: Belgium (905 kt); Cyprus (8608 ton); Netherlands (690 ktns); Austria (4170000 ktoe); Sweden (175 ktdm); United Kingdom (81211 ton)

[i] Not considered in the EU-27 sum in the 'imported (non-eu)' for the year 2006 are the following countries: Belgium (49 kt); Netherlands (235 ktns); Sweden (175 ktdm);

[j] Not considered in the EU-27 sum in the 'exported (eu/non-eu)' for the year 2006 are the following countries: Bulgaria (99888 t); Netherlands (1463 ktns); Austria (50000 ktoe); Slovakia (238000 ton); Finland (193000 ton); Sweden (129 ktdm);

[k] Not considered in the EU-27 sum in the 'net amount' for the year 2006 are the following countries: Belgium (2120 kt); Bulgaria (2427625 t); Spain (10018750 ton); Cyprus (24928 ton); Netherlands (2088 ktns); Austria (20520000 ktoe); Slovakia (1707000 ton); Sweden (23172 ktdm); United Kingdom (1936744 ton)

[l] Not considered in the EU-27 sum in the 'primary energy production' for the year 2006 are the following countries: Denmark (5326000 ton); Hungary (25 PJ/year);

[m] Not considered in the EU-27 sum in the 'primary energy production' for the year 2015 is: Hungary (25 PJ/year);

[n] Not considered in the EU-27 sum in the 'primary energy production' for the year 2020 is: Hungary (27 PJ/year);

Table 62: *Biomass supply from forestry (direct) for the years 2006 (including import and export), 2015 and 2020.*

	Amount of domestic resource						Imported (EU)		Imported (non-EU)		Exported (EU/non-EU)		Net amount		Primary energy production					
	2006		2015		2020		2006		2006		2006		2006		2006		2015			
Belgium	532.17	kt	572.3	kt	572.3	kt	0	kt	0	kt	0	kt	532.17	kt	211.54	ktoe	226.1	ktoe	225.1	ktoe
Bulgaria	2411168	t	2610	kt	2805	kt	0	t	0	t	99888	t	2311280	t	735	ktoe	830	ktoe	892	ktoe
Czech Republic	3268	m^3	3868	m^3	4412	m^3	12	m^3	0	m^3	139	m^3	3142	m^3	975	ktoe	1223	ktoe	1405	ktoe
Denmark	3000000	ton	3376000	ton	3753000	ton	1694000	ton	n.a.	ton	n.a.	ton	n.a.	ton	4837000	ton	750	ktoe	834	ktoe
Germany	29557000	m^3	41693500[a]	m^3	39447000	m^3	115000	m^3	n.a.	m^3	n.a.	m^3	29672000	m^3	6162	ktoe	8659[b]	ktoe	8192	ktoe
Estonia	1115000	m^3	3600000	m^3	3600000	m^3	1000	m^3	2000	m^3	85000	m^3	n.a.	m^3	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Ireland	23216	m^3	512000	m^3	807	m^3	2182	m^3	0	m^3	0	m^3	25398	m^3	n.a.	ktoe	79.53	ktoe	125	ktoe
Greece	2908571	m^3	800000	m^3	800000	m^3	n.a.	m^3	n.a.	m^3	n.a.	m^3	2908571	m^3	702	ktoe	136	ktoe	136	ktoe
Spain	4800000	ton	6327647	ton	8322328	ton	n.a.	ton	n.a.	ton	n.a.	ton	4800000	ton	1200	ktoe	1582	ktoe	2081	ktoe
France	29030250	m^3	36400000[c]	m^3	42520000[d]	m^3	43094	m^3	1404	m^3	559660	m^3	28515088	m^3	6256	ktoe	8035[e]	ktoe	9481[f]	ktoe
Italy	2200000	m^3	4000000	m^3	10000000	m^3	n.a.	m^3	n.a.	m^3	n.a.	m^3	n.a.	m^3	880	ktoe	1600	ktoe	4000	ktoe
Cyprus	5432	ton	5000[g]	ton	5000[h]	ton	383	ton	n.a.	ton	n.a.	ton	5815	ton	2.1	ktoe	1.8[i]	ktoe	1.8[j]	ktoe
Latvia	1380	m^3	n.a.	m^3	n.a.	m^3	90	m^3	n.a.	m^3	2568.6	m^3	4038.6	m^3	2827.02	ktoe	n.a.	ktoe	n.a.	ktoe
Lithuania	1509	m^3	2327000	m^3	2082000	m^3	9	m^3	4	m^3	80/3	m^3	1439	m^3	282	ktoe	456	ktoe	408	ktoe
Luxembourg	24500	m^3	27000	m^3	44000	m^3	9300	m^3	n.a.	m^3	1800	m^3	32000	m^3	5.5	ktoe	24	ktoe	40	ktoe
Hungary	3028000	m^3	3100000	m^3	3300000	m^3	100000	m^3	100000	m^3	100000	m^3	3128000	m^3	22.5	PJ/year	22.32	PJ/year	23.74	PJ/year
Malta	0	m^3	n.a.	m^3	n.a.	m^3	0	m^3	0	m^3	0	m^3	n.a.	m^3	0	ktoe	n.a.	ktoe	n.a.	ktoe
Netherlands	270	ktns	1285[k]	ktns	2130[l]	ktns	0	ktns	0	ktns	0	ktns	270	ktns	52	ktoe	236[m]	ktoe	389[n]	ktoe
Austria	8500000	ktoe	10000000	ktoe	11000000	ktoe	320000	ktoe	n.a.	ktoe	50000	ktoe	8770000	ktoe	1735	ktoe	1978	ktoe	2175	ktoe
Poland	12493	m^3	6411	Mg	6081	Mg	n.a.	m^3	n.a.	m^3	n.a.	m^3	12493	m^3	1894	ktoe	1071	ktoe	1016	ktoe
Portugal	4751000	ton	5778000	ton	5610000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	1188	ktoe	1504	ktoe	1460	ktoe
Romania	2500000	m^3	3000000	m^3	3500000	m^3	0	m^3	0	m^3	0	m^3	2500000	m^3	600	ktoe	720	ktoe	840	ktoe
Slovenia	1318077	m^3	1302000	m^3	1338000	m^3	4275	m^3	77579	m^3	206326	m^3	1193606	m^3	297	ktoe	324	ktoe	333	ktoe
Slovakia	820000	ton	1818000	ton	2721000	ton	n.a.	ton	n.a.	ton	54000	ton	766000	ton	183	ktoe	434	ktoe	650	ktoe
Finland	8300000	m^3	14000000	m^3	19000000	m^3	0	m^3	0	m^3	0	m^3	8300000	m^3	1446	ktoe	2380	ktoe	3230	ktoe
Sweden	5120	ktdm	6166	ktdm	6819	ktdm	0	ktdm	0	ktdm	0	ktdm	5120	ktdm	2045	ktoe	2463	ktoe	2724	ktoe
United Kingdom	900000	ton	1565000	ton	1825000	ton	0	ton	n.a.	ton	n.a.	ton	900000	ton	299	ktoe	n.a.	ktoe	n.a.	ktoe
All Member States	80023264[o]	m^3	110765368[p]	m^3	125636219[q]	m^3	274962[r]	m^3	180987	m^3	955494[s]	m^3	76295776[t]	m^3	29977[u]	ktoe	34712[v]	ktoe	40638[w]	ktoe

Various countries have more detail reported on biomass supply in the introduction chapter of this report. See Section 1.5.1 to 1.5.27 and Section 1.8.2 to 1.8.28.
The Netherlands apply the unit 'kton ns' (wet base) in the NREAP, which has been abbreviated in this table as 'ktns'.
Sweden applies the unit 'kton dry matter' in the NREAP, which has been abbreviated in this table as 'ktdm'.

[a] For Germany a datarange has been reported here: 41060000 to 42327000 m3. The table mentions the (calculated) average value. [b] For Germany a datarange has been reported here: 8527 to 8790 ktoe. The table mentions the (calculated) average value.

[c] For France a datarange has been reported here: 34700000 to 38100000 m3. The table mentions the (calculated) average value. [d] For France a datarange has been reported here: 38440000 to 46600000 m3. The table mentions the (calculated) average value. [e] For France a datarange has been reported here: 7660 to 8410 ktoe. The table mentions the (calculated) average value. [f] For France a datarange has been reported here: 8556 to 10406 ktoe. The table mentions the (calculated) average value.

[g] For Cyprus a datarange has been reported here: 4500 to 5500 ton. The table mentions the (calculated) average value. [h] For Cyprus a datarange has been reported here: 4500 to 5500 ton. The table mentions the (calculated) average value. [i] For Cyprus a datarange has been reported here: 1.6 to 2.0 ktoe. The table mentions the (calculated) average value. [j] For Cyprus a datarange has been reported here: 1.6 to 2.0 ktoe. The table mentions the (calculated) average value.

[k] For the Netherlands a datarange has been reported here: 361 to 2209 ktns. The table mentions the (calculated) average value. [l] For the Netherlands a datarange has been reported here: 435 to 3825 ktns. The table mentions the (calculated) average value. [m] For the Netherlands a datarange has been reported here: 67 to 405 ktoe. The table mentions the (calculated) average value. [n] For the Netherlands a datarange has been reported here: 79 to 699 ktoe. The table mentions the (calculated) average value.

[o] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2006 are the following countries: Belgium (532 kt); Bulgaria (2411168 t); Denmark (3000000 ton); Spain (4800000 ton); Cyprus (5432 ton); Netherlands (270 ktns); Austria (8500000 ktoe); Portugal (4751000 ton); Slovakia (820000 ton); Sweden (5120 ktdm); United Kingdom (900000 ton)

[p] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2015 are the following countries: Belgium (572 kt); Bulgaria (2610 kt); Denmark (3376000 ton); Spain (6327647 ton); Cyprus (4500 to 5500 ton); Netherlands (361 to 2209 ktns); Austria (10000000 ktoe); Poland (6411 Mg); Portugal (5778000 ton); Slovakia (1818000 ton); Sweden (6166 ktdm); United Kingdom (1565000 ton)

[q] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2020 are the following countries: Belgium (572 kt); Bulgaria (2805 kt); Denmark (3753000 ton); Spain (8322328 ton); Cyprus (4500 to 5500 ton); Netherlands (435 to 3825 ktns); Austria (11000000 ktoe); Poland (6081 Mg); Portugal (5610000 ton); Slovakia (2721000 ton); Sweden (6819 ktdm); United Kingdom (1825000 ton)

[r] Not considered in the EU-27 sum in the 'imported (eu)' for the year 2006 are the following countries: Denmark (1694000 ton); Cyprus (383 ton); Austria (320000 ktoe);

[s] Not considered in the EU-27 sum in the 'exported (eu/non-eu)' for the year 2006 are the following countries: Bulgaria (99888 t); Austria (50000 ktoe); Slovakia (54000 ton);

[t] Not considered in the EU-27 sum in the 'net amount' for the year 2006 are the following countries: Belgium (532 kt); Bulgaria (2311280 t); Spain (4800000 ton); Cyprus (5815 ton); Netherlands (270 ktns); Austria (8770000 ktoe); Slovakia (766000 ton); Sweden (5120 ktdm); United Kingdom (900000 ton)

[u] Not considered in the EU-27 sum in the 'primary energy production' for the year 2006 are the following countries: Denmark (4837000 ton); Hungary (23 PJ/year);

[v] Not considered in the EU-27 sum in the 'primary energy production' for the year 2015 are the following countries: Hungary (22 PJ/year);

[w] Not considered in the EU-27 sum in the 'primary energy production' for the year 2020 are the following countries: Hungary (24 PJ/year);

Table 63: *Biomass supply from forestry (indirect) for the years 2006 (including import and export), 2015 and 2020.*

	Amount of domestic resource						Imported (EU)		Imported (non-EU)		Exported (EU/non-EU)		Net amount		Primary energy production					
	2006		2015		2020		2006		2006		2006		2006		2006		2015			
Belgium	633.98	kt	1320.48	kt	1655.331	kt	904.58	kt	49.48	kt	0	kt	1588.14	kt	602.83	ktoe	505.93	ktoe	643.49	ktoe
Bulgaria	116345	t	115	kt	146	kt	0	t	0	t	0	t	116345	t	24	ktoe	30	ktoe	38	ktoe
Czech Republic	2599	m^3	5389	m^3	5489	m^3	43	m^3	0	m^3	378	m^3	2264	m^3	561	ktoe	1306	ktoe	1311	ktoe
Denmark	489000	ton	4889000	ton	4889000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	489000	ton	172	ktoe	172	ktoe
Germany	15756000	m^3	17139000	m^3	18174000	m^3	1725000	m^3	n.a.	m^3	n.a.	m^3	17481000	m^3	3630	ktoe	3559	ktoe	3774	ktoe
Estonia	2500000	m^3	n.a.	m^3	n.a.	m^3	0	m^3	0	m^3	0	m^3	n.a.	m^3	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Ireland	1280158	m^3	581000	m^3	860	m^3	0	m^3	1089	m^3	0	m^3	1280158	m^3	n.a.	ktoe	90.28	ktoe	133	ktoe
Greece	316988	m^3	133333	m^3	133333	m^3	n.a.	m^3	n.a.	m^3	n.a.	m^3	316988	m^3	27	ktoe	28	ktoe	28	ktoe
Spain	5218750	ton	5595619	ton	5674765	ton	1000	ton	0	ton	1000	ton	5218750	ton	1600	ktoe	1679	ktoe	1702	ktoe
France	30748004	m^3	34700000[a]	m^3	36850000[b]	m^3	1613361	m^3	172938	m^3	1943941	m^3	30590362	m^3	4773	ktoe	5420[c]	ktoe	5748[d]	ktoe
Italy	n.a.	m^3	0	m^3	0	m^3	n.a.	m^3	n.a.	m^3	n.a.	m^3	n.a.	m^3	n.a.	ktoe	0	ktoe	0	ktoe
Cyprus	10915	ton	9000[e]	ton	9000[f]	ton	8225	ton	n.a.	ton	27	ton	19113	ton	6.9	ktoe	3.3[g]	ktoe	3.3[h]	ktoe
Latvia	678	m^3	n.a.	m^3	n.a.	m^3	26.4	m^3	n.a.	m^3	756.8	m^3	1461.2	m^3	1022.84	ktoe	n.a.	ktoe	n.a.	ktoe
Lithuania	2315	m^3	1163000	m^3	1040000	m^3	219	m^3	92	m^3	350/1	m^3	2275	m^3	446	ktoe	228	ktoe	204	ktoe
Luxembourg	250000	m^3	32000	m^3	41000	m^3	n.a.	m^3	n.a.	m^3	150000	m^3	100000	m^3	17.1	ktoe	25	ktoe	67	ktoe
Hungary	300000	m^3	400000	m^3	500000	m^3	0	m^3	0	m^3	0	m^3	300000	m^3	2.23	PJ/year	2.97	PJ/year	3.72	PJ/year
Malta	0	m^3	n.a.	m^3	n.a.	m^3	0	m^3	0	m^3	0	m^3	n.a.	m^3	0	ktoe	n.a.	ktoe	n.a.	ktoe
Netherlands	2640	ktns	398	ktns	475	ktns	690	ktns	235	ktns	1463	ktns	1818	ktns	410	ktoe	140	ktoe	169	ktoe
Austria	7900000	ktoe	9500000	ktoe	10000000	ktoe	3850000	ktoe	n.a.	ktoe	n.a.	ktoe	11750000	ktoe	1990	ktoe	1610	ktoe	1695	ktoe
Poland	5930	Mg	5572	Mg	6375	Mg	n.a.	Mg	n.a.	Mg	n.a.	Mg	5930	Mg	2279	ktoe	931	ktoe	1065	ktoe
Portugal	5651000	ton	5100000	ton	5074000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	1543	ktoe	1442	ktoe	1434	ktoe
Romania	3000000	m^3	3500000	m^3	4000000	m^3	0	m^3	0	m^3	500000	m^3	2500000	m^3	600	ktoe	840	ktoe	960	ktoe
Slovenia	408611	m^3	0	m^3	n.a.	m^3	0	m^3	0	m^3	41000	m^3	367611	m^3	145	ktoe	n.a.	ktoe	n.a.	ktoe
Slovakia	1125000	ton	1900000	ton	1995000	ton	n.a.	ton	n.a.	ton	184000	ton	941000	ton	270.4	ktoe	545	ktoe	572	ktoe
Finland	34700000	m^3	27000000	m^3	28000000	m^3	0	m^3	0	m^3	193000	ton	34700000	m^3	5932	ktoe	4600	ktoe	4830	ktoe
Sweden	17831	ktdm	19558	ktdm	20210	ktdm	175	ktdm	175	ktdm	129	ktdm	18052	ktdm	6160	ktoe	6665	ktoe	6904	ktoe
United Kingdom	955534	ton	1980000	ton	3400000	ton	81211	ton	n.a.	ton	n.a.	ton	1036744	ton	283	ktoe	n.a.	ktoe	n.a.	ktoe
All Member States	89265353[i]	m^3	84653722[j]	m^3	88744682[k]	m^3	3338649[l]	m^3	174119[m]	m^3	2636076[n]	m^3	87642119[o]	m^3	32323[p]	ktoe	29819[q]	ktoe	31453[r]	ktoe

Various countries have more detail reported on biomass supply in the introduction chapter of this report. See Section 1.5.1 to 1.5.27 and Section 1.8.2 to 1.8.28.
The Netherlands apply the unit 'kton ns' (wet base) in the NREAP, which has been abbreviated in this table as 'ktns'.
Sweden applies the unit 'kton dry matter' in the NREAP, which has been abbreviated in this table as 'ktdm'.

[a] For France a datarange has been reported here: 33800000 to 35600000 m3. The table mentions the (calculated) average value. [b] For France a datarange has been reported here: 35100000 to 38600000 m3. The table mentions the (calculated) average value. [c] For France a datarange has been reported here: 5280 to 5560 ktoe. The table mentions the (calculated) average value. [d] For France a datarange has been reported here: 5473 to 6023 ktoe. The table mentions the (calculated) average value.

[e] For Cyprus a datarange has been reported here: 8000 to 10000 ton. The table mentions the (calculated) average value. [f] For Cyprus a datarange has been reported here: 8000 to 10000 ton. The table mentions the (calculated) average value. [g] For Cyprus a datarange has been reported here: 2.9 to 3.6 ktoe. The table mentions the (calculated) average value. [h] For Cyprus a datarange has been reported here: 2.9 to 3.6 ktoe. The table mentions the (calculated) average value.

[i] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2006 are the following countries: Belgium (634 kt); Bulgaria (116345 t); Denmark (489000 ton); Spain (5218750 ton); Cyprus (10915 ton); Netherlands (2640 ktns); Austria (7900000 ktoe); Poland (5930 Mg); Portugal (5651000 ton); Slovakia (1125000 ton); Sweden (17831 ktdm); United Kingdom (955534 ton)

[j] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2015 are the following countries: Belgium (1320 kt); Bulgaria (115 kt); Denmark (4889000 ton); Spain (5595619 ton); Cyprus (8000 to 10000 ton); Netherlands (398 ktns); Austria (9500000 ktoe); Poland (5572 Mg); Portugal (5100000 ton); Slovakia (1900000 ton); Sweden (19558 ktdm); United Kingdom (1980000 ton)

[k] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2020 are the following countries: Belgium (1655 kt); Bulgaria (146 kt); Denmark (4889000 ton); Spain (5674765 ton); Cyprus (8000 to 10000 ton); Netherlands (475 ktns); Austria (10000000 ktoe); Poland (6375 Mg); Portugal (5074000 ton); Slovakia (1995000 ton); Sweden (20210 ktdm); United Kingdom (3400000 ton)

[l] Not considered in the EU-27 sum in the 'imported (eu)' for the year 2006 are the following countries: Belgium (905 kt); Spain (1000 ton); Cyprus (8225 ton); Netherlands (690 ktns); Austria (3850000 ktoe); Sweden (175 ktdm); United Kingdom (81211 ton)

[m] Not considered in the EU-27 sum in the 'imported (non-eu)' for the year 2006 are the following countries: Belgium (49 kt); Netherlands (235 ktns); Sweden (175 ktdm);

[n] Not considered in the EU-27 sum in the 'exported (eu/non-eu)' for the year 2006 are the following countries: Spain (1000 ton); Cyprus (27 ton); Netherlands (1463 ktns); Slovakia (184000 ton); Finland (193000 ton); Sweden (129 ktdm);

[o] Not considered in the EU-27 sum in the 'net amount' for the year 2006 are the following countries: Belgium (1588 kt); Bulgaria (116345 t); Spain (5218750 ton); Cyprus (19113 ton); Netherlands (1818 ktns); Austria (11750000 ktoe); Poland (5930 Mg); Slovakia (941000 ton); Sweden (18052 ktdm); United Kingdom (1036744 ton)

[p] Not considered in the EU-27 sum in the 'primary energy production' for the year 2006 are the following countries: Denmark (489000 ton); Hungary (2 PJ/year);

[q] Not considered in the EU-27 sum in the 'primary energy production' for the year 2015 is: Hungary (3 PJ/year);

[r] Not considered in the EU-27 sum in the 'primary energy production' for the year 2020 is: Hungary (4 PJ/year);

Table 64: *Biomass supply from agriculture and fisheries (total) for the years 2006 (including import and export), 2015 and 2020.*

	Amount of domestic resource						Imported (EU)		Imported (non-EU)		Exported (EU/non-EU)		Net amount		Primary energy production					
	2006		2015		2020		2006		2006		2006		2006		2006		2015			
Belgium	1835.35	kt	3958.5	kt	8855.6	kt	74.4	kt	33.26	kt	0	kt	1913.01	kt	87.39	ktoe	440.5	ktoe	1030.3	ktoe
Bulgaria	19466	t	542	kt	705	kt	0	t	0	t	0	t	19466	t	5	ktoe	130	ktoe	169	ktoe
Czech Republic	n.a.	ton	800	ton	1000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	286	ktoe	358	ktoe
Denmark	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe
Germany	21410000	ton	n.a.	ton	n.a.	ton	6712000	ton	n.a.	ton	n.a.	ton	28122000	ton	7357	ktoe	7846.5	ktoe	9135.5	ktoe
Estonia	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Ireland	215727	ton	1009595	ton	2472928	ton	0	ton	0	ton	0	ton	0	ton	n.a.	ktoe	382	ktoe	775	ktoe
Greece	508886	ton	10075000	ton	23176000	ton	n.a.	ton	n.a.	ton	n.a.	ton	508.886	ton	202	ktoe	1268	ktoe	1659	ktoe
Spain	5230853	ton	17318204	ton	35208662	ton	n.a.	ton	n.a.	ton	141330	ton	6015445	ton	1712	ktoe	2262	ktoe	3240	ktoe
France	4726930	ton	0	ton	15910000	ton	n.a.	ton	n.a.	ton	45200	ton	4681730	ton	1217	ktoe	3005	ktoe	4210	ktoe
Italy	2675000	ton	6481600	ton	20200000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	883	ktoe	2600	ktoe	6500	ktoe
Cyprus	2841	ton	3000	ton	5500	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	1.003	ktoe	21.2	ktoe	20.9	ktoe
Latvia	5590.222	ktoe	0	ton	0	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Lithuania	0	m^3	1184	kt	4282	kt	0	m^3	0	m^3	0	m^3	0	m^3	0	ktoe	159	ktoe	335	ktoe
Luxembourg	n.a.	ton	45000	ton	72000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	10	ktoe	25	ktoe	39	ktoe
Hungary	302000	ton	3600000	ton	5850000	ton	n.a.	ton	n.a.	ton	n.a.	ton	302000	ton	2.18	PJ/year	27.24	PJ/year	47.31	PJ/year
Malta	n.a.	ton	n.a.	ton	n.a.	ton	0	ton	0	ton	0	ton	n.a.	ton	0	ktoe	n.a.	ktoe	n.a.	ktoe
Netherlands	1550	ktns	15224[a]	ktns	26852[b]	ktns	350	ktns	0	ktns	0	ktns	1900	ktns	551	ktoe	1193[c]	ktoe	2031[d]	ktoe
Austria	930000	ktoe	5350000	ktoe	9770000	ktoe	270000	ktoe	n.a.	ktoe	n.a.	ktoe	1200000	ktoe	337	ktoe	420	ktoe	730	ktoe
Poland	4328	ton	7104	Mg	11484	Mg	9	ton	0	ton	290	ton	550	ton	461	ktoe	1763	ktoe	2929	ktoe
Portugal	0	ton	1050000	ton	1131000	ton	0	ton	0	ton	0	ton	0	ton	n.a.	ktoe	302	ktoe	326	ktoe
Romania	1900000	ton	n.a.	ton	n.a.	ton	0	ton	0	ton	0	ton	0	ton	817	ktoe	n.a.	ktoe	n.a.	ktoe
Slovenia	n.a.	ton	0	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Slovakia	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	151.8	ktoe	2180	ktoe	2194	ktoe
Finland	127080	ton	587500	ton	1175000	ton	0	ton	0	ton	0	ton	128080	ton	54.34	ktoe	248	ktoe	497	ktoe
Sweden	585	ktdm	793	ktdm	967	ktdm	307	ktdm	595	ktdm	0	ktdm	1487	ktdm	617	ktoe	322	ktoe	408	ktoe
United Kingdom	1057265	ton	4805000	ton	17865000	ton	736086	ton	n.a.	ton	n.a.	ton	1793352	ton	709	ktoe	n.a.	ktoe	n.a.	ktoe
All Member States	1835[e]	kt	5685[f]	kt	13843[g]	kt	74[h]	kt	33[i]	kt	0[j]	kt	1913[k]	kt	15173[l]	ktoe	24853[m]	ktoe	36586[n]	ktoe

Various countries have more detail reported on biomass supply in the introduction chapter of this report. See Section 1.5.1 to 1.5.27 and Section 1.8.2 to 1.8.28.
The Netherlands apply the unit 'kton ns' (wet base) in the NREAP, which has been abbreviated in this table as 'ktns'.
Sweden applies the unit 'kton dry matter' in the NREAP, which has been abbreviated in this table as 'ktdm'.

[a] For the Netherlands a datarange has been reported here: 5999 to 24448 ktns. The table mentions the (calculated) average value. [b] For the Netherlands a datarange has been reported here: 9941 to 43763 ktns. The table mentions the (calculated) average value. [c] For the Netherlands a datarange has been reported here: 798 to 1587 ktoe. The table mentions the (calculated) average value. [d] For the Netherlands a datarange has been reported here: 1307 to 2754 ktoe. The table mentions the (calculated) average value.

[e] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2006 are the following countries: Bulgaria (19466 t); Germany (21410000 ton); Ireland (215727 ton); Greece (508886 ton); Spain (5230853 ton); France (4726930 ton); Italy (2675000 ton); Cyprus (2841 ton); Latvia (5590 ktoe); Hungary (302000 ton); Netherlands (1550 ktns); Austria (930000 ktoe); Poland (4328 ton); Romania (1900000 ton); Finland (127080 ton); Sweden (585 ktdm); United Kingdom (1057265 ton)

[f] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2015 are the following countries: Czech Republic (800 ton); Ireland (1009595 ton); Greece (10075000 ton); Spain (17318204 ton); Italy (6481600 ton); Cyprus (3000 ton); Luxembourg (45000 ton); Hungary (3600000 ton); Netherlands (5999 to 24448 ktns); Austria (5350000 ktoe); Poland (7104 Mg); Portugal (1050000 ton); Finland (587500 ton); Sweden (793 ktdm); United Kingdom (4805000 ton)

[g] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2020 are the following countries: Czech Republic (1000 ton); Ireland (2472928 ton); Greece (23176000 ton); Spain (35208662 ton); France (15910000 ton); Italy (20200000 ton); Cyprus (5500 ton); Luxembourg (72000 ton); Hungary (5850000 ton); Netherlands (9941 to 43763 ktns); Austria (9770000 ktoe); Poland (11484 Mg); Portugal (1131000 ton); Finland (1175000 ton); Sweden (967 ktdm); United Kingdom (17865000 ton)

[h] Not considered in the EU-27 sum in the 'imported (eu)' for the year 2006 are the following countries: Germany (6712000 ton); Netherlands (350 ktns); Austria (270000 ktoe); Poland (9 ton); Sweden (307 ktdm); United Kingdom (736086 ton)

[i] Not considered in the EU-27 sum in the 'imported (non-eu)' for the year 2006 are the following countries: Sweden (595 ktdm);

[j] Not considered in the EU-27 sum in the 'exported (eu/non-eu)' for the year 2006 are the following countries: Spain (141330 ton); France (45200 ton); Poland (290 ton);

[k] Not considered in the EU-27 sum in the 'net amount' for the year 2006 are the following countries: Bulgaria (19466 t); Germany (28122000 ton); Greece (509 ton); Spain (6015445 ton); France (4681730 ton); Hungary (302000 ton); Netherlands (1900 ktns); Austria (1200000 ktoe); Poland (550 ton); Finland (128080 ton); Sweden (1487 ktdm); United Kingdom (1793352 ton)

[l] Not considered in the EU-27 sum in the 'primary energy production' for the year 2006 is: Hungary (2 PJ/year);

[m] Not considered in the EU-27 sum in the 'primary energy production' for the year 2015 is: Hungary (27 PJ/year);

[n] Not considered in the EU-27 sum in the 'primary energy production' for the year 2020 is: Hungary (47 PJ/year);

Table 65: *Biomass supply from agriculture and fisheries (direct) for the years 2006 (including import and export), 2015 and 2020.*

	Amount of domestic resource						Imported (EU)		Imported (non-EU)		Exported (EU/non-EU)		Net amount		Primary energy production					
	2006		2015		2020		2006		2006		2006		2006		2006		2015			
Belgium	30	kt	1497.7	kt	3404.7	kt	0	kt	33.26	kt	0	kt	63.26	kt	29.69	ktoe	221.6	ktoe	489.8	ktoe
Bulgaria	0	t	417	kt	542	kt	0	t	0	t	0	t	0	t	0	ktoe	100	ktoe	130	ktoe
Czech Republic	n.a.	ton	400	ton	500	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	143	ktoe	179	ktoe
Denmark	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe
Germany	15331000	ton	22390000	ton	6903000	ton	6362000	ton	n.a.	ton	n.a.	ton	21693000	ton	6688	ktoe	6903	ktoe	7619	ktoe
Estonia	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Ireland	4068	ton	472160	ton	715400	ton	0	ton	0	ton	0	ton	0	ton	n.a.	ktoe	247	ktoe	335	ktoe
Greece	n.a.	ton	75000	ton	176000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	68	ktoe	159	ktoe
Spain	457852	ton	2442108	ton	4355772	ton	546083	ton	379839	ton	0	ton	1383774	ton	277	ktoe	733	ktoe	1307	ktoe
France	3453430	ton	10440000	ton	13410000	ton	n.a.	ton	n.a.	ton	n.a.	ton	3453430	ton	802	ktoe	2505	ktoe	3210	ktoe
Italy	500000	ton	1600	ton	4000000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	150	ktoe	640	ktoe	1600	ktoe
Cyprus	400	ton	500	ton	500	ton	n.a.	ton	n.a.	ton	n.a.	ton	400	ton	0.1	ktoe	8.5	ktoe	0.7	ktoe
Latvia	48.222	ktoe	87247	Unknown	90737	Unknown	n.a.	ktoe	0.824	ktoe	n.a.	ktoe	49.046	ktoe	17164968	thousand litres	n.a.	ktoe	n.a.	ktoe
Lithuania	n.a.	m^3	514	kt	1102	kt	n.a.	m^3	n.a.	m^3	n.a.	m^3	n.a.	m^3	n.a.	ktoe	130	ktoe	238	ktoe
Luxembourg	16600	ton	25000	ton	38000	ton	n.a.	ton	n.a.	ton	n.a.	ton	16600	ton	4.5	ktoe	7	ktoe	14	ktoe
Hungary	68000	ton	1500000	ton	3000000	ton	n.a.	ton	n.a.	ton	n.a.	ton	68000	ton	0.8	PJ/year	15.1	PJ/year	30.14	PJ/year
Malta	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	0	ton	n.a.	ton	0	ktoe	n.a.	ktoe	n.a.	ktoe
Netherlands	50	ktns	1515[a]	ktns	2745[b]	ktns	0	ktns	0	ktns	0	ktns	50	ktns	8	ktoe	184[c]	ktoe	333[d]	ktoe
Austria	330000	ktoe	1050000	ktoe	1770000	ktoe	270000	ktoe	n.a.	ktoe	n.a.	ktoe	600000	ktoe	325	ktoe	300	ktoe	500	ktoe
Poland	2164	ton	1414	Mg	4056	Mg	9	ton	n.a.	ton	290	ton	550	ton	124	ktoe	405	ktoe	1156	ktoe
Portugal	n.a.	ton	990000	ton	1043000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	281	ktoe	296	ktoe
Romania	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Slovenia	n.a.	ton	0	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Slovakia	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	126.8	ktoe	180	ktoe	194	ktoe
Finland	68930	ton	355000	ton	710000	ton	0	ton	0	ton	0	ton	68930	ton	35.57	ktoe	152	ktoe	301	ktoe
Sweden	258	ktdm	693	ktdm	867	ktdm	307	ktdm	595	ktdm	0	ktdm	1160	ktdm	423	ktoe	288	ktoe	374	ktoe
United Kingdom	3057	ton	3630000	ton	16680000	ton	0	ton	n.a.	ton	n.a.	ton	3057	ton	1	ktoe	n.a.	ktoe	n.a.	ktoe
All Member States	30[e]	kt	2429[f]	kt	5049[g]	kt	0[h]	kt	33[i]	kt	0[j]	kt	63[k]	kt	8995[l]	ktoe	13496[m]	ktoe	18435[n]	ktoe

Various countries have more detail reported on biomass supply in the introduction chapter of this report. See Section 1.5.1 to 1.5.27 and Section 1.8.2 to 1.8.28.
The Netherlands apply the unit 'kton ns' (wet base) in the NREAP, which has been abbreviated in this table as 'ktns'.
Sweden applies the unit 'kton dry matter' in the NREAP, which has been abbreviated in this table as 'ktdm'.

[a] For the Netherlands a datarange has been reported here: 452 to 2578 ktns. The table mentions the (calculated) average value. [b] For the Netherlands a datarange has been reported here: 796 to 4693 ktns. The table mentions the (calculated) average value. [c] For the Netherlands a datarange has been reported here: 60 to 308 ktoe. The table mentions the (calculated) average value. [d] For the Netherlands a datarange has been reported here: 105 to 560 ktoe. The table mentions the (calculated) average value.

[e] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2006 are the following countries: Germany (15331000 ton); Ireland (4068 ton); Spain (457852 ton); France (3453430 ton); Italy (500000 ton); Cyprus (400 ton); Latvia (48 ktoe); Luxembourg (16600 ton); Hungary (68000 ton); Netherlands (50 ktns); Austria (330000 ktoe); Poland (2164 ton); Finland (68930 ton); Sweden (258 ktdm); United Kingdom (3057 ton)

[f] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2015 are the following countries: Czech Republic (400 ton); Germany (22390000 ton); Ireland (472160 ton); Greece (75000 ton); Spain (2442108 ton); France (10440000 ton); Italy (1600 ton); Cyprus (500 ton); Latvia (87247 Unknown); Luxembourg (25000 ton); Hungary (1500000 ton); Netherlands (452 to 2578 ktns); Austria (1050000 ktoe); Poland (1414 Mg); Portugal (990000 ton); Finland (355000 ton); Sweden (693 ktdm); United Kingdom (3630000 ton)

[g] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2020 are the following countries: Czech Republic (500 ton); Germany (6903000 ton); Ireland (715400 ton); Greece (176000 ton); Spain (4355772 ton); France (13410000 ton); Italy (4000000 ton); Cyprus (500 ton); Latvia (90737 Unknown); Luxembourg (38000 ton); Hungary (3000000 ton); Netherlands (796 to 4693 ktns); Austria (1770000 ktoe); Poland (4056 Mg); Portugal (1043000 ton); Finland (710000 ton); Sweden (867 ktdm); United Kingdom (16680000 ton)

[h] Not considered in the EU-27 sum in the 'imported (eu)' for the year 2006 are the following countries: Germany (6362000 ton); Spain (546083 ton); Austria (270000 ktoe); Poland (9 ton); Sweden (307 ktdm);

[i] Not considered in the EU-27 sum in the 'imported (non-eu)' for the year 2006 are the following countries: Spain (379839 ton); Latvia (1 ktoe); Sweden (595 ktdm);

[j] Not considered in the EU-27 sum in the 'exported (eu/non-eu)' for the year 2006 are the following countries: Poland (290 ton);

[k] Not considered in the EU-27 sum in the 'net amount' for the year 2006 are the following countries: Germany (21693000 ton); Spain (1383774 ton); France (3453430 ton); Cyprus (400 ton); Latvia (49 ktoe); Luxembourg (16600 ton); Hungary (68000 ton); Netherlands (50 ktns); Austria (600000 ktoe); Poland (550 ton); Finland (68930 ton); Sweden (1160 ktdm); United Kingdom (3057 ton)

[l] Not considered in the EU-27 sum in the 'primary energy production' for the year 2006 are the following countries: Latvia (17164968 thousand litres); Hungary (1 PJ/year);

[m] Not considered in the EU-27 sum in the 'primary energy production' for the year 2015 is: Hungary (15 PJ/year);

[n] Not considered in the EU-27 sum in the 'primary energy production' for the year 2020 is: Hungary (30 PJ/year);

Table 66: *Biomass supply from agriculture and fisheries (by-products) for the years 2006 (including import and export), 2015 and 2020.*

	Amount of domestic resource						Imported (EU)		Imported (non-EU)		Exported (EU/non-EU)		Net amount		Primary energy production					
	2006		2015		2020		2006		2006		2006		2006		2006		2015			
Belgium	1805.35	kt	2460.8	kt	5450.9	kt	74.4	kt	0	kt	0	kt	1879.75	kt	57.88	ktoe	218.9	ktoe	540.5	ktoe
Bulgaria	19466	t	125	kt	163	kt	0	t	0	t	0	t	19466	t	5	ktoe	30	ktoe	39	ktoe
Czech Republic	88	ton	400	ton	500	ton	0	ton	0	ton	0	ton	88	ton	32	ktoe	143	ktoe	179	ktoe
Denmark	1488000	ton	1549000	ton	1549000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	1488000	ton	621	ktoe	705	ktoe
Germany	6079000	ton	9067000[a]	ton	14573500[b]	ton	350000	ton	n.a.	ton	n.a.	ton	6429000	ton	669	ktoe	944[c]	ktoe	1517[d]	ktoe
Estonia	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Ireland	211659	ton	537435	ton	1757528	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	135	ktoe	440	ktoe
Greece	508886	ton	10000000	ton	23000000	ton	n.a.	ton	n.a.	ton	n.a.	ton	508886	ton	202	ktoe	1200	ktoe	1500	ktoe
Spain	4773001	ton	14876096	ton	30852890	ton	n.a.	ton	n.a.	ton	141330	ton	4631671	ton	1435	ktoe	1529	ktoe	1933	ktoe
France	1273500	ton	1250000	ton dry	2500000	ton	0	ton	0	ton	45200	ton	1228300	ton	391	ktoe	500	ktoe	1000	ktoe
Italy	n.a.	ton	6480000	ton	16200000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	1960	ktoe	4900	ktoe
Cyprus	2441	ton	2500	ton	5000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	0.903	ktoe	12.7	ktoe	20.2	ktoe
Latvia	5542	ktoe	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Lithuania	n.a.	m^3	670	kt	3180	kt	n.a.	m^3	n.a.	m^3	n.a.	m^3	n.a.	m^3	n.a.	ktoe	29	ktoe	97	ktoe
Luxembourg	n.a.	ton	20000	ton	34000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	5.5	ktoe	18	ktoe	25	ktoe
Hungary	234000	ton	2100000	ton	2850000	ton	n.a.	ton	n.a.	ton	n.a.	ton	234000	ton	1.38	PJ/year	12.14	PJ/year	17.17	PJ/year
Malta	280000	ton	280000	ton	280000	ton	0	ton	0	ton	0	ton	280000	ton	0	ktoe	3.97	ktoe	3.97	ktoe
Netherlands	1500	ktns	13709[e]	ktns	24108[f]	ktns	350	ktns	0	ktns	0	ktns	1850	ktns	543	ktoe	1009[g]	ktoe	1698[h]	ktoe
Austria	600000	ktoe	4300000	ktoe	8000000	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	600000	ktoe	12	ktoe	120	ktoe	230	ktoe
Poland	1200	Mg	5690	Mg	7428	Mg	n.a.	Mg	n.a.	Mg	n.a.	Mg	1200	Mg	337	ktoe	1358	ktoe	1773	ktoe
Portugal	27000	ton	60000	ton	88000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	7	ktoe	21	ktoe	30	ktoe
Romania	1900000	ton	3718000	ton	3762000	ton	0	ton	0	ton	0	ton	0	ton	817	ktoe	1586	ktoe	1604	ktoe
Slovenia	n.a.	ton	0	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Slovakia	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	25	ktoe	2000	ktoe	2000	ktoe
Finland	58150	ton	232500	ton	465000	ton	0	ton	0	ton	0	ton	59150	ton	31.86	ktoe	96	ktoe	196	ktoe
Sweden	327	ktdm	100	ktdm	100	ktdm	0	ktdm	0	ktdm	0	ktdm	327	ktdm	194	ktoe	34	ktoe	34	ktoe
United Kingdom	1054208	ton	1175000	ton	1185000	ton	736086	ton	n.a.	ton	n.a.	ton	1790295	ton	708	ktoe	n.a.	ktoe	n.a.	ktoe
All Member States	1805[i]	kt	3256[j]	kt	8794[k]	kt	74[l]	kt	0[m]	kt	0[n]	kt	1880[o]	kt	5473[p]	ktoe	13568[q]	ktoe	20464[r]	ktoe

Various countries have more detail reported on biomass supply in the introduction chapter of this report. See Section 1.5.1 to 1.5.27 and Section 1.8.2 to 1.8.28.
The Netherlands apply the unit 'kton ns' (wet base) in the NREAP, which has been abbreviated in this table as 'ktns'.
Sweden applies the unit 'kton dry matter' in the NREAP, which has been abbreviated in this table as 'ktdm'.

[a] For Germany a datarange has been reported here: 7803000 to 10331000 ton. The table mentions the (calculated) average value. [b] For Germany a datarange has been reported here: 11244000 to 17903000 ton. The table mentions the (calculated) average value. [c] For Germany a datarange has been reported here: 812 to 1075 ktoe. The table mentions the (calculated) average value. [d] For Germany a datarange has been reported here: 1170 to 1863 ktoe. The table mentions the (calculated) average value.
[e] For the Netherlands a datarange has been reported here: 5547 to 21870 ktns. The table mentions the (calculated) average value. [f] For the Netherlands a datarange has been reported here: 9145 to 39070 ktns. The table mentions the (calculated) average value. [g] For the Netherlands a datarange has been reported here: 738 to 1279 ktoe. The table mentions the (calculated) average value. [h] For the Netherlands a datarange has been reported here: 1202 to 2194 ktoe. The table mentions the (calculated) average value.
[i] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2006 are the following countries: Bulgaria (19466 t); Czech Republic (88 ton); Denmark (1488000 ton); Germany (6079000 ton); Ireland (211659 ton); Greece (508886 ton); Spain (4773001 ton); France (1273500 ton); Cyprus (2441 ton); Latvia (5542 ktoe); Hungary (234000 ton); Malta (280000 ton); Netherlands (1500 ktns); Austria (600000 ktoe); Poland (1200 Mg); Portugal (27000 ton); Romania (1900000 ton); Finland (58150 ton); Sweden (327 ktdm); United Kingdom (1054208 ton)
[j] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2015 are the following countries: Czech Republic (400 ton); Denmark (1549000 ton); Germany (7803000 to 10331000 ton); Ireland (537435 ton); Greece (10000000 ton); Spain (14876096 ton); France (1250000 ton dry); Italy (6480000 ton); Cyprus (2500 ton); Luxembourg (20000 ton); Hungary (2100000 ton); Malta (280000 ton); Netherlands (5547 to 21870 ktns); Austria (4300000 ktoe); Poland (5690 Mg); Portugal (60000 ton); Romania (3718000 ton); Finland (232500 ton); Sweden (100 ktdm); United Kingdom (1175000 ton)
[k] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2020 are the following countries: Czech Republic (500 ton); Denmark (1549000 ton); Germany (11244000 to 17903000 ton); Ireland (1757528 ton); Greece (23000000 ton); Spain (30852890 ton); France (2500000 ton); Italy (16200000 ton); Cyprus (5000 ton); Luxembourg (34000 ton); Hungary (2850000 ton); Malta (280000 ton); Netherlands (9145 to 39070 ktns); Austria (8000000 ktoe); Poland (7428 Mg); Portugal (88000 ton); Romania (3762000 ton); Finland (465000 ton); Sweden (100 ktdm); United Kingdom (1185000 ton)
[l] Not considered in the EU-27 sum in the 'imported (eu)' for the year 2006 are the following countries: Germany (350000 ton); Netherlands (350 ktns); United Kingdom (736086 ton)
[m] Not considered in the EU-27 sum in the 'imported (non-eu)' for the year 2006 are the following countries:
[n] Not considered in the EU-27 sum in the 'exported (eu/non-eu)' for the year 2006 are the following countries: Spain (141330 ton); France (45200 ton);
[o] Not considered in the EU-27 sum in the 'net amount' for the year 2006 are the following countries: Bulgaria (19466 t); Czech Republic (88 ton); Germany (6429000 ton); Greece (508886 ton); Spain (4631671 ton); France (1228300 ton); Hungary (234000 ton); Malta (280000 ton); Netherlands (1850 ktns); Austria (600000 ktoe); Poland (1200 Mg); Finland (59150 ton); Sweden (327 ktdm); United Kingdom (1790295 ton)
[p] Not considered in the EU-27 sum in the 'primary energy production' for the year 2006 are the following countries: Denmark (1488000 ton); Hungary (1 PJ/year);
[q] Not considered in the EU-27 sum in the 'primary energy production' for the year 2015 is: Hungary (12 PJ/year);
[r] Not considered in the EU-27 sum in the 'primary energy production' for the year 2020 is: Hungary (17 PJ/year);

Table 67: *Biomass supply from waste (total) for the years 2006 (including import and export), 2015 and 2020.*

	Amount of domestic resource						Imported (EU)		Imported (non-EU)		Exported (EU/non-EU)		Net amount		Primary energy production					
	2006		2015		2020		2006		2006		2006		2006		2006		2015			
Belgium	1857.33	kt	2401	kt	3225.7	kt	152.9	kt	0	kt	0	kt	2010.14	kt	289	ktoe	482.6	ktoe	457	ktoe
Bulgaria	369992	t	950	kt	1250	kt	0	t	0	t	0	t	369992	t	59	ktoe	144	ktoe	194	ktoe
Czech Republic	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	76	ktoe	n.a.	ktoe	183	ktoe
Denmark	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	2152000	ton	611	ktoe	683	ktoe
Germany	4321000	ton	8374000	ton	8088000	ton	n.a.	ton	n.a.	ton	n.a.	ton	4012000	ton	692	ktoe	1863	ktoe	2054	ktoe
Estonia	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Ireland	27473	ton	788870	ton	1457532	ton	0	ton	0	ton	0	ton	0	ton	n.a.	ktoe	235	ktoe	435	ktoe
Greece	79038904	ton	60000000	ton	60000000	ton	n.a.	ton	n.a.	ton	n.a.	ton	79038904	ton	33	ktoe	35.5	ktoe	35.5	ktoe
Spain	4924307	ton	9698185	ton	12080478	ton	n.a.	ton	n.a.	ton	n.a.	ton	4669907	ton	377.6	ktoe	742.9	ktoe	1006	ktoe
France	8600000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	8600000	ton	1345	ktoe	1836	ktoe	2236	ktoe
Italy	2937500	ton	3216000	ton	8030000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	711	ktoe	940	ktoe	2350	ktoe
Cyprus	1245	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	1245	ton	0.5	ktoe	4.05	ktoe	6.4	ktoe
Latvia	94.2	ktoe	n.a.	ton	n.a.	ton	23.94	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Lithuania	0	m^3	n.a.	kt	n.a.	kt	0	m^3	0	m^3	0	m^3	0	m^3	0	ktoe	n.a.	ktoe	n.a.	ktoe
Luxembourg	n.a.	ton	25000	ton	29000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	15.9	ktoe	23	ktoe	27	ktoe
Hungary	3829000	ton	3600000	ton	n.a.	ton	16000	ton	0	ton	48000	ton	3797000	ton	n.a.	PJ/year	n.a.	PJ/year	n.a.	PJ/year
Malta	175000	ton	169000	ton	173500	ton	n.a.	ton	n.a.	ton	1980	ton	173020	ton	0	ktoe	n.a.	ktoe	n.a.	ktoe
Netherlands	7095	ktns	11345[a]	ktns	13764[b]	ktns	0	ktns	0	ktns	0	ktns	7095	ktns	1354	ktoe	2198[c]	ktoe	2678[d]	ktoe
Austria	165000	ktoe	370000	ktoe	570000	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	165000	ktoe	52	ktoe	100	ktoe	150	ktoe
Poland	388	ton	4984	Mg	7500	Mg	n.a.	ton	n.a.	ton	n.a.	ton	388	ton	66	ktoe	1086	ktoe	1638	ktoe
Portugal	0	ton	215628	ton	313179	ton	0	ton	0	ton	0	ton	0	ton	0	ktoe	119	ktoe	172	ktoe
Romania	5470000	ton	n.a.	ton	n.a.	ton	0	ton	0	ton	0	ton	0	ton	1391	ktoe	n.a.	ktoe	n.a.	ktoe
Slovenia	6618	ton	0	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	6618	ton	0.1	ktoe	n.a.	ktoe	n.a.	ktoe
Slovakia	n.a.	ton	208000	ton	308000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	10	ktoe	52	ktoe	77	ktoe
Finland	n.a.	ton	n.a.	ton	n.a.	ton	0	ton	0	ton	0	ton	n.a.	ton	137.4	ktoe	160	ktoe	190	ktoe
Sweden	2068	ktdm	2140	ktdm	2782	ktdm	35	ktdm	90	ktdm	0	ktdm	2193	ktdm	764	ktoe	763	ktoe	985	ktoe
United Kingdom	2011267	ton	9055000	ton	12945000	ton	0	ton	n.a.	ton	n.a.	ton	2011267	ton	2196	ktoe	n.a.	ktoe	n.a.	ktoe
All Member States	1857[e]	kt	3351[f]	kt	4476[g]	kt	153[h]	kt	0[i]	kt	0[j]	kt	2010[k]	kt	9570[l]	ktoe	11395[m]	ktoe	15557[n]	ktoe

Various countries have more detail reported on biomass supply in the introduction chapter of this report. See Section 1.5.1 to 1.5.27 and Section 1.8.2 to 1.8.28.
The Netherlands apply the unit 'kton ns' (wet base) in the NREAP, which has been abbreviated in this table as 'ktns'.
Sweden applies the unit 'kton dry matter' in the NREAP, which has been abbreviated in this table as 'ktdm'.

[a] For the Netherlands a datarange has been reported here: 10570 to 12119 ktns. The table mentions the (calculated) average value. [b] For the Netherlands a datarange has been reported here: 12344 to 15183 ktns. The table mentions the (calculated) average value. [c] For the Netherlands a datarange has been reported here: 2041 to 2354 ktoe. The table mentions the (calculated) average value. [d] For the Netherlands a datarange has been reported here: 2391 to 2965 ktoe. The table mentions the (calculated) average value.

[e] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2006 are the following countries: Bulgaria (369992 t); Germany (4321000 ton); Ireland (27473 ton); Greece (79038904 ton); Spain (4924307 ton); France (8600000 ton); Italy (2937500 ton); Cyprus (1245 ton); Latvia (94 ktoe); Hungary (3829000 ton); Malta (175000 ton); Netherlands (7095 ktns); Austria (165000 ktoe); Poland (388 ton); Romania (5470000 ton); Slovenia (6618 ton); Sweden (2068 ktdm); United Kingdom (2011267 ton)

[f] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2015 are the following countries: Germany (8374000 ton); Ireland (788870 ton); Greece (60000000 ton); Spain (9698185 ton); Italy (3216000 ton); Luxembourg (25000 ton); Hungary (3600000 ton); Malta (169000 ton); Netherlands (10570 to 12119 ktns); Austria (370000 ktoe); Poland (4984 Mg); Portugal (215628 ton); Slovakia (208000 ton); Sweden (2140 ktdm); United Kingdom (9055000 ton)

[g] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2020 are the following countries: Germany (8088000 ton); Ireland (1457532 ton); Greece (60000000 ton); Spain (12080478 ton); Italy (8030000 ton); Luxembourg (29000 ton); Malta (173500 ton); Netherlands (12344 to 15183 ktns); Austria (570000 ktoe); Poland (7500 Mg); Portugal (313179 ton); Slovakia (308000 ton); Sweden (2782 ktdm); United Kingdom (12945000 ton)

[h] Not considered in the EU-27 sum in the 'imported (eu)' for the year 2006 are the following countries: Latvia (24 ktoe); Hungary (16000 ton); Sweden (35 ktdm);

[i] Not considered in the EU-27 sum in the 'imported (non-eu)' for the year 2006 are the following countries: Sweden (90 ktdm);

[j] Not considered in the EU-27 sum in the 'exported (eu/non-eu)' for the year 2006 are the following countries: Hungary (48000 ton); Malta (1980 ton);

[k] Not considered in the EU-27 sum in the 'net amount' for the year 2006 are the following countries: Bulgaria (369992 t); Germany (4012000 ton); Greece (79038904 ton); Spain (4669907 ton); France (8600000 ton); Cyprus (1245 ton); Hungary (3797000 ton); Malta (173020 ton); Netherlands (7095 ktns); Austria (165000 ktoe); Poland (388 ton); Slovenia (6618 ton); Sweden (2193 ktdm); United Kingdom (2011267 ton)

[l] Not considered in the EU-27 sum in the 'primary energy production' for the year 2006 are the following countries: Denmark (2152000 ton);

Table 68: *Biomass supply from waste (municipal) for the years 2006 (including import and export), 2015 and 2020.*

	Amount of domestic resource						Imported (EU)		Imported (non-EU)		Exported (EU/non-EU)		Net amount		Primary energy production					
	2006		2015		2020		2006		2006		2006		2006		2006		2015			
Belgium	1528.5	kt	1751.6	kt	2263.7	kt	152.9	kt	0	kt	0	kt	1681.3	kt	232.51	ktoe	334.7	ktoe	290.8	ktoe
Bulgaria	0	t	400	kt	550	kt	0	t	0	t	0	t	0	t	0	ktoe	80	ktoe	110	ktoe
Czech Republic	235	ton	382	ton	663	ton	0	ton	0	ton	0	ton	235	ton	54	ktoe	17	ktoe	166	ktoe
Denmark	2152000	ton	2152000	ton	2152000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	2152000	ton	611	ktoe	683	ktoe
Germany	3457000	ton	5537000	ton	4327000	ton	n.a.	ton	n.a.	ton	n.a.	ton	3457000	ton	477	ktoe	764	ktoe	597	ktoe
Estonia	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Ireland	0	ton	730000	ton	1359416	ton	0	ton	0	ton	0	ton	0	ton	n.a.	ktoe	220	ktoe	410	ktoe
Greece	5800000	ton	60000000	ton	60000000	ton	n.a.	ton	n.a.	ton	n.a.	ton	55476426	ton	23.3	ktoe	25	ktoe	25	ktoe
Spain	4653471	ton	6310422	ton	6693515	ton	0	ton	0	ton	0	ton	4653471	ton	366.9	ktoe	532.3	ktoe	726	ktoe
France	6622000	ton	5500000[a]	ton	5500000[b]	ton	n.a.	ton	n.a.	ton	n.a.	ton	6622000	ton	1291	ktoe	1336[c]	ktoe	1336[d]	ktoe
Italy	2437500	ton	2610000	ton	6520000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	561	ktoe	720	ktoe	1800	ktoe
Cyprus	n.a.	ton	8000[e]	ton	12500[f]	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	4[g]	ktoe	6[h]	ktoe
Latvia	79.6	ktoe	n.a.	ton	n.a.	ton	17.64	ktoe	n.a.	ktoe	n.a.	ktoe	1420.4	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Lithuania	n.a.	m^3	n.a.	kt	n.a.	kt	n.a.	m^3	n.a.	m^3	n.a.	m^3	n.a.	m^3	n.a.	ktoe	55	ktoe	70	ktoe
Luxembourg	52900	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	52900	ton	14.8	ktoe	n.a.	ktoe	n.a.	ktoe
Hungary	1969000	ton	2100000	ton	2100000	ton	0	ton	0	ton	0	ton	1969000	ton	n.a.	PJ/year	n.a.	PJ/year	n.a.	PJ/year
Malta	167000	ton	160000	ton	164000	ton	n.a.	ton	n.a.	ton	1980	ton	165020	ton	0	ktoe	25.5	ktoe	25.08	ktoe
Netherlands	100	ktns	2437[j]	ktns	3679[k]	ktns	0	ktns	0	ktns	0	ktns	100	ktns	67	ktoe	695[l]	ktoe	1017[m]	ktoe
Austria	115000	ktoe	240000	ktoe	360000	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	115000	ktoe	40	ktoe	70	ktoe	100	ktoe
Poland	89	Mg	4339	Mg	6373	Mg	n.a.	Mg	n.a.	Mg	n.a.	Mg	89	Mg	19	ktoe	932	ktoe	1369	ktoe
Portugal	537000	ton	215628	Nm3	313179	Nm3	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	99	ktoe	119	ktoe	172	ktoe
Romania	4210000	ton	n.a.	ton	n.a.	ton	0	ton	0	ton	0	ton	0	ton	1095	ktoe	n.a.	ktoe	n.a.	ktoe
Slovenia	6366	ton	0	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	6366	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Slovakia	n.a.	ton	200000	ton	300000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	8	ktoe	50	ktoe	75	ktoe
Finland	n.a.	ton	n.a.	ton	n.a.	ton	0	ton	0	ton	0	ton	n.a.	ton	127.4	ktoe	n.a.	ktoe	n.a.	ktoe
Sweden	918	ktdm	1353	ktdm	1768	ktdm	14	ktdm	36	ktdm	0	ktdm	968	ktdm	357	ktoe	493	ktoe	637	ktoe
United Kingdom	1954467	ton	2325000	ton	2660000	ton	0	ton	n.a.	ton	n.a.	ton	1954467	ton	1977	ktoe	n.a.	ktoe	n.a.	ktoe
All Member States	1529[n]	kt	2152[o]	kt	2814[p]	kt	153[q]	kt	0[r]	kt	0[s]	kt	1681[t]	kt	6810[u]	ktoe	7083[v]	ktoe	9614[w]	ktoe

Various countries have more detail reported on biomass supply in the introduction chapter of this report. See Section 1.5.1 to 1.5.27 and Section 1.8.2 to 1.8.28.
The Netherlands apply the unit 'kton ns' (wet base) in the NREAP, which has been abbreviated in this table as 'ktns'.
Sweden applies the unit 'kton dry matter' in the NREAP, which has been abbreviated in this table as 'ktdm'.

[a] For France a datarange has been reported here: 5000000 to 6000000 ton. The table mentions the (calculated) average value. [b] For France a datarange has been reported here: 5000000 to 6000000 ton. The table mentions the (calculated) average value. [c] For France a datarange has been reported here: 1011 to 1661 ktoe. The table mentions the (calculated) average value. [d] For France a datarange has been reported here: 1011 to 1661 ktoe. The table mentions the (calculated) average value.

[e] For Cyprus a datarange has been reported here: 7000 to 9000 ton. The table mentions the (calculated) average value. [f] For Cyprus a datarange has been reported here: 10000 to 15000 ton. The table mentions the (calculated) average value. [g] For Cyprus a datarange has been reported here: 3.1 to 4.0 ktoe. The table mentions the (calculated) average value. [h] For Cyprus a datarange has been reported here: 4.5 to 6.7 ktoe. The table mentions the (calculated) average value.

[i] For the Netherlands in Template Table 7 category C1 also specifies for 2006 an additional amount of landfill gas (1.9 TJ) which has not been covered in the subtotal in *ton ns* (wet basis).

[j] For the Netherlands a datarange has been reported here: 2204 to 2669 ktns. The table mentions the (calculated) average value. [k] For the Netherlands a datarange has been reported here: 3253 to 4105 ktns. The table mentions the (calculated) average value. [l] For the Netherlands a datarange has been reported here: 610 to 780 ktoe. The table mentions the (calculated) average value. [m] For the Netherlands a datarange has been reported here: 861 to 1173 ktoe. The table mentions the (calculated) average value.

[n] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2006 are the following countries: Czech Republic (235 ton); Denmark (2152000 ton); Germany (3457000 ton); Greece (5800000 ton); Spain (4653471 ton); France (6622000 ton); Italy (2437500 ton); Latvia (80 ktoe); Luxembourg (52900 ton); Hungary (1969000 ton); Malta (167000 ton); Netherlands (100 ktns); Austria (115000 ktoe); Poland (89 Mg); Portugal (537000 ton); Romania (4210000 ton); Slovenia (6366 ton); Sweden (918 ktdm); United Kingdom (1954467 ton)

[o] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2015 are the following countries: Czech Republic (382 ton); Denmark (2152000 ton); Germany (5537000 ton); Ireland (730000 ton); Greece (60000000 ton); Spain (6310422 ton); France (5000000 to 6000000 ton); Italy (2610000 ton); Cyprus (7000 to 9000 ton); Hungary (2100000 ton); Malta (160000 ton); Netherlands (2204 to 2669 ktns); Austria (240000 ktoe); Poland (4339 Mg); Portugal (215628 Nm3); Slovakia (200000 ton); Sweden (1353 ktdm); United Kingdom (2325000 ton)

[p] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2020 are the following countries: Czech Republic (663 ton); Denmark (2152000 ton); Germany (4327000 ton); Ireland (1359416 ton); Greece (60000000 ton); Spain (6693515 ton); France (5000000 to 6000000 ton); Italy (6520000 ton); Cyprus (10000 to 15000 ton); Hungary (2100000 ton); Malta (164000 ton); Netherlands (3253 to 4105 ktns); Austria (360000 ktoe); Poland (6373 Mg); Portugal (313179 Nm3); Slovakia (300000 ton); Sweden (1768 ktdm); United Kingdom (2660000 ton)

[q] Not considered in the EU-27 sum in the 'imported (eu)' for the year 2006 are the following countries: Latvia (18 ktoe); Sweden (14 ktdm);

[r] Not considered in the EU-27 sum in the 'imported (non-eu)' for the year 2006 are the following countries: Sweden (36 ktdm);

[s] Not considered in the EU-27 sum in the 'exported (eu/non-eu)' for the year 2006 are the following countries: Malta (1980 ton);

[t] Not considered in the EU-27 sum in the 'net amount' for the year 2006 are the following countries: Czech Republic (235 ton); Germany (3457000 ton); Greece (55476426 ton); Spain (4653471 ton); France (6622000 ton); Latvia (1420 ktoe); Luxembourg (52900 ton); Hungary (1969000 ton); Malta (165020 ton); Netherlands (100 ktns); Austria (115000 ktoe); Poland (89 Mg); Slovenia (6366 ton); Sweden (968 ktdm); United Kingdom (1954467 ton)

[u] Not considered in the EU-27 sum in the 'primary energy production' for the year 2006 is: Denmark (2152000 ton);

Table 69: *Biomass supply from waste (industrial) for the years 2006 (including import and export), 2015 and 2020.*

	Amount of domestic resource						Imported (EU)		Imported (non-EU)		Exported (EU/non-EU)		Net amount		Primary energy production					
	2006		2015		2020		2006		2006		2006		2006		2006		2015			
Belgium	248.66	kt	558.3	kt	868	kt	0	kt	0	kt	0	kt	248.66	kt	46.38	ktoe	138.4	ktoe	155.8	ktoe
Bulgaria	369992	t	375	kt	500	kt	0	t	0	t	0	t	369992	t	59	ktoe	60	ktoe	80	ktoe
Czech Republic	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	22	ktoe	n.a.	ktoe	17	ktoe
Denmark	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	0	ton	0	ktoe	0	ktoe
Germany	864000	ton	2837000	ton	3761000	ton	61000	ton	n.a.	ton	370000	ton	555000	ton	215	ktoe	1099	ktoe	1457	ktoe
Estonia	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Ireland	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Greece	n.a.	ton	0	ton	0	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	0	ktoe	0	ktoe
Spain	16436	ton	547763	ton	626963	ton	n.a.	ton	n.a.	ton	n.a.	ton	16436	ton	5.8	ktoe	158	ktoe	194	ktoe
France	n.a.	ton	1500000	ton	2700000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	500	ktoe	900	ktoe
Italy	500000	ton	606000	ton	1510000	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	150	ktoe	220	ktoe	550	ktoe
Cyprus	n.a.	ton	800	ton	1400	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	0.5	ktoe	0.8	ktoe
Latvia	14.6	ktoe	n.a.	ton	n.a.	ton	6.3	ktoe	n.a.	ktoe	5.94	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Lithuania	n.a.	m^3	n.a.	kt	n.a.	kt	n.a.	m^3	n.a.	m^3	n.a.	m^3	n.a.	m^3	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Luxembourg	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Hungary	1860000	ton	1500000	ton	n.a.	ton	16000	ton	0	ton	48000	ton	1828000	ton	n.a.	PJ/year	n.a.	PJ/year	n.a.	PJ/year
Malta	8260	ton	9000	ton	9500	ton	n.a.	ton	n.a.	ton	n.a.	ton	8260	ton	0	ktoe	n.a.	ktoe	n.a.	ktoe
Netherlands	6365	ktns	7860[a]	ktns	8689[b]	ktns	0	ktns	0	ktns	0	ktns	6365	ktns	1265	ktoe	1466[c]	ktoe	1612[d]	ktoe
Austria	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Poland	84	Mg	645	Mg	1127	Mg	n.a.	Mg	n.a.	Mg	n.a.	Mg	84	Mg	5	ktoe	154	ktoe	269	ktoe
Portugal	n.a.	ton	0	Nm3	0	Nm3	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	0	ktoe	0	ktoe
Romania	910000	ton	n.a.	ton	n.a.	ton	0	ton	0	ton	0	ton	0	ton	236	ktoe	n.a.	ktoe	n.a.	ktoe
Slovenia	252	ton	0	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	252	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Slovakia	8000	ton	8000	ton	8000	ton	n.a.	ton	n.a.	ton	1000	ton	7000	ton	2	ktoe	2	ktoe	2	ktoe
Finland	n.a.	ton	n.a.	ton	n.a.	ton	0	ton	0	ton	0	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Sweden	873	ktdm	787	ktdm	1014	ktdm	21	ktdm	54	ktdm	0	ktdm	948	ktdm	329	ktoe	270	ktoe	348	ktoe
United Kingdom	33440	ton	6730000	ton	10285000	ton	0	ton	n.a.	ton	n.a.	ton	33440	ton	15	ktoe	n.a.	ktoe	n.a.	ktoe
All Member States	249[e]	kt	933[f]	kt	1368[g]	kt	0[h]	kt	0[i]	kt	0[j]	kt	249[k]	kt	2350[l]	ktoe	4067[m]	ktoe	5586[n]	ktoe

Various countries have more detail reported on biomass supply in the introduction chapter of this report. See Section 1.5.1 to 1.5.27 and Section 1.8.2 to 1.8.28.
The Netherlands apply the unit 'kton ns' (wet base) in the NREAP, which has been abbreviated in this table as 'ktns'.
Sweden applies the unit 'kton dry matter' in the NREAP, which has been abbreviated in this table as 'ktdm'.

[a] For the Netherlands a datarange has been reported here: 7318 to 8402 ktns. The table mentions the (calculated) average value. [b] For the Netherlands a datarange has been reported here: 7695 to 9682 ktns. The table mentions the (calculated) average value. [c] For the Netherlands a datarange has been reported here: 1394 to 1537 ktoe. The table mentions the (calculated) average value. [d] For the Netherlands a datarange has been reported here: 1481 to 1743 ktoe. The table mentions the (calculated) average value.

[e] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2006 are the following countries: Bulgaria (369992 t); Germany (864000 ton); Spain (16436 ton); Italy (500000 ton); Latvia (15 ktoe); Hungary (1860000 ton); Malta (8260 ton); Netherlands (6365 ktns); Poland (84 Mg); Romania (910000 ton); Slovenia (252 ton); Slovakia (8000 ton); Sweden (873 ktdm); United Kingdom (33440 ton)

[f] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2015 are the following countries: Germany (2837000 ton); Spain (547763 ton); France (1500000 ton); Italy (606000 ton); Cyprus (800 ton); Hungary (1500000 ton); Malta (9000 ton); Netherlands (7318 to 8402 ktns); Poland (645 Mg); Slovakia (8000 ton); Sweden (787 ktdm); United Kingdom (6730000 ton)

[g] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2020 are the following countries: Germany (3761000 ton); Spain (626963 ton); France (2700000 ton); Italy (1510000 ton); Cyprus (1400 ton); Malta (9500 ton); Netherlands (7695 to 9682 ktns); Poland (1127 Mg); Slovakia (8000 ton); Sweden (1014 ktdm); United Kingdom (10285000 ton)

[h] Not considered in the EU-27 sum in the 'imported (eu)' for the year 2006 are the following countries: Germany (61000 ton); Latvia (6 ktoe); Hungary (16000 ton); Sweden (21 ktdm);

[i] Not considered in the EU-27 sum in the 'imported (non-eu)' for the year 2006 are the following countries: Sweden (54 ktdm);

[j] Not considered in the EU-27 sum in the 'exported (eu/non-eu)' for the year 2006 are the following countries: Germany (370000 ton); Latvia (6 ktoe); Hungary (48000 ton); Slovakia (1000 ton);

[k] Not considered in the EU-27 sum in the 'net amount' for the year 2006 are the following countries: Bulgaria (369992 t); Germany (555000 ton); Spain (16436 ton); Hungary (1828000 ton); Malta (8260 ton); Netherlands (6365 ktns); Poland (84 Mg); Slovenia (252 ton); Slovakia (7000 ton); Sweden (948 ktdm); United Kingdom (33440 ton)

Table 70: *Biomass supply from waste (sewage sludge) for the years 2006 (including import and export), 2015 and 2020.*

	Amount of domestic resource						Imported (EU)		Imported (non-EU)		Exported (EU/non-EU)		Net amount		Primary energy production					
	2006		2015		2020		2006		2006		2006		2006		2006		2015			
Belgium	80.17	kt	91.1	kt	94	kt	0	kt	0	kt	0	kt	80.17	kt	10.09	ktoe	9.5	ktoe	10.4	ktoe
Bulgaria	0	t	175	kt	200	kt	0	t	0	t	0	t	0	t	0	ktoe	4	ktoe	4	ktoe
Czech Republic	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Denmark	38	M m^3	38	M m^3	38	M m^3	n.a.	M m^3	n.a.	M m^3	n.a.	M m^3	n.a.	M m^3	38	M m^3	21	ktoe	21	ktoe
Germany	3217000	ton	3435000	ton	3435000	ton	220000	ton	n.a.	ton	2000	ton	3435000	ton	263	ktoe	263	ktoe	263	ktoe
Estonia	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	1.5	ton	n.a.	ktoe	n.a.	ktoe	2	ktoe
Ireland	27473	ton	58870	ton	98116	ton	0	ton	0	ton	0	ton	0	ton	n.a.	ktoe	15	ktoe	25	ktoe
Greece	23562478	ton	26000000	ton	26000000	ton	n.a.	ton	n.a.	ton	n.a.	ton	23562478	ton	9.6	ktoe	10.5	ktoe	10.5	ktoe
Spain	254400	ton	2840000	ton	4760000	ton	n.a.	ton	n.a.	ton	n.a.	ton	254400	ton	4.9	ktoe	52.6	ktoe	86	ktoe
France	1000000	ton	1000000	ton	1000000	ton	n.a.	ton	n.a.	ton	n.a.	ton	1000000	ton	54	ktoe	54	ktoe	54	ktoe
Italy	n.a.	ton	0	ton	0	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	0	ktoe	0	ktoe
Cyprus	1245	ton	8000[a]	ton	16500[b]	ton	n.a.	ton	n.a.	ton	n.a.	ton	1245	ton	0.5	ktoe	3[c]	ktoe	5[d]	ktoe
Latvia	23.9	ktoe	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Lithuania	n.a.	m^3	n.a.	kt	n.a.	kt	n.a.	m^3	n.a.	m^3	n.a.	m^3	n.a.	m^3	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Luxembourg	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	1.1	ktoe	n.a.	ktoe	n.a.	ktoe
Hungary	261000	ton	499000	ton	n.a.	ton	0	ton	0	ton	0	ton	261000	ton	n.a.	PJ/year	n.a.	PJ/year	n.a.	PJ/year
Malta	0	ton	5700000	Nm3	5700000	Nm3	0	ton	0	ton	0	ton	0	ton	0	ktoe	1.46	ktoe	1.46	ktoe
Netherlands	630	ktns	1048	ktns	1396	ktns	0	ktns	0	ktns	0	ktns	630	ktns	22	ktoe	37	ktoe	49	ktoe
Austria	50000	ktoe	130000	ktoe	210000	ktoe	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe	50000	ktoe	12	ktoe	30	ktoe	50	ktoe
Poland	1064.7	Mg s.m	340	Mg	6285	Mg	n.a.	Mg s.m	n.a.	Mg s.m	n.a.	Mg s.m	1064.7	Mg s.m	203	ktoe	65	ktoe	120	ktoe
Portugal	n.a.	ton	79753	Nm3	115833	Nm3	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	44	ktoe	64	ktoe
Romania	350000	ton	n.a.	ton	n.a.	ton	0	ton	0	ton	0	ton	0	ton	60	ktoe	n.a.	ktoe	n.a.	ktoe
Slovenia	n.a.	ton	0	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ktoe	n.a.	ktoe	n.a.	ktoe
Slovakia	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	n.a.	ton	10	ktoe	12	ktoe	13	ktoe
Finland	n.a.	ton	n.a.	ton	n.a.	ton	0	ton	0	ton	0	ton	n.a.	ton	10	ktoe	n.a.	ktoe	n.a.	ktoe
Sweden	276	ktdm	576	ktdm	767	ktdm	0	ktdm	0	ktdm	0	ktdm	276	ktdm	78	ktoe	163	ktoe	217	ktoe
United Kingdom	23360	ton	1500	M mCH04 m3	2500	M mCH04 m3	0	ton	n.a.	ton	n.a.	ton	23360	ton	204	ktoe	n.a.	ktoe	n.a.	ktoe
All Member States	80[e]	kt	266[f]	kt	294[g]	kt	0[h]	kt	0[i]	kt	0[j]	kt	80[k]	kt	942[l]	ktoe	785[m]	ktoe	995[n]	ktoe

Various countries have more detail reported on biomass supply in the introduction chapter of this report. See Section 1.5.1 to 1.5.27 and Section 1.8.2 to 1.8.28.
The Netherlands apply the unit 'kton ns' (wet base) in the NREAP, which has been abbreviated in this table as 'ktns'.
Sweden applies the unit 'kton dry matter' in the NREAP, which has been abbreviated in this table as 'ktdm'.

[a] For Cyprus a datarange has been reported here: 7000 to 9000 ton. The table mentions the (calculated) average value. [b] For Cyprus a datarange has been reported here: 15000 to 18000 ton. The table mentions the (calculated) average value. [c] For Cyprus a datarange has been reported here: 2.2 to 2.8 ktoe. The table mentions the (calculated) average value. [d] For Cyprus a datarange has been reported here: 4.6 to 5.6 ktoe. The table mentions the (calculated) average value.

[e] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2006 are the following countries: Denmark (38 million m3); Germany (3217000 ton); Ireland (27473 ton); Greece (23562478 ton); Spain (254400 ton); France (1000000 ton); Cyprus (1245 ton); Latvia (24 ktoe); Hungary (261000 ton); Netherlands (630 ktns); Austria (50000 ktoe); Poland (1065 Mg s.m); Romania (350000 ton); Sweden (276 ktdm); United Kingdom (23360 ton)

[f] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2015 are the following countries: Denmark (38 million m3); Germany (3435000 ton); Ireland (58870 ton); Greece (26000000 ton); Spain (2840000 ton); France (1000000 ton); Cyprus (7000 to 9000 ton); Hungary (499000 ton); Malta (5700000 Nm3); Netherlands (1048 ktns); Austria (130000 ktoe); Poland (340 Mg); Portugal (79753 Nm3); Sweden (576 ktdm); United Kingdom (1500 M mCH04 m3)

[g] Not considered in the EU-27 sum in the 'amount of domestic resource' for the year 2020 are the following countries: Denmark (38 million m3); Germany (3435000 ton); Ireland (98116 ton); Greece (26000000 ton); Spain (4760000 ton); France (1000000 ton); Cyprus (15000 to 18000 ton); Malta (5700000 Nm3); Netherlands (1396 ktns); Austria (210000 ktoe); Poland (6285 Mg); Portugal (115833 Nm3); Sweden (767 ktdm); United Kingdom (2500 M mCH04 m3)

[h] Not considered in the EU-27 sum in the 'imported (eu)' for the year 2006 are the following countries: Germany (220000 ton);

[i] Not considered in the EU-27 sum in the 'imported (non-eu)' for the year 2006 are the following countries:

[j] Not considered in the EU-27 sum in the 'exported (eu/non-eu)' for the year 2006 are the following countries: Germany (2000 ton);

[k] Not considered in the EU-27 sum in the 'net amount' for the year 2006 are the following countries: Germany (3435000 ton); Estonia (2 ton); Greece (23562478 ton); Spain (254400 ton); France (1000000 ton); Cyprus (1245 ton); Hungary (261000 ton); Netherlands (630 ktns); Austria (50000 ktoe); Poland (1065 Mg s.m); Sweden (276 ktdm); United Kingdom (23360 ton)

[l] Not considered in the EU-27 sum in the 'primary energy production' for the year 2006 is: Denmark (38 million m3);

Table 71: *Land used in the year 2006 [ha] for short rotation trees (willows, poplars) and for other energy crops such as grasses (reed canary grass, switch grass, Miscanthus) and sorghum. In line with NREAP Template Table 8 data are only available for the year 2006, not for other years*

	Land for short rotation trees	Land for other energy crops	Unit
Belgium	0	0	ha
Bulgaria	0	0	ha
Czech Republic	n.a.	n.a.	ha
Denmark	1000	50	ha
Germany	1200	1100	ha
Estonia	n.a.	n.a.	ha
Ireland	63	617	ha
Greece	0	0	ha
Spain	n.a.	n.a.	ha
France	192.3	0	ha
Italy	5105	n.a.	ha
Cyprus	n.a.	n.a.	ha
Latvia	n.a.	>200[a]	ha
Lithuania	300	0	ha
Luxembourg	0	0	ha
Hungary	401	2122	ha
Malta	0	0	ha
Netherlands	0	10000	ha
Austria	800	33000	ha
Poland	6565.8	250.2	ha
Portugal	0	236	ha
Romania	20	n.a.	ha
Slovenia	0	2980	ha
Slovakia	150	200	ha
Finland	n.a.	n.a.	ha
Sweden	14000	<1000[b]	ha
United Kingdom	4196	5316	ha
All Member States (total)	33993.1	57071.2[a,b]	ha

[a] For calculating the 'total land use for other energy crops' for Latvia a value of 200 [ha] has been assumed.
[b] For calculating the 'total land use for other energy crops' for Sweden a value of 1000 [ha] has been assumed.

RES excess and deficit for flexible mechanisms

Table 72: *Estimated excess in NREAP [ktoe] for use with flexible mechanisms*

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Belgium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bulgaria	61	80	168	202	353	386	481	420	471	411	341
Czech Republic	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Denmark	n.a.	694	834	1123	1106	833	928	552	619	n.a.	63
Germany	n.a.	5703	7065	5507	7105	4761	6453	4130	5976	n.a.	3065
Estonia	n.a.	50	85	97	109	74	83	49	69	79	-1
Ireland	0	168	168	233	233	211	211	136	136	0	0
Greece	257	408	513	686	812	856	842	737	743	683	529
Spain	n.a.	2986	3596	3056	4163	3379	4296	3180	4166	n.a.	2649
France	0	0	0	0	0	0	0	0	0	0	0
Italy	2839	2077	2157	2220	2143	1843	1511	1092	465	0	0
Cyprus	36	33	39	34	46	30	42	57	34	21	0
Latvia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Lithuania	0	36	37	123	126	178	182	231	235	0	61
Luxembourg	0	0	0	0	0	0	0	0	0	0	0
Hungary	0	547	283	323	267	280	274	516	464	679	325
Malta	n.a.	n.a.	2.06	n.a.	7.64	n.a.	8.37	n.a.	16.13	n.a.	1.07
Netherlands	0	0	0	0	0	0	0	0	0	0	0
Austria	0	0	0	0	0	0	0	0	0	0	0
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Portugal	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania	0	0	0	0	0	0	0	0	0	0	0
Slovenia	0	0	0	0	0	0	0	0	0	0	0
Slovakia	n.a.	181	240	228	313	305	364	269	349	190	143
Finland	0	0	0	0	0	0	0	0	0	0	0
Sweden	162	194	227	259	291	324	356	389	421	453	486
United Kingdom	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	n.a.	n.a.
All Member States (total)	3355	13157	15414.06	14091	17074.64	13460	16031.37	11758	14164.13	2516	7663.07

Table 73: *Estimated deficit in NREAP [ktoe] for use with flexible mechanisms*

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Belgium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bulgaria	0	0	0	0	0	0	0	0	0	0	0
Czech Republic	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Denmark	n.a.	0	0	0	0	0	0	0	0	n.a.	0
Germany	n.a.	0	0	0	0	0	0	0	0	n.a.	0
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	0	0	0	0	0	0	0	0	0	0	0
Greece	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Spain	n.a.	0	0	0	0	0	0	0	0	n.a.	0
France	0	0	0	0	0	0	0	0	0	0	0
Italy	0	0	0	0	0	0	0	0	0	284	1127
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Lithuania	0	0	0	0	0	0	0	0	0	0	0
Luxembourg	0	45	23	38	10	45	22	75	39	66	93
Hungary	0	0	0	0	0	0	0	0	0	0	0
Malta	n.a.	n.a.	0	n.a.	0	n.a.	0	n.a.	0	n.a.	0
Netherlands	0	0	0	0	0	0	0	0	0	0	0
Austria	0	0	0	0	0	0	0	0	0	0	0
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Portugal	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania	0	0	0	0	0	0	0	0	0	0	0
Slovenia	0	0	0	0	0	0	0	0	0	0	0
Slovakia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Finland	0	0	0	0	0	0	0	0	0	0	0
Sweden	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	100	n.a.	200	n.a.	300	n.a.	n.a.	n.a.	n.a.	0
All Member States (total)	0	145	23	238	10	345	22	75	39	350	1220

Hydropower

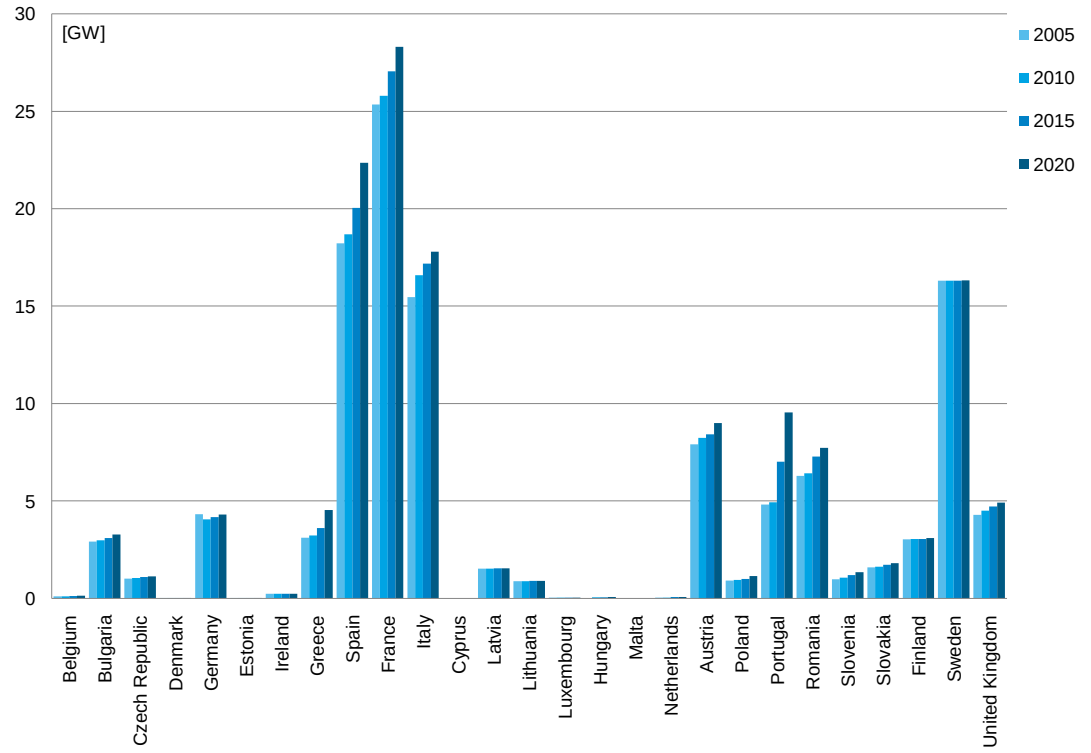


Figure 3: *Projected total hydropower electric capacity [GW] for the period 2005 - 2020, all capacity ranges excluding pumped storage*

Table 74: *Projected total hydropower electric capacity [MW] for the period 2005 - 2020, all capacity ranges excluding pumped storage*

	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2020 [%]
Belgium	108.2	112.3	120.1	140	0
Bulgaria	2915	2979	3094	3288	2
Czech Republic	1020	1047	1099	1125	1
Denmark	10	10	10	10	0
Germany	4329	4052	4165	4309	3
Estonia	5	7	8	8	0
Ireland	234	234	234	234	0
Greece	3107	3237	3615	4531	3
Spain	18220	18687	20049	22362	16
France	25349	25800	27050	28300	20
Italy	15466	16580	17190	17800	13
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.
Latvia	1536	1536	1550	1550	1
Lithuania	888	887	893	901	1
Luxembourg	34	38	38	44	0
Hungary	n.a.	51	52	66	0
Malta	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	37	47	68	68	0
Austria	7907	8235	8423	8997	6
Poland	915	952	1002	1152	1
Portugal	4816	4934	7017	9548	7
Romania	6289	6413	7287	7729	6
Slovenia	981	1071	1193	1354	1
Slovakia	1597	1622	1732	1812	1
Finland	3040	3050	3050	3100	2
Sweden	16302	16307	16312	16317	12
United Kingdom	4289	4500	4710	4920	4
All Member States (total)	119394.2	122388.3	129961.1	139665	**100**

More information on subcategories for hydropower capacity is presented in Table 76 on page 100.
See Table 77 on page 101 for corresponding hydropower electricity production data.
Country information: for various countries, *Total hydropower capacity* in the NREAP excludes pumped storage capacity. This is the case for Germany, Greece, Spain, Italy, Luxembourg, Austria, Potugal and Sweden.

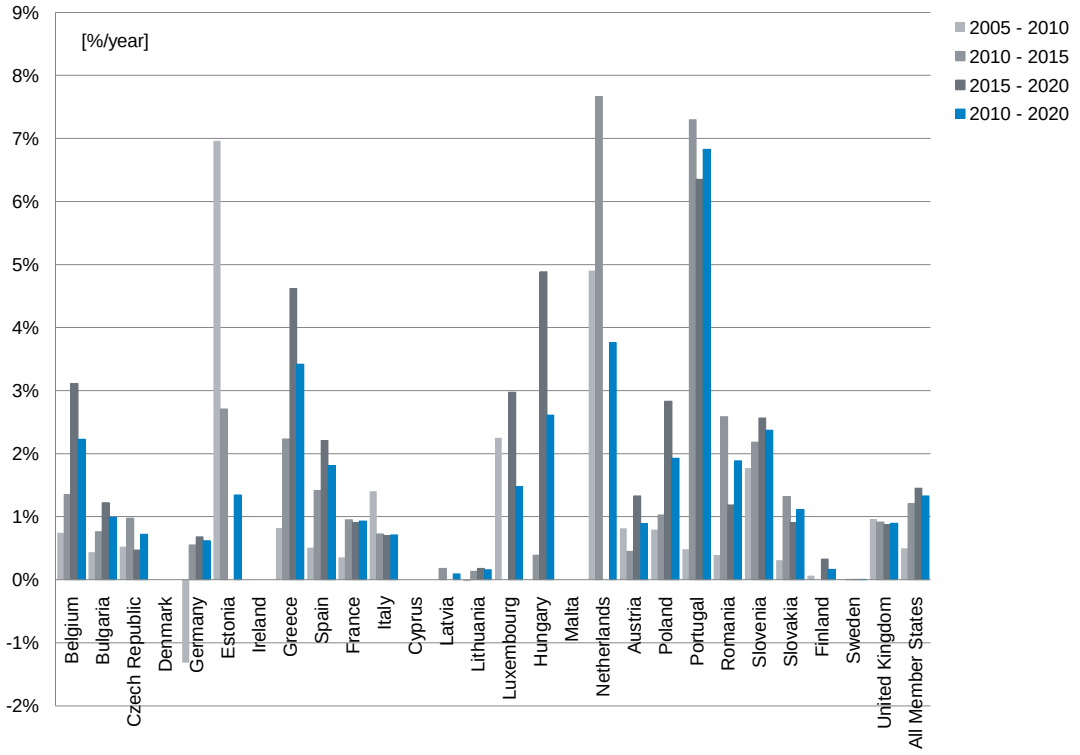


Figure 4: *Calculated average annual growth for electric capacity from hydropower [%/year] for four periods, all capacity ranges excluding pumped storage*

Table 75: *Calculated average annual growth for electric capacity from hydropower [%/year] for four periods, all capacity ranges excluding pumped storage*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	0.7	1.4	3.1	2.2
Bulgaria	0.4	0.8	1.2	1.0
Czech Republic	0.5	1.0	0.5	0.7
Denmark	0.0	0.0	0.0	0.0
Germany	-1.3	0.6	0.7	0.6
Estonia	7.0	2.7	0.0	1.3
Ireland	0.0	0.0	0.0	0.0
Greece	0.8	2.2	4.6	3.4
Spain	0.5	1.4	2.2	1.8
France	0.4	1.0	0.9	0.9
Italy	1.4	0.7	0.7	0.7
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	0.0	0.2	0.0	0.1
Lithuania	0.0	0.1	0.2	0.2
Luxembourg	2.2	0.0	3.0	1.5
Hungary	n.a.	0.4	4.9	2.6
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	4.9	7.7	0.0	3.8
Austria	0.8	0.5	1.3	0.9
Poland	0.8	1.0	2.8	1.9
Portugal	0.5	7.3	6.4	6.8
Romania	0.4	2.6	1.2	1.9
Slovenia	1.8	2.2	2.6	2.4
Slovakia	0.3	1.3	0.9	1.1
Finland	0.1	0.0	0.3	0.2
Sweden	0.0	0.0	0.0	0.0
United Kingdom	1.0	0.9	0.9	0.9
All Member States (average)	0.5	1.2	1.5	1.3

Table 76: *Projected hydropower electric capacity [MW] for the period 2005 - 2020, broken down into capacity ranges and pumped storage capacity*

	Hydropower < 1 MW				Hydropower 1 MW – 10 MW				Hydropower >10 MW				Pumped storage hydropower				Total hydropower			
	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]
Belgium	7.2	7.4	8	9.3	50.2	52.1	55.8	65	50.8	52.7	56.4	65.7	0	0	0	0	108.2	112.3	120.1	140
Bulgaria	29	49	48	50	170	214	250	272	1852	1852	1932	2102	864	864	864	864	2915	2979	3094	3288
Czech Republic	123	162	191	194	154	142	147	147	743	743	743	743	n.a.	n.a.	n.a.	n.a.	1020	1047	1099	1125
Denmark	0	0	0	0	10	10	10	10	0	0	0	0	0	0	0	0	10	10	10	10
Germany	641	507	534	564	1073	987	1012	1043	2615	2558	2620	2702	4012	6494	6494	7900	4329	4052	4165	4309
Estonia	4	6	7	7	1	1	1	1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	300	5	7	8	8
Ireland	18	18	18	18	20	20	20	20	196	196	196	196	292	292	292	292	234	234	234	234
Greece	26	29	34	39	63	154	185	216	3018	3054	3396	4276	700	700	700	1580	3107	3237	3615	4531
Spain	239	242	253	268	1534	1603	1764	1917	16447	16842	18032	20177	2727	2546	3700	5700	18220	18687	20049	22362
France	433	441	462	483	1618	1647	1727	1807	18995	19333	20269	21206	4303	4800	5800	6800	25349	25800	27050	28300
Italy	391	444	547	650	1947	2250	2750	3250	13128	13886	13893	13900	1334	2399	2499	2600	15466	16580	17190	17800
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Latvia	24	24	25	27	1	1	1	1	1511	1511	1524	1522	n.a.	n.a.	n.a.	n.a.	1536	1536	1550	1550
Lithuania	n.a.	n.a.	n.a.	n.a.	27	26	32	40	101	101	101	101	760	760	760	760	888	887	893	901
Luxembourg	2	2	2	3	32	36	36	41	0	0	0	0	1100	1100	1300	1300	34	38	38	44
Hungary	n.a.	3	4	6	n.a.	9	9	22	n.a.	39	39	39	n.a.	0	0	0	n.a.	51	52	66
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	0	0	2	2	2	2	21	21	35	45	45	45	0	0	0	0	37	47	68	68
Austria	308	455	465	497	692	726	743	794	6907	7053	7215	7707	3929	4285	4285	4285	7907	8235	8423	8997
Poland	72	102	122	142	174	178	208	238	669	672	672	772	0	0	0	0	915	952	1002	1152
Portugal	n.a.	n.a.	n.a.	n.a.	323	410	550	750	4493	4524	6467	8798	537	1036	2454	4302	4816	4934	7017	9548
Romania	63	63	90	109	262	324	547	620	5964	6026	6650	7000	0	0	0	0	6289	6413	7287	7729
Slovenia	108	118	120	120	37	37	52	57	836	916	1021	1176	0	0	0	0	981	1071	1193	1354
Slovakia	16	25	40	60	46	55	82	122	1535	1542	1610	1630	0	0	0	0	1597	1622	1732	1812
Finland	30	30	30	30	280	280	280	280	2730	2750	2750	2790	0	0	0	0	3040	3050	3050	3100
Sweden	140	140	140	140	765	765	765	765	15397	15402	15407	15412	43	43	43	43	16302	16307	16312	16317
United Kingdom	56	n.a.	n.a.	n.a.	102	n.a.	n.a.	n.a.	4131	n.a.	n.a.	n.a.	2788	2800	2800	2800	4289	4500	4710	4920
All Member States (total)	2730.2	2867.4	3142	3418.3	9383.2	9929.1	11247.8	12499	101353.8	99097.7	104638.4	112359.7	23389	28119	31991	39526	119394.2	122388.3	129961.1	139665

See Table 79 on page 103 for corresponding hydropower electricity production data.

Country information: for various countries, *Total hydropower capacity* in the NREAP excludes pumped storage capacity. This is the case for Germany, Greece, Spain, Italy, Luxembourg, Austria, Potugal and Sweden.

A breakdown in capacity ranges has not been provided for Bulgaria, the Netherlands and the United Kingdom. Therefore, the sum of all categories is lower than the value for *All Member States (total)*.

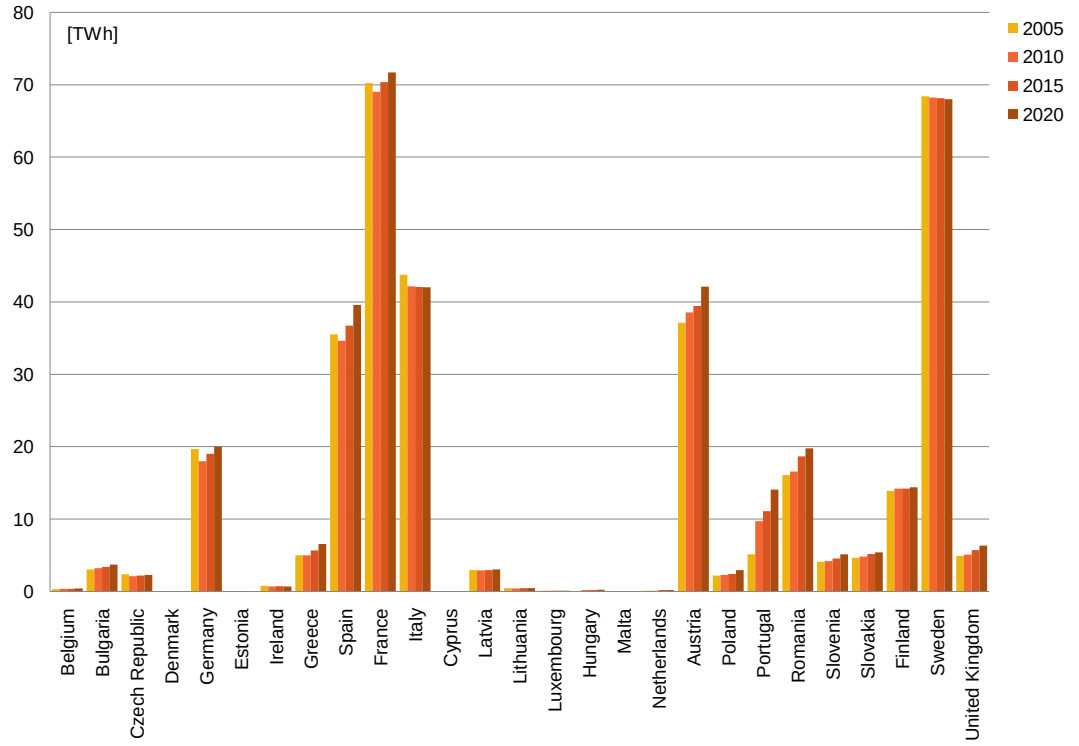


Figure 5: *Projected total hydropower electricity generation [TWh] for the period 2005 - 2020, all capacity ranges excluding pumped storage*

Table 77: *Projected total hydropower electricity generation [GWh] for the period 2005 - 2020, all capacity ranges excluding pumped storage*

	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2020 [%]
Belgium	350	362	391	440	0
Bulgaria	3068	3223	3417	3712	1
Czech Republic	2380	2109	2220	2274	1
Denmark	23	31	31	31	0
Germany	19687	18000	19000	20000	5
Estonia	20	26	30	30	0
Ireland	760	701	714	701	0
Greece	5017	4988	5684	6576	2
Spain	35503	34617	36732	39593	11
France	70240	69024	70363	71703	19
Italy	43768	42141	42070	42000	11
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.
Latvia	2942	2906	2965	3051	1
Lithuania	451	432	446	470	0
Luxembourg	98	107	107	124	0
Hungary	n.a.	194	196	238	0
Malta	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	100	127	184	184	0
Austria	37125	38542	39423	42112	11
Poland	2201	2279	2439	2969	1
Portugal	5118	9742	11101	14074	4
Romania	16091	16567	18679	19768	5
Slovenia	4099	4198	4559	5121	1
Slovakia	4638	4834	5161	5400	1
Finland	13910	14210	14210	14410	4
Sweden	68421	68210	68140	68000	18
United Kingdom	4921	5100	5730	6360	2
All Member States (total)	340931	342670	353992	369341	**100**

More information on subcategories for hydropower electricity generation is presented in Table 79 on page 103.
See Table 74 on page 98 for corresponding hydropower capacity data.

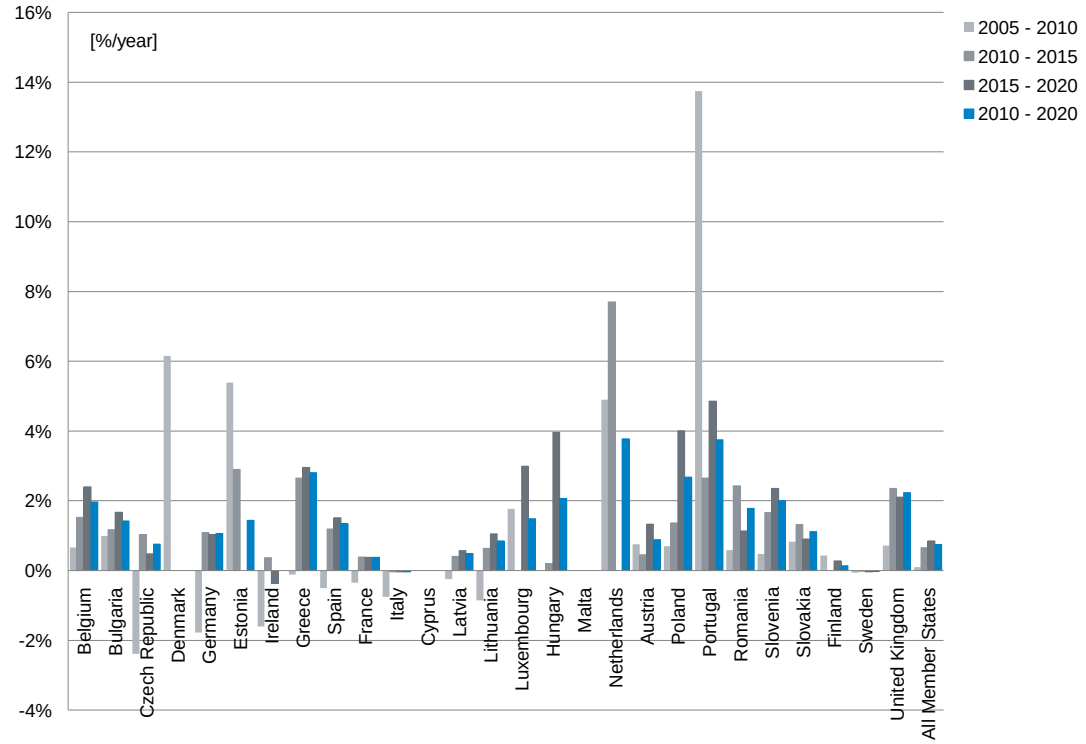


Figure 6: *Calculated average annual growth for electricity generation from hydropower [%/year] for four periods, all capacity ranges excluding pumped storage*

Table 78: *Calculated average annual growth for electricity generation from hydropower [%/year] for four periods, all capacity ranges excluding pumped storage*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	0.7	1.5	2.4	2.0
Bulgaria	1.0	1.2	1.7	1.4
Czech Republic	-2.4	1.0	0.5	0.8
Denmark	6.2	0.0	0.0	0.0
Germany	-1.8	1.1	1.0	1.1
Estonia	5.4	2.9	0.0	1.4
Ireland	-1.6	0.4	-0.4	0.0
Greece	-0.1	2.6	3.0	2.8
Spain	-0.5	1.2	1.5	1.4
France	-0.3	0.4	0.4	0.4
Italy	-0.8	0.0	0.0	0.0
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	-0.2	0.4	0.6	0.5
Lithuania	-0.9	0.6	1.1	0.8
Luxembourg	1.8	0.0	3.0	1.5
Hungary	n.a.	0.2	4.0	2.1
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	4.9	7.7	0.0	3.8
Austria	0.8	0.5	1.3	0.9
Poland	0.7	1.4	4.0	2.7
Portugal	13.7	2.6	4.9	3.7
Romania	0.6	2.4	1.1	1.8
Slovenia	0.5	1.7	2.4	2.0
Slovakia	0.8	1.3	0.9	1.1
Finland	0.4	0.0	0.3	0.1
Sweden	-0.1	0.0	0.0	0.0
United Kingdom	0.7	2.4	2.1	2.2
All Member States (average)	0.1	0.7	0.9	0.8

Table 79: *Projected hydropower electricity generation [GWh] for the period 2005 - 2020, broken down into capacity ranges and pumped storage capacity*

	Hydropower < 1MW				Hydropower 1MW – 10 MW				Hydropower >10MW				Pumped storage hydropower				Total hydropower			
	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]
Belgium	20	21	23	26	188	195	211	237	141	146	158	178	0	0	0	0	350	362	391	440
Bulgaria	75	127	125	130	400	503	588	639	2593	2593	2705	2943	0	0	0	0	3068	3223	3417	3712
Czech Republic	343	575	670	724	728	474	490	490	1309	1060	1060	1060	n.a.	n.a.	n.a.	n.a.	2380	2109	2220	2274
Denmark	0	0	0	0	23	31	31	31	0	0	0	0	0	0	0	0	23	31	31	31
Germany	3157	2300	2450	2550	3560	4050	4250	4500	12971	11650	12300	12950	7786	6989	6989	8395	19687	18000	19000	20000
Estonia	14	20	24	24	6	6	6	6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	20	26	30	30
Ireland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	760	701	714	701
Greece	106	112	131	150	218	593	713	833	4693	4283	4840	5593	593	776	774	1703	5017	4988	5684	6576
Spain	893	831	715	803	5719	4973	4617	5477	28891	28813	31399	33314	5153	3640	6577	8023	35503	34617	36732	39593
France	1796	1694	1727	1759	6111	5766	5878	5990	62332	61563	62758	63953	4705	5130	6199	7268	70240	69024	70363	71703
Italy	1851	1737	2009	2281	7391	7459	8627	9796	34525	32946	31434	29923	1268	2739	2734	2730	43768	42141	42070	42000
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Latvia	59	59	63	67	3	3	3	3	2880	2844	2899	2981	n.a.	n.a.	n.a.	n.a.	2942	2906	2965	3051
Lithuania	n.a.	n.a.	n.a.	n.a.	66	79	93	117	385	353	353	353	370	700	700	700	451	432	446	470
Luxembourg	5	6	6	7	93	100	100	117	0	0	0	0	785	785	928	928	98	107	107	124
Hungary	n.a.	5	8	12	n.a.	30	30	67	n.a.	158	158	158	n.a.	0	0	0	n.a.	194	196	238
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	0	0	5	5	5	5	57	57	95	122	122	122	0	0	0	0	100	127	184	184
Austria	1448	2129	2178	2326	3247	3400	3477	3715	32430	33013	33768	36071	2738	2732	2732	2732	37125	38542	39423	42112
Poland	358	357	427	497	504	534	624	714	1339	1388	1388	1758	0	0	0	0	2201	2279	2439	2969
Portugal	n.a.	n.a.	n.a.	n.a.	381	827	1108	1511	4737	8916	9993	12562	387	0	0	0	5118	9742	11101	14074
Romania	61	95	135	164	538	624	1054	1195	15493	15848	17490	18410	0	0	0	0	16091	16567	18679	19768
Slovenia	451	262	270	270	155	192	247	270	3493	3744	4042	4581	0	0	0	0	4099	4198	4559	5121
Slovakia	80	75	119	179	198	164	244	364	4360	4595	4798	4857	0	0	0	0	4638	4834	5161	5400
Finland	140	150	150	150	1260	1290	1290	1310	12510	12780	12780	12960	0	0	0	0	13910	14210	14210	14410
Sweden	430	430	430	430	2835	2835	2835	2835	65155	65015	64875	64735	71	71	71	71	68421	68210	68140	68000
United Kingdom	44	n.a.	n.a.	n.a.	399	n.a.	n.a.	n.a.	4478	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	4921	5100	5730	6360
All Member States (total)	11331	10985	11665	12554	34028	34134	36573	40274	294810	291830	299320	309462	23856	23562	27704	32550	340931	342670	353992	369341

See Table 76 on page 100 for corresponding hydropower capacity data.

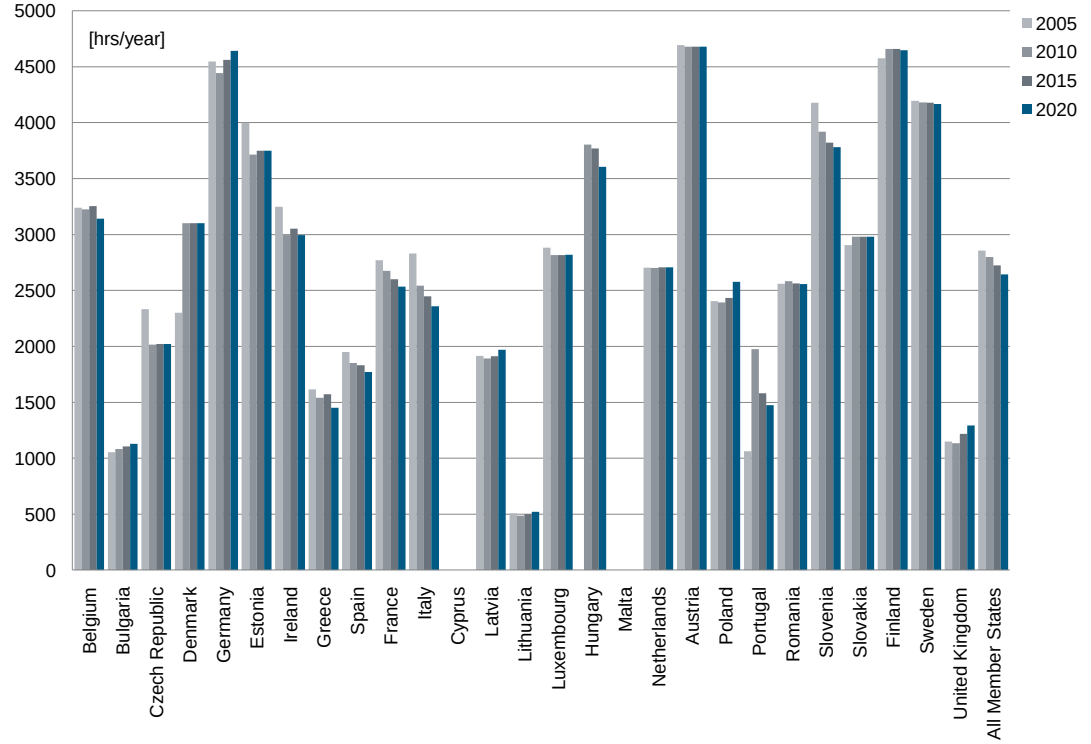


Figure 7: *Calculated average number of full load hours for total hydropower [hrs/year] for the period 2005 - 2020*

Table 80: *Calculated average number of full load hours for total hydropower [hrs/year] for the period 2005 - 2020*

	2005 [hrs/year]	2010 [hrs/year]	2015 [hrs/year]	2020 [hrs/year]
Belgium	3238	3225	3253	3143
Bulgaria	1052	1082	1104	1129
Czech Republic	2333	2014	2020	2021
Denmark	2300	3100	3100	3100
Germany	4548	4442	4562	4641
Estonia	4000	3714	3750	3750
Ireland	3248	2996	3051	2996
Greece	1615	1541	1572	1451
Spain	1949	1852	1832	1771
France	2771	2675	2601	2534
Italy	2830	2542	2447	2360
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	1915	1892	1913	1968
Lithuania	508	487	499	522
Luxembourg	2882	2816	2816	2818
Hungary	n.a.	3804	3769	3606
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	2703	2702	2706	2706
Austria	4695	4680	4680	4681
Poland	2405	2394	2434	2577
Portugal	1063	1974	1582	1474
Romania	2559	2583	2563	2558
Slovenia	4178	3920	3821	3782
Slovakia	2904	2980	2980	2980
Finland	4576	4659	4659	4648
Sweden	4197	4183	4177	4167
United Kingdom	1147	1133	1217	1293
All Member States (average)	2856	2800	2724	2644

The capacity [MW] used for the calculation refers to the capacity data without pumped storage and also the electricity production [GWh] is excluding pumped storage

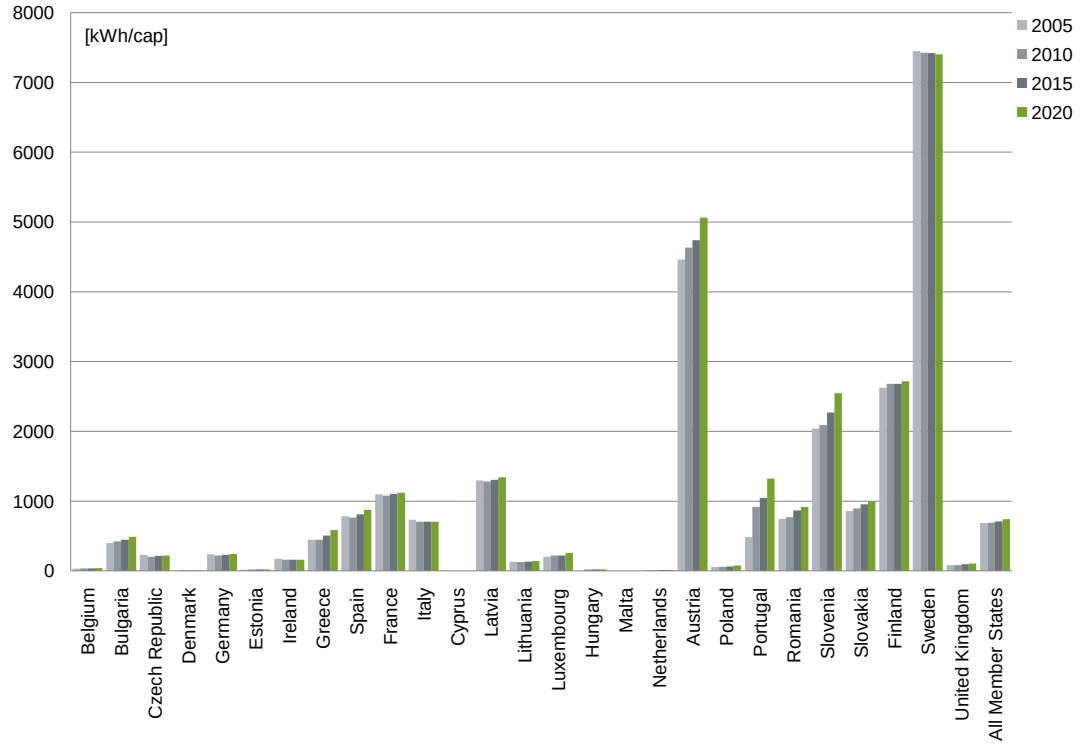


Figure 8: *Calculated per capita (2008) electricity generation for total hydropower [kWh/cap] for the period 2005 - 2020*

Table 81: *Calculated per capita (2008) electricity generation for total hydropower [kWh/cap] for the period 2005 - 2020*

	2005 [kWh/cap]	2010 [kWh/cap]	2015 [kWh/cap]	2020 [kWh/cap]
Belgium	33	34	37	41
Bulgaria	402	422	447	486
Czech Republic	229	203	214	219
Denmark	4	6	6	6
Germany	239	219	231	243
Estonia	15	19	22	22
Ireland	173	159	162	159
Greece	447	445	507	586
Spain	784	764	811	874
France	1098	1079	1100	1121
Italy	734	707	706	704
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	1296	1280	1306	1344
Lithuania	134	128	132	140
Luxembourg	203	221	221	256
Hungary	n.a.	19	20	24
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	6	8	11	11
Austria	4463	4633	4739	5062
Poland	58	60	64	78
Portugal	482	918	1046	1326
Romania	747	770	868	918
Slovenia	2039	2088	2268	2547
Slovakia	859	895	956	1000
Finland	2624	2681	2681	2719
Sweden	7451	7428	7420	7405
United Kingdom	80	83	94	104
All Member States (average)	685	689	711	742

The electricity production [GWh] used for the calculation is excluding pumped storage.
The population data can be viewed in Table 14 (page 32)

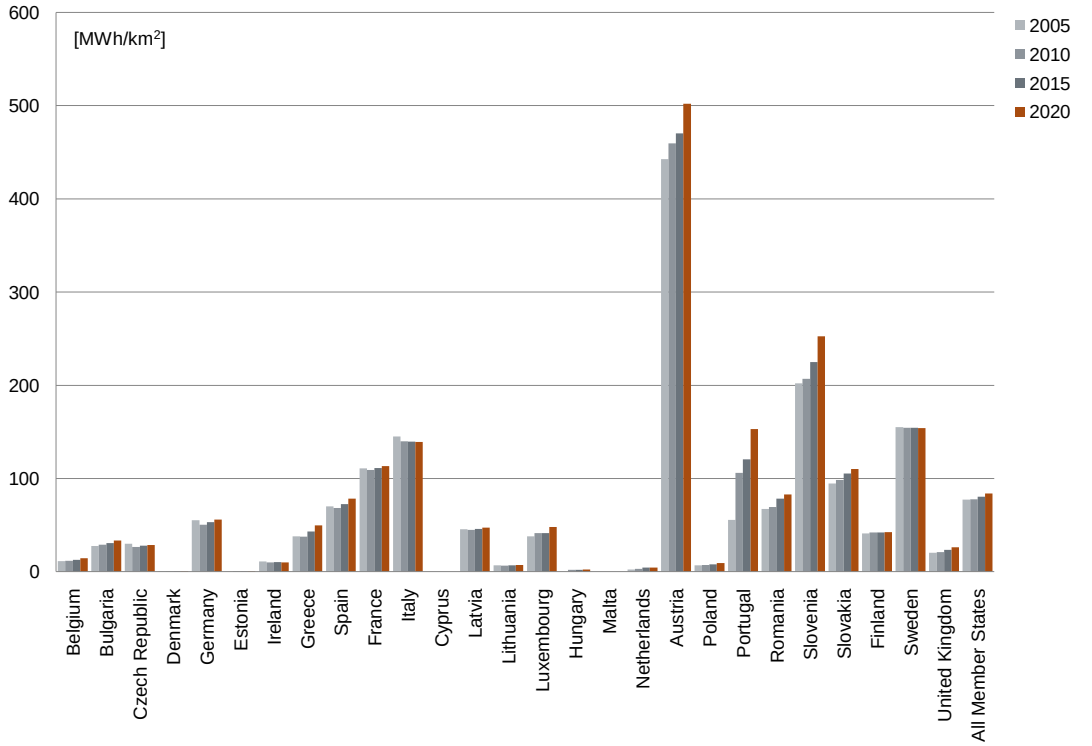


Figure 9: *Calculated per surface area (2004) electricity generation for total hydropower [MWh/km^2] for the period 2005 - 2020*

Table 82: *Calculated per surface area (2004) electricity generation for total hydropower [MWh/km^2] for the period 2005 - 2020*

	2005 [MWh/km^2]	2010 [MWh/km^2]	2015 [MWh/km^2]	2020 [MWh/km^2]
Belgium	11.5	11.9	12.8	14.4
Bulgaria	27.6	29.0	30.8	33.4
Czech Republic	30.2	26.7	28.1	28.8
Denmark	0.5	0.7	0.7	0.7
Germany	55.1	50.4	53.2	56.0
Estonia	0.5	0.6	0.7	0.7
Ireland	10.9	10.0	10.2	10.0
Greece	38.0	37.8	43.1	49.8
Spain	70.2	68.4	72.6	78.2
France	111.0	109.1	111.2	113.3
Italy	145.2	139.8	139.6	139.4
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	45.5	45.0	45.9	47.2
Lithuania	6.9	6.6	6.8	7.2
Luxembourg	37.9	41.4	41.4	48.0
Hungary	n.a.	2.1	2.1	2.6
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	2.4	3.1	4.4	4.4
Austria	442.6	459.5	470.0	502.1
Poland	7.0	7.3	7.8	9.5
Portugal	55.6	105.9	120.7	153.0
Romania	67.5	69.5	78.4	82.9
Slovenia	202.2	207.1	224.9	252.6
Slovakia	94.6	98.6	105.3	110.1
Finland	41.1	42.0	42.0	42.6
Sweden	155.0	154.5	154.4	154.1
United Kingdom	20.2	21.0	23.6	26.2
All Member States (average)	77.5	77.9	80.4	83.9

The electricity production [GWh] used for the calculation is excluding pumped storage.
The surface area data can be viewed in Table 14 (page 32)

Deep geothermal electricity

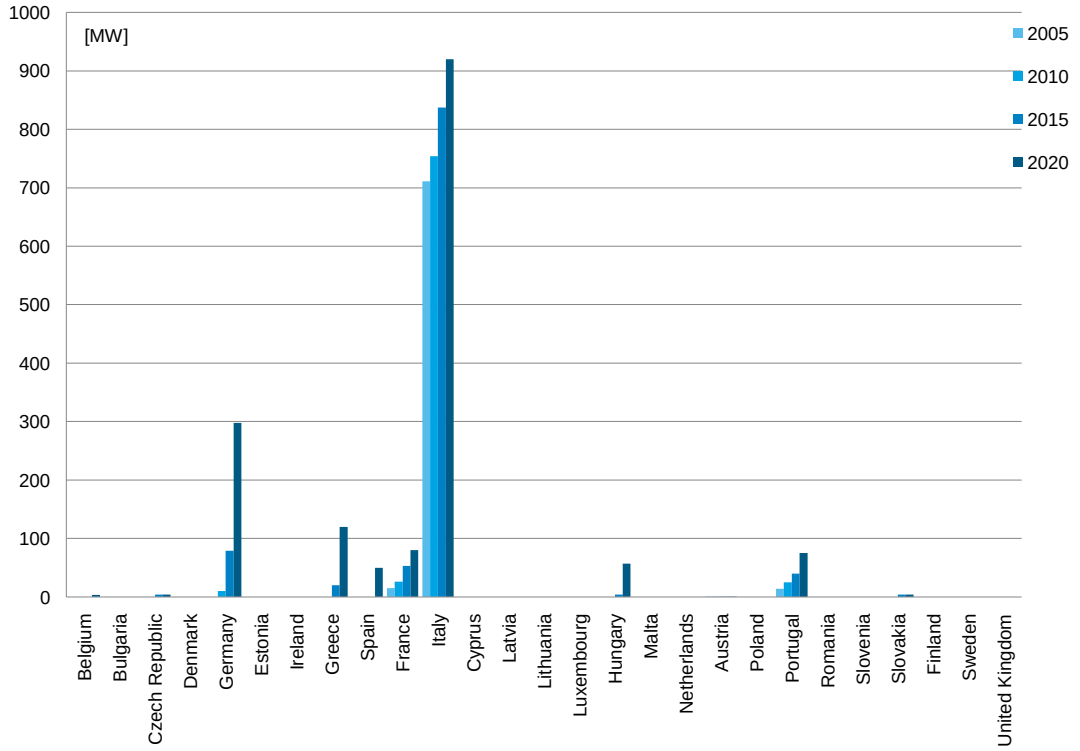


Figure 10: *Projected geothermal electric capacity [MW] for the period 2005 - 2020*

Table 83: *Projected geothermal electric capacity [MW] for the period 2005 - 2020*

	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2020 [%]
Belgium	0	0	0	4	0
Bulgaria	0	0	0	0	0
Czech Republic	0	0	4	4	0
Denmark	0	0	0	0	0
Germany	0	10	79	298	18
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	0	0	0	0	0
Greece	0	0	20	120	7
Spain	0	0	0	50	3
France	15	26	53	80	5
Italy	711	754	837	920	57
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.	n.a.
Lithuania	0	0	0	0	0
Luxembourg	0	0	0	0	0
Hungary	n.a.	0	4	57	4
Malta	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	0	0	0	0	0
Austria	1	1	1	1	0
Poland	0	0	0	0	0
Portugal	14	25	40	75	5
Romania	0	0	0	0	0
Slovenia	0	0	0	0	0
Slovakia	0	0	4	4	0
Finland	0	0	0	0	0
Sweden	n.a.	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	n.a.	n.a.	n.a.	n.a.
All Member States (total)	741	816	1042	1613	**100**

See Table 85 on page 110 for corresponding geothermal electricity production data.

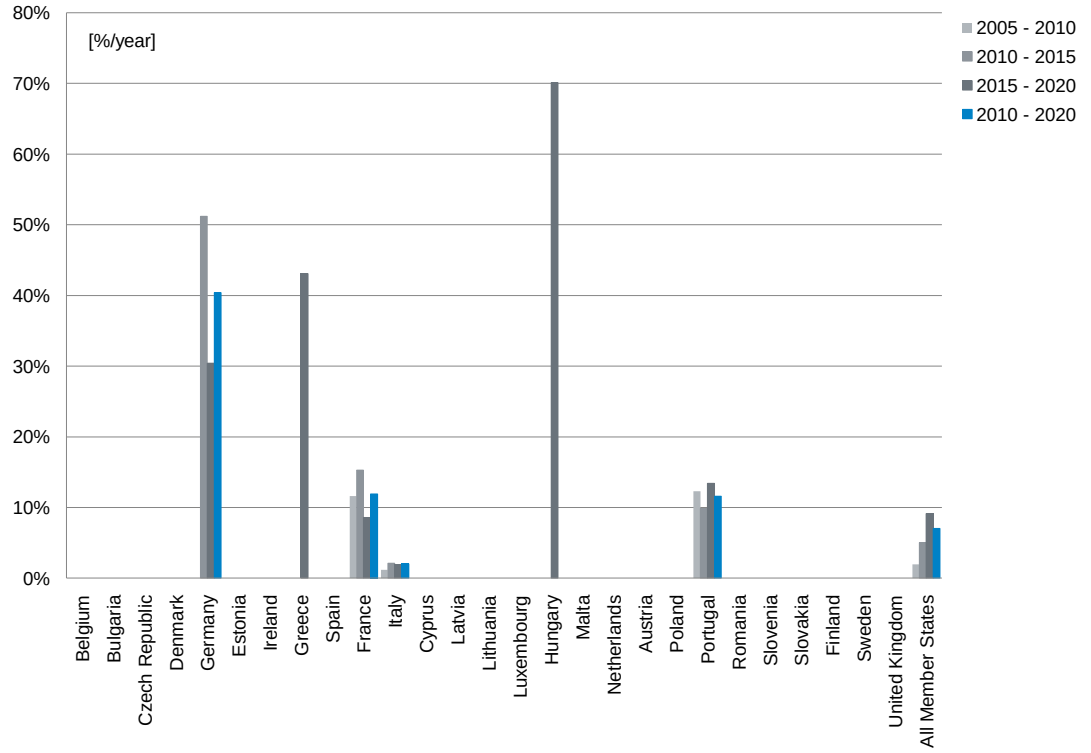


Figure 11: *Calculated average annual growth for capacity of geothermal electricity [%/year] for four periods*

Table 84: *Calculated average annual growth for capacity of geothermal electricity [%/year] for four periods*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	n.a.	n.a.	n.a.	n.a.
Bulgaria	n.a.	n.a.	n.a.	n.a.
Czech Republic	n.a.	n.a.	0.0	n.a.
Denmark	n.a.	n.a.	n.a.	n.a.
Germany	n.a.	51.2	30.4	40.4
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	n.a.	n.a.	n.a.
Greece	n.a.	n.a.	43.1	n.a.
Spain	n.a.	n.a.	n.a.	n.a.
France	11.6	15.3	8.6	11.9
Italy	1.2	2.1	1.9	2.0
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.
Lithuania	n.a.	n.a.	n.a.	n.a.
Luxembourg	n.a.	n.a.	n.a.	n.a.
Hungary	n.a.	n.a.	70.1	n.a.
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	n.a.	n.a.	n.a.	n.a.
Austria	0.0	0.0	0.0	0.0
Poland	n.a.	n.a.	n.a.	n.a.
Portugal	12.3	9.9	13.4	11.6
Romania	n.a.	n.a.	n.a.	n.a.
Slovenia	n.a.	n.a.	n.a.	n.a.
Slovakia	n.a.	n.a.	0.0	n.a.
Finland	n.a.	n.a.	n.a.	n.a.
Sweden	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	n.a.	n.a.	n.a.
All Member States (average)	1.9	5.0	9.1	7.0

Note that a step from 0 MW to a nonzero value in the next period will result in an ‘n.a.’ entry in the table.

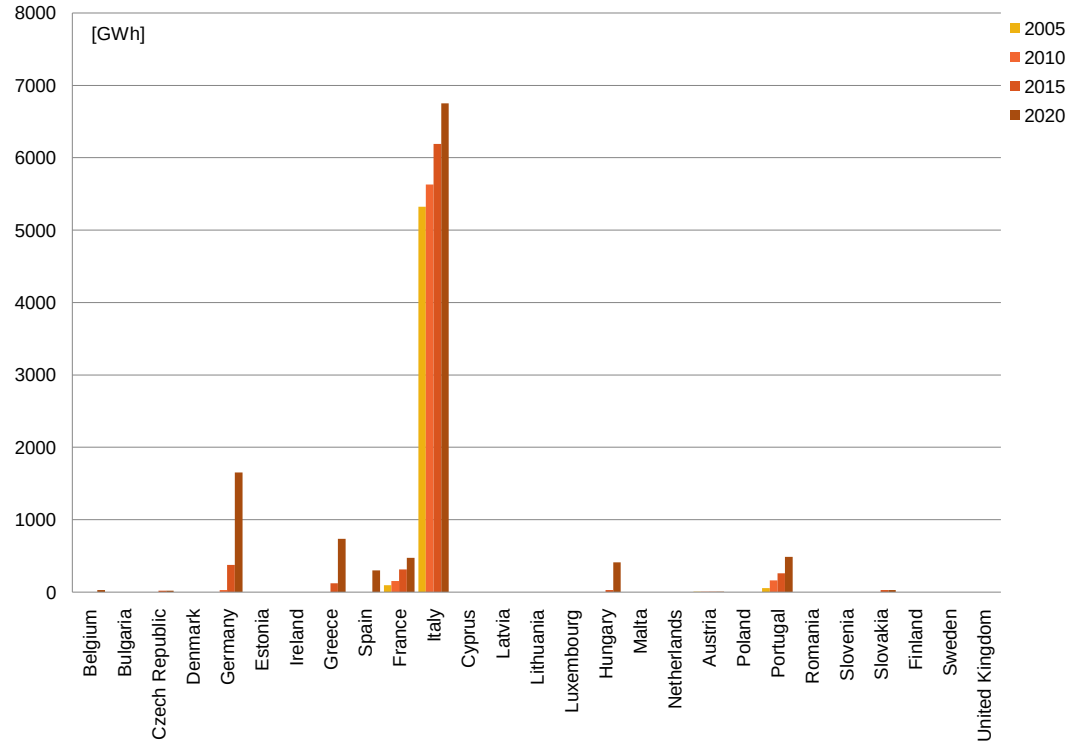


Figure 12: *Projected geothermal electricity generation [GWh] for the period 2005 - 2020, all capacity ranges excluding pumped storage*

Table 85: *Projected geothermal electricity generation [GWh] for the period 2005 - 2020*

	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2020 [%]
Belgium	0	0	0	29	0
Bulgaria	0	0	0	0	0
Czech Republic	0	0	18	18	0
Denmark	0	0	0	0	0
Germany	0	27	377	1654	15
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	0	0	0	0	0
Greece	n.a.	0	123	736	7
Spain	0	0	0	300	3
France	95	153	314	475	4
Italy	5325	5632	6191	6750	62
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.	n.a.
Lithuania	0	0	0	0	0
Luxembourg	0	0	0	0	0
Hungary	n.a.	0	29	410	4
Malta	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	0	0	0	0	0
Austria	2	2	2	2	0
Poland	0	0	0	0	0
Portugal	55	163	260	488	4
Romania	0	0	0	0	0
Slovenia	0	0	0	0	0
Slovakia	0	0	28	30	0
Finland	0	0	0	0	0
Sweden	n.a.	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	n.a.	n.a.	n.a.	n.a.
All Member States (total)	5477	5977	7342	10892	**100**

See Table 83 on page 108 for corresponding geothermal electricity capacity data.

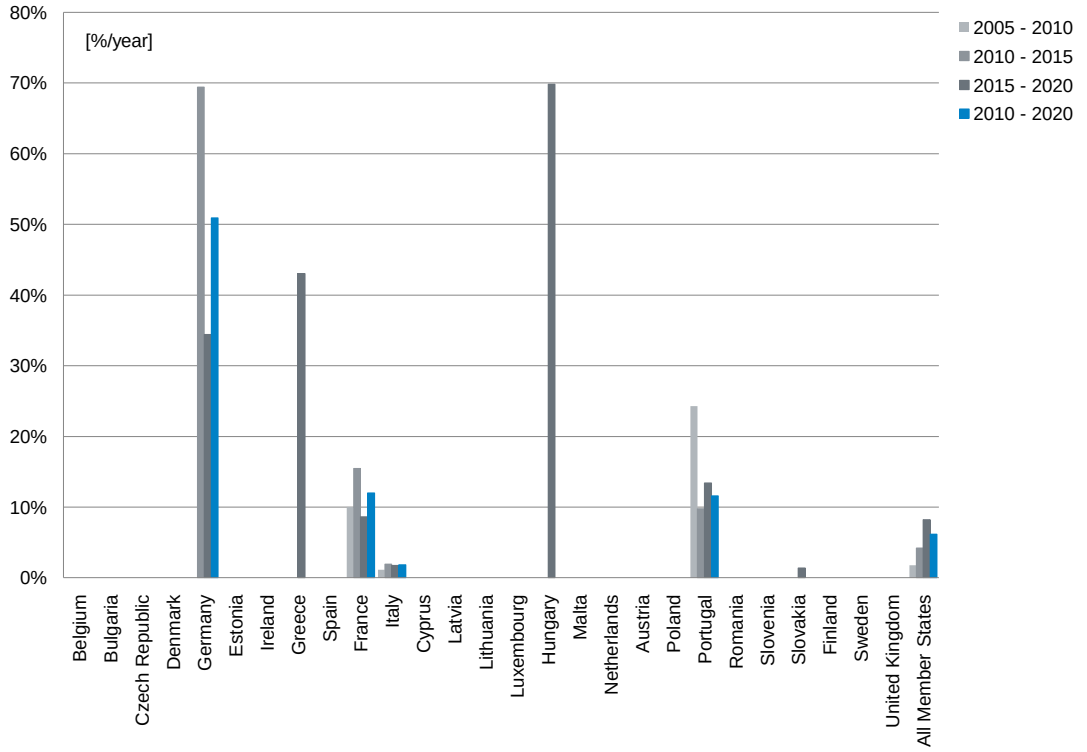


Figure 13: *Calculated average annual growth for generation of geothermal electricity [%/year] for four periods*

Table 86: *Calculated average annual growth for generation of geothermal electricity [%/year] for four periods*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	n.a.	n.a.	n.a.	n.a.
Bulgaria	n.a.	n.a.	n.a.	n.a.
Czech Republic	n.a.	n.a.	0.0	n.a.
Denmark	n.a.	n.a.	n.a.	n.a.
Germany	n.a.	69.4	34.4	50.9
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	n.a.	n.a.	n.a.
Greece	n.a.	n.a.	43.0	n.a.
Spain	n.a.	n.a.	n.a.	n.a.
France	10.0	15.5	8.6	12.0
Italy	1.1	1.9	1.7	1.8
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.
Lithuania	n.a.	n.a.	n.a.	n.a.
Luxembourg	n.a.	n.a.	n.a.	n.a.
Hungary	n.a.	n.a.	69.9	n.a.
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	n.a.	n.a.	n.a.	n.a.
Austria	0.0	0.0	0.0	0.0
Poland	n.a.	n.a.	n.a.	n.a.
Portugal	24.3	9.8	13.4	11.6
Romania	n.a.	n.a.	n.a.	n.a.
Slovenia	n.a.	n.a.	n.a.	n.a.
Slovakia	n.a.	n.a.	1.4	n.a.
Finland	n.a.	n.a.	n.a.	n.a.
Sweden	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	n.a.	n.a.	n.a.
All Member States (average)	1.8	4.2	8.2	6.2

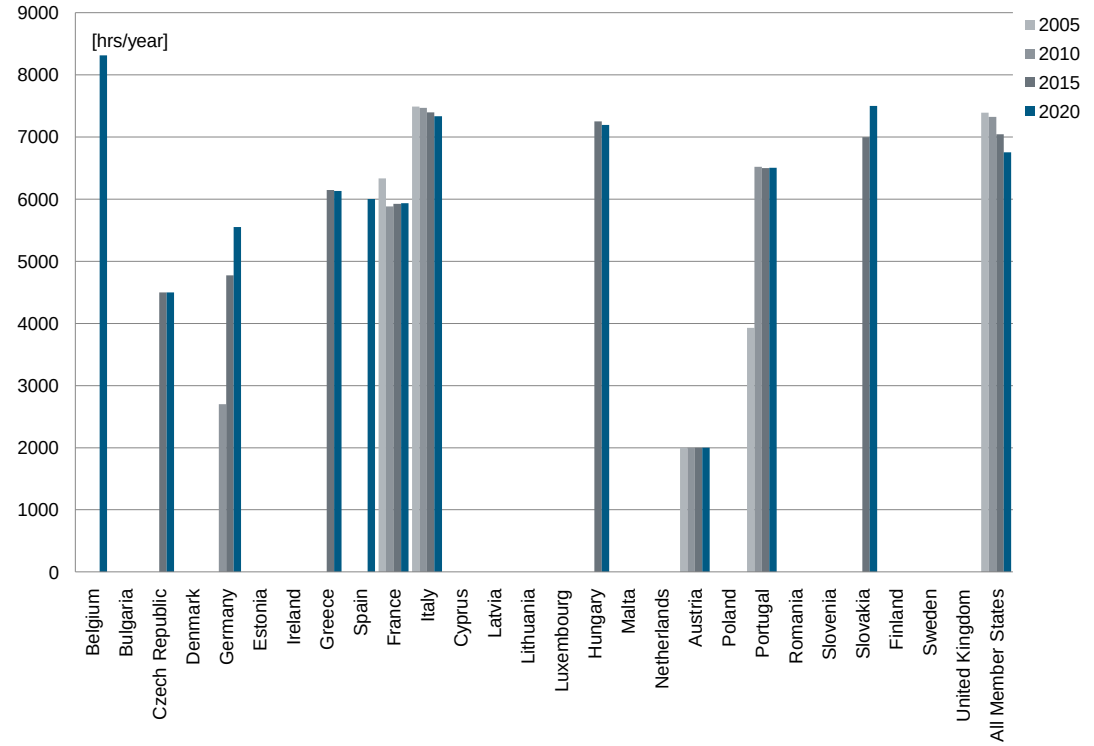


Figure 14: *Calculated average number of full load hours for geothermal electricity [hrs/year] for the period 2005 - 2020*

Table 87: *Calculated average number of full load hours for geothermal electricity [hrs/year] for the period 2005 - 2020*

	2005 [hrs/year]	2010 [hrs/year]	2015 [hrs/year]	2020 [hrs/year]
Belgium	n.a.	n.a.	n.a.	8314
Bulgaria	n.a.	n.a.	n.a.	n.a.
Czech Republic	n.a.	n.a.	4500	4500
Denmark	n.a.	n.a.	n.a.	n.a.
Germany	n.a.	2700	4772	5550
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	n.a.	n.a.	n.a.
Greece	n.a.	n.a.	6150	6133
Spain	n.a.	n.a.	n.a.	6000
France	6333	5885	5925	5938
Italy	7489	7469	7397	7337
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.
Lithuania	n.a.	n.a.	n.a.	n.a.
Luxembourg	n.a.	n.a.	n.a.	n.a.
Hungary	n.a.	n.a.	7250	7193
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	n.a.	n.a.	n.a.	n.a.
Austria	2000	2000	2000	2000
Poland	n.a.	n.a.	n.a.	n.a.
Portugal	3929	6520	6500	6507
Romania	n.a.	n.a.	n.a.	n.a.
Slovenia	n.a.	n.a.	n.a.	n.a.
Slovakia	n.a.	n.a.	7000	7500
Finland	n.a.	n.a.	n.a.	n.a.
Sweden	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	n.a.	n.a.	n.a.
All Member States (average)	7391	7325	7046	6755

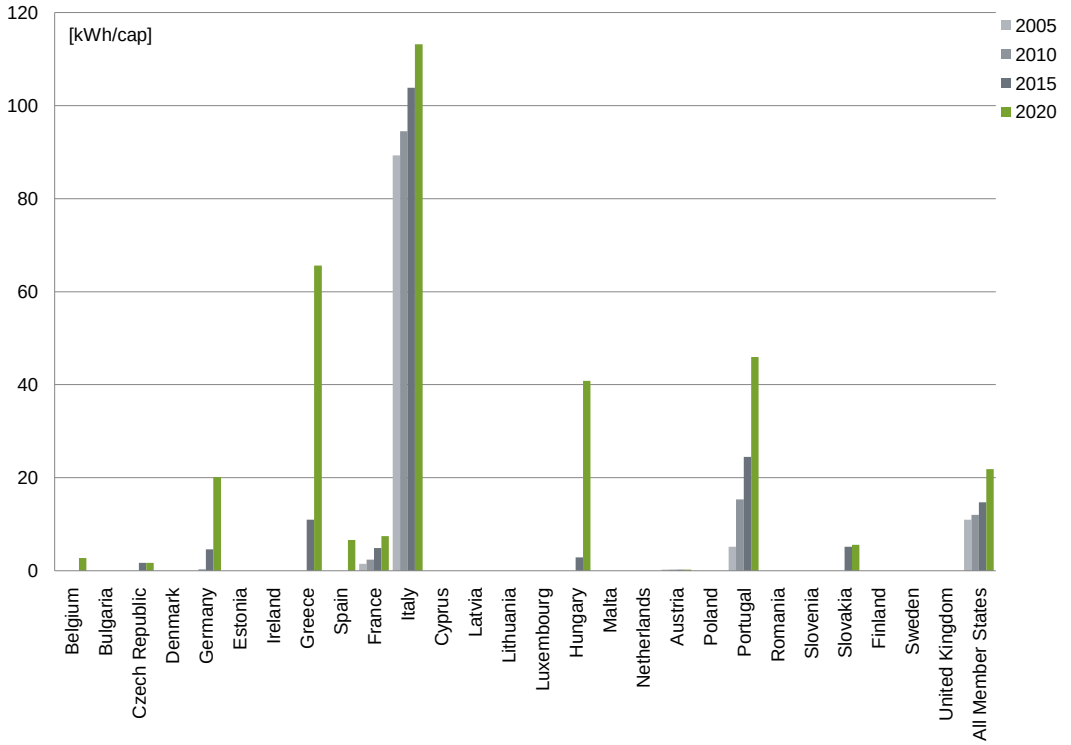


Figure 15: *Calculated per capita (2008) generation of geothermal electricity [kWh/cap] for the period 2005 - 2020*

Table 88: *Calculated per capita (2008) generation of geothermal electricity [kWh/cap] for the period 2005 - 2020*

	2005 [kWh/cap]	2010 [kWh/cap]	2015 [kWh/cap]	2020 [kWh/cap]
Belgium	0	0	0	3
Bulgaria	0	0	0	0
Czech Republic	0	0	2	2
Denmark	0	0	0	0
Germany	0	0	5	20
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	0	0	0	0
Greece	n.a.	0	11	66
Spain	0	0	0	7
France	1	2	5	7
Italy	89	94	104	113
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.
Lithuania	0	0	0	0
Luxembourg	0	0	0	0
Hungary	n.a.	0	3	41
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	0	0	0	0
Austria	0	0	0	0
Poland	0	0	0	0
Portugal	5	15	24	46
Romania	0	0	0	0
Slovenia	0	0	0	0
Slovakia	0	0	5	6
Finland	0	0	0	0
Sweden	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	n.a.	n.a.	n.a.
All Member States (average)	11	12	15	22

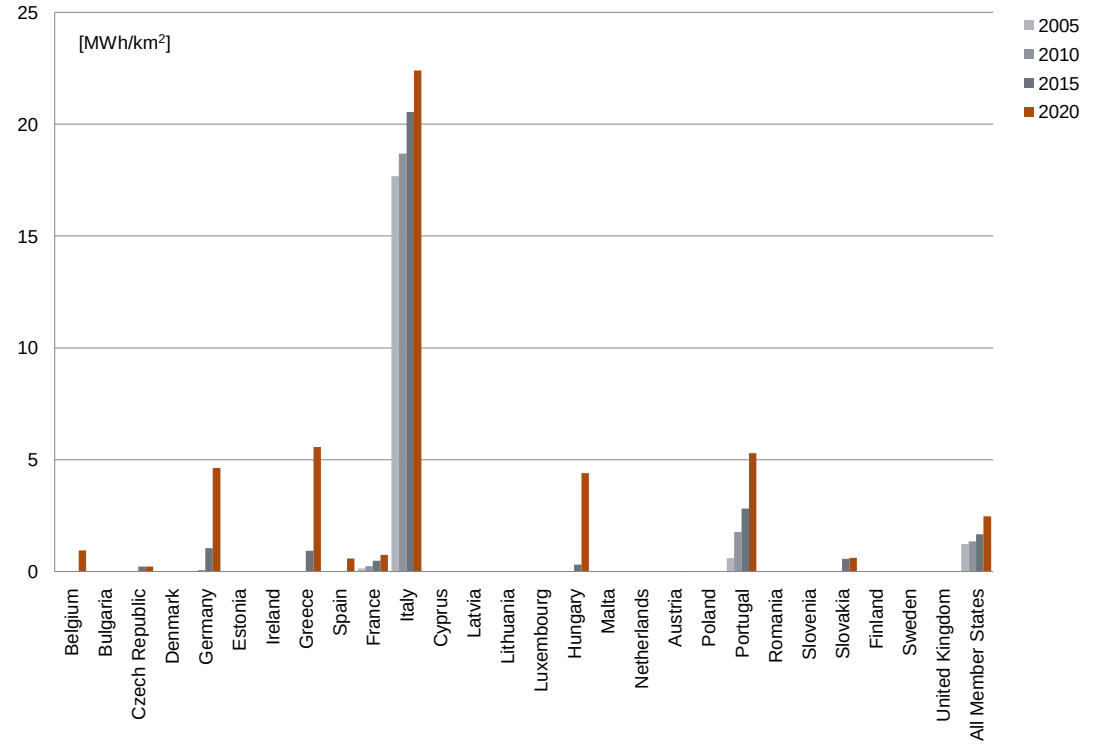


Figure 16: *Calculated per surface area (2004) generation of geothermal electricity [MWh/km^2] for the period 2005 - 2020*

Table 89: *Calculated per surface area (2004) generation of geothermal electricity [MWh/km^2] for the period 2005 - 2020*

	2005 [MWh/km^2]	2010 [MWh/km^2]	2015 [MWh/km^2]	2020 [MWh/km^2]
Belgium	0.0	0.0	0.0	1.0
Bulgaria	0.0	0.0	0.0	0.0
Czech Republic	0.0	0.0	0.2	0.2
Denmark	0.0	0.0	0.0	0.0
Germany	0.0	0.1	1.1	4.6
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	0.0	0.0	0.0	0.0
Greece	n.a.	0.0	0.9	5.6
Spain	0.0	0.0	0.0	0.6
France	0.2	0.2	0.5	0.8
Italy	17.7	18.7	20.5	22.4
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.
Lithuania	0.0	0.0	0.0	0.0
Luxembourg	0.0	0.0	0.0	0.0
Hungary	n.a.	0.0	0.3	4.4
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	0.0	0.0	0.0	0.0
Austria	0.0	0.0	0.0	0.0
Poland	0.0	0.0	0.0	0.0
Portugal	0.6	1.8	2.8	5.3
Romania	0.0	0.0	0.0	0.0
Slovenia	0.0	0.0	0.0	0.0
Slovakia	0.0	0.0	0.6	0.6
Finland	0.0	0.0	0.0	0.0
Sweden	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	n.a.	n.a.	n.a.
All Member States (average)	1.2	1.4	1.7	2.5

Solar electricity

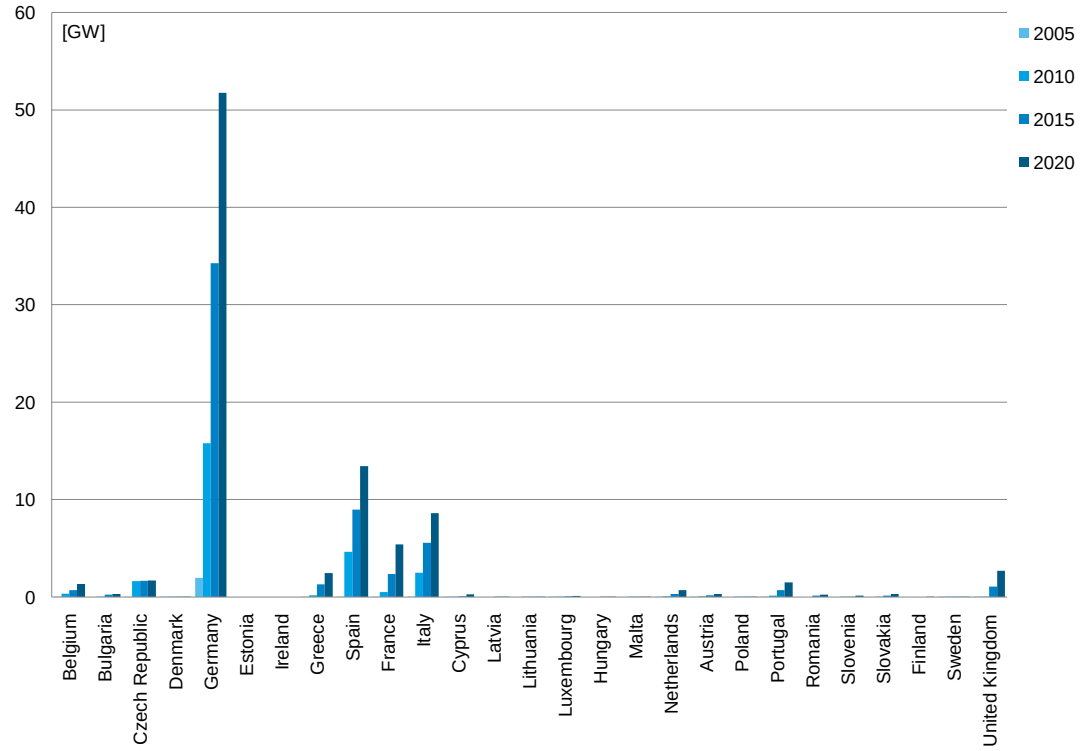


Figure 17: *Projected total solar electric capacity [GW] for the period 2005 - 2020, including photovoltaic (PV) and concentrated solar power (CSP)*

Table 90: *Projected total solar electric capacity [MW] for the period 2005 - 2020, including photovoltaic (PV) and concentrated solar power (CSP)*

	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2020 [%]
Belgium	2	350	713	1340	1
Bulgaria	0	9	251	303	0
Czech Republic	1	1650	1680	1695	2
Denmark	3	3	4	6	0
Germany	1980	15784	34279	51753	57
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	0	0	0	0	0
Greece	1	184	1300	2450	3
Spain	60	4653	8966	13445	15
France	25	504	2353	5400	6
Italy	34	2505	5562	8600	9
Cyprus	0	6	87	267	0
Latvia	0	0	1	2	0
Lithuania	0	1	10	10	0
Luxembourg	24	27	88	113	0
Hungary	n.a.	0	19	63	0
Malta	0	4	27	28	0
Netherlands	51	92	317	722	1
Austria	22	90	179	322	0
Poland	0	1	2	3	0
Portugal	3	156	720	1500	2
Romania	0	0	148	260	0
Slovenia	0	12	37	139	0
Slovakia	0	60	160	300	0
Finland	0	0	0	10	0
Sweden	4	5	7	8	0
United Kingdom	11	50	1070	2680	3
All Member States (total)	2221	26146	57980	91419	**100**

More information on subcategories for solar electricity capacity is presented in Table 92 on page 118.
See Table 93 on page 119 for corresponding solar electricity production data.

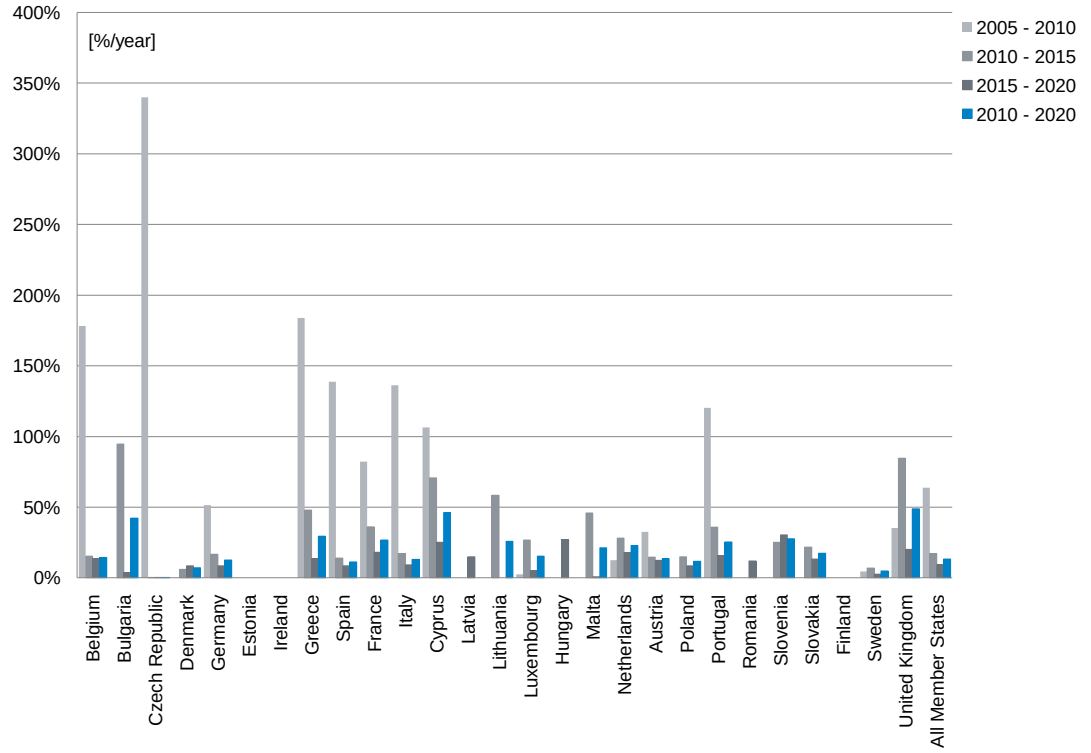


Figure 18: *Calculated average annual growth for capacity of solar electricity [%/year] for four periods*

Table 91: *Calculated average annual growth for capacity of solar electricity [%/year] for four periods*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	178.2	15.3	13.4	14.4
Bulgaria	n.a.	94.6	3.8	42.1
Czech Republic	340.0	0.4	0.2	0.3
Denmark	0.0	5.9	8.4	7.2
Germany	51.5	16.8	8.6	12.6
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	n.a.	n.a.	n.a.
Greece	183.8	47.9	13.5	29.5
Spain	138.7	14.0	8.4	11.2
France	82.3	36.1	18.1	26.8
Italy	136.3	17.3	9.1	13.1
Cyprus	106.4	70.7	25.1	46.2
Latvia	n.a.	n.a.	14.9	n.a.
Lithuania	n.a.	58.5	0.0	25.9
Luxembourg	2.4	26.7	5.1	15.4
Hungary	n.a.	n.a.	27.1	n.a.
Malta	n.a.	45.9	0.8	21.3
Netherlands	12.5	28.1	17.9	22.9
Austria	32.5	14.7	12.5	13.6
Poland	n.a.	14.9	8.4	11.6
Portugal	120.4	35.8	15.8	25.4
Romania	n.a.	n.a.	11.9	n.a.
Slovenia	n.a.	25.3	30.3	27.8
Slovakia	n.a.	21.7	13.4	17.5
Finland	n.a.	n.a.	n.a.	n.a.
Sweden	4.6	7.0	2.7	4.8
United Kingdom	35.4	84.5	20.2	48.9
All Member States (average)	63.7	17.3	9.5	13.3

The annual growth indicator has been calculated based total solar electricity (photovoltaic (PV) and concentrated solar power (CSP))

Table 92: *Projected solar electric capacity [MW] for the period 2005 - 2020, broken down into photovoltaic (PV) and concentrated solar power (CSP)*

	Solar photovoltaic				Concentrated solar power				Total solar electricity			
	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]
Belgium	2	350	713	1340	0	0	0	0	2	350	713	1340
Bulgaria	0	9	251	303	0	0	0	0	0	9	251	303
Czech Republic	1	1650	1680	1695	n.a.	n.a.	n.a.	n.a.	1	1650	1680	1695
Denmark	3	3	4	6	0	0	0	0	3	3	4	6
Germany	1980	15784	34279	51753	0	0	0	0	1980	15784	34279	51753
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	n.a.	0	0	n.a.	n.a.	0	0	0	0	0	0
Greece	1	184	1270	2200	n.a.	0	30	250	1	184	1300	2450
Spain	60	4021	5918	8367	0	632	3048	5079	60	4653	8966	13445
France	25	504	2151	4860	0	0	203	540	25	504	2353	5400
Italy	34	2500	5500	8000	0	5	62	600	34	2505	5562	8600
Cyprus	0	6	37	192	0	0	50	75	0	6	87	267
Latvia	n.a.	n.a.	1	2	n.a.	n.a.	n.a.	n.a.	0	0	1	2
Lithuania	0	1	10	10	0	0	0	0	0	1	10	10
Luxembourg	24	27	88	113	0	0	0	0	24	27	88	113
Hungary	n.a.	0	19	63	n.a.	0	0	0	n.a.	0	19	63
Malta	n.a.	4	27	28	n.a.	n.a.	n.a.	n.a.	0	4	27	28
Netherlands	51	92	317	722	0	0	0	0	51	92	317	722
Austria	22	90	179	322	0	0	0	0	22	90	179	322
Poland	0	1	2	3	0	0	0	0	0	1	2	3
Portugal	3	156	540	1000	0	0	180	500	3	156	720	1500
Romania	0	0	148	260	0	0	0	0	0	0	148	260
Slovenia	0	12	37	139	0	0	0	0	0	12	37	139
Slovakia	0	60	160	300	0	0	0	0	0	60	160	300
Finland	0	0	0	10	0	0	0	0	0	0	0	10
Sweden	4	5	7	8	n.a.	n.a.	n.a.	n.a.	4	5	7	8
United Kingdom	11	50	1070	2680	n.a.	0	0	0	11	50	1070	2680
All Member States (total)	2221	25509	54408	84376	0	637	3573	7044	2221	26146	57980	91419

See Table 95 on page 121 for corresponding solar electricity production data.

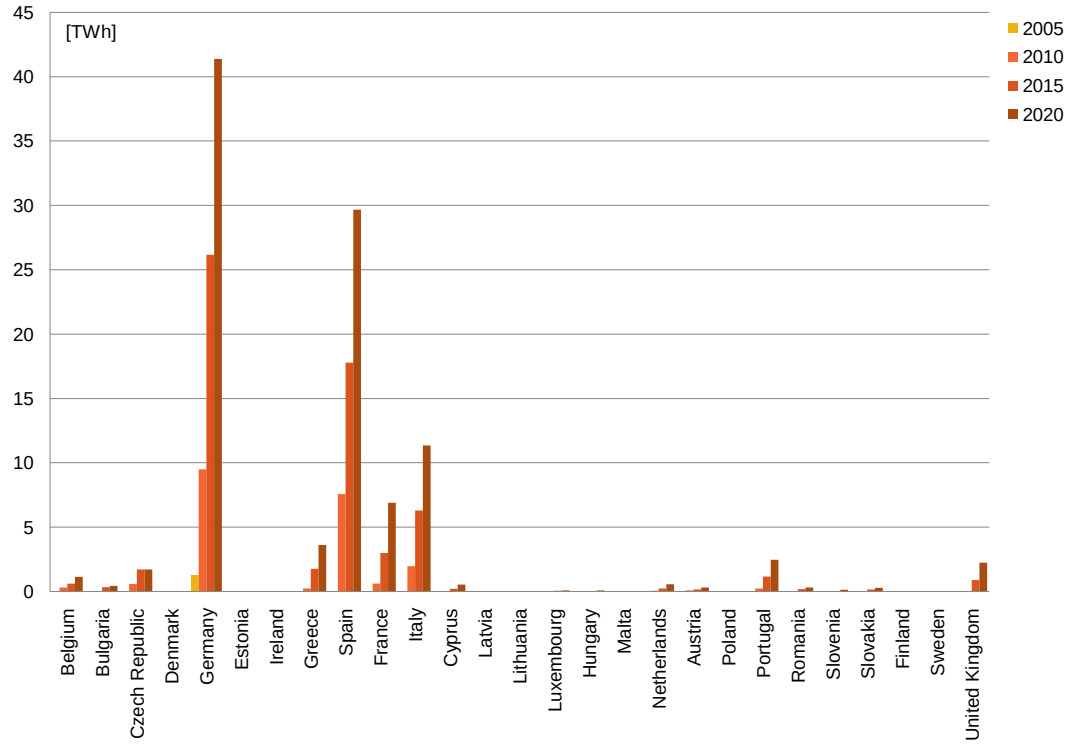


Figure 19: *Projected total solar electricity generation [TWh] for the period 2005 - 2020, including photovoltaic (PV) and concentrated solar power (CSP)*

Table 93: *Projected total solar electricity generation [GWh] for the period 2005 - 2020, including photovoltaic (PV) and concentrated solar power (CSP)*

	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2020 [%]
Belgium	1	304	610	1139	1
Bulgaria	0	12	343	435	0
Czech Republic	0	578	1708	1726	2
Denmark	2	2	3	4	0
Germany	1282	9499	26161	41389	40
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	0	0	0	0	0
Greece	1	242	1754	3605	3
Spain	41	7561	17785	29669	29
France	22	613	2981	6885	7
Italy	31	1976	6292	11350	11
Cyprus	0	6	208	533	1
Latvia	0	0	1	4	0
Lithuania	0	0	13	15	0
Luxembourg	18	20	65	84	0
Hungary	n.a.	2	26	81	0
Malta	0	6	41	43	0
Netherlands	40	73	250	570	1
Austria	21	85	170	306	0
Poland	0	1	2	3	0
Portugal	3	230	1157	2475	2
Romania	0	0	180	320	0
Slovenia	0	12	37	139	0
Slovakia	0	30	160	300	0
Finland	0	0	0	0	0
Sweden	0	1	3	4	0
United Kingdom	8	40	890	2240	2
All Member States (total)	1470	21294	60840	103319	**100**

More information on subcategories for solar electricity generation is presented in Table 95 on page 121.
See Table 90 on page 116 for corresponding solar electric capacity data.

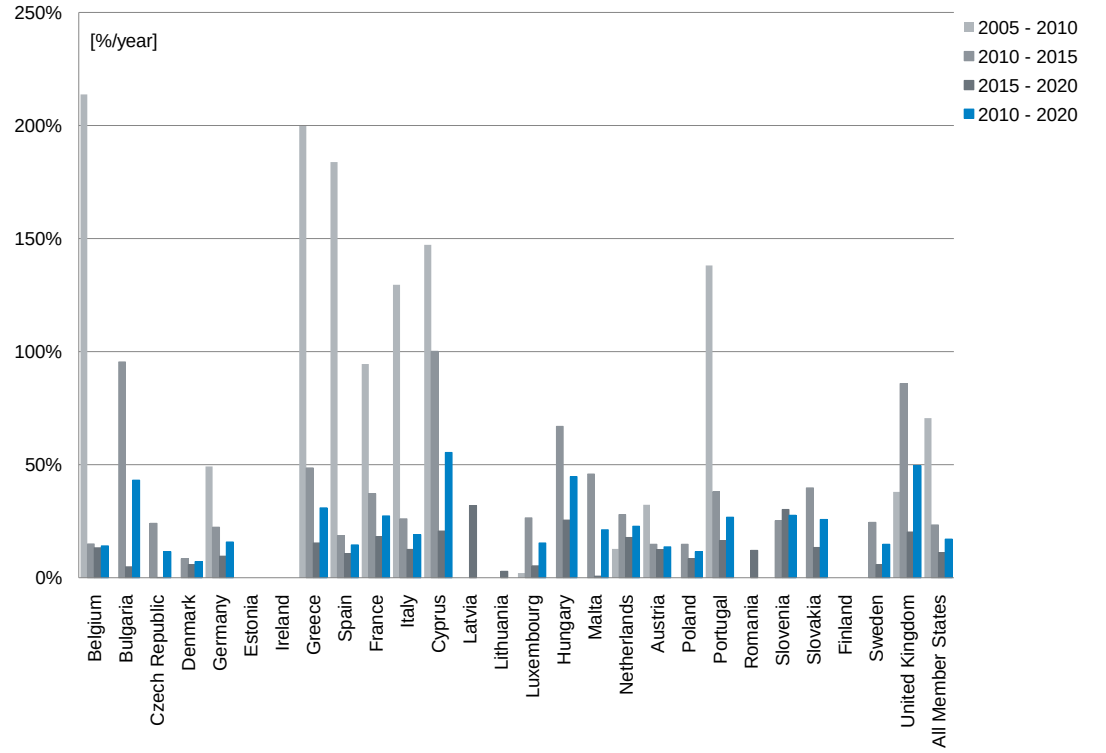


Figure 20: *Calculated average annual growth for generation from solar electricity [%/year] for four periods*

Table 94: *Calculated average annual growth for generation from solar electricity [%/year] for four periods*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	213.7	15.0	13.3	14.1
Bulgaria	n.a.	95.5	4.9	43.2
Czech Republic	n.a.	24.2	0.2	11.6
Denmark	0.0	8.4	5.9	7.2
Germany	49.3	22.5	9.6	15.9
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	n.a.	n.a.	n.a.
Greece	199.8	48.6	15.5	31.0
Spain	183.9	18.7	10.8	14.6
France	94.5	37.2	18.2	27.4
Italy	129.6	26.1	12.5	19.1
Cyprus	147.2	100.2	20.7	55.5
Latvia	n.a.	n.a.	32.0	n.a.
Lithuania	n.a.	n.a.	2.9	n.a.
Luxembourg	2.1	26.6	5.3	15.4
Hungary	n.a.	67.0	25.5	44.8
Malta	n.a.	46.0	0.8	21.3
Netherlands	12.8	27.9	17.9	22.8
Austria	32.3	14.9	12.5	13.7
Poland	n.a.	14.9	8.4	11.6
Portugal	138.2	38.1	16.4	26.8
Romania	n.a.	n.a.	12.2	n.a.
Slovenia	n.a.	25.3	30.3	27.8
Slovakia	n.a.	39.8	13.4	25.9
Finland	n.a.	n.a.	n.a.	n.a.
Sweden	n.a.	24.6	5.9	14.9
United Kingdom	38.0	86.0	20.3	49.6
All Member States (average)	70.7	23.4	11.2	17.1

The annual growth indicator has been calculated based total solar electricity (photovoltaic (PV) and concentrated solar power (CSP))

Table 95: *Projected solar electricity generation [GWh] for the period 2005 - 2020, broken down into photovoltaic (PV) and concentrated solar power (CSP)*

	Solar photovoltaic				Concentrated solar power				Total solar electricity			
	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]
Belgium	1	304	610	1139	0	0	0	0	1	304	610	1139
Bulgaria	0	12	343	435	0	0	0	0	0	12	343	435
Czech Republic	0	578	1708	1726	n.a.	n.a.	n.a.	n.a.	0	578	1708	1726
Denmark	2	2	3	4	0	0	0	0	2	2	3	4
Germany	1282	9499	26161	41389	0	0	0	0	1282	9499	26161	41389
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	n.a.	0	0	n.a.	n.a.	0	0	0	0	0	0
Greece	1	242	1668	2891	n.a.	0	86	714	1	242	1754	3605
Spain	41	6417	9872	14316	0	1144	7913	15353	41	7561	17785	29669
France	22	613	2617	5913	0	0	365	972	22	613	2981	6885
Italy	31	1967	6122	9650	0	9	170	1700	31	1976	6292	11350
Cyprus	0	6	59	309	0	0	149	224	0	6	208	533
Latvia	n.a.	n.a.	1	4	n.a.	n.a.	n.a.	n.a.	0	0	1	4
Lithuania	0	0	13	15	0	0	0	0	0	0	13	15
Luxembourg	18	20	65	84	0	0	0	0	18	20	65	84
Hungary	n.a.	2	26	81	n.a.	0	0	0	n.a.	2	26	81
Malta	n.a.	6	41	43	n.a.	n.a.	n.a.	n.a.	0	6	41	43
Netherlands	40	73	250	570	0	0	0	0	40	73	250	570
Austria	21	85	170	306	0	0	0	0	21	85	170	306
Poland	0	1	2	3	0	0	0	0	0	1	2	3
Portugal	3	230	797	1475	0	0	360	1000	3	230	1157	2475
Romania	0	0	180	320	0	0	0	0	0	0	180	320
Slovenia	0	12	37	139	0	0	0	0	0	12	37	139
Slovakia	0	30	160	300	0	0	0	0	0	30	160	300
Finland	0	0	0	0	0	0	0	0	0	0	0	0
Sweden	0	1	3	4	n.a.	n.a.	n.a.	n.a.	0	1	3	4
United Kingdom	8	40	890	2240	n.a.	0	0	0	8	40	890	2240
All Member States (total)	1470	20141	51798	83356	0	1153	9043	19963	1470	21294	60840	103319

See Table 92 on page 118 for corresponding solar electric capacity data.

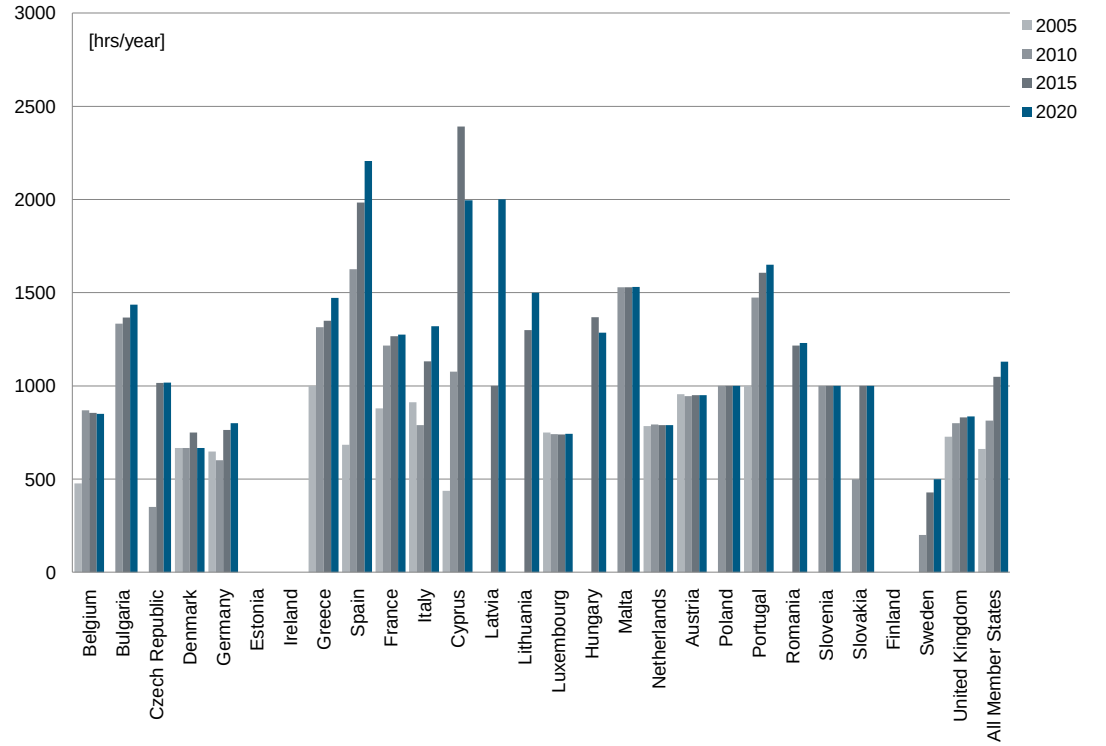


Figure 21: *Calculated average number of full load hours for total solar electricity [hrs/year] for the period 2005 - 2020*

Table 96: *Calculated average number of full load hours for total solar electricity [hrs/year] for the period 2005 - 2020*

	2005 [hrs/year]	2010 [hrs/year]	2015 [hrs/year]	2020 [hrs/year]
Belgium	476	869	856	850
Bulgaria	n.a.	1333	1367	1436
Czech Republic	0	350	1017	1018
Denmark	667	667	750	667
Germany	647	602	763	800
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	n.a.	n.a.	n.a.
Greece	1000	1315	1349	1471
Spain	683	1625	1984	2207
France	880	1216	1267	1275
Italy	912	789	1131	1320
Cyprus	438	1077	2391	1996
Latvia	n.a.	n.a.	1000	2000
Lithuania	n.a.	0	1300	1500
Luxembourg	750	741	739	743
Hungary	n.a.	n.a.	1368	1286
Malta	n.a.	1528	1530	1530
Netherlands	784	793	789	789
Austria	955	944	950	950
Poland	n.a.	1000	1000	1000
Portugal	1000	1474	1607	1650
Romania	n.a.	n.a.	1216	1231
Slovenia	n.a.	1000	1000	1000
Slovakia	n.a.	500	1000	1000
Finland	n.a.	n.a.	n.a.	0
Sweden	0	200	429	500
United Kingdom	727	800	832	836
All Member States (average)	662	814	1049	1130

The full load hours have been calculated based total solar electricity (photovoltaic (PV) and concentrated solar power (CSP))

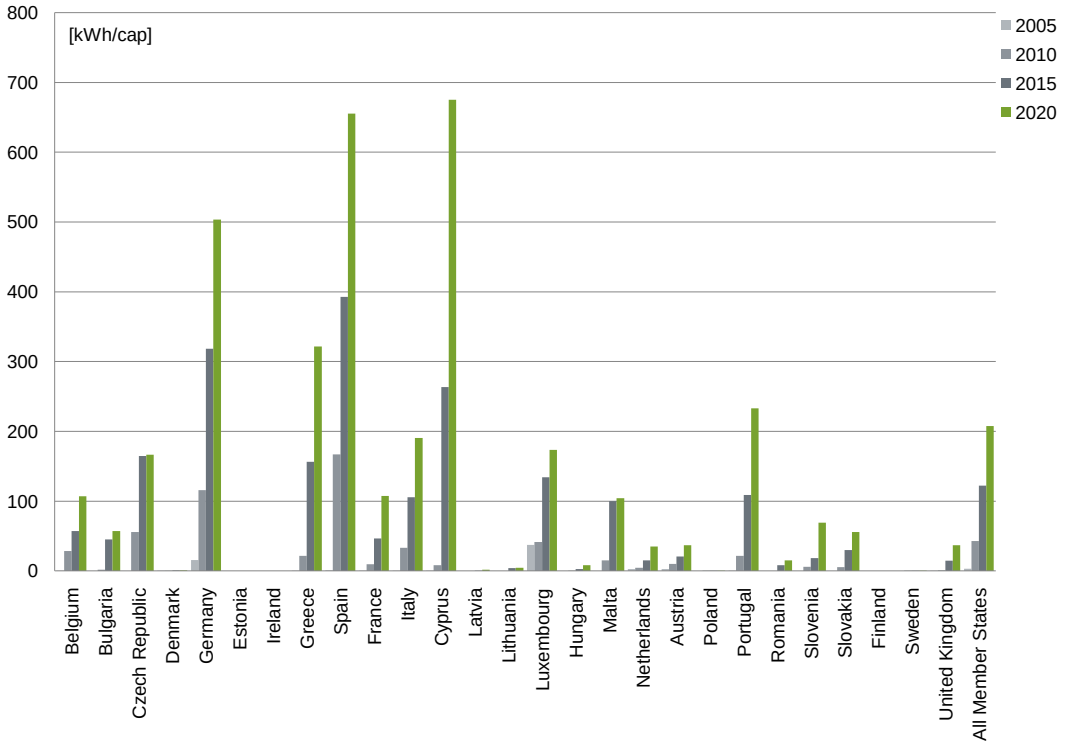


Figure 22: *Calculated per capita (2008) generation for total solar electricity [kWh/cap] for the period 2005 - 2020*

Table 97: *Calculated per capita (2008) generation for total solar electricity [kWh/cap] for the period 2005 - 2020*

	2005 [kWh/cap]	2010 [kWh/cap]	2015 [kWh/cap]	2020 [kWh/cap]
Belgium	0	28	57	107
Bulgaria	0	2	45	57
Czech Republic	0	56	165	166
Denmark	0	0	1	1
Germany	16	116	318	503
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	0	0	0	0
Greece	0	22	156	321
Spain	1	167	393	655
France	0	10	47	108
Italy	1	33	106	190
Cyprus	0	8	264	675
Latvia	0	0	0	2
Lithuania	0	0	4	4
Luxembourg	37	41	134	174
Hungary	n.a.	0	3	8
Malta	0	15	100	104
Netherlands	2	4	15	35
Austria	3	10	20	37
Poland	0	0	0	0
Portugal	0	22	109	233
Romania	0	0	8	15
Slovenia	0	6	18	69
Slovakia	0	6	30	56
Finland	0	0	0	0
Sweden	0	0	0	0
United Kingdom	0	1	15	37
All Member States (average)	3	43	122	208

The per capita indicator has been calculated based on total solar electricity (photovoltaic (PV) and concentrated solar power (CSP))

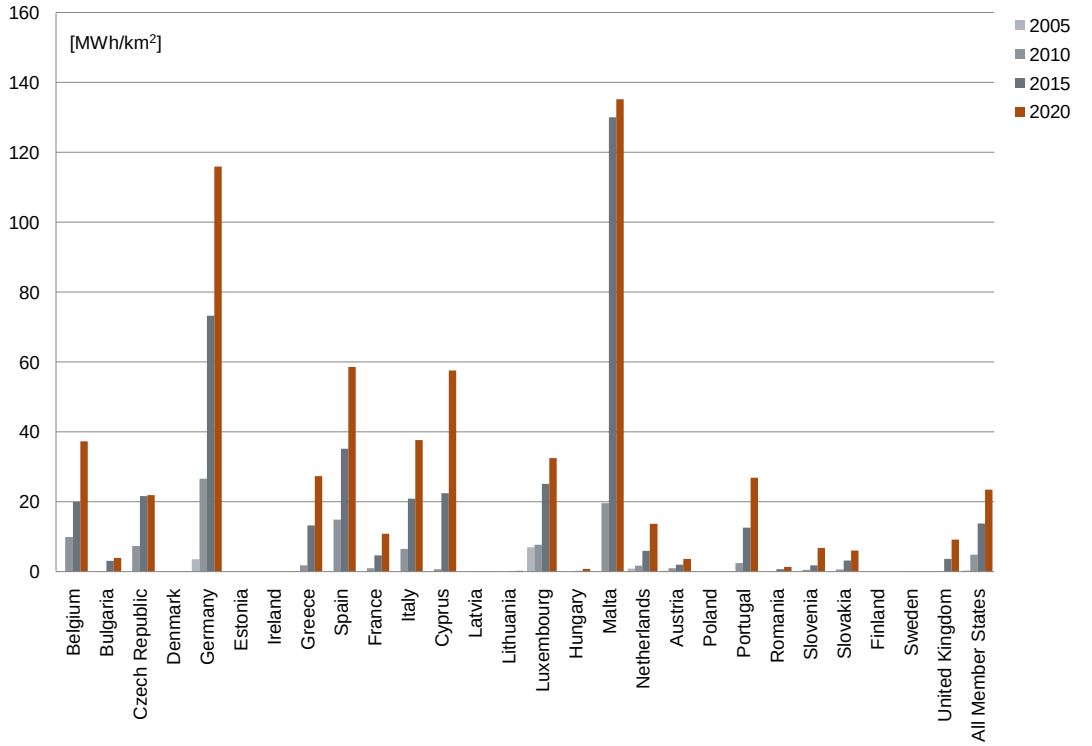


Figure 23: *Calculated per surface area (2004) generation for total solar electricity [MWh/km^2] for the period 2005 - 2020*

Table 98: *Calculated per surface area (2004) generation for total solar electricity [MWh/km^2] for the period 2005 - 2020*

	2005 [MWh/km^2]	2010 [MWh/km^2]	2015 [MWh/km^2]	2020 [MWh/km^2]
Belgium	0.0	10.0	20.0	37.3
Bulgaria	0.0	0.1	3.1	3.9
Czech Republic	0.0	7.3	21.7	21.9
Denmark	0.0	0.0	0.1	0.1
Germany	3.6	26.6	73.3	115.9
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	0.0	0.0	0.0	0.0
Greece	0.0	1.8	13.3	27.3
Spain	0.1	14.9	35.1	58.6
France	0.0	1.0	4.7	10.9
Italy	0.1	6.6	20.9	37.7
Cyprus	0.0	0.7	22.5	57.6
Latvia	0.0	0.0	0.0	0.1
Lithuania	0.0	0.0	0.2	0.2
Luxembourg	7.0	7.7	25.1	32.5
Hungary	n.a.	0.0	0.3	0.9
Malta	0.0	19.6	130.0	135.2
Netherlands	1.0	1.8	6.0	13.7
Austria	0.3	1.0	2.0	3.6
Poland	0.0	0.0	0.0	0.0
Portugal	0.0	2.5	12.6	26.9
Romania	0.0	0.0	0.8	1.3
Slovenia	0.0	0.6	1.8	6.9
Slovakia	0.0	0.6	3.3	6.1
Finland	0.0	0.0	0.0	0.0
Sweden	0.0	0.0	0.0	0.0
United Kingdom	0.0	0.2	3.7	9.2
All Member States (average)	0.3	4.8	13.8	23.5

The per area indicator has been calculated based on total solar electricity (photovoltaic (PV) and concentrated solar power (CSP))

Tidal, wave and ocean energy

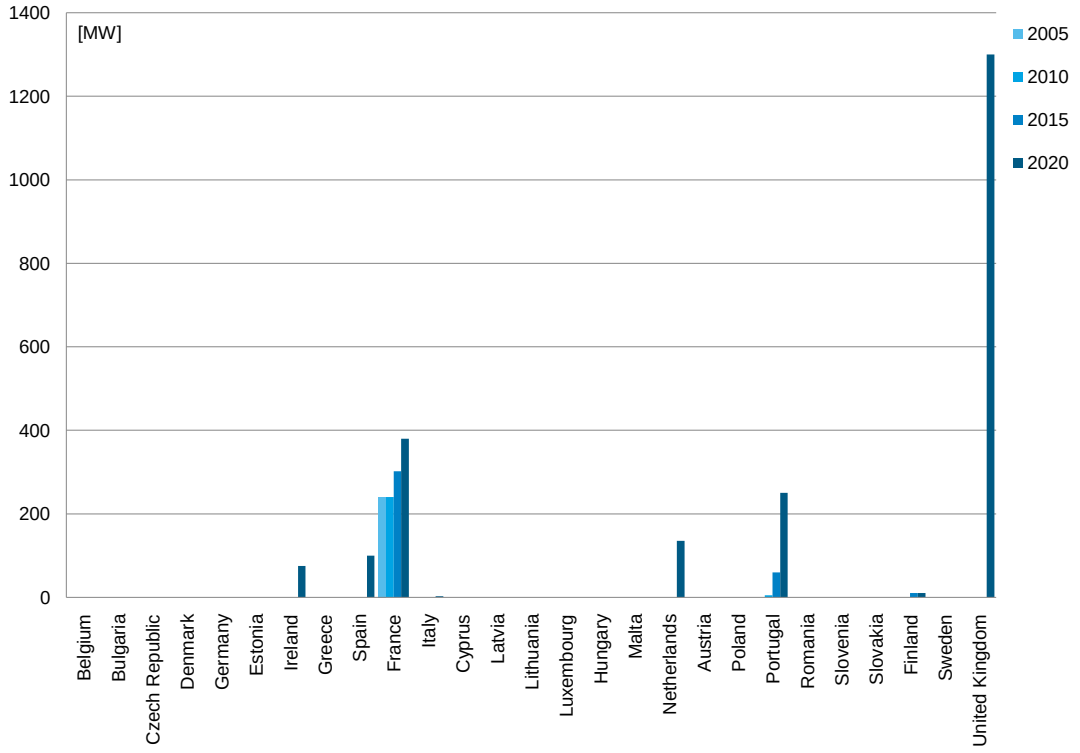


Figure 24: *Projected tidal, wave and ocean energy electric capacity [MW] for the period 2005 - 2020*

Table 99: *Projected tidal, wave and ocean energy electric capacity [MW] for the period 2005 - 2020*

	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2020 [%]
Belgium	0	0	0	0	0
Bulgaria	0	0	0	0	0
Czech Republic	n.a.	n.a.	n.a.	n.a.	n.a.
Denmark	0	0	0	0	0
Germany	0	0	0	0	0
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	0	0	0	75	3
Greece	n.a.	n.a.	n.a.	n.a.	n.a.
Spain	0	0	0	100	4
France	240	240	302	380	17
Italy	0	0	0	3	0
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.	n.a.
Lithuania	0	0	0	0	0
Luxembourg	0	0	0	0	0
Hungary	n.a.	0	0	0	0
Malta	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	0	0	0	135	6
Austria	n.a.	n.a.	n.a.	n.a.	n.a.
Poland	0	0	0	0	0
Portugal	0	5	60	250	11
Romania	0	0	0	0	0
Slovenia	0	0	0	0	0
Slovakia	0	0	0	0	0
Finland	0	0	10	10	0
Sweden	n.a.	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	0	0	1300	58
All Member States (total)	240	245	372	2253	**100**

See Table 101 on page 128 for corresponding tidal, wave and ocean energy electricity production data.

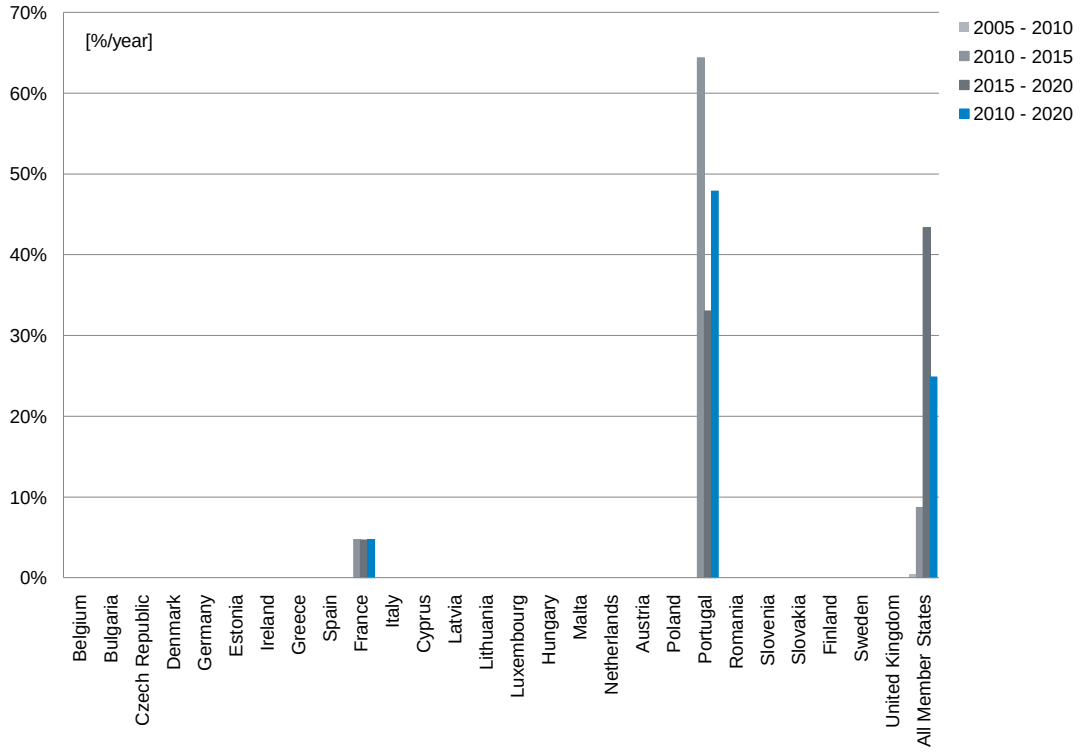


Figure 25: *Calculated average annual growth for electric capacity from tidal, wave and ocean energy [%/year] for four periods*

Table 100: *Calculated average annual growth for electric capacity from tidal, wave and ocean energy [%/year] for four periods*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	n.a.	n.a.	n.a.	n.a.
Bulgaria	n.a.	n.a.	n.a.	n.a.
Czech Republic	n.a.	n.a.	n.a.	n.a.
Denmark	n.a.	n.a.	n.a.	n.a.
Germany	n.a.	n.a.	n.a.	n.a.
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	n.a.	n.a.	n.a.
Greece	n.a.	n.a.	n.a.	n.a.
Spain	n.a.	n.a.	n.a.	n.a.
France	0.0	4.7	4.7	4.7
Italy	n.a.	n.a.	n.a.	n.a.
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.
Lithuania	n.a.	n.a.	n.a.	n.a.
Luxembourg	n.a.	n.a.	n.a.	n.a.
Hungary	n.a.	n.a.	n.a.	n.a.
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	n.a.	n.a.	n.a.	n.a.
Austria	n.a.	n.a.	n.a.	n.a.
Poland	n.a.	n.a.	n.a.	n.a.
Portugal	n.a.	64.4	33.0	47.9
Romania	n.a.	n.a.	n.a.	n.a.
Slovenia	n.a.	n.a.	n.a.	n.a.
Slovakia	n.a.	n.a.	n.a.	n.a.
Finland	n.a.	n.a.	0.0	n.a.
Sweden	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	n.a.	n.a.	n.a.
All Member States (average)	0.4	8.7	43.4	24.8

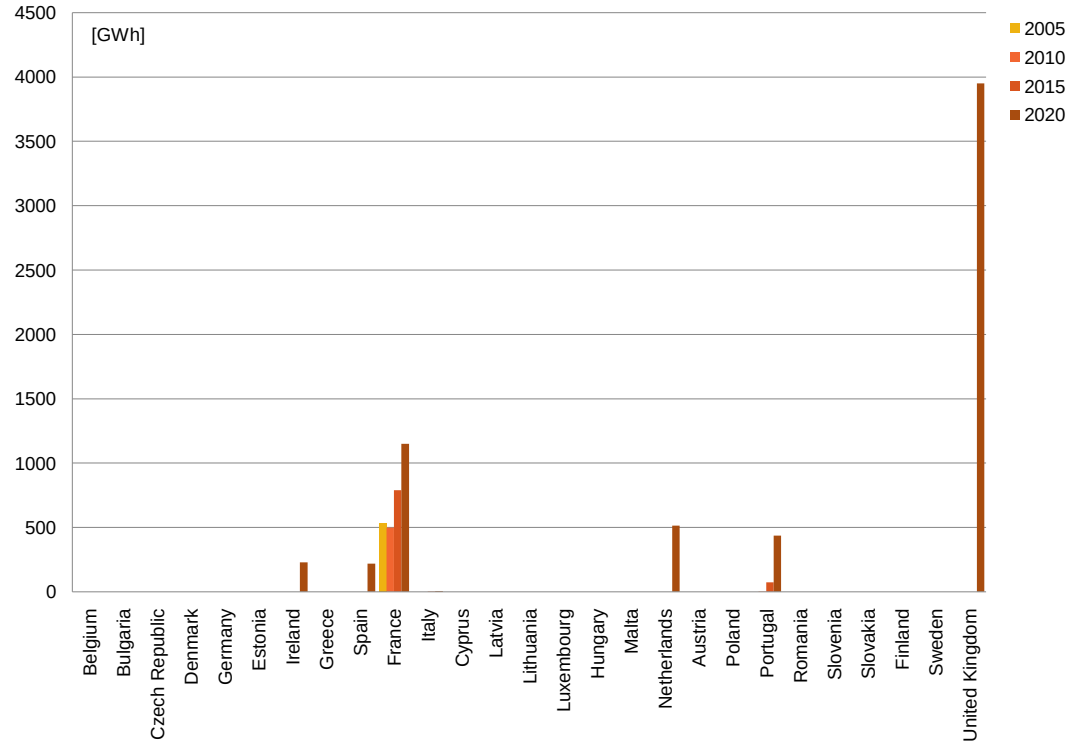


Figure 26: *Projected tidal, wave and ocean energy electricity generation [GWh] for the period 2005 - 2020, all capacity ranges excluding pumped storage*

Table 101: *Projected tidal, wave and ocean energy electricity generation [GWh] for the period 2005 - 2020*

	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2020 [%]
Belgium	0	0	0	0	0
Bulgaria	0	0	0	0	0
Czech Republic	n.a.	n.a.	n.a.	n.a.	n.a.
Denmark	0	0	0	0	0
Germany	0	0	0	0	0
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	0	0	0	230	4
Greece	n.a.	n.a.	n.a.	n.a.	n.a.
Spain	0	0	0	220	3
France	535	500	789	1150	18
Italy	0	0	1	5	0
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.	n.a.
Lithuania	0	0	0	0	0
Luxembourg	0	0	0	0	0
Hungary	n.a.	0	0	0	0
Malta	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	0	0	0	514	8
Austria	n.a.	n.a.	n.a.	n.a.	n.a.
Poland	0	0	0	0	0
Portugal	0	1	75	437	7
Romania	0	0	0	0	0
Slovenia	0	0	0	0	0
Slovakia	0	0	0	0	0
Finland	0	0	0	0	0
Sweden	n.a.	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	0	0	3950	61
All Member States (total)	535	501	865	6506	**100**

See Table 99 on page 126 for corresponding tidal, wave and ocean energy capacity data.

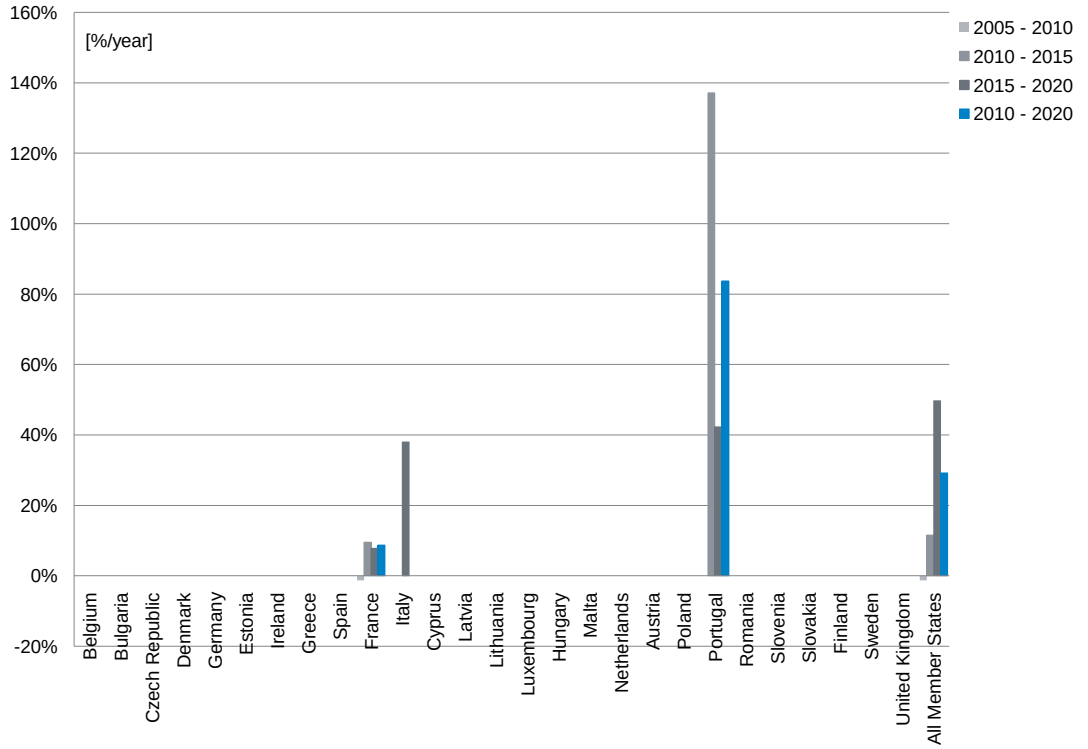


Figure 27: *Calculated average annual growth for electricity generation from tidal, wave and ocean energy [%/year] for four periods*

Table 102: *Calculated average annual growth for electricity generation from tidal, wave and ocean energy [%/year] for four periods*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	n.a.	n.a.	n.a.	n.a.
Bulgaria	n.a.	n.a.	n.a.	n.a.
Czech Republic	n.a.	n.a.	n.a.	n.a.
Denmark	n.a.	n.a.	n.a.	n.a.
Germany	n.a.	n.a.	n.a.	n.a.
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	n.a.	n.a.	n.a.
Greece	n.a.	n.a.	n.a.	n.a.
Spain	n.a.	n.a.	n.a.	n.a.
France	-1.3	9.6	7.8	8.7
Italy	n.a.	n.a.	38.0	n.a.
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.
Lithuania	n.a.	n.a.	n.a.	n.a.
Luxembourg	n.a.	n.a.	n.a.	n.a.
Hungary	n.a.	n.a.	n.a.	n.a.
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	n.a.	n.a.	n.a.	n.a.
Austria	n.a.	n.a.	n.a.	n.a.
Poland	n.a.	n.a.	n.a.	n.a.
Portugal	n.a.	137.1	42.3	83.7
Romania	n.a.	n.a.	n.a.	n.a.
Slovenia	n.a.	n.a.	n.a.	n.a.
Slovakia	n.a.	n.a.	n.a.	n.a.
Finland	n.a.	n.a.	n.a.	n.a.
Sweden	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	n.a.	n.a.	n.a.
All Member States (average)	-1.3	11.5	49.7	29.2

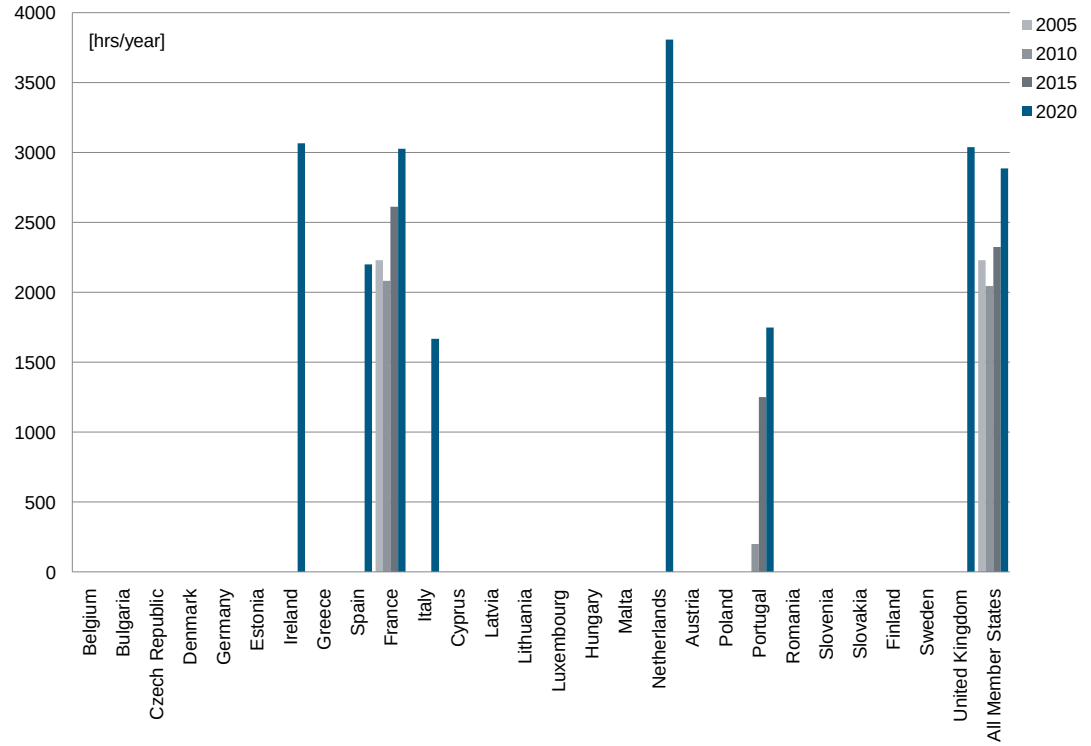


Figure 28: *Calculated average number of full load hours for tidal, wave and ocean energy [hrs/year] for the period 2005 - 2020*

Table 103: *Calculated average number of full load hours for tidal, wave and ocean energy [hrs/year] for the period 2005 - 2020*

	2005 [hrs/year]	2010 [hrs/year]	2015 [hrs/year]	2020 [hrs/year]
Belgium	n.a.	n.a.	n.a.	n.a.
Bulgaria	n.a.	n.a.	n.a.	n.a.
Czech Republic	n.a.	n.a.	n.a.	n.a.
Denmark	n.a.	n.a.	n.a.	n.a.
Germany	n.a.	n.a.	n.a.	n.a.
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	n.a.	n.a.	3067
Greece	n.a.	n.a.	n.a.	n.a.
Spain	n.a.	n.a.	n.a.	2200
France	2229	2083	2613	3026
Italy	n.a.	n.a.	n.a.	1667
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.
Lithuania	n.a.	n.a.	n.a.	n.a.
Luxembourg	n.a.	n.a.	n.a.	n.a.
Hungary	n.a.	n.a.	n.a.	n.a.
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	n.a.	n.a.	n.a.	3807
Austria	n.a.	n.a.	n.a.	n.a.
Poland	n.a.	n.a.	n.a.	n.a.
Portugal	n.a.	200	1250	1748
Romania	n.a.	n.a.	n.a.	n.a.
Slovenia	n.a.	n.a.	n.a.	n.a.
Slovakia	n.a.	n.a.	n.a.	n.a.
Finland	n.a.	n.a.	0	0
Sweden	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	n.a.	n.a.	3038
All Member States (average)	2229	2045	2325	2888

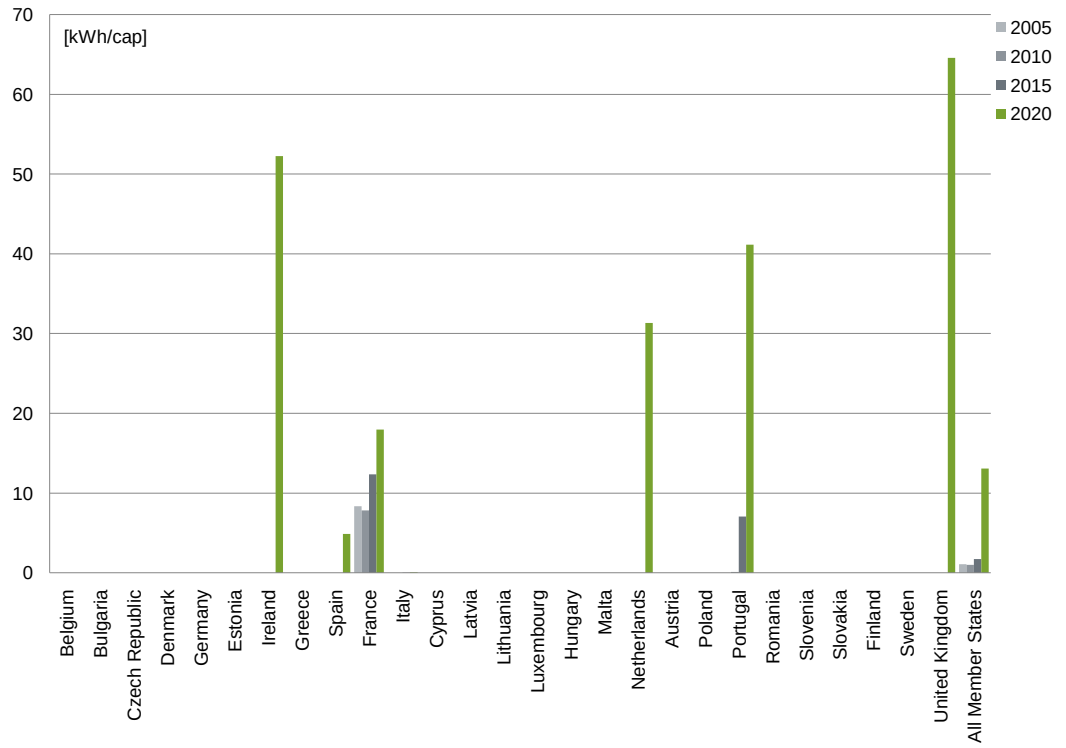


Figure 29: *Calculated per capita (2008) electricity generation for tidal, wave and ocean energy [kWh/cap] for the period 2005 - 2020*

Table 104: *Calculated per capita (2008) electricity generation for tidal, wave and ocean energy [kWh/cap] for the period 2005 - 2020*

	2005 [kWh/cap]	2010 [kWh/cap]	2015 [kWh/cap]	2020 [kWh/cap]
Belgium	0	0	0	0
Bulgaria	0	0	0	0
Czech Republic	n.a.	n.a.	n.a.	n.a.
Denmark	0	0	0	0
Germany	0	0	0	0
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	0	0	0	52
Greece	n.a.	n.a.	n.a.	n.a.
Spain	0	0	0	5
France	8	8	12	18
Italy	0	0	0	0
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.
Lithuania	0	0	0	0
Luxembourg	0	0	0	0
Hungary	n.a.	0	0	0
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	0	0	0	31
Austria	n.a.	n.a.	n.a.	n.a.
Poland	0	0	0	0
Portugal	0	0	7	41
Romania	0	0	0	0
Slovenia	0	0	0	0
Slovakia	0	0	0	0
Finland	0	0	0	0
Sweden	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	0	0	65
All Member States (average)	1	1	2	13

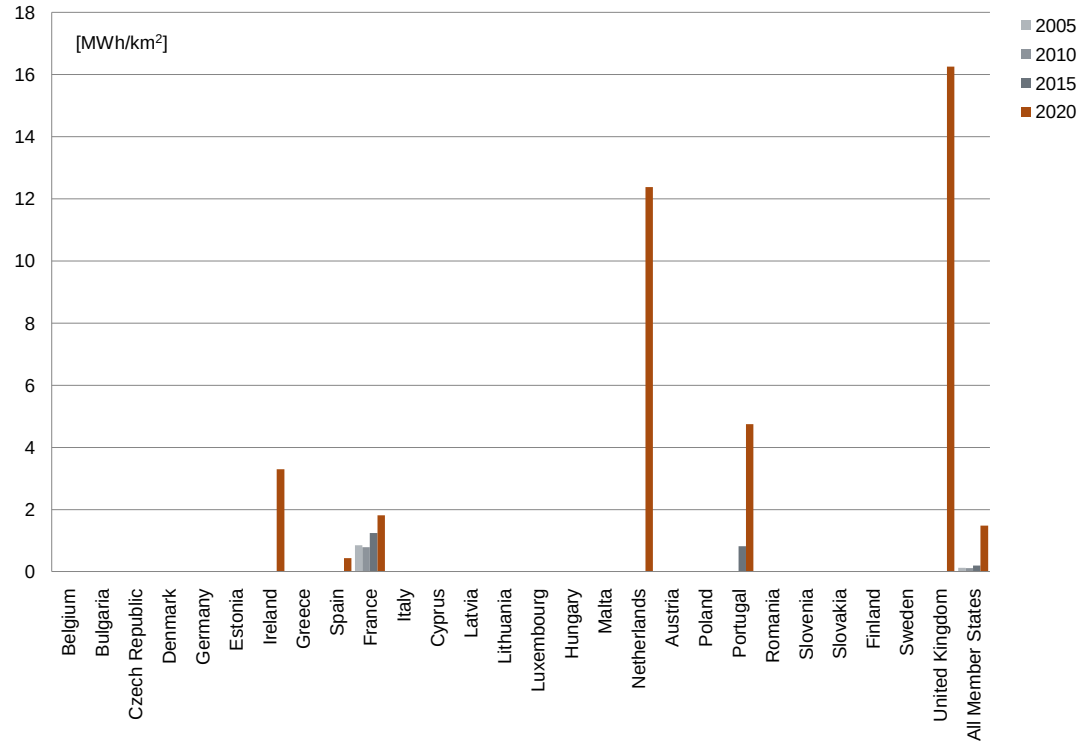


Figure 30: *Calculated per surface area (2004) electricity generation for tidal, wave and ocean energy [MWh/km^2] for the period 2005 - 2020*

Table 105: *Calculated per surface area (2004) electricity generation for tidal, wave and ocean energy [MWh/km^2] for the period 2005 - 2020*

	2005 [MWh/km^2]	2010 [MWh/km^2]	2015 [MWh/km^2]	2020 [MWh/km^2]
Belgium	0.0	0.0	0.0	0.0
Bulgaria	0.0	0.0	0.0	0.0
Czech Republic	n.a.	n.a.	n.a.	n.a.
Denmark	0.0	0.0	0.0	0.0
Germany	0.0	0.0	0.0	0.0
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	0.0	0.0	0.0	3.3
Greece	n.a.	n.a.	n.a.	n.a.
Spain	0.0	0.0	0.0	0.4
France	0.8	0.8	1.2	1.8
Italy	0.0	0.0	0.0	0.0
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.
Lithuania	0.0	0.0	0.0	0.0
Luxembourg	0.0	0.0	0.0	0.0
Hungary	n.a.	0.0	0.0	0.0
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	0.0	0.0	0.0	12.4
Austria	n.a.	n.a.	n.a.	n.a.
Poland	0.0	0.0	0.0	0.0
Portugal	0.0	0.0	0.8	4.7
Romania	0.0	0.0	0.0	0.0
Slovenia	0.0	0.0	0.0	0.0
Slovakia	0.0	0.0	0.0	0.0
Finland	0.0	0.0	0.0	0.0
Sweden	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	0.0	0.0	16.3
All Member States (average)	0.1	0.1	0.2	1.5

Wind power

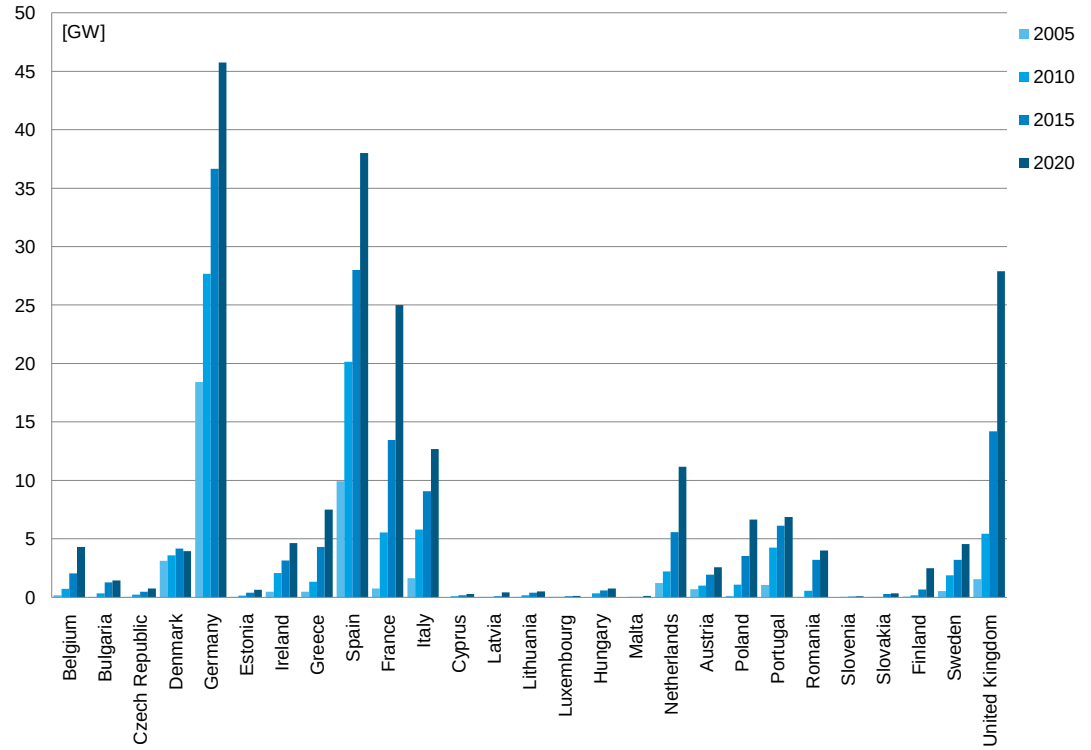


Figure 31: *Projected total wind power electric capacity [GW] for the period 2005 - 2020, including both onshore and offshore wind power*

Table 106: *Projected total wind power electric capacity [MW] for the period 2005 - 2020, including both onshore and offshore wind power*

	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2020 [%]
Belgium	190	733	2049	4320	2
Bulgaria	8	336	1274	1440	1
Czech Republic	22	243	493	743	0
Denmark	3129	3584	4180	3960	2
Germany	18415	27676	36647	45750	21
Estonia	31	147	400	650	0
Ireland	494	2088	3151	4649	2
Greece	491	1327	4303	7500	4
Spain	9918	20155	27997	38000	18
France	752	5542	13445	25000	12
Italy	1639	5800	9068	12680	6
Cyprus	0	82	180	300	0
Latvia	26	28	104	416	0
Lithuania	1	179	389	500	0
Luxembourg	35	35	105	131	0
Hungary	n.a.	330	577	750	0
Malta	0	0	7	110	0
Netherlands	1224	2221	5578	11178	5
Austria	694	1011	1951	2578	1
Poland	121	1100	3540	6650	3
Portugal	1063	4256	6125	6875	3
Romania	1	560	3200	4000	2
Slovenia	0	2	60	106	0
Slovakia	5	5	300	350	0
Finland	80	170	670	2500	1
Sweden	536	1873	3210	4547	2
United Kingdom	1565	5430	14210	27880	13
All Member States (total)	40440	84913	143212	213563	**100**

See Table 109 on page 137 for corresponding wind power electricity production data.

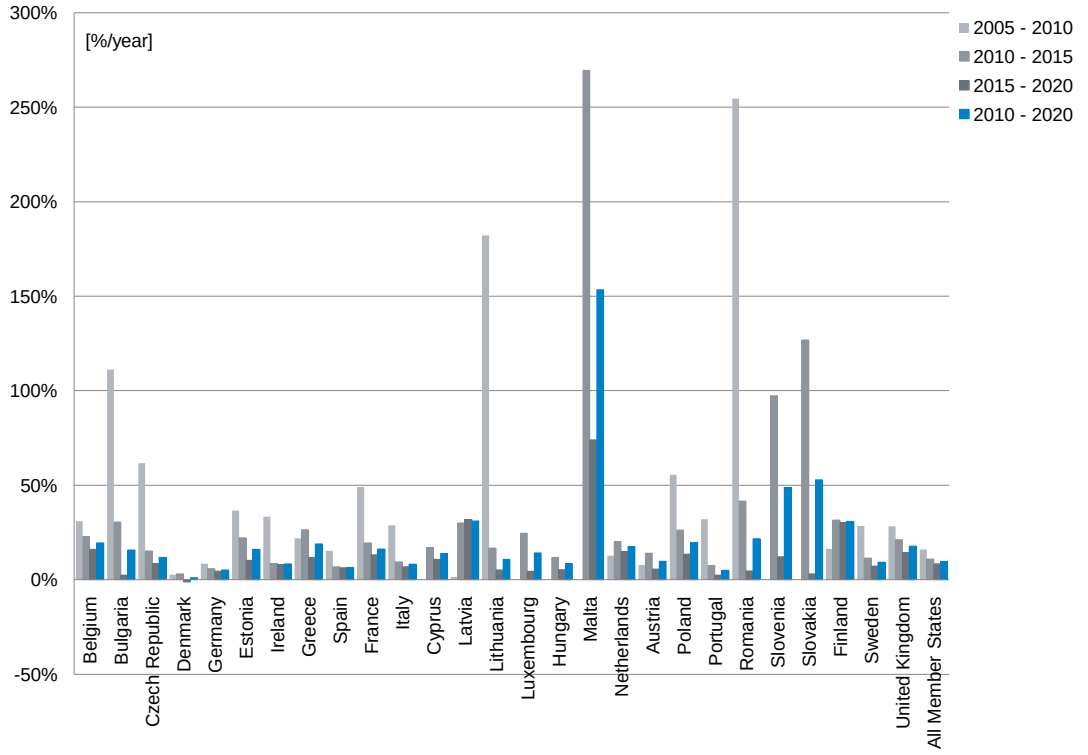


Figure 32: *Calculated average annual growth for electric capacity from wind power [%/year] for four periods*

Table 107: *Calculated average annual growth for electric capacity from wind power [%/year] for four periods*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	31.0	22.8	16.1	19.4
Bulgaria	111.2	30.5	2.5	15.7
Czech Republic	61.7	15.2	8.5	11.8
Denmark	2.8	3.1	-1.1	1.0
Germany	8.5	5.8	4.5	5.2
Estonia	36.5	22.2	10.2	16.0
Ireland	33.4	8.6	8.1	8.3
Greece	22.0	26.5	11.8	18.9
Spain	15.2	6.8	6.3	6.5
France	49.1	19.4	13.2	16.3
Italy	28.8	9.3	6.9	8.1
Cyprus	n.a.	17.0	10.8	13.8
Latvia	1.5	30.0	32.0	31.0
Lithuania	182.2	16.8	5.1	10.8
Luxembourg	0.0	24.6	4.5	14.1
Hungary	n.a.	11.8	5.4	8.6
Malta	n.a.	269.4	74.0	153.5
Netherlands	12.7	20.2	14.9	17.5
Austria	7.8	14.1	5.7	9.8
Poland	55.5	26.3	13.4	19.7
Portugal	32.0	7.6	2.3	4.9
Romania	254.5	41.7	4.6	21.7
Slovenia	n.a.	97.4	12.1	48.7
Slovakia	0.0	126.8	3.1	52.9
Finland	16.3	31.6	30.1	30.8
Sweden	28.4	11.4	7.2	9.3
United Kingdom	28.2	21.2	14.4	17.8
All Member States (average)	16.0	11.0	8.3	9.7

The annual growth indicator has been calculated based total wind power (onshore and offshore wind power)

Table 108: *Projected wind power electric capacity [MW] for the period 2005 - 2020, broken down into onshore and offshore wind*

	Onshore wind				Offshore wind				Total wind power			
	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]
Belgium	190	684	764	2320	0	49	1285	2000	190	733	2049	4320
Bulgaria	8	336	1274	1440	0	0	0	0	8	336	1274	1440
Czech Republic	22	243	493	743	n.a.	n.a.	n.a.	n.a.	22	243	493	743
Denmark	2706	2923	2929	2621	423	661	1251	1339	3129	3584	4180	3960
Germany	18415	27526	33647	35750	0	150	3000	10000	18415	27676	36647	45750
Estonia	31	147	400	400	n.a.	n.a.	n.a.	250	31	147	400	650
Ireland	469	2052	2899	4094	25	36	252	555	494	2088	3151	4649
Greece	491	1327	4303	7200	n.a.	n.a.	n.a.	300	491	1327	4303	7500
Spain	9918	20155	27847	35000	0	0	150	3000	9918	20155	27997	38000
France	752	5542	10778	19000	0	0	2667	6000	752	5542	13445	25000
Italy	1639	5800	8900	12000	0	0	168	680	1639	5800	9068	12680
Cyprus	0	82	180	300	n.a.	n.a.	n.a.	n.a.	0	82	180	300
Latvia	26	28	104	236	n.a.	n.a.	n.a.	180	26	28	104	416
Lithuania	1	179	389	500	0	0	0	0	1	179	389	500
Luxembourg	35	35	105	131	0	0	0	0	35	35	105	131
Hungary	n.a.	330	577	750	n.a.	0	0	0	n.a.	330	577	750
Malta	n.a.	0	7	15	n.a.	0	0	95	0	0	7	110
Netherlands	1224	1993	4400	6000	0	228	1178	5178	1224	2221	5578	11178
Austria	694	1011	1951	2578	0	0	0	0	694	1011	1951	2578
Poland	121	1100	3350	5600	0	0	0	500	121	1100	3540	6650
Portugal	1063	4256	6100	6800	0	0	25	75	1063	4256	6125	6875
Romania	1	560	3200	4000	0	0	0	0	1	560	3200	4000
Slovenia	0	2	60	106	0	0	0	0	0	2	60	106
Slovakia	5	5	300	350	0	0	0	0	5	5	300	350
Finland	80	n.a.	n.a.	1600	0	n.a.	n.a.	900	80	170	670	2500
Sweden	513	1797	3081	4365	23	76	129	182	536	1873	3210	4547
United Kingdom	1351	4040	8710	14890	214	1390	5500	12990	1565	5430	14210	27880
All Member States (total)	39755	82153	126747	168789	685	2590	15605	44224	40440	84913	143212	213563

See Table 111 on page 139 for corresponding wind power electricity production data.

Because for Finland and Belgium no breakdown into onshore and offshore wind power has been specified after 2005 the sum of the subcategories in 2010, 2015 and 2020 is lower than the value for *All Member States (total)*. Poland reports micro-wind separately from onshore wind, which results in a difference between onshore and total capacity.

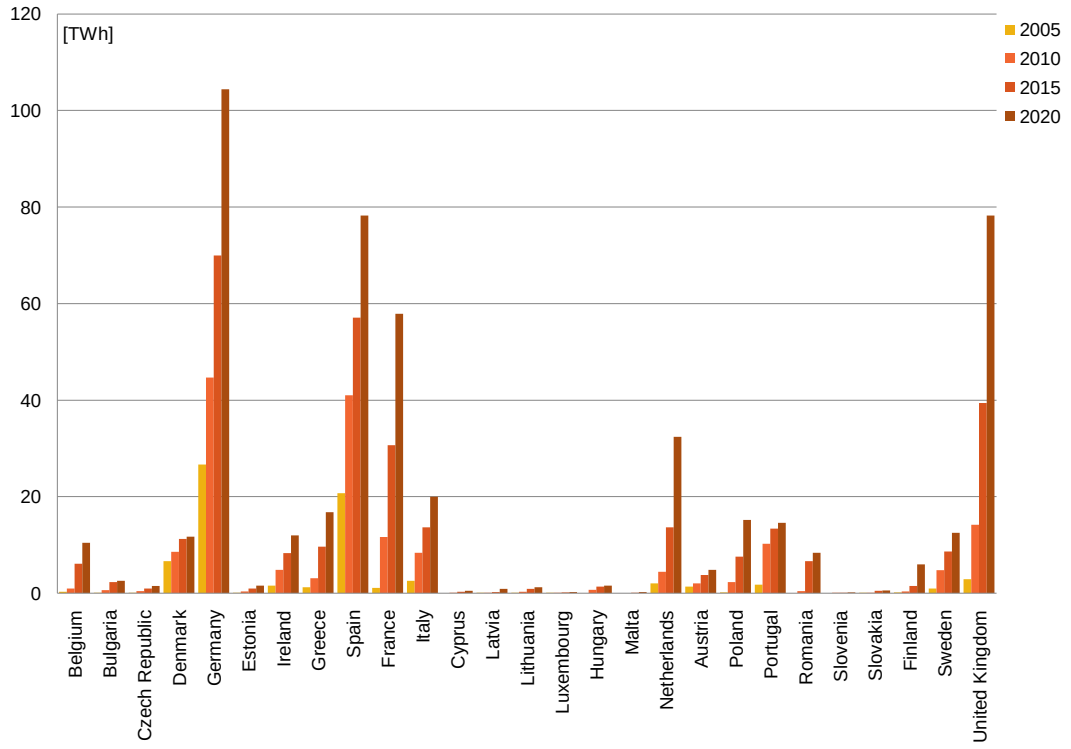


Figure 33: *Projected total wind power electricity generation [TWh] for the period 2005 - 2020, all capacity ranges excluding pumped storage, including onshore and offshore wind power*

Table 109: *Projected total wind power electricity generation [GWh] for the period 2005 - 2020, including onshore and offshore wind power*

	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2020 [%]
Belgium	320	991	6084	10474	2
Bulgaria	5	605	2293	2592	1
Czech Republic	21	454	975	1496	0
Denmark	6614	8606	11242	11713	2
Germany	26658	44668	69994	104435	21
Estonia	54	337	981	1537	0
Ireland	1588	4817	8339	11970	2
Greece	1267	3129	9674	16797	3
Spain	20729	40978	57086	78254	16
France	1128	11638	30634	57900	12
Italy	2558	8398	13652	20000	4
Cyprus	0	31	300	499	0
Latvia	47	58	228	910	0
Lithuania	2	297	924	1250	0
Luxembourg	52	60	192	239	0
Hungary	n.a.	692	1377	1545	0
Malta	0	0	17	255	0
Netherlands	2067	4470	13655	32408	7
Austria	1343	2034	3780	4811	1
Poland	136	2310	7541	15210	3
Portugal	1773	10214	13400	14596	3
Romania	0	460	6614	8400	2
Slovenia	0	2	109	191	0
Slovakia	7	7	480	560	0
Finland	150	360	1520	6000	1
Sweden	939	4793	8646	12500	3
United Kingdom	2904	14150	39430	78270	16
All Member States (total)	70362	164559	309168	494812	**100**

More information on subcategories for wind power electricity generation is presented in Table 111 on page 139.
See Table 106 on page 134 for corresponding wind power capacity data.

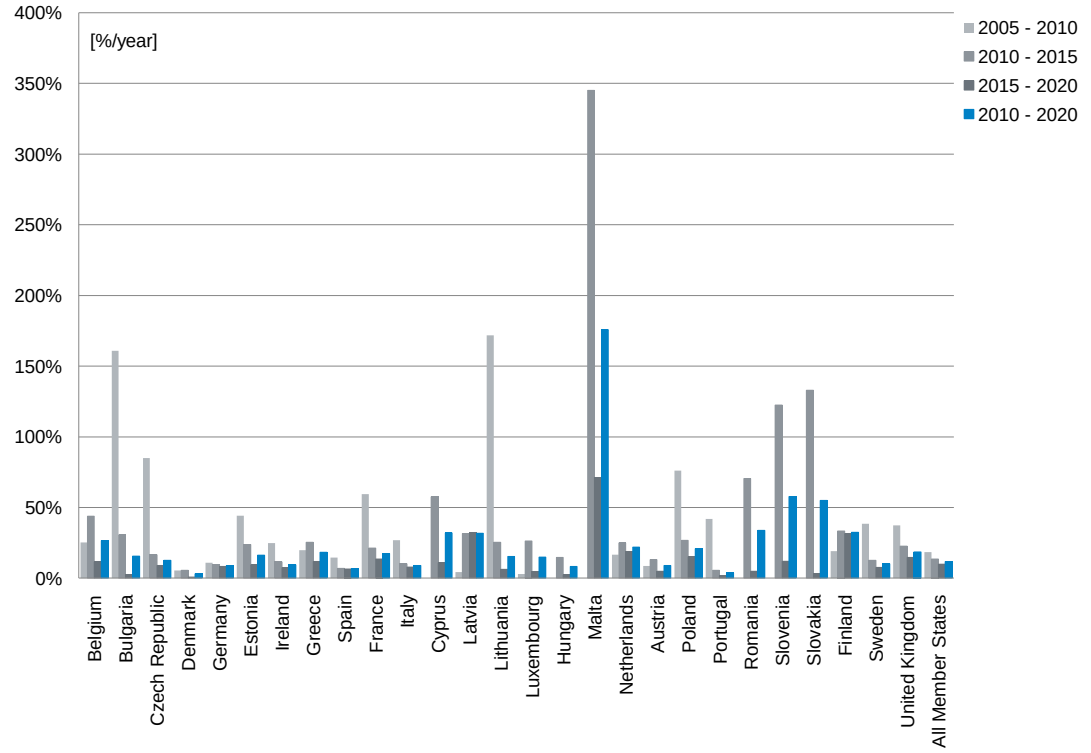


Figure 34: *Calculated average annual growth for electricity generation from wind power [%/year] for four periods*

Table 110: *Calculated average annual growth for electricity generation from wind power [%/year] for four periods*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	25.4	43.8	11.5	26.6
Bulgaria	160.9	30.5	2.5	15.7
Czech Republic	84.9	16.5	8.9	12.7
Denmark	5.4	5.5	0.8	3.1
Germany	10.9	9.4	8.3	8.9
Estonia	44.2	23.8	9.4	16.4
Ireland	24.8	11.6	7.5	9.5
Greece	19.8	25.3	11.7	18.3
Spain	14.6	6.9	6.5	6.7
France	59.5	21.4	13.6	17.4
Italy	26.8	10.2	7.9	9.1
Cyprus	n.a.	57.5	10.7	32.0
Latvia	4.3	31.5	31.9	31.7
Lithuania	171.9	25.5	6.2	15.5
Luxembourg	2.9	26.2	4.5	14.8
Hungary	n.a.	14.8	2.3	8.4
Malta	n.a.	345.1	70.9	175.8
Netherlands	16.7	25.0	18.9	21.9
Austria	8.7	13.2	4.9	9.0
Poland	76.2	26.7	15.1	20.7
Portugal	41.9	5.6	1.7	3.6
Romania	n.a.	70.4	4.9	33.7
Slovenia	n.a.	122.5	11.9	57.8
Slovakia	0.0	132.9	3.1	55.0
Finland	19.1	33.4	31.6	32.5
Sweden	38.5	12.5	7.7	10.1
United Kingdom	37.3	22.7	14.7	18.7
All Member States (average)	18.5	13.4	9.9	11.6

The annual growth indicator has been calculated based total wind power (onshore and offshore wind power)

Table 111: *Projected wind power electricity generation [GWh] for the period 2005 - 2020, broken down into onshore wind and offshore wind*

	Onshore wind				Offshore wind				Total wind power			
	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]
Belgium	320	840	2100	4274	0	151	3984	6200	320	991	6084	10474
Bulgaria	5	605	2293	2592	0	0	0	0	5	605	2293	2592
Czech Republic	21	454	975	1496	n.a.	n.a.	n.a.	n.a.	21	454	975	1496
Denmark	5158	6121	6322	6391	1456	2485	4920	5322	6614	8606	11242	11713
Germany	26658	44397	61990	72664	0	271	8004	31771	26658	44668	69994	104435
Estonia	54	337	981	974	n.a.	n.a.	n.a.	563	54	337	981	1537
Ireland	n.a.	4701	7525	10228	n.a.	116	814	1742	1588	4817	8339	11970
Greece	1267	3129	9674	16125	n.a.	n.a.	n.a.	672	1267	3129	9674	16797
Spain	20729	40978	56786	70502	0	0	300	7753	20729	40978	57086	78254
France	1128	11638	22634	39900	0	0	8000	18000	1128	11638	30634	57900
Italy	2558	8398	13199	18000	0	0	453	2000	2558	8398	13652	20000
Cyprus	0	31	300	499	n.a.	n.a.	n.a.	n.a.	0	31	300	499
Latvia	47	58	228	519	n.a.	n.a.	n.a.	391	47	58	228	910
Lithuania	2	297	924	1250	0	0	0	0	2	297	924	1250
Luxembourg	52	60	192	239	0	0	0	0	52	60	192	239
Hungary	n.a.	692	1377	1545	n.a.	0	0	0	n.a.	692	1377	1545
Malta	n.a.	0	17	38	n.a.	0	0	216	0	0	17	255
Netherlands	2067	3667	9508	13372	0	803	4147	19036	2067	4470	13655	32408
Austria	1343	2034	3780	4811	0	0	0	0	1343	2034	3780	4811
Poland	136	2310	7370	13160	0	0	0	1500	136	2310	7541	15210
Portugal	1773	10214	13420	14416	0	0	60	180	1773	10214	13400	14596
Romania	0	460	6614	8400	0	0	0	0	0	460	6614	8400
Slovenia	0	2	109	191	0	0	0	0	0	2	109	191
Slovakia	7	7	480	560	0	0	0	0	7	7	480	560
Finland	150	n.a.	n.a.	3500	0	n.a.	n.a.	2500	150	360	1520	6000
Sweden	877	4585	8292	12000	62	208	354	500	939	4793	8646	12500
United Kingdom	2501	9520	20610	34150	403	4630	18820	44120	2904	14150	39430	78270
All Member States (total)	66853	155535	257701	351796	1921	8664	49856	142466	70362	164559	309168	494812

See Table 108 on page 136 for corresponding wind power capacity data.

For Finland no breakdown into onshore and offshore wind power has been specified after 2005. For Ireland the energy production has not been allocated to either onshore or offshore wind power for the year 2005. Therefore, the sum of the subcategories is lower than the value for *All Member States (total)*. Poland reports micro-wind separately from onshore wind, which results in a difference between onshore and total electricity production.

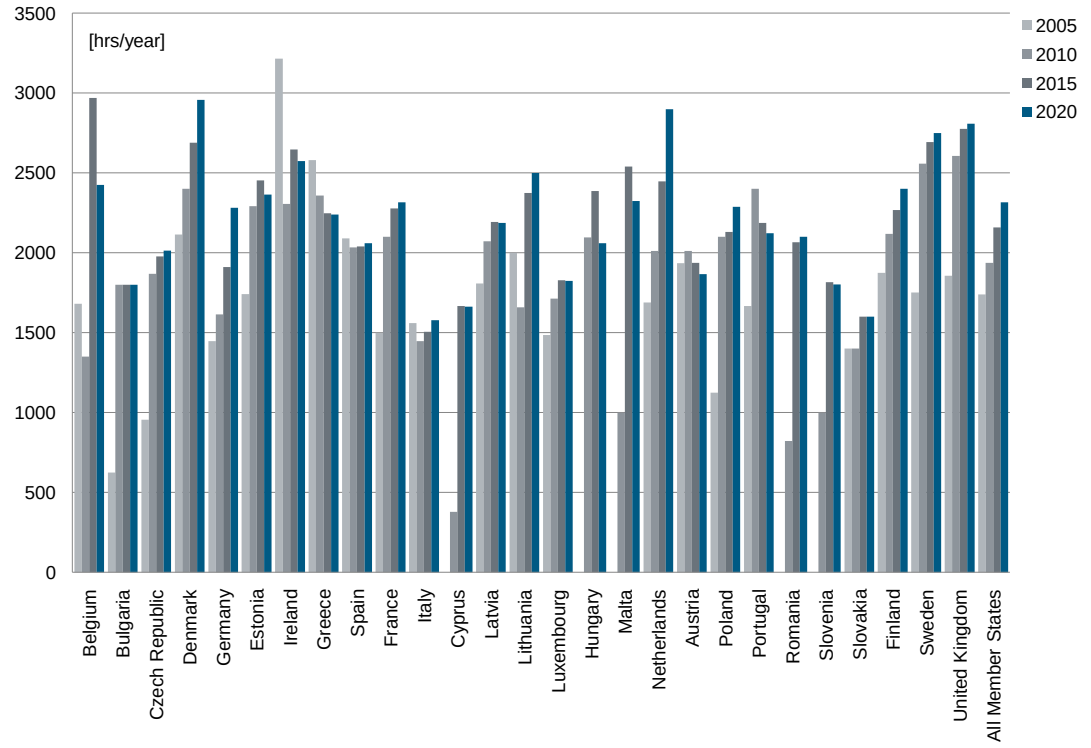


Figure 35: *Calculated average number of full load hours for total wind power [hrs/year] for the period 2005 - 2020*

Table 112: *Calculated average number of full load hours for total wind power [hrs/year] for the period 2005 - 2020*

	2005 [hrs/year]	2010 [hrs/year]	2015 [hrs/year]	2020 [hrs/year]
Belgium	1680	1351	2970	2425
Bulgaria	625	1801	1800	1800
Czech Republic	955	1868	1978	2013
Denmark	2114	2401	2689	2958
Germany	1448	1614	1910	2283
Estonia	1742	2293	2453	2365
Ireland	3215	2307	2646	2575
Greece	2580	2358	2248	2240
Spain	2090	2033	2039	2059
France	1500	2100	2278	2316
Italy	1561	1448	1506	1577
Cyprus	n.a.	378	1667	1663
Latvia	1808	2071	2192	2188
Lithuania	2000	1659	2375	2500
Luxembourg	1486	1714	1829	1824
Hungary	n.a.	2097	2386	2060
Malta	n.a.	1000	2539	2324
Netherlands	1689	2013	2448	2899
Austria	1935	2012	1937	1866
Poland	1124	2100	2130	2287
Portugal	1668	2400	2188	2123
Romania	0	821	2067	2100
Slovenia	n.a.	1000	1817	1802
Slovakia	1400	1400	1600	1600
Finland	1875	2118	2269	2400
Sweden	1752	2559	2693	2749
United Kingdom	1856	2606	2775	2807
All Member States (average)	1740	1938	2159	2317

The full load hours have been calculated based total wind power (onshore and offshore wind power)

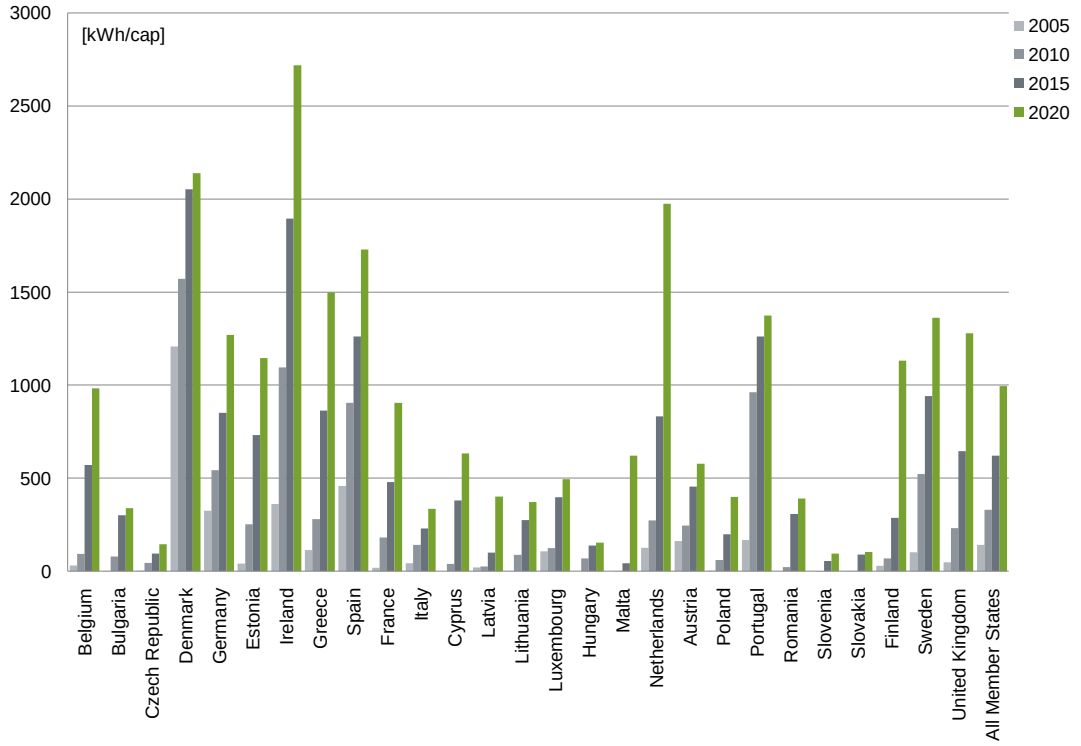


Figure 36: *Calculated per capita (2008) electricity generation for total wind power [kWh/cap] for the period 2005 - 2020*

Table 113: *Calculated per capita (2008) electricity generation for total wind power [kWh/cap] for the period 2005 - 2020*

	2005 [kWh/cap]	2010 [kWh/cap]	2015 [kWh/cap]	2020 [kWh/cap]
Belgium	30	93	570	982
Bulgaria	1	79	300	339
Czech Republic	2	44	94	144
Denmark	1208	1572	2053	2139
Germany	324	543	851	1270
Estonia	40	251	732	1146
Ireland	361	1094	1895	2720
Greece	113	279	863	1498
Spain	458	905	1261	1728
France	18	182	479	905
Italy	43	141	229	335
Cyprus	0	39	380	632
Latvia	21	26	100	401
Lithuania	1	88	274	371
Luxembourg	107	124	397	494
Hungary	n.a.	69	137	154
Malta	0	0	43	621
Netherlands	126	272	832	1975
Austria	161	245	454	578
Poland	4	61	198	399
Portugal	167	962	1262	1375
Romania	0	21	307	390
Slovenia	0	1	54	95
Slovakia	1	1	89	104
Finland	28	68	287	1132
Sweden	102	522	942	1361
United Kingdom	47	231	644	1279
All Member States (average)	141	331	621	994

The per capita indicator has been calculated based total wind power (onshore and offshore wind power)

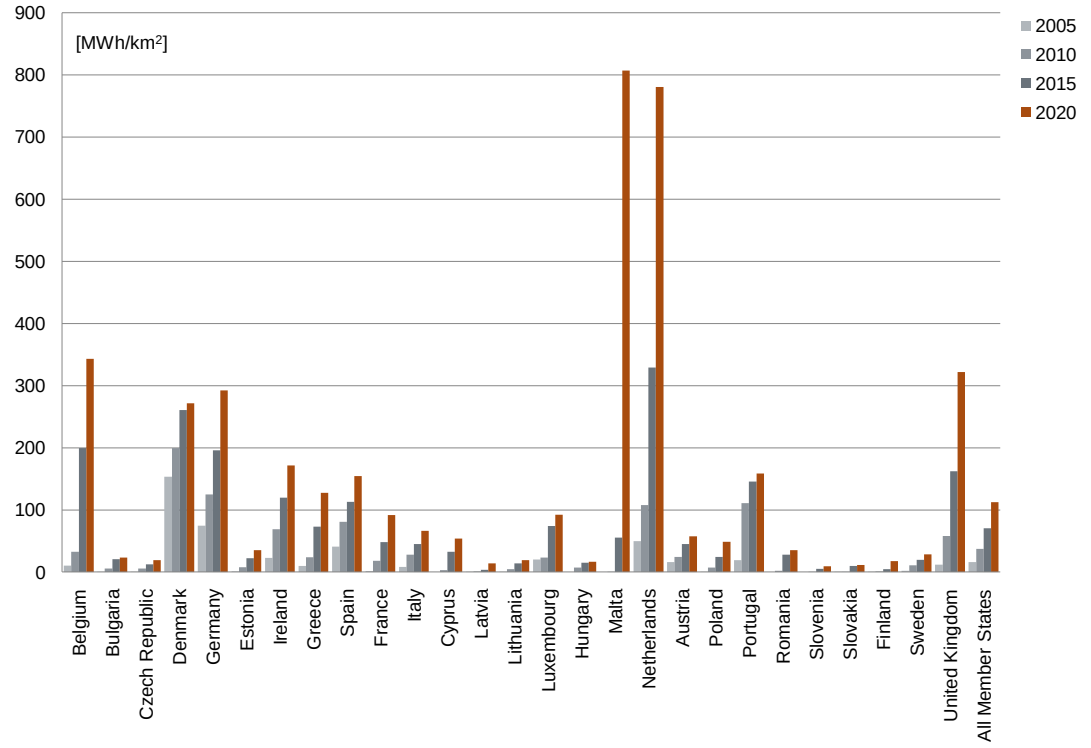


Figure 37: *Calculated per surface area (2004) electricity generation for total wind power [MWh/km^2] for the period 2005 - 2020*

Table 114: *Calculated per surface area (2004) electricity generation for total wind power [MWh/km^2] for the period 2005 - 2020*

	2005 [MWh/km^2]	2010 [MWh/km^2]	2015 [MWh/km^2]	2020 [MWh/km^2]
Belgium	10.5	32.4	199.3	343.1
Bulgaria	0.0	5.5	20.7	23.4
Czech Republic	0.3	5.8	12.4	19.0
Denmark	153.5	199.7	260.8	271.8
Germany	74.7	125.1	196.0	292.5
Estonia	1.2	7.7	22.4	35.2
Ireland	22.8	69.0	119.5	171.5
Greece	9.6	23.7	73.3	127.3
Spain	41.0	81.0	112.8	154.7
France	1.8	18.4	48.4	91.5
Italy	8.5	27.9	45.3	66.4
Cyprus	0.0	3.4	32.4	53.9
Latvia	0.7	0.9	3.5	14.1
Lithuania	0.0	4.5	14.2	19.1
Luxembourg	20.1	23.2	74.2	92.4
Hungary	n.a.	7.4	14.8	16.6
Malta	0.0	0.0	55.4	807.0
Netherlands	49.8	107.6	328.8	780.4
Austria	16.0	24.3	45.1	57.4
Poland	0.4	7.4	24.1	48.6
Portugal	19.3	111.0	145.6	158.6
Romania	0.0	1.9	27.7	35.2
Slovenia	0.0	0.1	5.4	9.4
Slovakia	0.1	0.1	9.8	11.4
Finland	0.4	1.1	4.5	17.7
Sweden	2.1	10.9	19.6	28.3
United Kingdom	11.9	58.2	162.2	322.0
All Member States (average)	16.0	37.4	70.2	112.4

The per area indicator has been calculated based total wind power (onshore and offshore wind power)

Biomass electricity

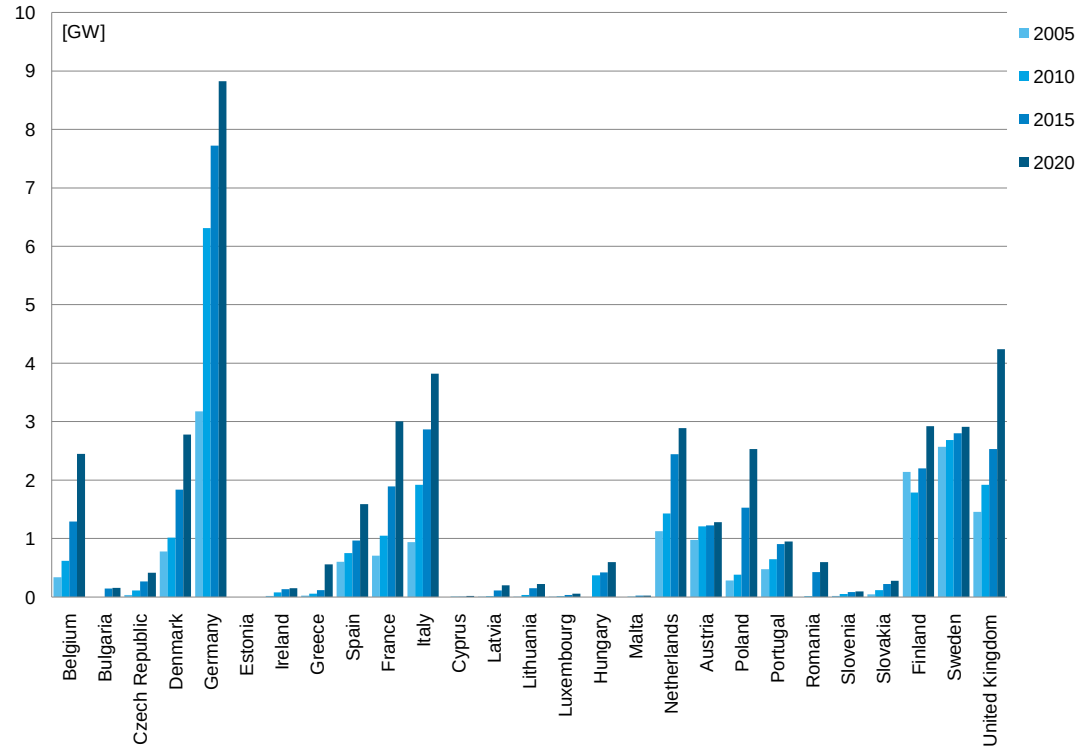


Figure 38: *Projected total biomass electric capacity [GW] for the period 2005 - 2020, all biomass input categories*

Table 115: *Projected total biomass electric capacity [MW] for the period 2005 - 2020, all biomass input categories*

	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2020 [%]
Belgium	340	618	1290	2452	6
Bulgaria	0	0	147	158	0
Czech Republic	36	113	267	417	1
Denmark	777	1017	1837	2779	6
Germany	3174	6312	7721	8825	20
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	20	77	137	153	0
Greece	24	60	120	560	1
Spain	601	752	965	1587	4
France	707	1052	1895	3007	7
Italy	937	1918	2869	3820	9
Cyprus	0	6	10	17	0
Latvia	10	13	110	200	0
Lithuania	5	34	150	224	1
Luxembourg	9	13	36	59	0
Hungary	n.a.	374	420	600	1
Malta	0	3	23	23	0
Netherlands	1128	1430	2443	2892	7
Austria	976	1211	1228	1281	3
Poland	286	380	1530	2530	6
Portugal	476	647	907	952	2
Romania	0	14	425	600	1
Slovenia	18	51	83	96	0
Slovakia	49	118	225	280	1
Finland	2140	1790	2200	2920	7
Sweden	2568	2683	2799	2914	7
United Kingdom	1458	1920	2530	4240	10
All Member States (total)	15739	22605	32367	43585	**100**

More information on subcategories for biomass electric capacity is presented in Table 117 on page 146.
See Table 118 on page 147 for corresponding biomass electricity electricity production data.

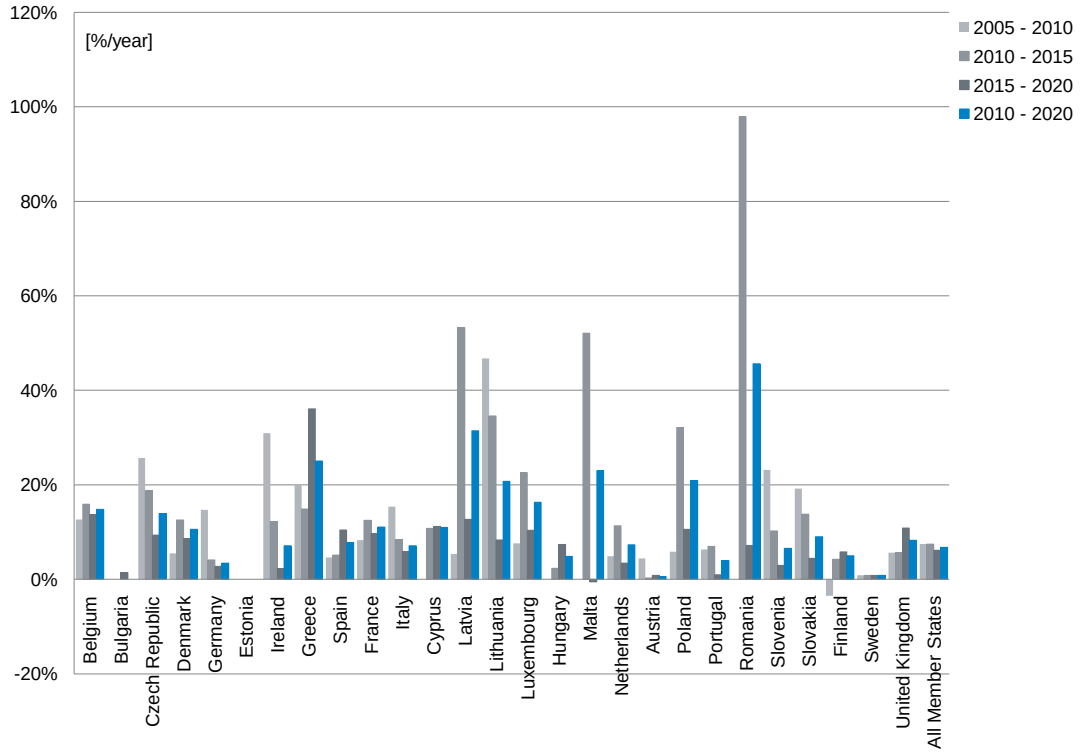


Figure 39: *Calculated average annual growth for capacity of biomass electricity [%/year] for four periods, all biomass input categories*

Table 116: *Calculated average annual growth for capacity of biomass electricity [%/year] for four periods, all biomass input categories*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	12.7	15.9	13.7	14.8
Bulgaria	n.a.	n.a.	1.5	n.a.
Czech Republic	25.7	18.8	9.3	13.9
Denmark	5.5	12.6	8.6	10.6
Germany	14.7	4.1	2.7	3.4
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	30.9	12.2	2.2	7.1
Greece	20.1	14.9	36.1	25.0
Spain	4.6	5.1	10.5	7.8
France	8.3	12.5	9.7	11.1
Italy	15.4	8.4	5.9	7.1
Cyprus	n.a.	10.8	11.2	11.0
Latvia	5.4	53.3	12.7	31.4
Lithuania	46.7	34.6	8.4	20.7
Luxembourg	7.6	22.6	10.4	16.3
Hungary	n.a.	2.3	7.4	4.8
Malta	n.a.	52.1	-0.5	23.0
Netherlands	4.9	11.3	3.4	7.3
Austria	4.4	0.3	0.8	0.6
Poland	5.8	32.1	10.6	20.9
Portugal	6.3	7.0	1.0	3.9
Romania	n.a.	97.9	7.1	45.6
Slovenia	23.2	10.2	3.0	6.5
Slovakia	19.2	13.8	4.5	9.0
Finland	-3.5	4.2	5.8	5.0
Sweden	0.9	0.9	0.8	0.8
United Kingdom	5.7	5.7	10.9	8.2
All Member States (average)	7.5	7.4	6.1	6.8

Table 117: *Projected biomass electric capacity [MW] for the period 2005 - 2020, all biomass input categories*

	Solid biomass				Biogas				Bioliquids				Total biomass			
	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]	2005 [MW]	2010 [MW]	2015 [MW]	2020 [MW]
Belgium	270	498	1052	2007	57	106	224	427	13	14	15	18	340	618	1290	2452
Bulgaria	0	0	89	93	0	0	58	65	0	0	0	0	0	0	147	158
Czech Republic	n.a.	n.a.	n.a.	n.a.	36	113	267	417	n.a.	n.a.	n.a.	n.a.	36	113	267	417
Denmark	740	991	1717	2404	37	26	95	349	0	0	26	26	777	1017	1837	2779
Germany	2427	3707	4358	4792	693	2368	3126	3796	54	237	237	237	3174	6312	7721	8825
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	2	15	75	91	18	62	62	62	0	0	0	0	20	77	137	153
Greece	n.a.	20	20	350	24	40	100	210	n.a.	n.a.	n.a.	n.a.	24	60	120	560
Spain	449	596	745	1187	152	156	220	400	0	0	0	0	601	752	965	1587
France	623	888	1531	2382	84	164	363	625	0	0	0	0	707	1052	1895	3007
Italy	653	1026	1333	1640	284	453	826	1200	0	439	710	980	937	1918	2869	3820
Cyprus	n.a.	n.a.	n.a.	n.a.	0	6	10	17	n.a.	n.a.	n.a.	n.a.	0	6	10	17
Latvia	3	2	46	108	7	11	64	92	n.a.	n.a.	n.a.	n.a.	10	13	110	200
Lithuania	2	22	115	162	3	12	35	62	0	0	0	0	5	34	150	224
Luxembourg	4	5	13	30	5	8	23	29	n.a.	0	0	0	9	13	36	59
Hungary	n.a.	360	377	500	n.a.	14	43	100	n.a.	n.a.	n.a.	n.a.	n.a.	374	420	600
Malta	n.a.	0	15	15	n.a.	3	8	7	n.a.	n.a.	n.a.	n.a.	0	3	23	23
Netherlands	966	1214	2062	2253	162	216	381	639	0	0	0	0	1128	1430	2443	2892
Austria	892	1099	1114	1164	72	97	100	102	12	15	15	15	976	1211	1228	1281
Poland	268	300	1300	1550	18	80	230	980	0	0	0	0	286	380	1530	2530
Portugal	178	273	367	367	9	39	105	150	289	334	435	435	476	647	907	952
Romania	0	10	300	405	0	4	125	195	0	0	0	0	0	14	425	600
Slovenia	15	22	24	34	3	30	58	61	0	0	n.a.	n.a.	18	51	83	96
Slovakia	47	100	145	170	2	18	80	110	n.a.	n.a.	n.a.	n.a.	49	118	225	280
Finland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2140	1790	2200	2920
Sweden	2526	2641	2757	2872	42	42	42	42	n.a.	n.a.	n.a.	n.a.	2568	2683	2799	2914
United Kingdom	501	580	1290	3140	957	1340	1240	1100	n.a.	0	0	0	1458	1920	2530	4240
All Member States (total)	10566	14369	20845	27716	2665	5407	7884	11237	368	1039	1438	1711	15739	22605	32367	43585

See Table 120 on page 149 for corresponding biomass electricity electricity production data.

For Finland no breakdown into biomass input types has been provided. Therefore, the sum of all categories is lower than the value for *All Member States (total)*.

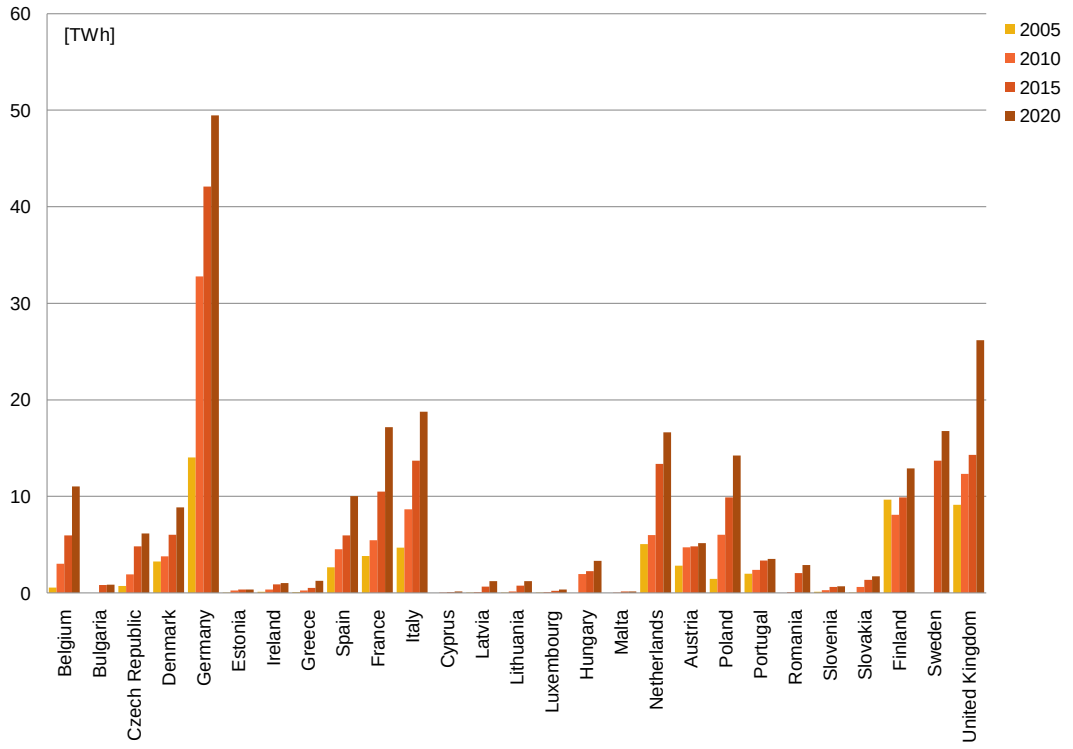


Figure 40: *Projected total biomass electricity generation [TWh] for the period 2005 - 2020, all biomass input categories*

Table 118: *Projected total biomass electricity generation [GWh] for the period 2005 - 2020, all biomass input categories*

	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2020 [%]
Belgium	540	3007	5952	11039	5
Bulgaria	0	0	803	865	0
Czech Republic	721	1930	4819	6165	3
Denmark	3243	3772	6035	8846	4
Germany	14025	32778	42090	49457	21
Estonia	33	241	346	346	0
Ireland	116	347	887	1006	0
Greece	94	254	504	1259	1
Spain	2653	4517	5962	10017	4
France	3819	5441	10496	17171	7
Italy	4675	8645	13712	18780	8
Cyprus	0	30	84	143	0
Latvia	41	72	664	1226	1
Lithuania	7	147	761	1223	1
Luxembourg	46	70	200	334	0
Hungary	n.a.	1955	2250	3324	1
Malta	0	9	140	135	0
Netherlands	5041	5975	13350	16639	7
Austria	2823	4720	4826	5147	2
Poland	1451	6028	9893	14218	6
Portugal	1976	2400	3358	3516	2
Romania	0	67	2050	2900	1
Slovenia	114	298	623	676	0
Slovakia	32	610	1349	1710	1
Finland	9660	8090	9880	12910	6
Sweden	n.a.	n.a.	13693	16754	7
United Kingdom	9109	12330	14290	26160	11
All Member States (total)	60219	103733	169017	231966	**100**

More information on subcategories for biomass electricity generation is presented in Table 120 on page 149.
See Table 115 on page 144 for corresponding biomass electricity capacity data.
As indicated in section 1.5.26 the subtotal for *Biomass* in Sweden does not include liquid energy carriers. For this reason the sum of all subcategories is 65 GWh higher than the value for *All Member States (total)*.

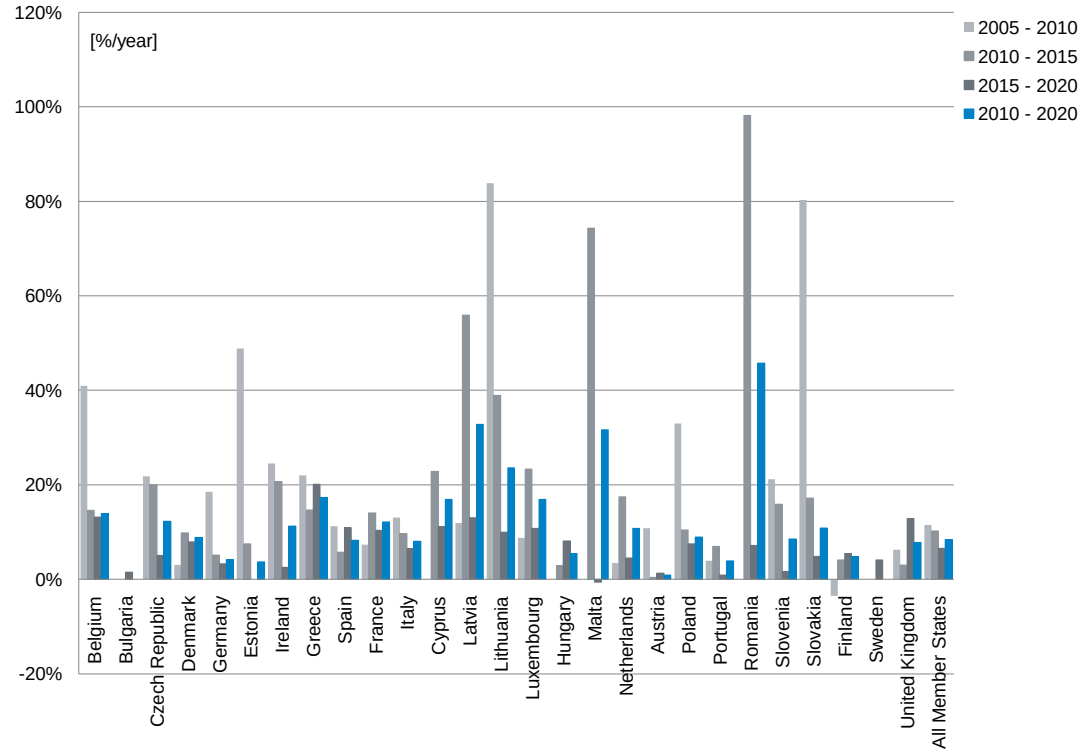


Figure 41: *Calculated average annual growth for generation from biomass electricity [%/year] for four periods, all biomass input categories*

Table 119: *Calculated average annual growth for generation from biomass electricity [%/year] for four periods, all biomass input categories*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	41.0	14.6	13.1	13.9
Bulgaria	n.a.	n.a.	1.5	n.a.
Czech Republic	21.8	20.1	5.0	12.3
Denmark	3.1	9.9	7.9	8.9
Germany	18.5	5.1	3.3	4.2
Estonia	48.8	7.5	0.0	3.7
Ireland	24.5	20.6	2.5	11.2
Greece	22.0	14.7	20.1	17.4
Spain	11.2	5.7	10.9	8.3
France	7.3	14.0	10.3	12.2
Italy	13.1	9.7	6.5	8.1
Cyprus	n.a.	22.9	11.2	16.9
Latvia	11.9	55.9	13.0	32.8
Lithuania	83.8	38.9	10.0	23.6
Luxembourg	8.8	23.4	10.8	16.9
Hungary	n.a.	2.9	8.1	5.5
Malta	n.a.	74.3	-0.6	31.6
Netherlands	3.5	17.4	4.5	10.8
Austria	10.8	0.4	1.3	0.9
Poland	33.0	10.4	7.5	9.0
Portugal	4.0	6.9	0.9	3.9
Romania	n.a.	98.2	7.2	45.8
Slovenia	21.2	15.9	1.6	8.5
Slovakia	80.3	17.2	4.9	10.9
Finland	-3.5	4.1	5.5	4.8
Sweden	n.a.	n.a.	4.1	n.a.
United Kingdom	6.2	3.0	12.9	7.8
All Member States (average)	11.5	10.3	6.5	8.4

Table 120: *Projected biomass electricity generation [GWh] for the period 2005 - 2020, broken down into biomass input categories*

	Solid biomass				Biogas				Bioliquids				Total biomass			
	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]	2005 [GWh]	2010 [GWh]	2015 [GWh]	2020 [GWh]
Belgium	1521	2580	5145	9575	235	393	777	1439	35	34	30	25	540	3007	5952	11039
Bulgaria	0	0	490	514	0	0	313	351	0	0	0	0	0	0	803	865
Czech Republic	560	1306	3065	3294	161	624	1754	2871	0	0	0	0	721	1930	4819	6165
Denmark	2960	3578	5312	6345	283	194	721	2493	0	0	1	8	3243	3772	6035	8846
Germany	10044	17498	21695	24569	3652	13829	18946	23438	329	1450	1450	1450	14025	32778	42090	49457
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	33	241	346	346
Ireland	8	28	567	687	108	320	320	319	0	0	0	0	116	347	887	1006
Greece	n.a.	73	73	364	94	181	431	895	n.a.	n.a.	n.a.	n.a.	94	254	504	1259
Spain	2029	3719	4660	7400	623	799	1302	2617	0	0	0	0	2653	4517	5962	10017
France	3341	4506	8366	13470	478	935	2129	3701	0	0	0	0	3819	5441	10496	17171
Italy	3477	4758	6329	7900	1198	2129	4074	6020	0	1758	3309	4860	4675	8645	13712	18780
Cyprus	n.a.	n.a.	n.a.	n.a.	0	30	84	143	n.a.	n.a.	n.a.	n.a.	0	30	84	143
Latvia	5	8	271	642	36	64	393	584	n.a.	n.a.	n.a.	n.a.	41	72	664	1226
Lithuania	3	98	533	810	4	50	228	413	0	0	0	0	7	147	761	1223
Luxembourg	19	25	77	190	27	44	123	144	n.a.	0	0	0	46	70	200	334
Hungary	n.a.	1870	1988	2688	n.a.	85	262	636	n.a.	n.a.	n.a.	n.a.	n.a.	1955	2250	3324
Malta	n.a.	0	86	86	n.a.	9	54	50	n.a.	n.a.	n.a.	n.a.	0	9	140	135
Netherlands	4758	5103	11189	11975	283	872	2161	4664	0	0	0	0	5041	5975	13350	16639
Austria	2507	4131	4223	4530	283	553	567	581	33	36	36	36	2823	4720	4826	5147
Poland	1340	5700	8950	10200	111	328	943	4018	0	0	0	0	1451	6028	9893	14218
Portugal	934	1092	1468	1468	34	138	368	525	1008	1170	1523	1523	1976	2400	3358	3516
Romania	0	48	1450	1950	0	19	600	950	0	0	0	0	0	67	2050	2900
Slovenia	82	150	272	309	32	148	351	367	0	0	n.a.	n.a.	114	298	623	676
Slovakia	27	540	725	850	5	70	624	860	n.a.	n.a.	n.a.	n.a.	32	610	1349	1710
Finland	9640	3930	5300	7860	20	40	50	270	n.a.	4120	4530	4780	9660	8090	9880	12910
Sweden	7452	10513	13574	16635	53	53	53	53	65	65	65	65	n.a.	n.a.	13693	16754
United Kingdom	4347	5500	7990	20590	4762	6830	6300	5570	0	0	0	0	9109	12330	14290	26160
All Member States (total)	55054	76754	113798	154900	12482	28737	43928	63972	1470	8633	10944	12747	60219	103733	169017	231966

See Table 117 on page 146 for corresponding biomass electricity capacity data.

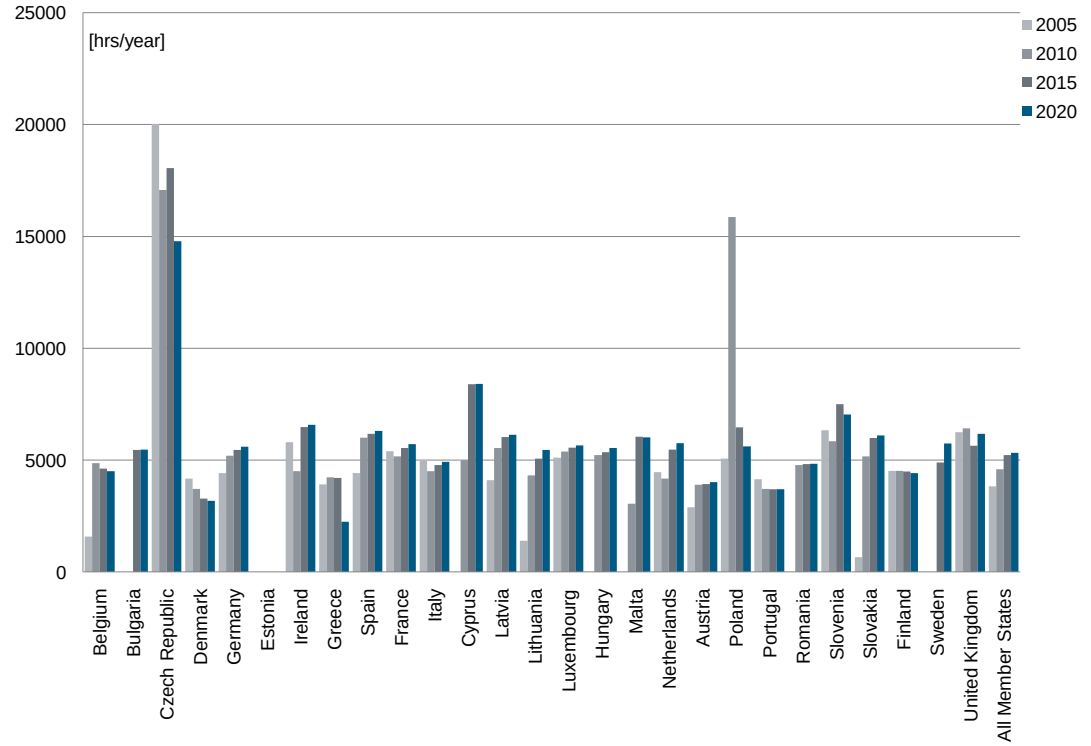


Figure 42: *Calculated average number of full load hours for total biomass electricity [hrs/year] for the period 2005 - 2020, all biomass input categories*

Table 121: *Calculated average number of full load hours for total biomass electricity [hrs/year] for the period 2005 - 2020, all biomass input categories*

	2005 [hrs/year]	2010 [hrs/year]	2015 [hrs/year]	2020 [hrs/year]
Belgium	1588	4869	4614	4503
Bulgaria	n.a.	n.a.	5463	5475
Czech Republic	20028	17080	18049	14784
Denmark	4174	3709	3285	3183
Germany	4419	5193	5451	5604
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	5800	4506	6474	6575
Greece	3917	4233	4200	2248
Spain	4414	6007	6178	6312
France	5402	5172	5539	5710
Italy	4989	4507	4779	4916
Cyprus	n.a.	5000	8400	8412
Latvia	4100	5538	6036	6130
Lithuania	1400	4324	5073	5460
Luxembourg	5111	5385	5556	5661
Hungary	n.a.	5227	5357	5540
Malta	n.a.	3056	6047	6016
Netherlands	4469	4178	5465	5753
Austria	2892	3898	3930	4018
Poland	5073	15863	6466	5620
Portugal	4151	3709	3702	3693
Romania	n.a.	4786	4824	4833
Slovenia	6333	5843	7506	7042
Slovakia	653	5169	5996	6107
Finland	4514	4520	4491	4421
Sweden	n.a.	n.a.	4892	5749
United Kingdom	6248	6422	5648	6170
All Member States (average)	3826	4589	5222	5322

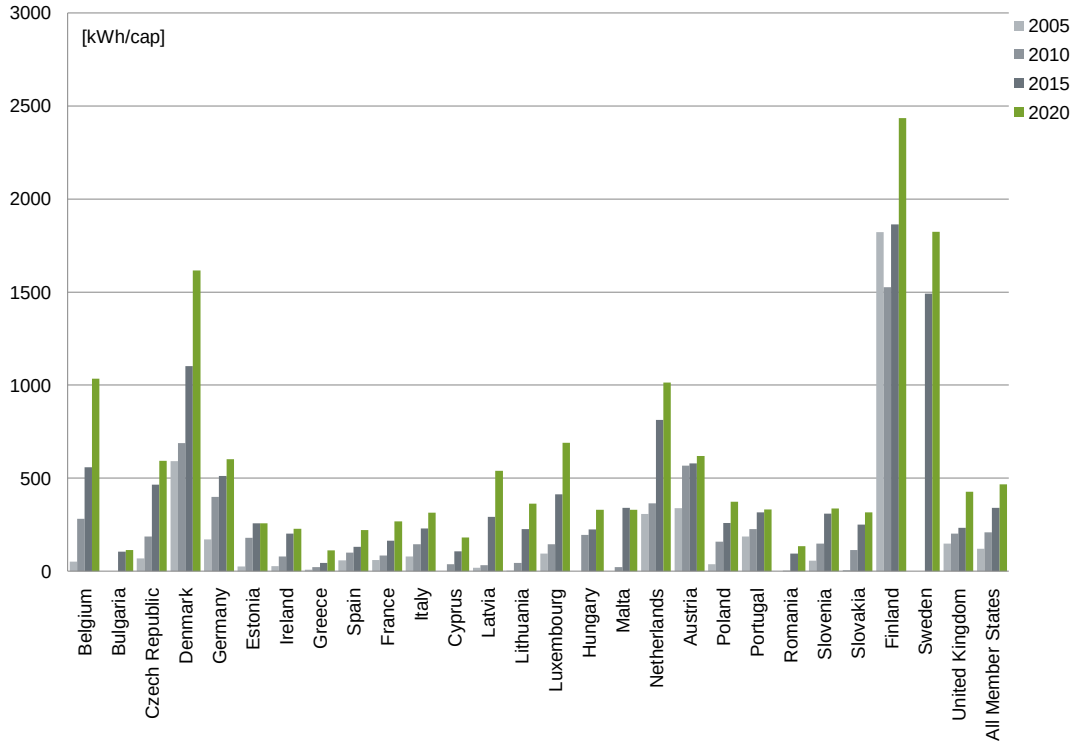


Figure 43: *Calculated per capita (2008) generation for total biomass electricity [kWh/cap] for the period 2005 - 2020, all biomass input categories*

Table 122: *Calculated per capita (2008) generation for total biomass electricity [kWh/cap] for the period 2005 - 2020, all biomass input categories*

	2005 [kWh/cap]	2010 [kWh/cap]	2015 [kWh/cap]	2020 [kWh/cap]
Belgium	51	282	558	1035
Bulgaria	0	0	105	113
Czech Republic	69	186	464	594
Denmark	592	689	1102	1615
Germany	171	399	512	602
Estonia	25	180	258	258
Ireland	26	79	202	229
Greece	8	23	45	112
Spain	59	100	132	221
France	60	85	164	268
Italy	78	145	230	315
Cyprus	0	38	106	181
Latvia	18	32	292	540
Lithuania	2	44	226	363
Luxembourg	95	145	413	690
Hungary	n.a.	195	224	331
Malta	0	21	341	330
Netherlands	307	364	814	1014
Austria	339	567	580	619
Poland	38	158	260	373
Portugal	186	226	316	331
Romania	0	3	95	135
Slovenia	57	148	310	336
Slovakia	6	113	250	317
Finland	1822	1526	1864	2436
Sweden	n.a.	n.a.	1491	1824
United Kingdom	149	202	234	428
All Member States (average)	121	208	340	466

The population data can be viewed in Table 14 (page 32)

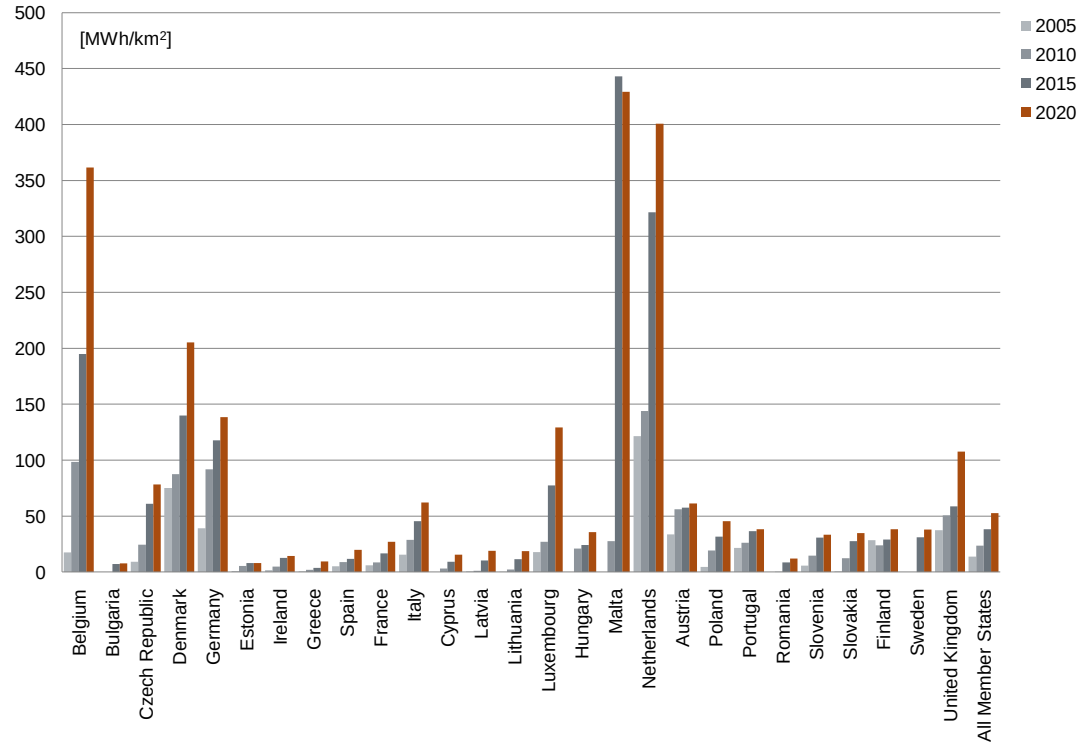


Figure 44: *Calculated per surface area (2004) generation for total biomass electricity [MWh/km^2] for the period 2005 - 2020*

Table 123: *Calculated per surface area (2004) generation for total biomass electricity [MWh/km^2] for the period 2005 - 2020*

	2005 [MWh/km^2]	2010 [MWh/km^2]	2015 [MWh/km^2]	2020 [MWh/km^2]
Belgium	17.7	98.5	195.0	361.6
Bulgaria	0.0	0.0	7.2	7.8
Czech Republic	9.1	24.5	61.1	78.2
Denmark	75.2	87.5	140.0	205.3
Germany	39.3	91.8	117.9	138.5
Estonia	0.8	5.5	7.9	7.9
Ireland	1.7	5.0	12.7	14.4
Greece	0.7	1.9	3.8	9.5
Spain	5.2	8.9	11.8	19.8
France	6.0	8.6	16.6	27.1
Italy	15.5	28.7	45.5	62.3
Cyprus	0.0	3.2	9.1	15.5
Latvia	0.6	1.1	10.3	19.0
Lithuania	0.1	2.3	11.7	18.7
Luxembourg	17.8	27.1	77.3	129.2
Hungary	n.a.	21.0	24.2	35.7
Malta	0.0	27.5	443.0	429.3
Netherlands	121.4	143.9	321.5	400.7
Austria	33.7	56.3	57.5	61.4
Poland	4.6	19.3	31.6	45.5
Portugal	21.5	26.1	36.5	38.2
Romania	0.0	0.3	8.6	12.2
Slovenia	5.6	14.7	30.7	33.3
Slovakia	0.7	12.4	27.5	34.9
Finland	28.6	23.9	29.2	38.2
Sweden	n.a.	n.a.	31.0	38.0
United Kingdom	37.5	50.7	58.8	107.6
All Member States (average)	13.7	23.6	38.4	52.7

The surface area data can be viewed in Table 14 (page 32)

Deep geothermal thermal energy

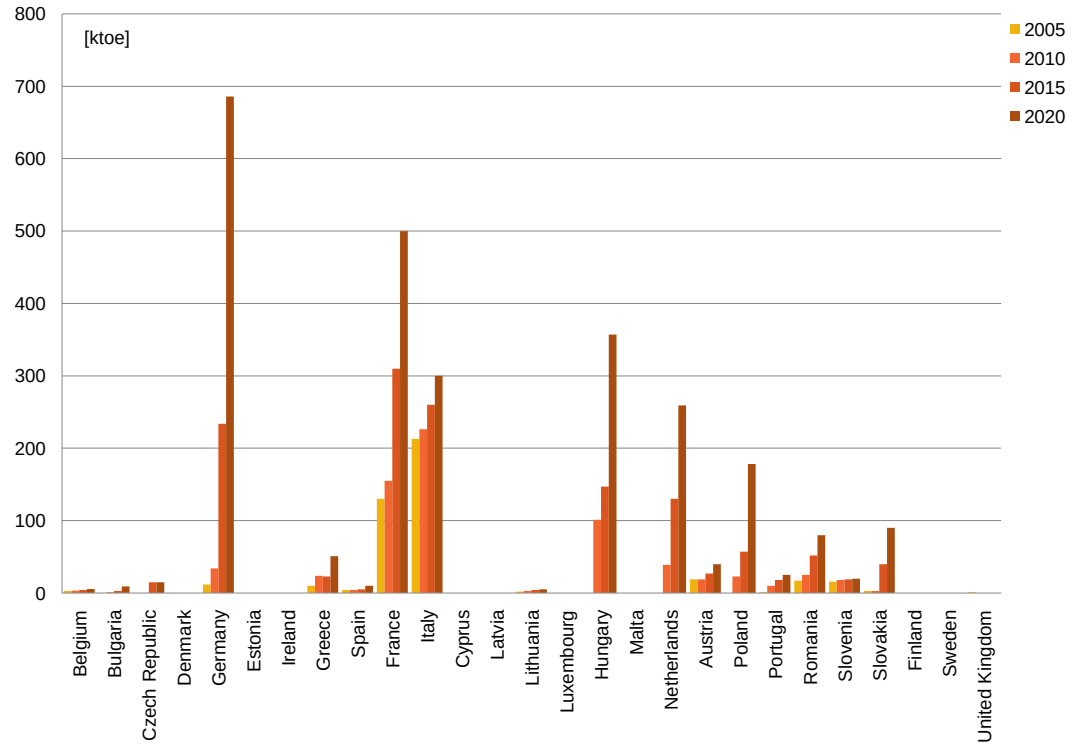


Figure 45: *Projected total geothermal heat energy [ktoe] for the period 2005 - 2020*

Table 124: *Projected total geothermal heat energy [ktoe] for the period 2005 - 2020*

	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	2.8	3.2	4.1	5.7	0
Bulgaria	n.a.	1	3	9	0
Czech Republic	0	0	15	15	1
Denmark	0	0	0	0	0
Germany	12	34	234	686	26
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	0	0	0	0	0
Greece	10	24	23	51	2
Spain	4	4	5	10	0
France	130	155	310	500	19
Italy	213	226	260	300	11
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.	n.a.
Lithuania	2	3	4	5	0
Luxembourg	n.a.	0	0	0	0
Hungary	n.a.	101	147	357	14
Malta	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	0	39	130	259	10
Austria	19	19	27	40	2
Poland	n.a.	23	57	178	7
Portugal	1	10	18	25	1
Romania	17	25	52	80	3
Slovenia	16	18	19	20	1
Slovakia	3	3	40	90	3
Finland	0	0	0	0	0
Sweden	n.a.	n.a.	n.a.	n.a.	n.a.
United Kingdom	1	n.a.	n.a.	n.a.	n.a.
All Member States (total)	430.8	688.2	1348.1	2630.7	**100**

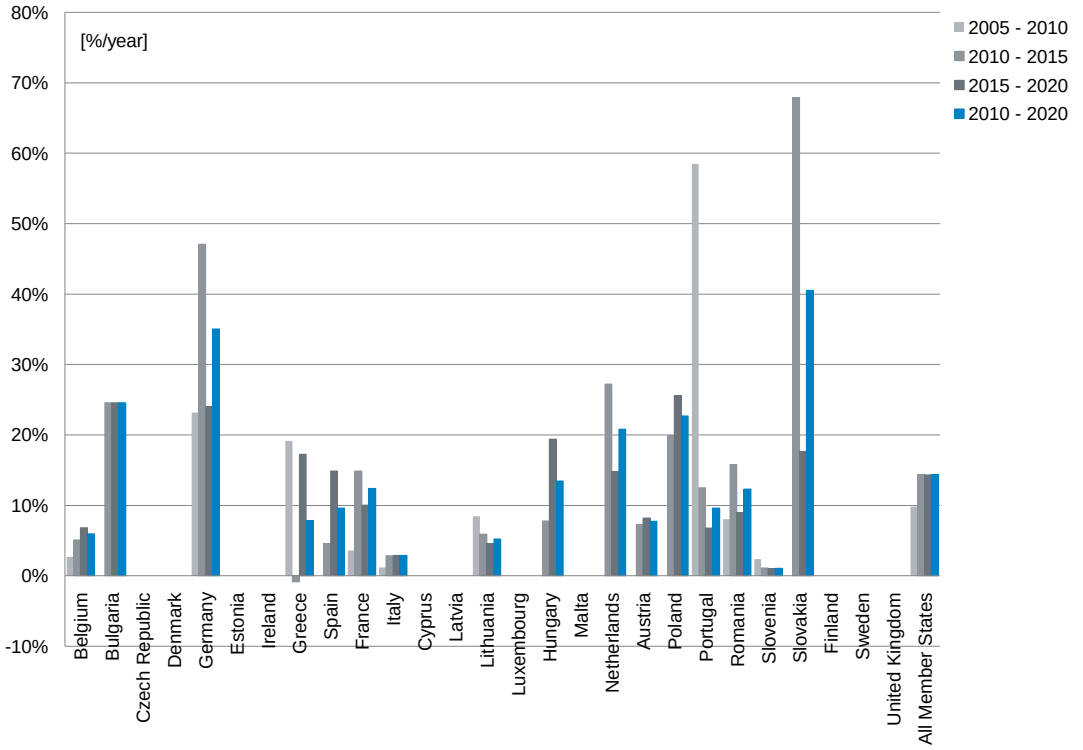


Figure 46: *Calculated average annual growth for energy from geothermal heat [%/year] for four periods*

Table 125: *Calculated average annual growth for energy from geothermal heat [%/year] for four periods*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	2.7	5.1	6.8	5.9
Bulgaria	n.a.	24.6	24.6	24.6
Czech Republic	n.a.	n.a.	0.0	n.a.
Denmark	n.a.	n.a.	n.a.	n.a.
Germany	23.2	47.1	24.0	35.0
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	n.a.	n.a.	n.a.
Greece	19.1	-0.8	17.3	7.8
Spain	0.0	4.6	14.9	9.6
France	3.6	14.9	10.0	12.4
Italy	1.2	2.8	2.9	2.9
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.
Lithuania	8.4	5.9	4.6	5.2
Luxembourg	n.a.	n.a.	n.a.	n.a.
Hungary	n.a.	7.8	19.4	13.5
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	n.a.	27.2	14.8	20.8
Austria	0.0	7.3	8.2	7.7
Poland	n.a.	19.9	25.6	22.7
Portugal	58.5	12.5	6.8	9.6
Romania	8.0	15.8	9.0	12.3
Slovenia	2.4	1.1	1.0	1.1
Slovakia	0.0	67.9	17.6	40.5
Finland	n.a.	n.a.	n.a.	n.a.
Sweden	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	n.a.	n.a.	n.a.
All Member States (average)	9.8	14.4	14.3	14.3

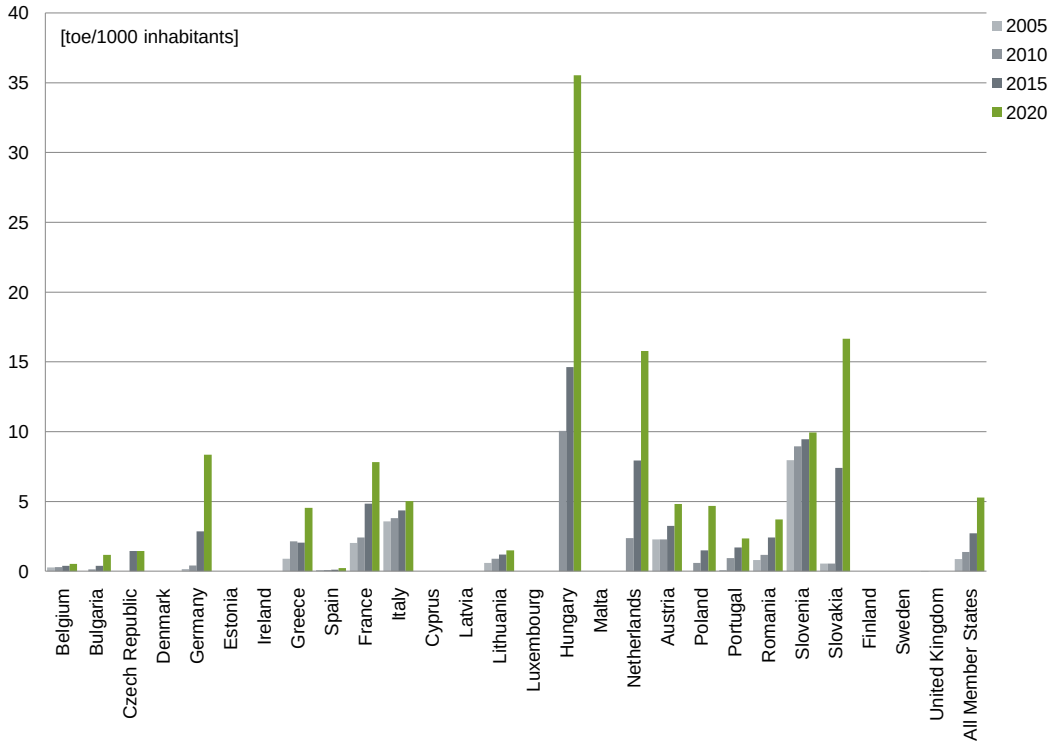


Figure 47: *Calculated per capita (2008) energy for total geothermal heat [toe/1000 inhabitants] for the period 2005 - 2020*

Table 126: *Calculated per capita (2008) energy for total geothermal heat [toe/1000 inhabitants] for the period 2005 - 2020*

	2005 [toe/1000 inhabitants]	2010 [toe/1000 inhabitants]	2015 [toe/1000 inhabitants]	2020 [toe/1000 inhabitants]
Belgium	0	0	0	1
Bulgaria	n.a.	0	0	1
Czech Republic	0	0	1	1
Denmark	0	0	0	0
Germany	0	0	3	8
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	0	0	0	0
Greece	1	2	2	5
Spain	0	0	0	0
France	2	2	5	8
Italy	4	4	4	5
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.
Lithuania	1	1	1	1
Luxembourg	n.a.	0	0	0
Hungary	n.a.	10	15	36
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	0	2	8	16
Austria	2	2	3	5
Poland	n.a.	1	1	5
Portugal	0	1	2	2
Romania	1	1	2	4
Slovenia	8	9	9	10
Slovakia	1	1	7	17
Finland	0	0	0	0
Sweden	n.a.	n.a.	n.a.	n.a.
United Kingdom	0	n.a.	n.a.	n.a.
All Member States (average)	1	1	3	5

The population data can be viewed in Table 14 (page 32)

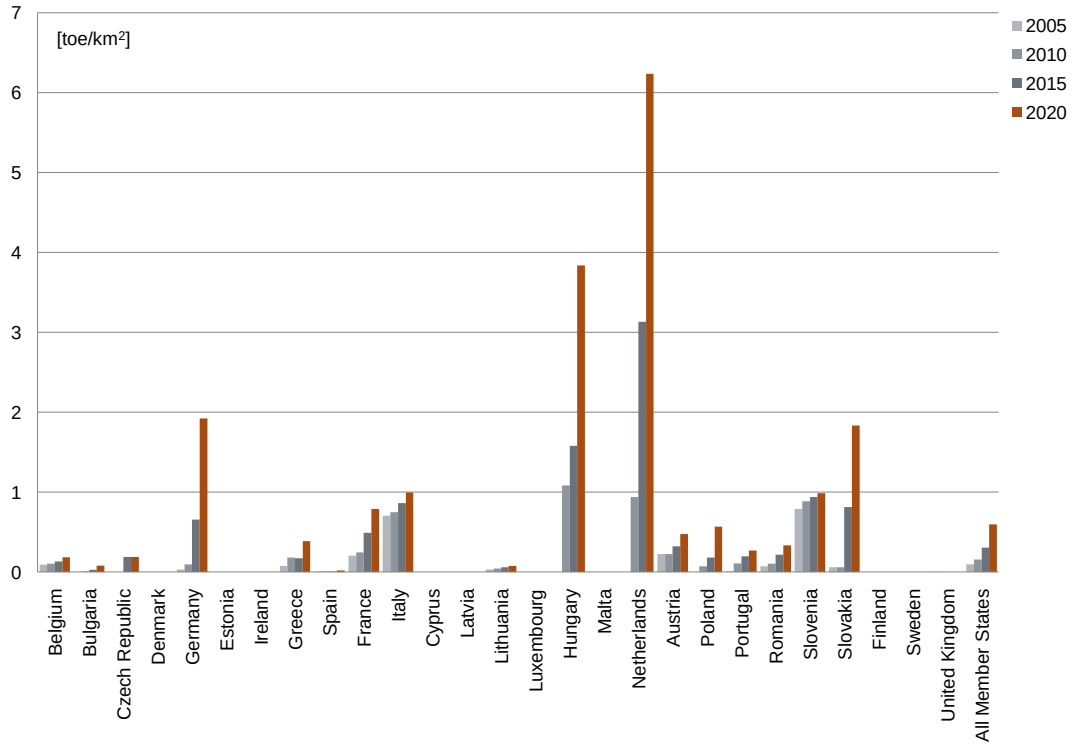


Figure 48: *Calculated per surface area (2004) energy for total geothermal heat [toe/km^2] for the period 2005 - 2020*

Table 127: *Calculated per surface area (2004) energy for total geothermal heat [toe/km^2] for the period 2005 - 2020*

	2005 [toe/km^2]	2010 [toe/km^2]	2015 [toe/km^2]	2020 [toe/km^2]
Belgium	0	0	0	0
Bulgaria	n.a.	0	0	0
Czech Republic	0	0	0	0
Denmark	0	0	0	0
Germany	0	0	1	2
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	0	0	0	0
Greece	0	0	0	0
Spain	0	0	0	0
France	0	0	0	1
Italy	1	1	1	1
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.
Lithuania	0	0	0	0
Luxembourg	n.a.	0	0	0
Hungary	n.a.	1	2	4
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	0	1	3	6
Austria	0	0	0	0
Poland	n.a.	0	0	1
Portugal	0	0	0	0
Romania	0	0	0	0
Slovenia	1	1	1	1
Slovakia	0	0	1	2
Finland	0	0	0	0
Sweden	n.a.	n.a.	n.a.	n.a.
United Kingdom	0	n.a.	n.a.	n.a.
All Member States (average)	0	0	0	1

The surface area data can be viewed in Table 14 (page 32)

Solar thermal energy

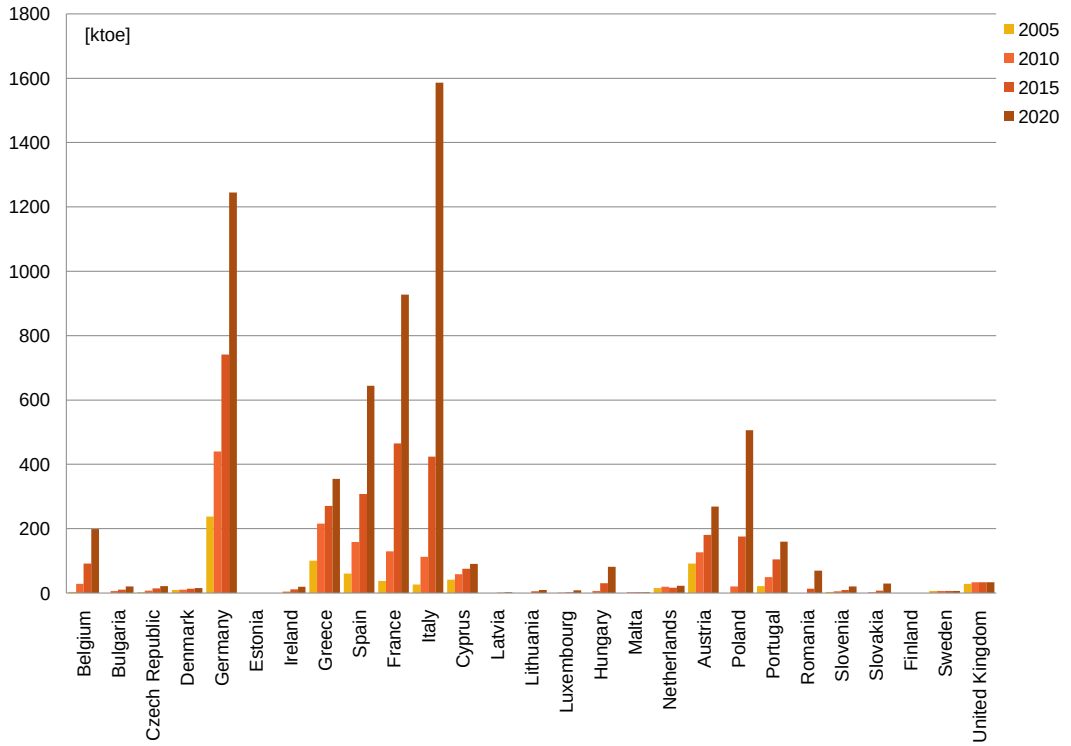


Figure 49: *Projected total solar thermal energy [ktoe] for the period 2005 - 2020*

Table 128: *Projected total solar thermal energy [ktoe] for the period 2005 - 2020*

	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	3	29	91	199	3
Bulgaria	n.a.	6	11	21	0
Czech Republic	2	7	15	22	0
Denmark	10	11	14	16	0
Germany	238	440	741	1245	20
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	0	4	12	20	0
Greece	101	216	271	355	6
Spain	61	159	308	644	10
France	38	130	465	927	15
Italy	27	113	424	1586	25
Cyprus	41	59	75	90	1
Latvia	0	0	1	2	0
Lithuania	0	0	5	9	0
Luxembourg	0	1	2	8	0
Hungary	n.a.	6	31	82	1
Malta	n.a.	3	3	3	0
Netherlands	16	20	17	23	0
Austria	92	127	181	269	4
Poland	n.a.	21	176	506	8
Portugal	22	50	105	160	3
Romania	0	0	14	70	1
Slovenia	3	5	10	21	0
Slovakia	0	2	7	30	0
Finland	0	0	0	0	0
Sweden	6	6	6	6	0
United Kingdom	29	34	34	34	1
All Member States (total)	690	1449	3019	6348	**100**

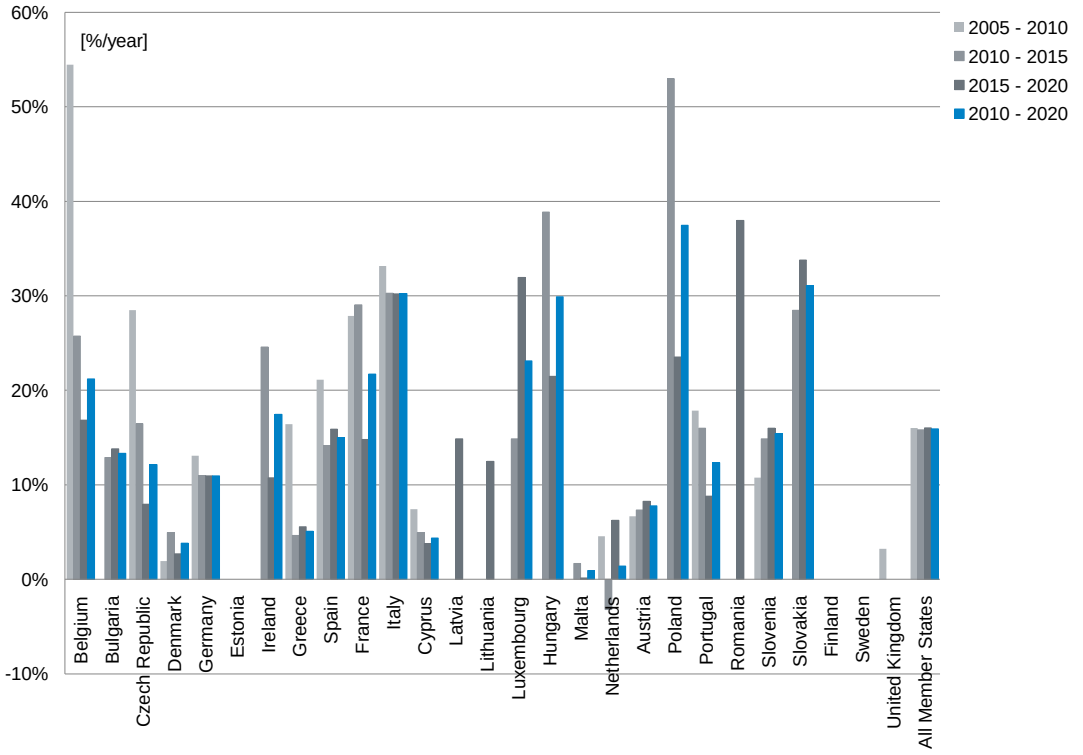


Figure 50: *Calculated average annual growth for energy from solar thermal [%/year] for four periods*

Table 129: *Calculated average annual growth for energy from solar thermal [%/year] for four periods*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	54.4	25.8	16.9	21.2
Bulgaria	n.a.	12.9	13.8	13.3
Czech Republic	28.5	16.5	8.0	12.1
Denmark	1.9	4.9	2.7	3.8
Germany	13.1	11.0	10.9	11.0
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	24.6	10.8	17.5
Greece	16.4	4.6	5.5	5.1
Spain	21.1	14.1	15.9	15.0
France	27.9	29.0	14.8	21.7
Italy	33.2	30.3	30.2	30.2
Cyprus	7.4	4.9	3.8	4.4
Latvia	n.a.	n.a.	14.9	n.a.
Lithuania	n.a.	n.a.	12.5	n.a.
Luxembourg	n.a.	14.9	32.0	23.1
Hungary	n.a.	38.9	21.5	29.9
Malta	n.a.	1.7	0.1	0.9
Netherlands	4.6	-3.2	6.2	1.4
Austria	6.7	7.3	8.2	7.8
Poland	n.a.	53.0	23.5	37.5
Portugal	17.8	16.0	8.8	12.3
Romania	n.a.	n.a.	38.0	n.a.
Slovenia	10.8	14.9	16.0	15.4
Slovakia	n.a.	28.5	33.8	31.1
Finland	n.a.	n.a.	n.a.	n.a.
Sweden	0.0	0.0	0.0	0.0
United Kingdom	3.2	0.0	0.0	0.0
All Member States (average)	16.0	15.8	16.0	15.9

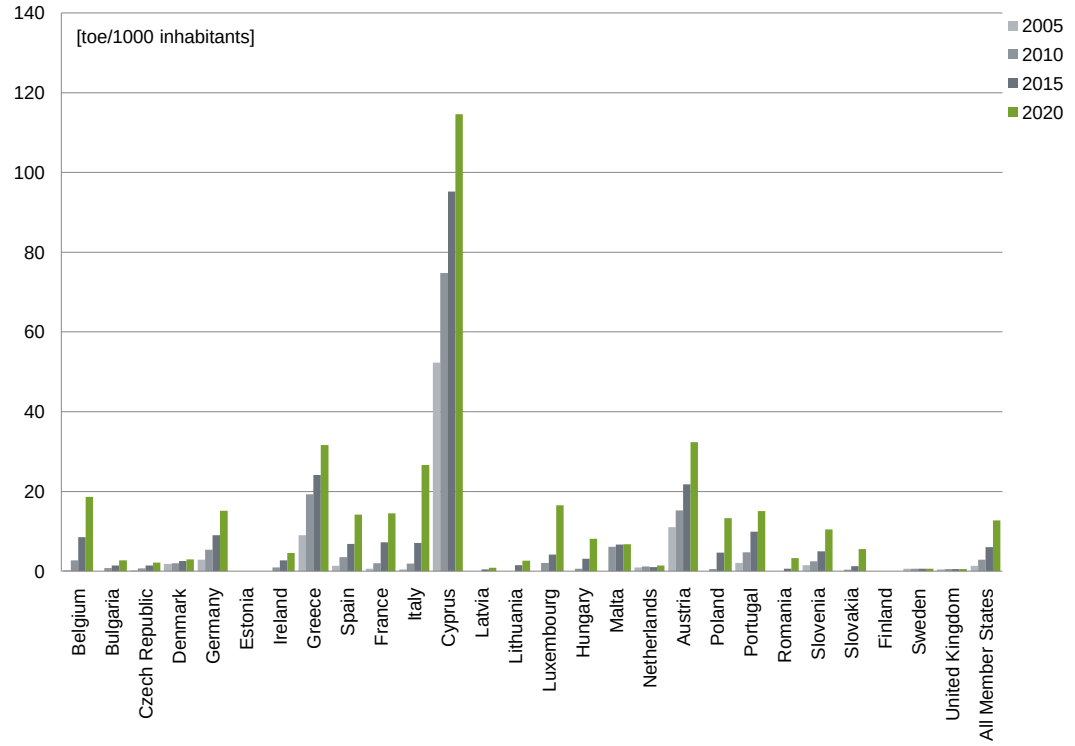


Figure 51: *Calculated per capita (2008) energy for total solar thermal [toe/1000 inhabitants] for the period 2005 - 2020*

Table 130: *Calculated per capita (2008) energy for total solar thermal [toe/1000 inhabitants] for the period 2005 - 2020*

	2005 [toe/1000 inhabitants]	2010 [toe/1000 inhabitants]	2015 [toe/1000 inhabitants]	2020 [toe/1000 inhabitants]
Belgium	0	3	9	19
Bulgaria	n.a.	1	1	3
Czech Republic	0	1	1	2
Denmark	2	2	3	3
Germany	3	5	9	15
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	0	1	3	5
Greece	9	19	24	32
Spain	1	4	7	14
France	1	2	7	14
Italy	0	2	7	27
Cyprus	52	75	95	115
Latvia	0	0	0	1
Lithuania	0	0	1	3
Luxembourg	0	2	4	17
Hungary	n.a.	1	3	8
Malta	n.a.	6	7	7
Netherlands	1	1	1	1
Austria	11	15	22	32
Poland	n.a.	1	5	13
Portugal	2	5	10	15
Romania	0	0	1	3
Slovenia	1	2	5	10
Slovakia	0	0	1	6
Finland	0	0	0	0
Sweden	1	1	1	1
United Kingdom	0	1	1	1
All Member States (average)	1	3	6	13

The population data can be viewed in Table 14 (page 32)

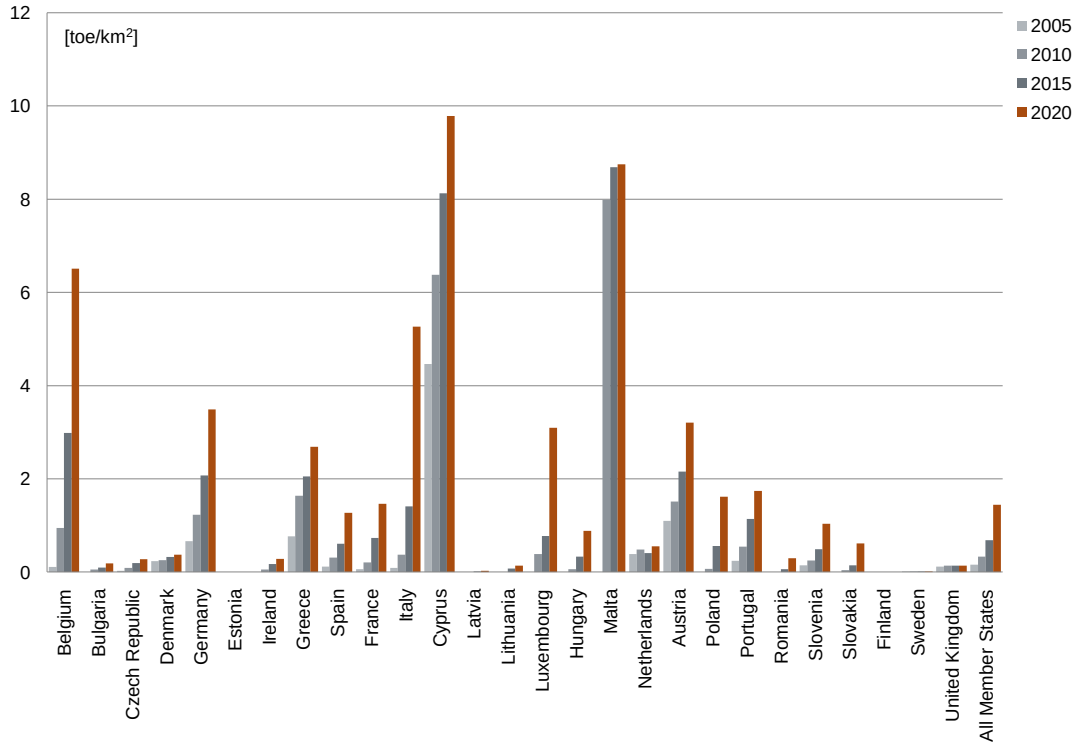


Figure 52: *Calculated per surface area (2004) energy for total solar thermal [toe/km^2] for the period 2005 - 2020*

Table 131: *Calculated per surface area (2004) energy for total solar thermal [toe/km^2] for the period 2005 - 2020*

	2005 [toe/km^2]	2010 [toe/km^2]	2015 [toe/km^2]	2020 [toe/km^2]
Belgium	0	1	3	7
Bulgaria	n.a.	0	0	0
Czech Republic	0	0	0	0
Denmark	0	0	0	0
Germany	1	1	2	3
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	0	0	0	0
Greece	1	2	2	3
Spain	0	0	1	1
France	0	0	1	1
Italy	0	0	1	5
Cyprus	4	6	8	10
Latvia	0	0	0	0
Lithuania	0	0	0	0
Luxembourg	0	0	1	3
Hungary	n.a.	0	0	1
Malta	n.a.	8	9	9
Netherlands	0	0	0	1
Austria	1	2	2	3
Poland	n.a.	0	1	2
Portugal	0	1	1	2
Romania	0	0	0	0
Slovenia	0	0	0	1
Slovakia	0	0	0	1
Finland	0	0	0	0
Sweden	0	0	0	0
United Kingdom	0	0	0	0
All Member States (average)	0	0	1	1

The surface area data can be viewed in Table 14 (page 32)

Biomass thermal energy

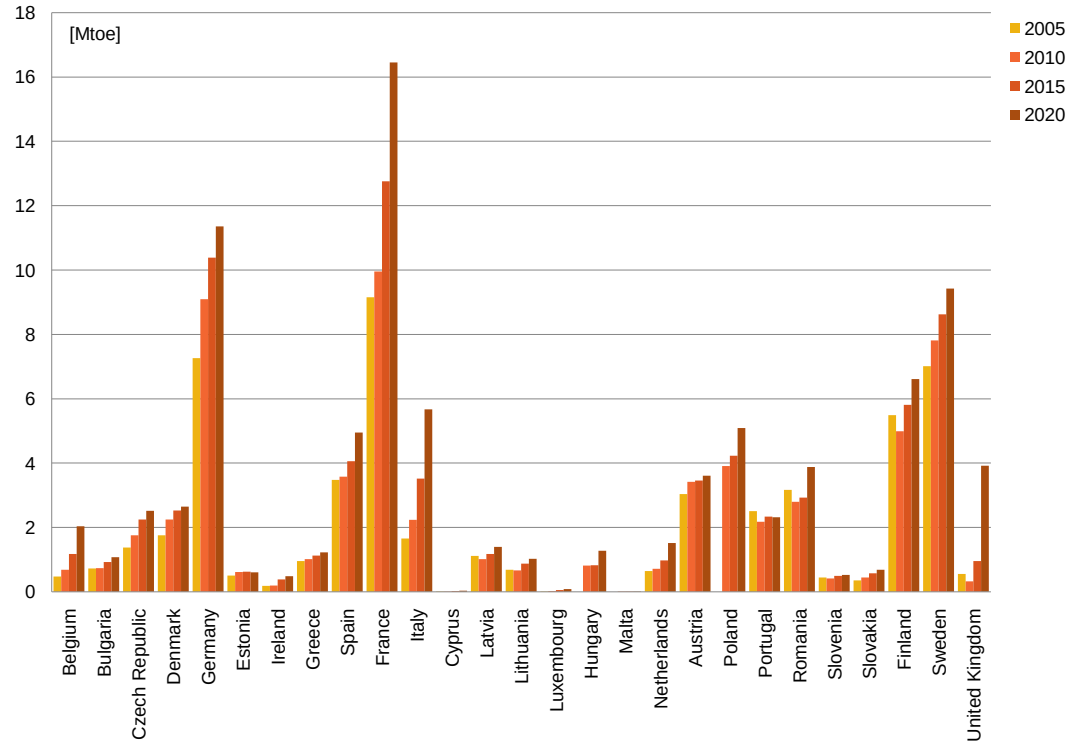


Figure 53: *Projected total biomass heat energy [Mtoe] for the period 2005 - 2020, all biomass input categories*

Table 132: *Projected total biomass heat energy [ktoe] for the period 2005 - 2020, all biomass input categories*

	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	477	682	1178	2034	2
Bulgaria	724	734	929	1073	1
Czech Republic	1374	1759	2248	2517	3
Denmark	1759	2245	2526	2643	3
Germany	7260	9092	10388	11355	13
Estonia	505	612	626	607	1
Ireland	183	198	388	486	1
Greece	951	1012	1128	1222	1
Spain	3477	3583	4060	4950	5
France	9153	9953	12760	16455	18
Italy	1655	2239	3521	5670	6
Cyprus	4	18	24	30	0
Latvia	1114	1020	1178	1392	2
Lithuania	686	663	879	1023	1
Luxembourg	19	23	50	83	0
Hungary	n.a.	812	829	1277	1
Malta	0	1	2	2	0
Netherlands	647	715	980	1520	2
Austria	3033	3415	3463	3607	4
Poland	n.a.	3911	4227	5089	6
Portugal	2507	2179	2339	2322	3
Romania	3166	2794	2931	3876	4
Slovenia	445	415	495	526	1
Slovakia	358	447	576	690	1
Finland	5490	4990	5810	6610	7
Sweden	7013	7817	8622	9426	10
United Kingdom	560	323	958	3914	4
All Member States (total)	52561	61652	73115	90399	**100**

More information on subcategories for biomass heat energy is presented in Table 134 on page 168.

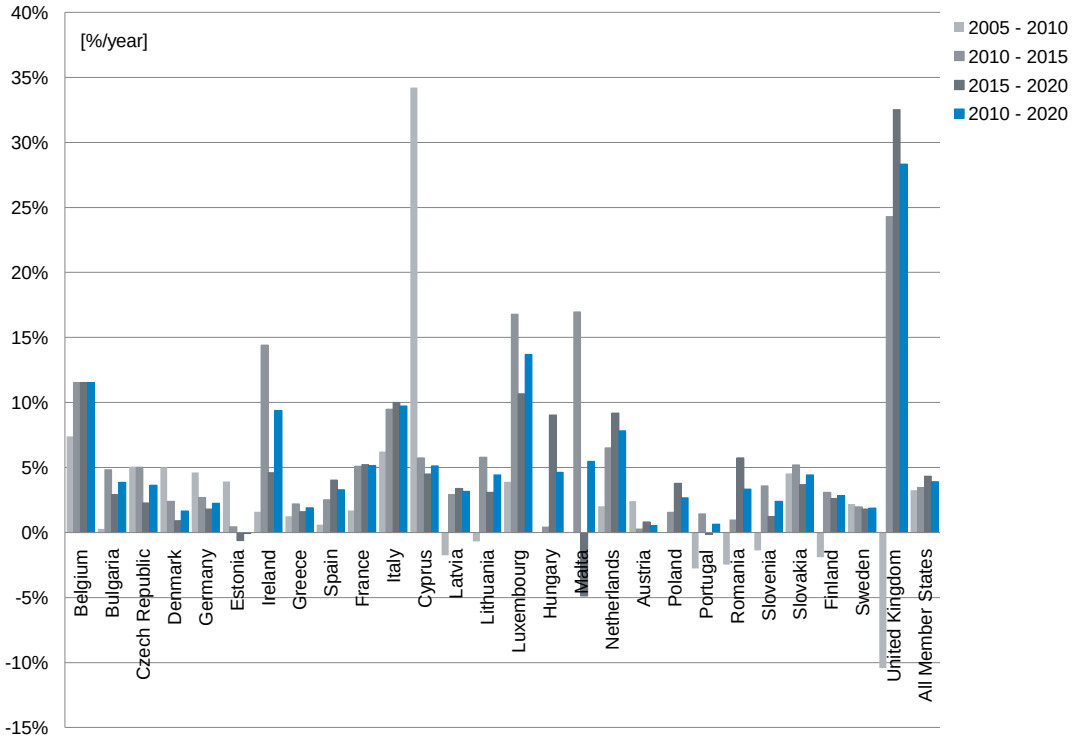


Figure 54: *Calculated average annual growth for energy from biomass heat [%/year] for four periods, all biomass input categories*

Table 133: *Calculated average annual growth for energy from biomass heat [%/year] for four periods, all biomass input categories*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	7.4	11.5	11.5	11.5
Bulgaria	0.3	4.8	2.9	3.9
Czech Republic	5.1	5.0	2.3	3.6
Denmark	5.0	2.4	0.9	1.6
Germany	4.6	2.7	1.8	2.2
Estonia	3.9	0.5	-0.6	-0.1
Ireland	1.6	14.4	4.6	9.4
Greece	1.3	2.2	1.6	1.9
Spain	0.6	2.5	4.0	3.3
France	1.7	5.1	5.2	5.2
Italy	6.2	9.5	10.0	9.7
Cyprus	34.2	5.7	4.5	5.1
Latvia	-1.7	2.9	3.4	3.2
Lithuania	-0.7	5.8	3.1	4.4
Luxembourg	3.9	16.8	10.7	13.7
Hungary	n.a.	0.4	9.0	4.6
Malta	n.a.	17.0	-4.9	5.5
Netherlands	2.0	6.5	9.2	7.8
Austria	2.4	0.3	0.8	0.5
Poland	n.a.	1.6	3.8	2.7
Portugal	-2.8	1.4	-0.1	0.6
Romania	-2.5	1.0	5.7	3.3
Slovenia	-1.4	3.6	1.2	2.4
Slovakia	4.5	5.2	3.7	4.4
Finland	-1.9	3.1	2.6	2.9
Sweden	2.2	2.0	1.8	1.9
United Kingdom	-10.4	24.3	32.5	28.3
All Member States (average)	3.2	3.5	4.3	3.9

Table 134: *Projected biomass heat energy [ktoe] for the period 2005 - 2020, broken down into biomass input categories*

	Solid biomass				Biogas				Bioliquids				Bio-SNG for grid feed-in				Total biomass thermal energy			
	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]
Belgium	476	669	1138	1947	2	9	26	55	0	4	14	32	n.a.	n.a.	n.a.	n.a.	477	682	1178	2034
Bulgaria	724	734	916	1053	0	0	13	20	0	0	0	0	n.a.	n.a.	n.a.	n.a.	724	734	929	1073
Czech Republic	1351	1706	2137	2350	23	53	110	167	0	0	0	0	n.a.	n.a.	n.a.	n.a.	1374	1759	2248	2517
Denmark	1714	2178	2426	2470	45	59	92	165	0	8	8	8	n.a.	n.a.	n.a.	n.a.	1759	2245	2526	2643
Germany	6794	7516	8389	8952	154	912	1312	1692	313	664	688	711	n.a.	n.a.	n.a.	n.a.	7260	9092	10388	11355
Estonia	505	612	626	607	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	505	612	626	607
Ireland	176	188	362	453	7	10	26	33	0	0	0	0	n.a.	n.a.	n.a.	n.a.	183	198	388	486
Greece	951	1012	1128	1222	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	951	1012	1128	1222
Spain	3441	3550	3997	4850	36	33	63	100	0	0	0	0	n.a.	n.a.	n.a.	n.a.	3477	3583	4060	4950
France	9067	9870	12500	15900	86	83	260	555	0	0	0	0	n.a.	n.a.	n.a.	n.a.	9153	9953	12760	16455
Italy	1629	2206	3404	5254	26	26	83	266	0	7	33	150	n.a.	n.a.	n.a.	n.a.	1655	2239	3521	5670
Cyprus	4	16	20	24	n.a.	2	5	6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	4	18	24	30
Latvia	1113	1013	1139	1343	1	7	39	49	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1114	1020	1178	1392
Lithuania	685	657	851	973	1	6	28	50	0	0	0	0	n.a.	n.a.	n.a.	n.a.	686	663	879	1023
Luxembourg	16	19	39	70	3	5	12	13	n.a.	0	0	0	n.a.	n.a.	n.a.	n.a.	19	23	50	83
Hungary	n.a.	812	800	1225	n.a.	0	30	56	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	812	829	1277
Malta	n.a.	0	0	0	n.a.	1	2	2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	1	2	2
Netherlands	540	573	604	650	69	111	174	288	0	0	0	0	38	31	202	582	647	715	980	1520
Austria	3025	3400	3447	3591	8	15	16	16	0	0	0	0	n.a.	n.a.	n.a.	n.a.	3033	3415	3463	3607
Poland	n.a.	3846	3996	4636	n.a.	65	231	453	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3911	4227	5089
Portugal	1785	1514	1515	1484	10	10	23	37	713	655	801	801	n.a.	n.a.	n.a.	n.a.	2507	2179	2339	2322
Romania	0	2793	2919	3845	0	1	10	20	0	0	2	11	n.a.	n.a.	n.a.	n.a.	3166	2794	2931	3876
Slovenia	401	415	483	497	0	0	0	0	43	0	12	28	n.a.	n.a.	n.a.	n.a.	445	415	495	526
Slovakia	357	443	540	630	1	4	36	60	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	358	447	576	690
Finland	5450	2710	3300	3940	40	30	30	60	n.a.	2240	2470	2610	n.a.	n.a.	n.a.	n.a.	5490	4990	5810	6610
Sweden	6992	7800	8607	9415	21	18	14	11	65	65	65	65	n.a.	n.a.	n.a.	n.a.	7013	7817	8622	9426
United Kingdom	493	305	904	3612	67	18	54	302	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	560	323	958	3914
All Member States (total)	47689	56557	66186	80993	600	1478	2689	4476	1134	3643	4093	4416	38	31	202	582	52561	61652	73115	90399

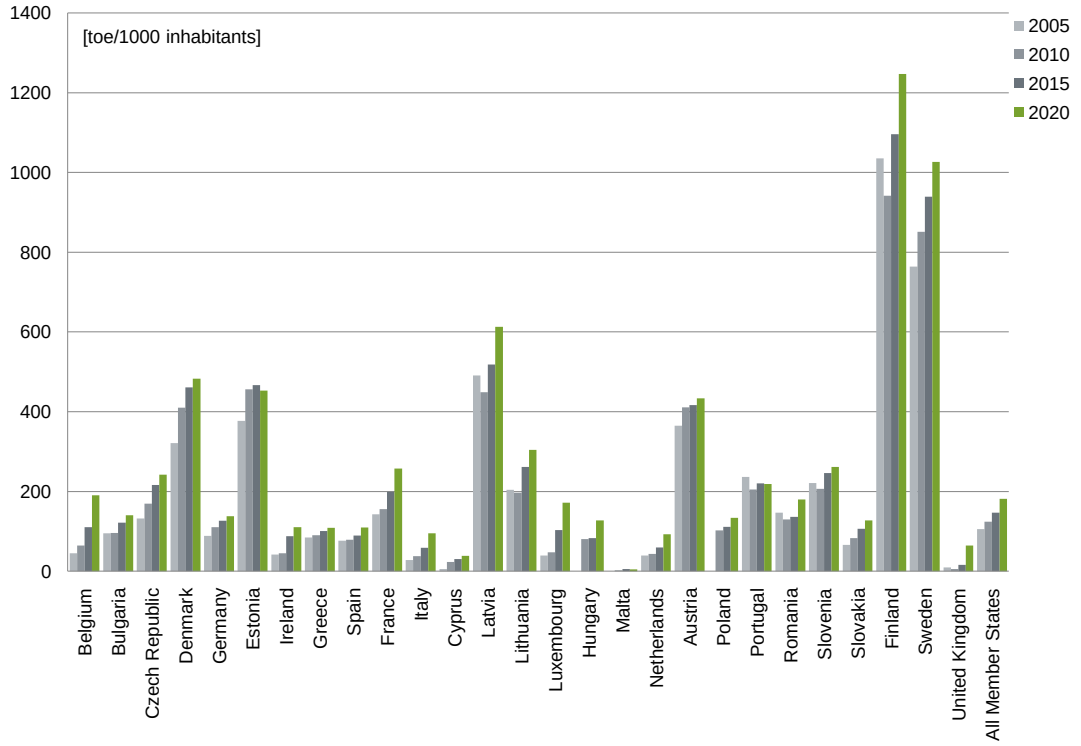


Figure 55: *Calculated per capita (2008) energy for total biomass heat [toe/1000 inhabitants] for the period 2005 - 2020, all biomass input categories*

Table 135: *Calculated per capita (2008) energy for total biomass heat [toe/1000 inhabitants] for the period 2005 - 2020, all biomass input categories*

	2005 [toe/1000 inhabitants]	2010 [toe/1000 inhabitants]	2015 [toe/1000 inhabitants]	2020 [toe/1000 inhabitants]
Belgium	45	64	110	191
Bulgaria	95	96	122	140
Czech Republic	132	169	217	242
Denmark	321	410	461	483
Germany	88	111	126	138
Estonia	377	456	467	453
Ireland	42	45	88	110
Greece	85	90	101	109
Spain	77	79	90	109
France	143	156	199	257
Italy	28	38	59	95
Cyprus	5	23	31	38
Latvia	491	449	519	613
Lithuania	204	197	261	304
Luxembourg	39	48	103	172
Hungary	n.a.	81	83	127
Malta	0	2	5	4
Netherlands	39	44	60	93
Austria	365	411	416	434
Poland	n.a.	103	111	134
Portugal	236	205	220	219
Romania	147	130	136	180
Slovenia	221	206	246	262
Slovakia	66	83	107	128
Finland	1036	941	1096	1247
Sweden	764	851	939	1026
United Kingdom	9	5	16	64
All Member States (average)	106	124	147	182

The population data can be viewed in Table 14 (page 32)

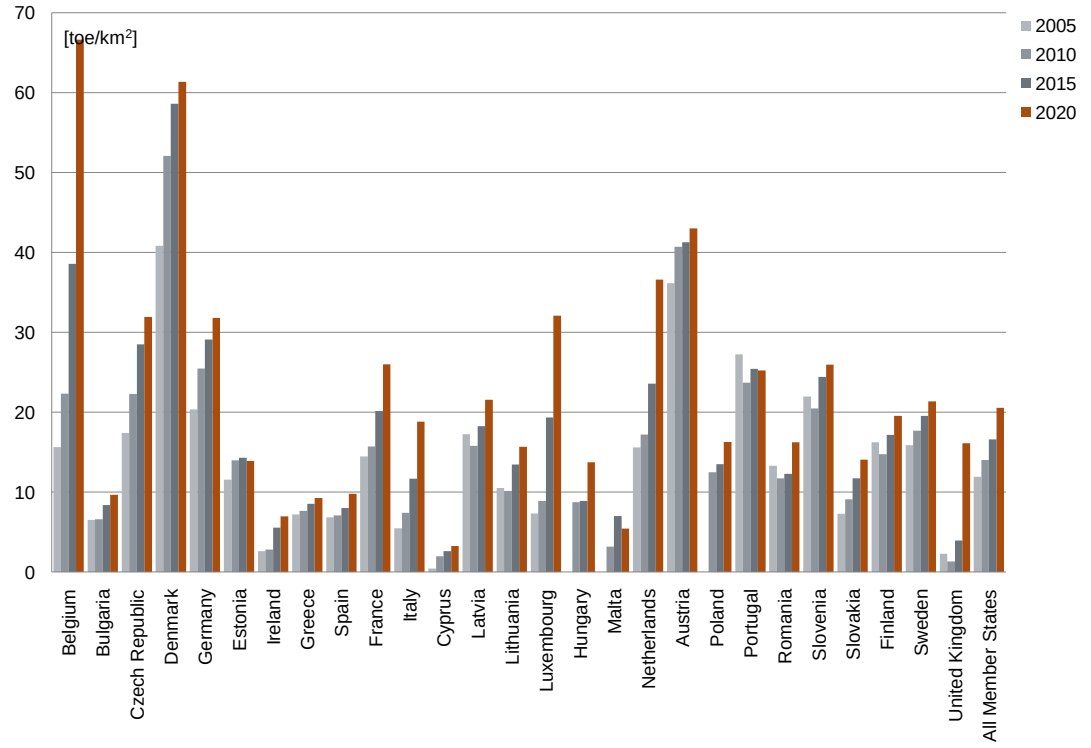


Figure 56: *Calculated per surface area (2004) energy for total biomass heat [toe/km^2] for the period 2005 - 2020*

Table 136: *Calculated per surface area (2004) energy for total biomass heat [toe/km^2] for the period 2005 - 2020*

	2005 [toe/km^2]	2010 [toe/km^2]	2015 [toe/km^2]	2020 [toe/km^2]
Belgium	16	22	39	67
Bulgaria	7	7	8	10
Czech Republic	17	22	29	32
Denmark	41	52	59	61
Germany	20	25	29	32
Estonia	12	14	14	14
Ireland	3	3	6	7
Greece	7	8	9	9
Spain	7	7	8	10
France	14	16	20	26
Italy	5	7	12	19
Cyprus	0	2	3	3
Latvia	17	16	18	22
Lithuania	11	10	13	16
Luxembourg	7	9	19	32
Hungary	n.a.	9	9	14
Malta	0	3	7	5
Netherlands	16	17	24	37
Austria	36	41	41	43
Poland	n.a.	13	14	16
Portugal	27	24	25	25
Romania	13	12	12	16
Slovenia	22	20	24	26
Slovakia	7	9	12	14
Finland	16	15	17	20
Sweden	16	18	20	21
United Kingdom	2	1	4	16
All Member States (average)	12	14	17	21

The surface area data can be viewed in Table 14 (page 32)

Renewable energy from heat pumps

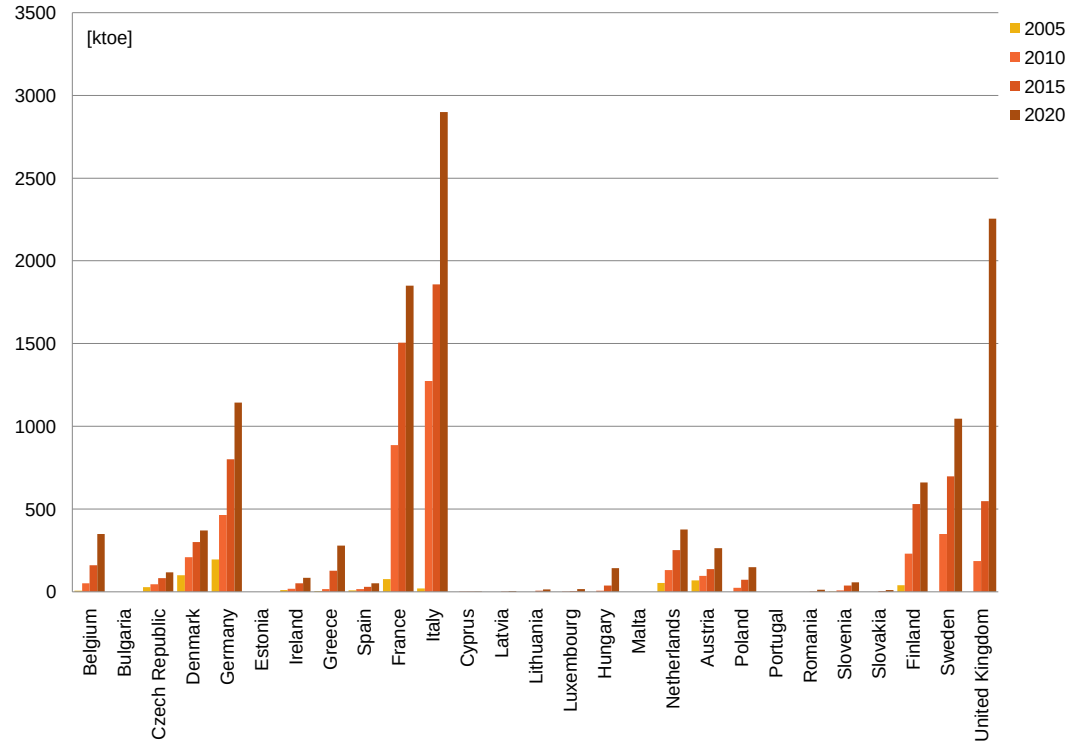


Figure 57: *Projected total heat pump thermal energy [ktoe] for the period 2005 - 2020, all source types*

Table 137: *Projected total heat pump thermal energy [ktoe] for the period 2005 - 2020, all source types*

	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	7.1	52.2	161.4	350	3
Bulgaria	0	0	0	0	0
Czech Republic	29	45	82	118	1
Denmark	100	210	301	370	3
Germany	196	465	800	1144	9
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	10	18	51	84	1
Greece	4	17	127	279	2
Spain	8	17	31	51	0
France	76	886	1505	1850	15
Italy	21	1273	1857	2900	24
Cyprus	0	0.34	1.61	2.97	0
Latvia	0	0	2	4	0
Lithuania	0	0	6	14	0
Luxembourg	0	1	4	17	0
Hungary	n.a.	6	37	143	1
Malta	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	54	132	252	377	3
Austria	69	96	137	263	2
Poland	n.a.	25	72	148	1
Portugal	0	0	n.a.	n.a.	n.a.
Romania	0	0	3	12	0
Slovenia	2	8	37	58	0
Slovakia	0	0	4	10	0
Finland	40	230	530	660	5
Sweden	0	349	697	1046	9
United Kingdom	0	186	548	2254	19
All Member States (total)	616.1	4016.54	7246.01	12154.97	**100**

More information on subcategories for heat pump thermal energy is presented in Table 139 on page 174.

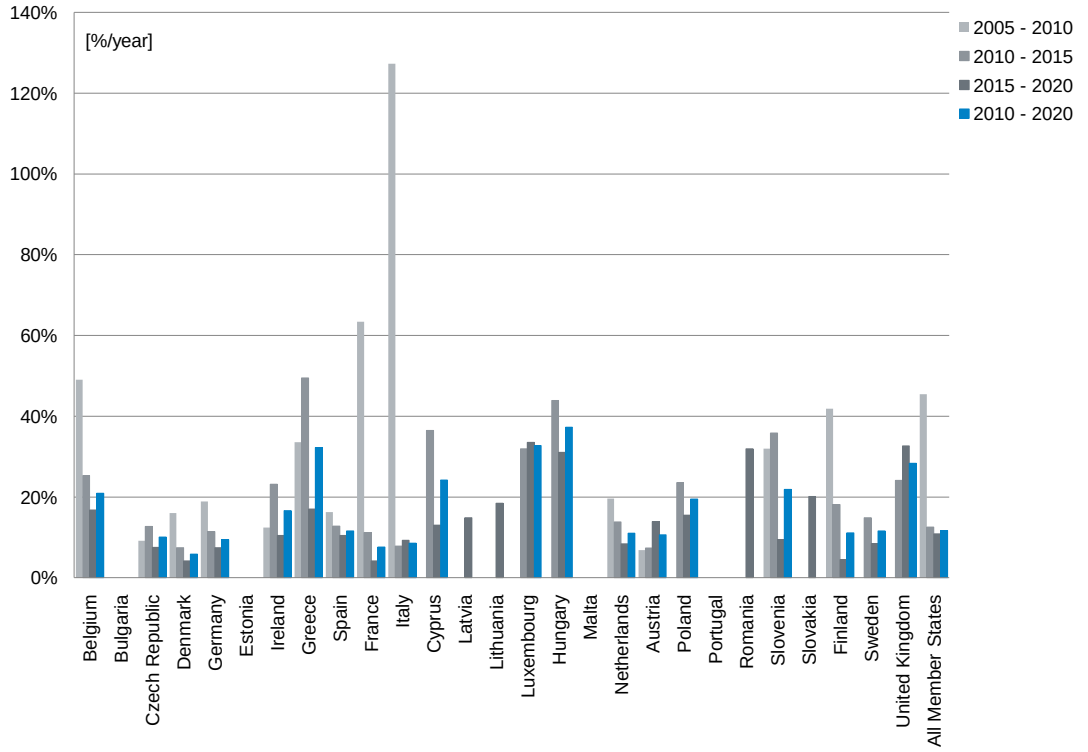


Figure 58: *Calculated average annual growth for thermal energy from heat pump [%/year] for four periods, all source type*

Table 138: *Calculated average annual growth for thermal energy from heat pump [%/year] for four periods, all source type*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	49.0	25.3	16.7	21.0
Bulgaria	n.a.	n.a.	n.a.	n.a.
Czech Republic	9.2	12.8	7.6	10.1
Denmark	16.0	7.5	4.2	5.8
Germany	18.9	11.5	7.4	9.4
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	12.5	23.2	10.5	16.7
Greece	33.6	49.5	17.0	32.3
Spain	16.3	12.8	10.5	11.6
France	63.4	11.2	4.2	7.6
Italy	127.3	7.8	9.3	8.6
Cyprus	n.a.	36.5	13.0	24.2
Latvia	n.a.	n.a.	14.9	n.a.
Lithuania	n.a.	n.a.	18.5	n.a.
Luxembourg	n.a.	32.0	33.6	32.8
Hungary	n.a.	43.9	31.0	37.3
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	19.6	13.8	8.4	11.1
Austria	6.8	7.4	13.9	10.6
Poland	n.a.	23.6	15.5	19.5
Portugal	n.a.	n.a.	n.a.	n.a.
Romania	n.a.	n.a.	32.0	n.a.
Slovenia	32.0	35.8	9.4	21.9
Slovakia	n.a.	n.a.	20.1	n.a.
Finland	41.9	18.2	4.5	11.1
Sweden	n.a.	14.8	8.5	11.6
United Kingdom	n.a.	24.1	32.7	28.3
All Member States (average)	45.5	12.5	10.9	11.7

Table 139: *Projected heat pump thermal energy [ktoe] for the period 2005 - 2020, broken down into source type*

	Aerothermal heat pumps				Geothermal heat pumps				Hydrothermal heat pumps				Total renewable energy from heat pumps,			
	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]
Belgium	3.5	26.1	77.5	168	2.8	20.9	67.8	147	0.7	5.2	16.1	35	7.1	52.2	161.4	350
Bulgaria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	0	0	0
Czech Republic	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	29	45	82	118
Denmark	48	91	135	170	52	119	166	199	0	0	0	0	100	210	301	370
Germany	39	165	338	547	130	258	400	521	27	42	62	77	196	465	800	1144
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	10	18	51	84
Greece	3	14	104	229	1	3	23	50	n.a.	n.a.	n.a.	n.a.	4	17	127	279
Spain	4	5	7	10	4	12	23	41	0	0	0	0	8	17	31	51
France	27	664	1080	1280	49	222	425	570	n.a.	n.a.	n.a.	n.a.	76	886	1505	1850
Italy	16	1127	1566	2175	4	40	145	522	2	105	146	203	21	1273	1857	2900
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	0.34	1.61	2.97
Latvia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	0	2	4
Lithuania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	0	6	14
Luxembourg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	1	4	17
Hungary	n.a.	0	2	7	n.a.	5	28	107	n.a.	1	7	29	n.a.	6	37	143
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	n.a.	35	81	117	n.a.	90	161	242	n.a.	0	3	11	54	132	252	377
Austria	0	38	55	105	0	10	14	26	0	48	68	131	69	96	137	263
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	25	72	148
Portugal	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	0	n.a.	n.a.
Romania	0	0	1	4	0	0	2	8	0	0	0	0	0	0	3	12
Slovenia	0	1	7	14	0	4	26	38	0	2	5	5	2	8	37	58
Slovakia	0	0	1	3	0	0	2	4	0	0	1	3	0	0	4	10
Finland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	40	230	530	660
Sweden	0	50	100	150	0	272	544	815	0	27	54	80	0	349	697	1046
United Kingdom	n.a.	66	194	1301	n.a.	120	354	953	n.a.	n.a.	n.a.	n.a.	0	186	548	2254
All Member States (total)	140.5	2282.1	3748.5	6280	242.8	1175.9	2380.8	4243	29.7	230.2	362.1	574	616.1	4016.54	7246.01	12154.97

For Ireland, Lithuania, Luxembourg and Finland (and the Netherlands and Austria in 2005) no breakdown into source types has been provided. Therefore, the sum of all categories is lower than the value for *All Member States (total)*.

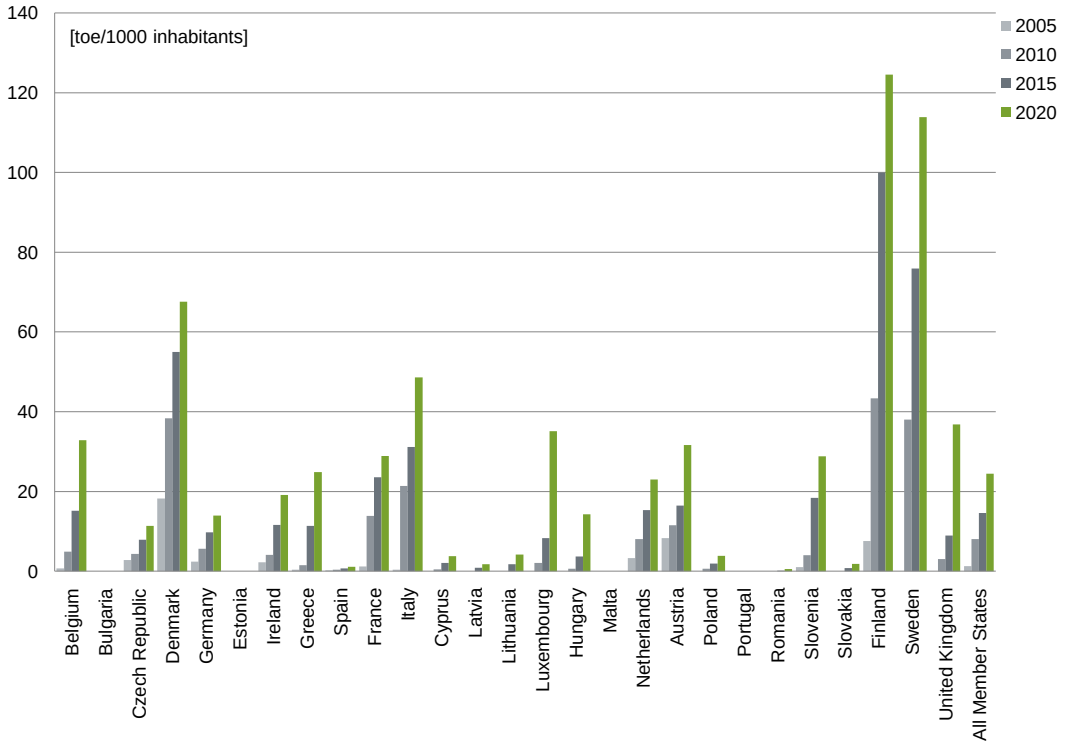


Figure 59: *Calculated per capita (2008) thermal energy for total heat pump [toe/1000 inhabitants] for the period 2005 - 2020, all source types*

Table 140: *Calculated per capita (2008) thermal energy for total heat pump [toe/1000 inhabitants] for the period 2005 - 2020, all source types*

	2005 [toe/1000 inhabitants]	2010 [toe/1000 inhabitants]	2015 [toe/1000 inhabitants]	2020 [toe/1000 inhabitants]
Belgium	1	5	15	33
Bulgaria	0	0	0	0
Czech Republic	3	4	8	11
Denmark	18	38	55	68
Germany	2	6	10	14
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	2	4	12	19
Greece	0	2	11	25
Spain	0	0	1	1
France	1	14	24	29
Italy	0	21	31	49
Cyprus	0	0	2	4
Latvia	0	0	1	2
Lithuania	0	0	2	4
Luxembourg	0	2	8	35
Hungary	n.a.	1	4	14
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	3	8	15	23
Austria	8	12	16	32
Poland	n.a.	1	2	4
Portugal	0	0	n.a.	n.a.
Romania	0	0	0	1
Slovenia	1	4	18	29
Slovakia	0	0	1	2
Finland	8	43	100	125
Sweden	0	38	76	114
United Kingdom	0	3	9	37
All Member States (average)	1	8	15	24

The population data can be viewed in Table 14 (page 32)

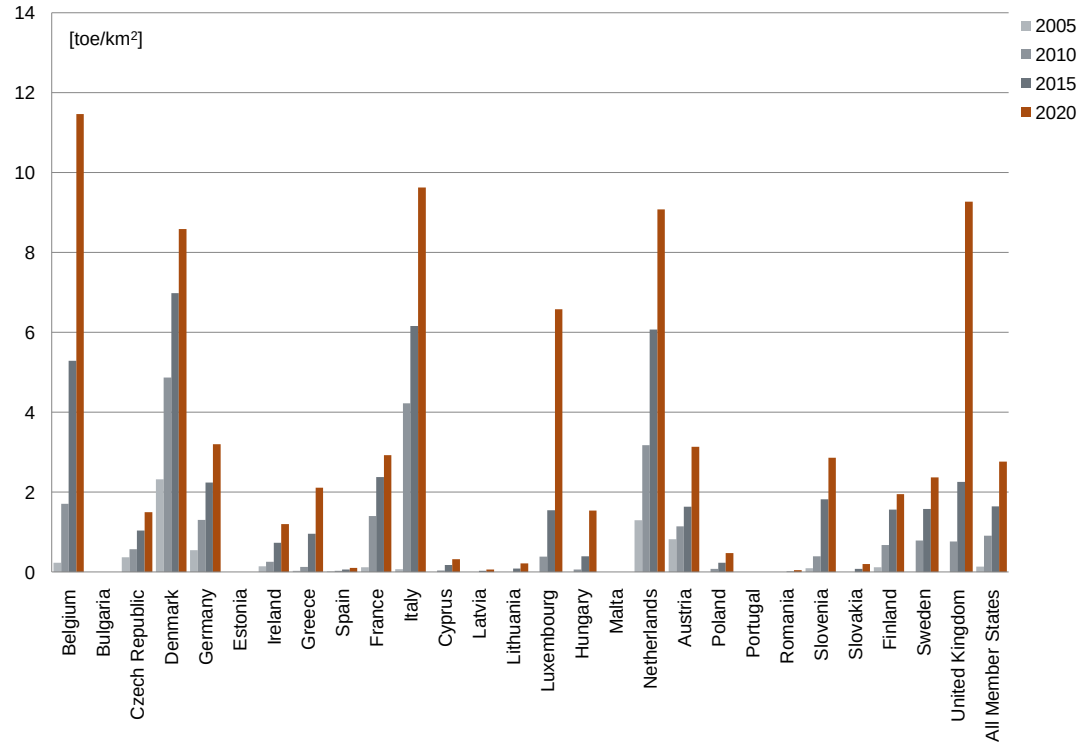


Figure 60: *Calculated per surface area (2004) thermal energy for total heat pumps [toe/km^2] for the period 2005 - 2020, all source types*

Table 141: *Calculated per surface area (2004) thermal energy for total heat pumps [toe/km^2] for the period 2005 - 2020, all source types*

	2005 [toe/km^2]	2010 [toe/km^2]	2015 [toe/km^2]	2020 [toe/km^2]
Belgium	0	2	5	11
Bulgaria	0	0	0	0
Czech Republic	0	1	1	1
Denmark	2	5	7	9
Germany	1	1	2	3
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	0	0	1	1
Greece	0	0	1	2
Spain	0	0	0	0
France	0	1	2	3
Italy	0	4	6	10
Cyprus	0	0	0	0
Latvia	0	0	0	0
Lithuania	0	0	0	0
Luxembourg	0	0	2	7
Hungary	n.a.	0	0	2
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	1	3	6	9
Austria	1	1	2	3
Poland	n.a.	0	0	0
Portugal	0	0	n.a.	n.a.
Romania	0	0	0	0
Slovenia	0	0	2	3
Slovakia	0	0	0	0
Finland	0	1	2	2
Sweden	0	1	2	2
United Kingdom	0	1	2	9
All Member States (average)	0	1	2	3

The surface area data can be viewed in Table 14 (page 32)

Bioethanol / bio-ETBE in transport

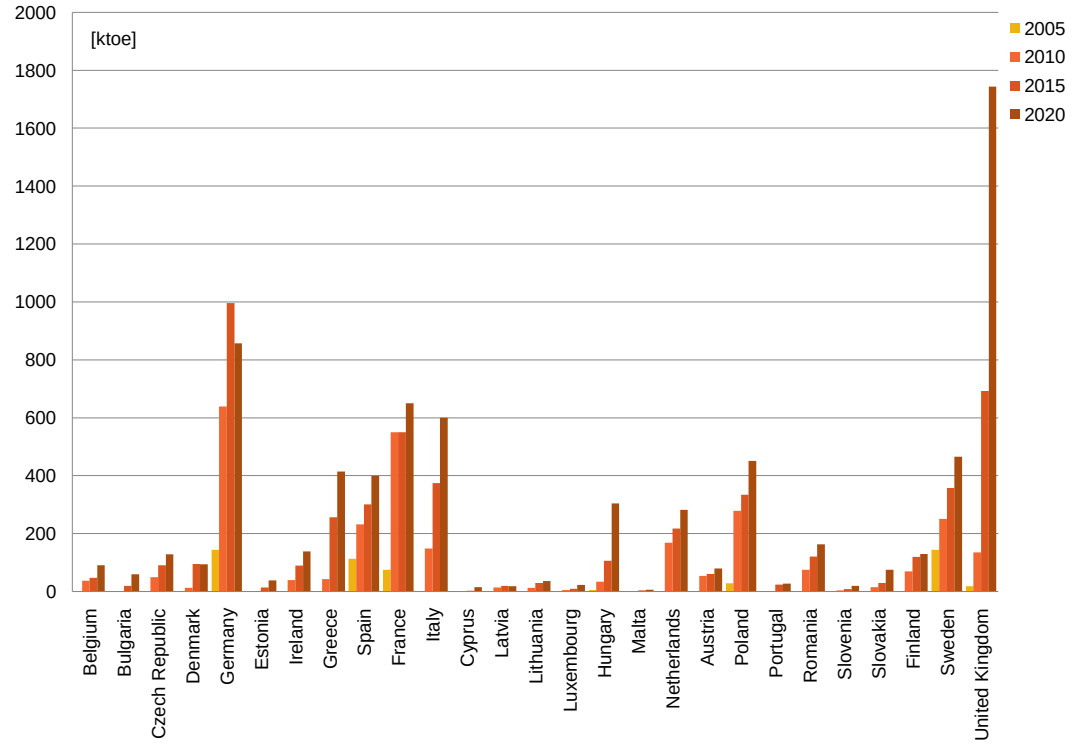


Figure 61: *Projected total bioethanol / bio-ETBE in renewable transport [ktoe] for the period 2005 - 2020*

Table 142: *Projected total bioethanol / bio-ETBE in renewable transport [ktoe] for the period 2005 - 2020*

	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	0	37	47	91	1
Bulgaria	0	0	19	60	1
Czech Republic	0	50	91	128	2
Denmark	0	13	95	94	1
Germany	144	639	996	857	12
Estonia	0	0	14	38	1
Ireland	0	40	90	139	2
Greece	n.a.	43	256	414	6
Spain	113	232	301	400	5
France	75	550	550	650	9
Italy	0	148	374	600	8
Cyprus	0	0	3	15	0
Latvia	0	14	19	18	0
Lithuania	1	13	30	36	0
Luxembourg	0	5	9	23	0
Hungary	5	34	106	304	4
Malta	n.a.	2	4	6	0
Netherlands	0	168	217	282	4
Austria	0	54	61	80	1
Poland	28	279	334	451	6
Portugal	0	0	24	27	0
Romania	n.a.	75	121	163	2
Slovenia	0	4	8	19	0
Slovakia	0	15	30	75	1
Finland	0	70	120	130	2
Sweden	144	251	358	465	6
United Kingdom	18	135	692	1743	24
All Member States (total)	528	2871	4968	7307	**100**

More information on additional information on bioethanol / bio-ETBE in renewable transport (Article 21.2 and imported bioethanol / bio-ETBE) is presented in Table 144 on page 180.

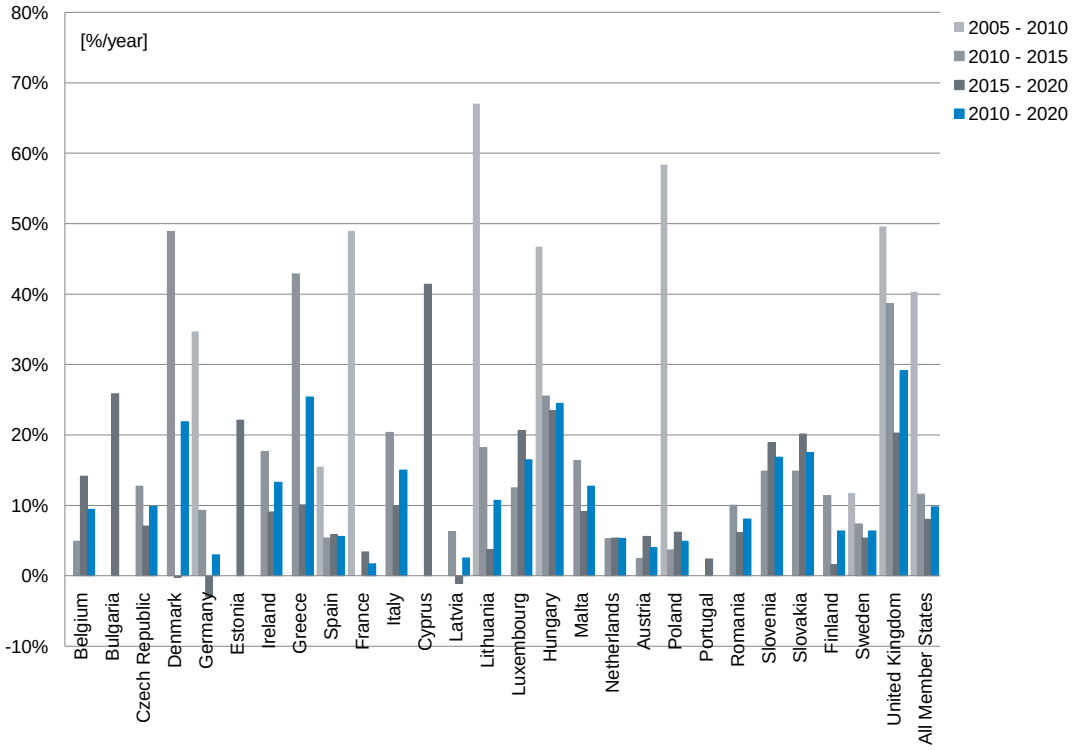


Figure 62: *Calculated average annual growth for bioethanol / bio-ETBE in renewable transport [%/year] for four periods*

Table 143: *Calculated average annual growth for bioethanol / bio-ETBE in renewable transport [%/year] for four periods*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	n.a.	4.9	14.1	9.4
Bulgaria	n.a.	n.a.	25.9	n.a.
Czech Republic	n.a.	12.7	7.1	9.9
Denmark	n.a.	48.9	-0.2	21.9
Germany	34.7	9.3	-3.0	3.0
Estonia	n.a.	n.a.	22.1	n.a.
Ireland	n.a.	17.6	9.1	13.3
Greece	n.a.	42.9	10.1	25.4
Spain	15.5	5.3	5.9	5.6
France	49.0	0.0	3.4	1.7
Italy	n.a.	20.4	9.9	15.0
Cyprus	n.a.	n.a.	41.4	n.a.
Latvia	n.a.	6.3	-1.1	2.5
Lithuania	67.0	18.2	3.7	10.7
Luxembourg	n.a.	12.5	20.6	16.5
Hungary	46.7	25.5	23.5	24.5
Malta	n.a.	16.4	9.1	12.7
Netherlands	n.a.	5.3	5.4	5.3
Austria	n.a.	2.5	5.6	4.0
Poland	58.4	3.7	6.2	4.9
Portugal	n.a.	n.a.	2.4	n.a.
Romania	n.a.	10.0	6.1	8.1
Slovenia	n.a.	14.9	18.9	16.9
Slovakia	n.a.	14.9	20.1	17.5
Finland	n.a.	11.4	1.6	6.4
Sweden	11.8	7.4	5.4	6.4
United Kingdom	49.6	38.7	20.3	29.2
All Member States (average)	40.3	11.6	8.0	9.8

Table 144: *Projected bioethanol / bio-ETBE in renewable transport [ktoe] for the period 2005 - 2020, indicating the contribution of Article 21.2 and imported bioethanol / bio-ETBE*

	Bioethanol / bio-ETBE Article 21.2				Bioethanol / bio-ETBE imported				Total bioethanol / bio-ETBE			
	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]
Belgium	0	0	0	0	0	0	0	0	0	37	47	91
Bulgaria	0	0	0	0	0	0	0	10	0	0	19	60
Czech Republic	0	0	0	29	0	17	24	29	0	50	91	128
Denmark	0	0	8	47	0	13	95	94	0	13	95	94
Germany	0	0	32 to 107	32 to 442	0	189	482	278	144	639	996	857
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	0	14	38
Ireland	n.a.	0	0	0	n.a.	3	49	99	0	40	90	139
Greece	n.a.	n.a.	n.a.	n.a.	n.a.	43	256	414	n.a.	43	256	414
Spain	0	0	0	52	0	25	0	0	113	232	301	400
France	n.a.	n.a.	n.a.	n.a.	0	50	50	50	75	550	550	650
Italy	0	19	60	100	0	18	109	200	0	148	374	600
Cyprus	0	0	0	15	0	0	3	15	0	0	3	15
Latvia	0	0	0	18	0	0	0	9	0	14	19	18
Lithuania	0	0	n.a.	0	0	0	0	0	1	13	30	36
Luxembourg	0	0	0	0	0	5	9	23	0	5	9	23
Hungary	0	0	0	0	n.a.	n.a.	0	0	5	34	106	304
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	2	4	6	n.a.	2	4	6
Netherlands	0	17	22	34	0	152	196	240	0	168	217	282
Austria	0	0	0	0	0	14	12	11	0	54	61	80
Poland	0	0	0	44	n.a.	n.a.	n.a.	n.a.	28	279	334	451
Portugal	0	0	0	0	0	0	0	0	0	0	24	27
Romania	n.a.	n.a.	n.a.	35	n.a.	n.a.	n.a.	n.a.	n.a.	75	121	163
Slovenia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	4	8	19
Slovakia	0	0	0	25	0	0	0	0	0	15	30	75
Finland	0	0	20	40	0	n.a.	n.a.	0	0	70	120	130
Sweden	0	0	0	0	117	140	185	292	144	251	358	465
United Kingdom	0	0	0	0	n.a.	112	574	1447	18	135	692	1743
All Member States (total)	0	36	180	676	117	783	2048	3216	528	2871	4968	7307

The German Action Plan defines a *data range* for Article 21.2 Bioethanol/bio-ETBE. In the table the range is provided, but the 'total' value uses the average value of the range (69.5 ktoe for 2015 and 237.0 ktoe for 2020).

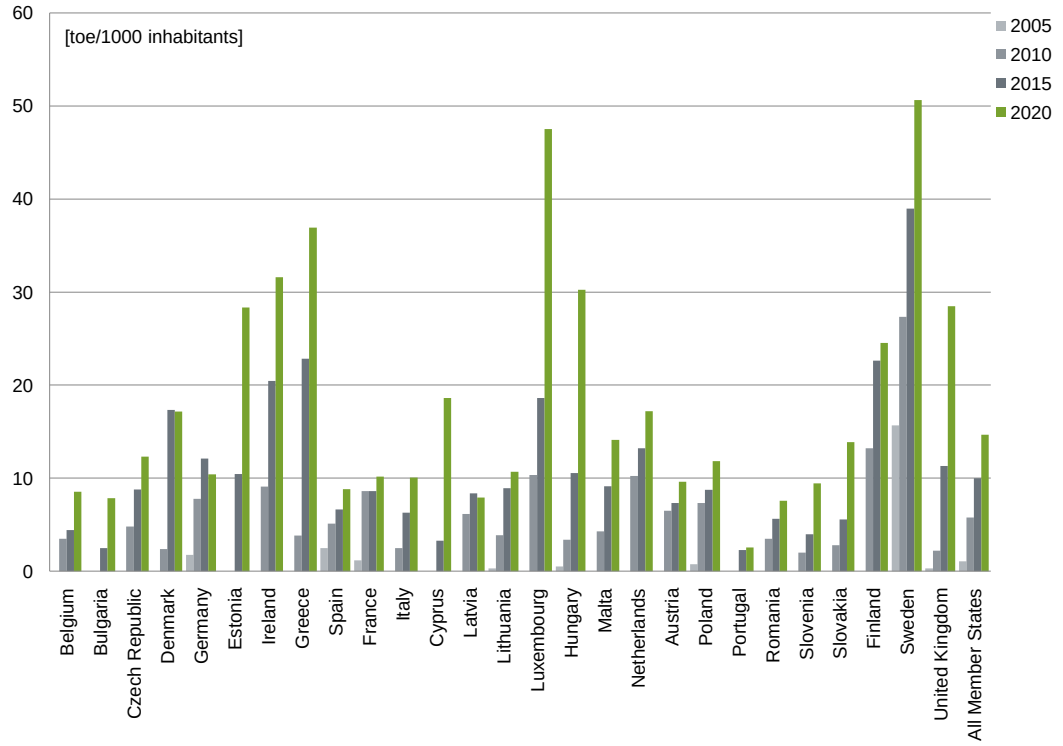


Figure 63: *Calculated per capita (2008) bioethanol / bio-ETBE [toe/1000 inhabitants] for the period 2005 - 2020*

Table 145: *Calculated per capita (2008) bioethanol / bio-ETBE [toe/1000 inhabitants] for the period 2005 - 2020*

	2005 [toe/1000 inhabitants]	2010 [toe/1000 inhabitants]	2015 [toe/1000 inhabitants]	2020 [toe/1000 inhabitants]
Belgium	0	3	4	9
Bulgaria	0	0	2	8
Czech Republic	0	5	9	12
Denmark	0	2	17	17
Germany	2	8	12	10
Estonia	0	0	10	28
Ireland	0	9	20	32
Greece	n.a.	4	23	37
Spain	2	5	7	9
France	1	9	9	10
Italy	0	2	6	10
Cyprus	0	0	3	19
Latvia	0	6	8	8
Lithuania	0	4	9	11
Luxembourg	0	10	19	48
Hungary	0	3	11	30
Malta	n.a.	4	9	14
Netherlands	0	10	13	17
Austria	0	6	7	10
Poland	1	7	9	12
Portugal	0	0	2	3
Romania	n.a.	3	6	8
Slovenia	0	2	4	9
Slovakia	0	3	6	14
Finland	0	13	23	25
Sweden	16	27	39	51
United Kingdom	0	2	11	28
All Member States (average)	1	6	10	15

The population data can be viewed in Table 14 (page 32)

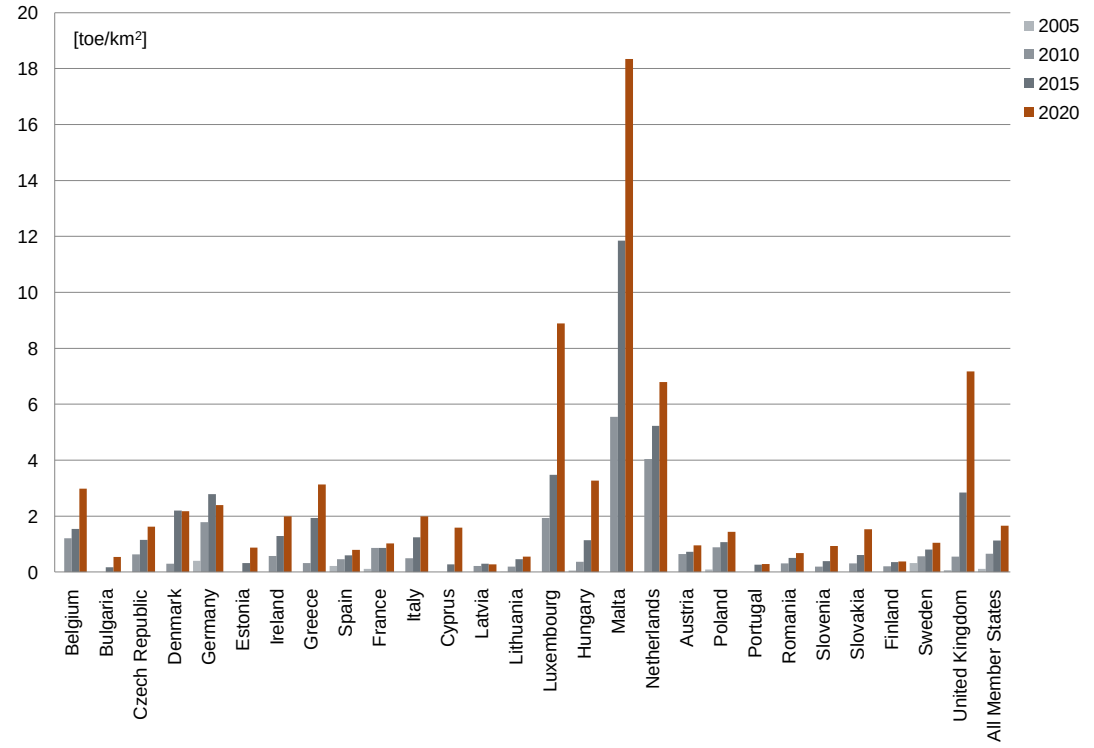


Figure 64: *Calculated per surface area (2004) bioethanol / bio-ETBE [toe/km^2] for the period 2005 - 2020*

Table 146: *Calculated per surface area (2004) bioethanol / bio-ETBE [toe/km^2] for the period 2005 - 2020*

	2005 [toe/km^2]	2010 [toe/km^2]	2015 [toe/km^2]	2020 [toe/km^2]
Belgium	0	1	2	3
Bulgaria	0	0	0	1
Czech Republic	0	1	1	2
Denmark	0	0	2	2
Germany	0	2	3	2
Estonia	0	0	0	1
Ireland	0	1	1	2
Greece	n.a.	0	2	3
Spain	0	0	1	1
France	0	1	1	1
Italy	0	0	1	2
Cyprus	0	0	0	2
Latvia	0	0	0	0
Lithuania	0	0	0	1
Luxembourg	0	2	3	9
Hungary	0	0	1	3
Malta	n.a.	6	12	18
Netherlands	0	4	5	7
Austria	0	1	1	1
Poland	0	1	1	1
Portugal	0	0	0	0
Romania	n.a.	0	1	1
Slovenia	0	0	0	1
Slovakia	0	0	1	2
Finland	0	0	0	0
Sweden	0	1	1	1
United Kingdom	0	1	3	7
All Member States (average)	0	1	1	2

The surface area data can be viewed in Table 14 (page 32)

Biodiesel in transport

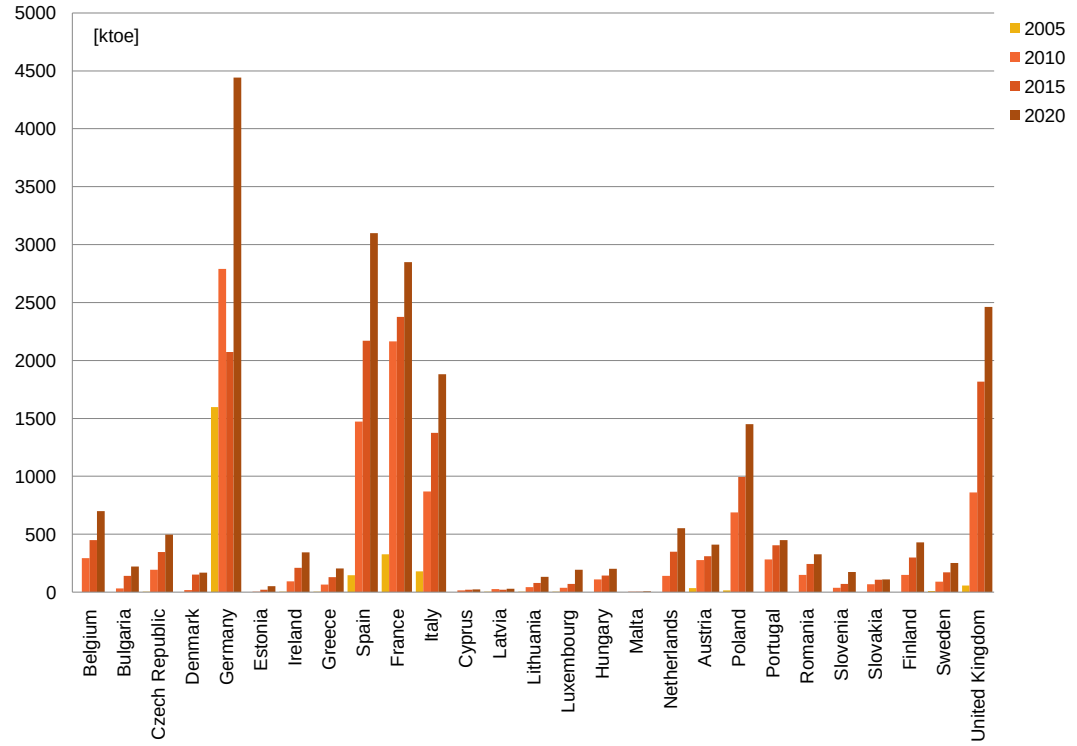


Figure 65: *Projected total biodiesel in renewable transport [ktoe] for the period 2005 - 2020*

Table 147: *Projected total biodiesel in renewable transport [ktoe] for the period 2005 - 2020*

	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	0	292	449	698	3
Bulgaria	0	33	140	220	1
Czech Republic	3	193	347	495	2
Denmark	0	18	152	167	1
Germany	1598	2790	2074	4443	21
Estonia	0	1	21	51	0
Ireland	1	94	209	342	2
Greece	1	64	130	203	1
Spain	145	1471	2169	3100	14
France	328	2165	2375	2850	13
Italy	179	868	1374	1880	9
Cyprus	0	15.7	19.8	23.2	0
Latvia	3	25	20	28	0
Lithuania	3	42	79	131	1
Luxembourg	1	37	72	193	1
Hungary	0	110	144	202	1
Malta	n.a.	1.23	1.32	7.03	0
Netherlands	0	139	350	552	3
Austria	35	276	309	410	2
Poland	15	687	993	1451	7
Portugal	0	281	405	450	2
Romania	n.a.	149	242	326	2
Slovenia	0	37	72	174	1
Slovakia	0	67	107	110	1
Finland	0	150	300	430	2
Sweden	9	89	170	251	1
United Kingdom	57	861	1818	2462	11
All Member States (total)	2378	10955.93	14542.12	21649.23	**100**

More information on additional information on biodiesel in renewable transport (Article 21.2 and imported biodiesel) is presented in Table 149 on page 186.

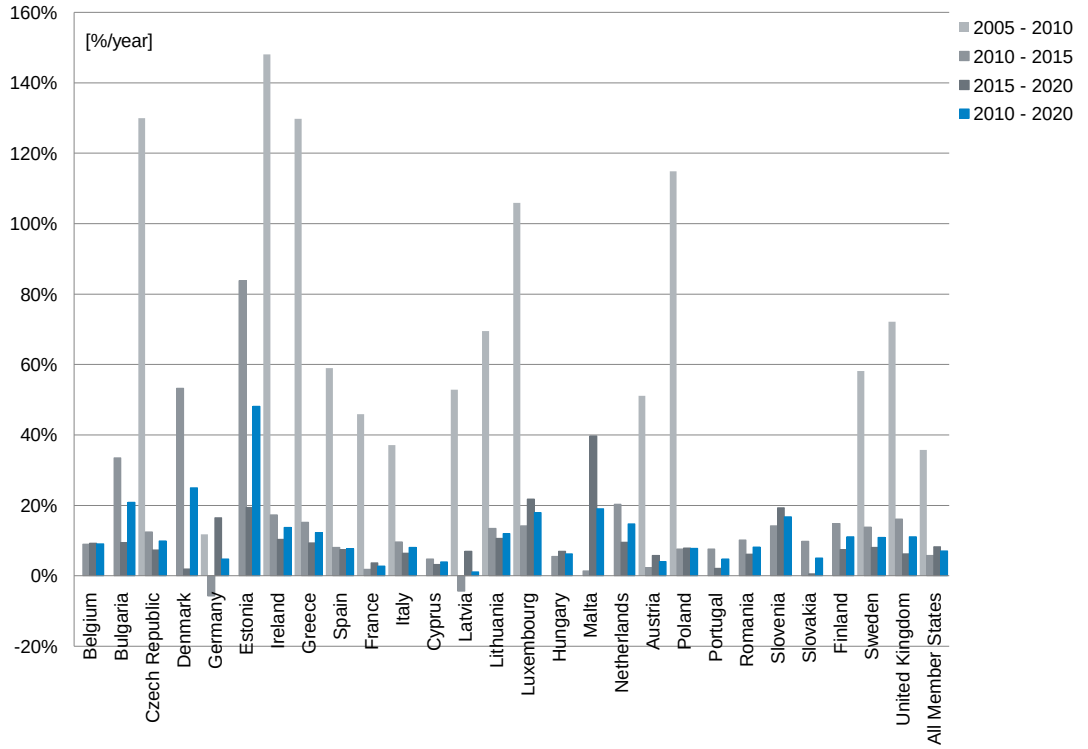


Figure 66: *Calculated average annual growth for biodiesel in renewable transport [%/year] for four periods*

Table 148: *Calculated average annual growth for biodiesel in renewable transport [%/year] for four periods*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	n.a.	9.0	9.2	9.1
Bulgaria	n.a.	33.5	9.5	20.9
Czech Republic	130.0	12.4	7.4	9.9
Denmark	n.a.	53.2	1.9	25.0
Germany	11.8	-5.8	16.5	4.8
Estonia	n.a.	83.8	19.4	48.2
Ireland	148.1	17.3	10.4	13.8
Greece	129.7	15.2	9.3	12.2
Spain	58.9	8.1	7.4	7.7
France	45.9	1.9	3.7	2.8
Italy	37.1	9.6	6.5	8.0
Cyprus	n.a.	4.7	3.2	4.0
Latvia	52.8	-4.4	7.0	1.1
Lithuania	69.5	13.5	10.6	12.0
Luxembourg	105.9	14.2	21.8	18.0
Hungary	n.a.	5.5	7.0	6.3
Malta	n.a.	1.4	39.7	19.0
Netherlands	n.a.	20.3	9.5	14.8
Austria	51.1	2.3	5.8	4.0
Poland	114.9	7.6	7.9	7.8
Portugal	n.a.	7.6	2.1	4.8
Romania	n.a.	10.2	6.1	8.1
Slovenia	n.a.	14.2	19.3	16.7
Slovakia	n.a.	9.8	0.6	5.1
Finland	n.a.	14.9	7.5	11.1
Sweden	58.1	13.8	8.1	10.9
United Kingdom	72.1	16.1	6.3	11.1
All Member States (average)	35.7	5.8	8.3	7.0

Table 149: *Projected biodiesel in renewable transport [ktoe] for the period 2005 - 2020, indicating the contribution of Article 21.2 and imported biodiesel*

	Biodiesel Article 21.2				Biodiesel imported				Total biodiesel			
	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]
Belgium	0	0	0	127	0	0	0	0	0	292	449	698
Bulgaria	0	0	0	0	0	0	0	0	0	33	140	220
Czech Republic	0	0	0	215	6	64	104	143	3	193	347	495
Denmark	0	0	13	84	0	18	152	167	0	18	152	167
Germany	0	98	98	98	0	1459	610	2846	1598	2790	2074	4443
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	1	21	51
Ireland	n.a.	0	0	0	n.a.	4	125	240	1	94	209	342
Greece	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1	64	130	203
Spain	0	50	161	200	0	910	325	310	145	1471	2169	3100
France	n.a.	n.a.	n.a.	n.a.	13	400	400	400	328	2165	2375	2850
Italy	21	72	161	250	0	73	436	800	179	868	1374	1880
Cyprus	0	0	2	23	0	9	11	23	0	16	20	23
Latvia	0	0	0	15	0	0	0	8	3	25	20	28
Lithuania	0	0	0	0	0	0	0	0	3	42	79	131
Luxembourg	0	0	0	0	1	37	72	193	1	37	72	193
Hungary	0	18	20	22	0	0	0	0	0	110	144	202
Malta	n.a.	1	1	3	n.a.	0	0	4	n.a.	1	1	7
Netherlands	0	139	70	121	0	69	245	276	0	139	350	552
Austria	0	0	0	0	34	153	152	175	35	276	309	410
Poland	0	0	88	132	n.a.	n.a.	n.a.	n.a.	15	687	993	1451
Portugal	0	4	6	8	0	0	0	0	0	281	405	450
Romania	n.a.	n.a.	n.a.	70	n.a.	n.a.	n.a.	n.a.	n.a.	149	242	326
Slovenia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	37	72	174
Slovakia	0	0	0	30	0	0	0	0	0	67	107	110
Finland	0	0	50	140	0	n.a.	n.a.	0	0	150	300	430
Sweden	0	0	0	0	0	0	0	0	9	89	170	251
United Kingdom	0	0	0	0	n.a.	784	1654	2240	57	861	1818	2462
All Member States (total)	21	383	670	1538	54	3980	4287	7825	2378	10956	14542	21649

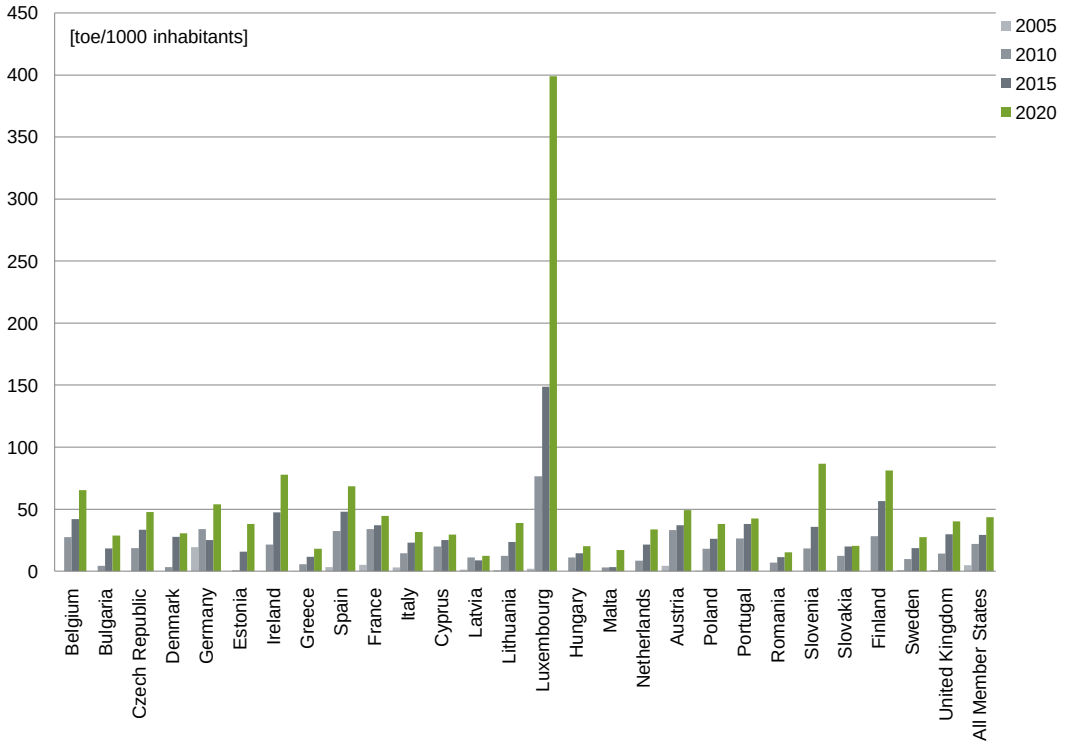


Figure 67: *Calculated per capita (2008) in renewable transport for total biodiesel [toe/1000 inhabitants] for the period 2005 - 2020*

Table 150: *Calculated per capita (2008) in renewable transport for total biodiesel [toe/1000 inhabitants] for the period 2005 - 2020*

	2005 [toe/1000 inhabitants]	2010 [toe/1000 inhabitants]	2015 [toe/1000 inhabitants]	2020 [toe/1000 inhabitants]
Belgium	0	27	42	65
Bulgaria	0	4	18	29
Czech Republic	0	19	33	48
Denmark	0	3	28	30
Germany	19	34	25	54
Estonia	0	1	16	38
Ireland	0	21	47	78
Greece	0	6	12	18
Spain	3	32	48	68
France	5	34	37	45
Italy	3	15	23	32
Cyprus	0	20	25	29
Latvia	1	11	9	12
Lithuania	1	12	23	39
Luxembourg	2	76	149	399
Hungary	0	11	14	20
Malta	n.a.	3	3	17
Netherlands	0	8	21	34
Austria	4	33	37	49
Poland	0	18	26	38
Portugal	0	26	38	42
Romania	n.a.	7	11	15
Slovenia	0	18	36	87
Slovakia	0	12	20	20
Finland	0	28	57	81
Sweden	1	10	19	27
United Kingdom	1	14	30	40
All Member States (average)	5	22	29	44

The population data can be viewed in Table 14 (page 32)

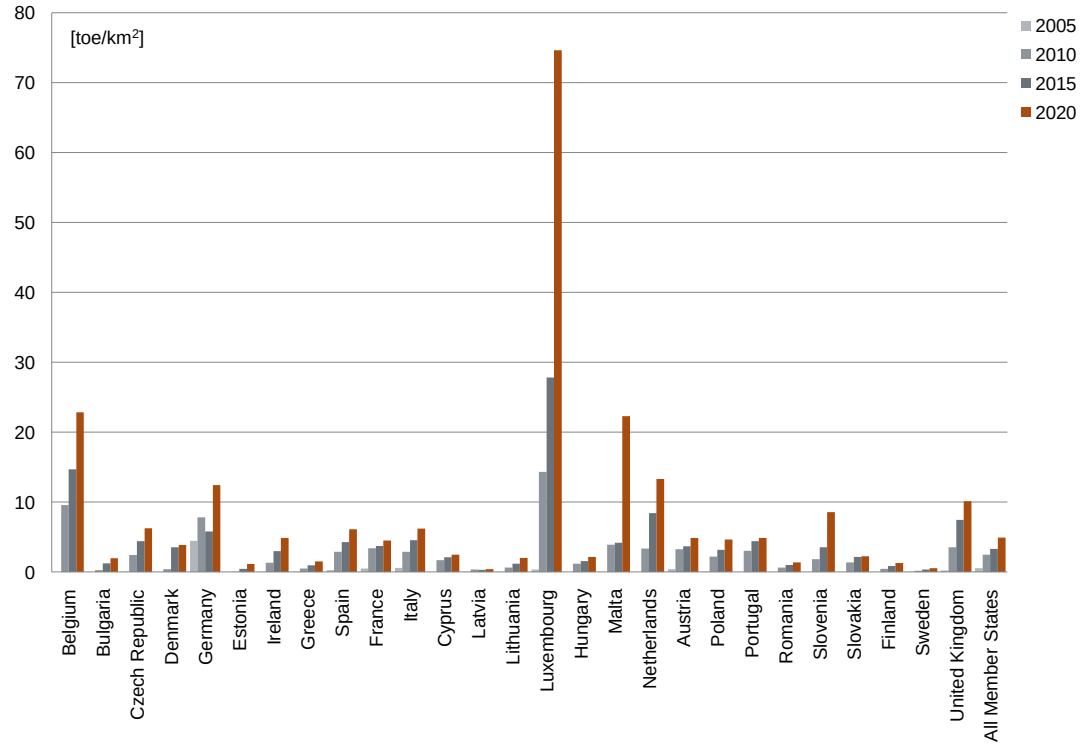


Figure 68: *Calculated per surface area (2004) in renewable transport for total biodiesel [toe/km^2] for the period 2005 - 2020*

Table 151: *Calculated per surface area (2004) in renewable transport for total biodiesel [toe/km^2] for the period 2005 - 2020*

	2005 [toe/km^2]	2010 [toe/km^2]	2015 [toe/km^2]	2020 [toe/km^2]
Belgium	0	10	15	23
Bulgaria	0	0	1	2
Czech Republic	0	2	4	6
Denmark	0	0	4	4
Germany	4	8	6	12
Estonia	0	0	0	1
Ireland	0	1	3	5
Greece	0	0	1	2
Spain	0	3	4	6
France	1	3	4	5
Italy	1	3	5	6
Cyprus	0	2	2	3
Latvia	0	0	0	0
Lithuania	0	1	1	2
Luxembourg	0	14	28	75
Hungary	0	1	2	2
Malta	n.a.	4	4	22
Netherlands	0	3	8	13
Austria	0	3	4	5
Poland	0	2	3	5
Portugal	0	3	4	5
Romania	n.a.	1	1	1
Slovenia	0	2	4	9
Slovakia	0	1	2	2
Finland	0	0	1	1
Sweden	0	0	0	1
United Kingdom	0	4	7	10
All Member States (average)	1	2	3	5

The surface area data can be viewed in Table 14 (page 32)

Hydrogen from renewables in transport

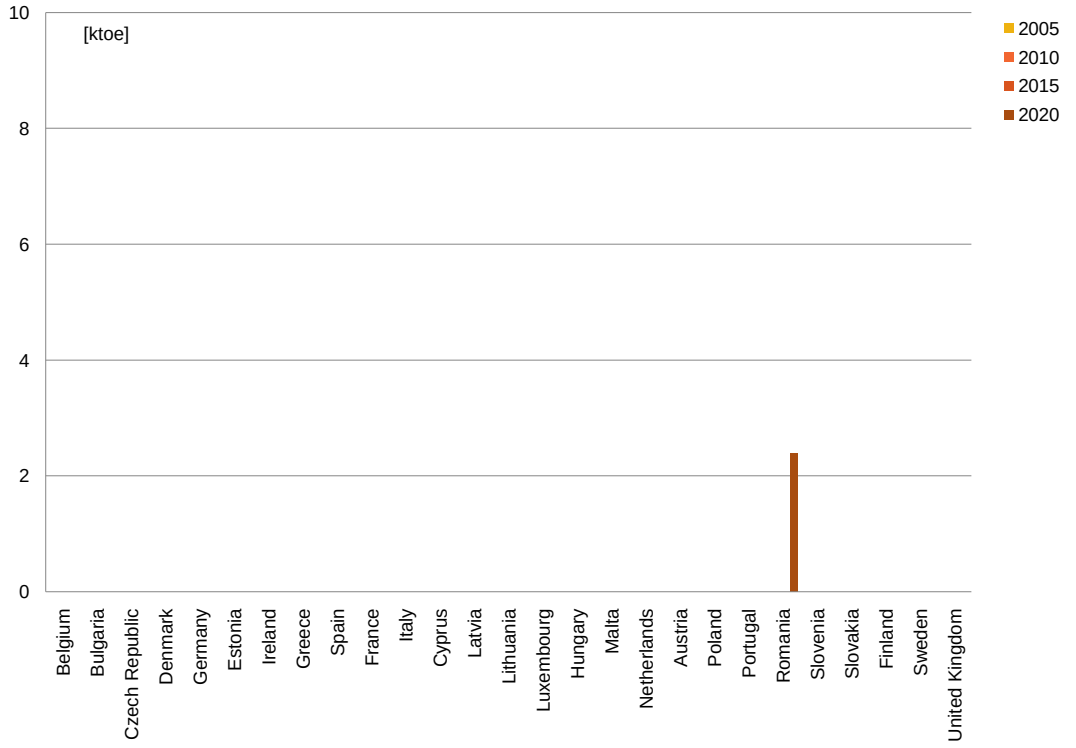


Figure 69: *Projected hydrogen from renewables in transport [ktoe] for the period 2005 - 2020*

Table 152: *Projected total hydrogen from renewables in transport [ktoe] for the period 2005 - 2020*

	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	0	0	0	0	0
Bulgaria	0	0	0	0	0
Czech Republic	0	0	0	0	0
Denmark	0	0	0	0	0
Germany	0	0	0	0	0
Estonia	0	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	0	0	0	0
Greece	n.a.	n.a.	n.a.	n.a.	n.a.
Spain	0	0	0	0	0
France	0	0	0	0	0
Italy	0	0	0	0	0
Cyprus	0	0	0	0	0
Latvia	0	0	0	0	0
Lithuania	0	0	0	0	0
Luxembourg	0	0	0	0	0
Hungary	0	0	0	0	0
Malta	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	0	0	0	0	0
Austria	0	0	0	0	0
Poland	n.a.	n.a.	n.a.	n.a.	n.a.
Portugal	0	0	0	0	0
Romania	n.a.	n.a.	n.a.	2	100
Slovenia	n.a.	n.a.	n.a.	n.a.	n.a.
Slovakia	0	0	0	0	0
Finland	0	0	0	0	0
Sweden	0	0	0	0	0
United Kingdom	0	0	0	0	0
All Member States (total)	0	0	0	2	100

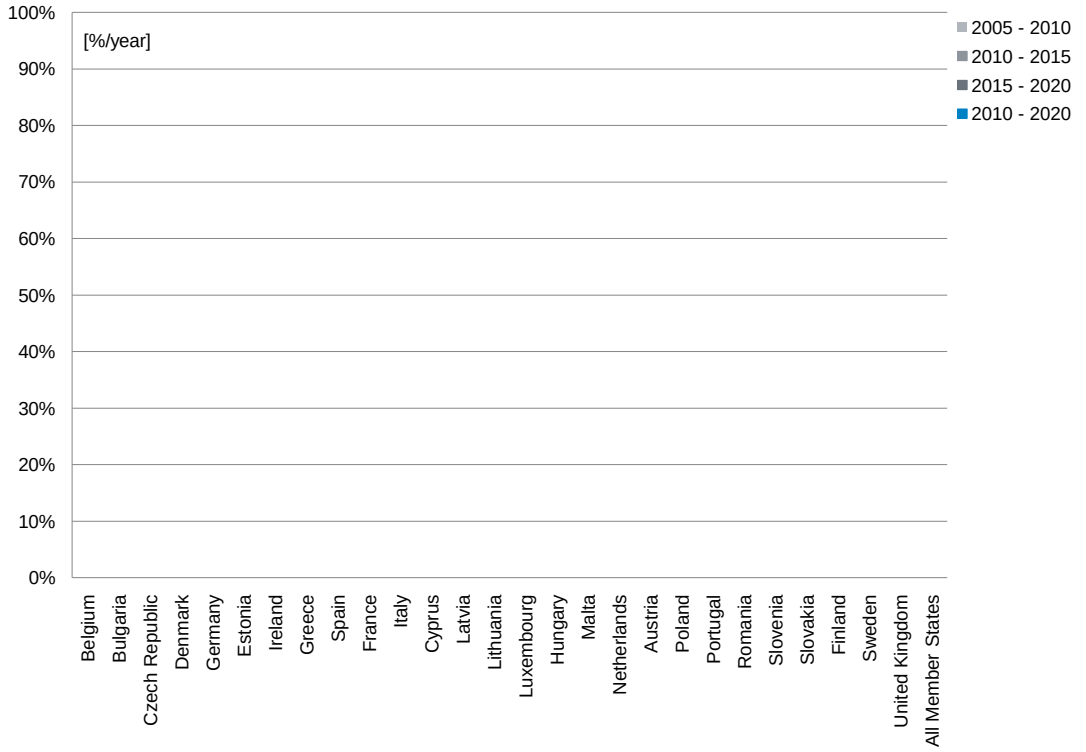


Figure 70: *Calculated average annual growth for hydrogen from renewables in transport [%/year] for four periods*

Table 153: *Calculated average annual growth for hydrogen from renewables in transport [%/year] for four periods*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	n.a.	n.a.	n.a.	n.a.
Bulgaria	n.a.	n.a.	n.a.	n.a.
Czech Republic	n.a.	n.a.	n.a.	n.a.
Denmark	n.a.	n.a.	n.a.	n.a.
Germany	n.a.	n.a.	n.a.	n.a.
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	n.a.	n.a.	n.a.
Greece	n.a.	n.a.	n.a.	n.a.
Spain	n.a.	n.a.	n.a.	n.a.
France	n.a.	n.a.	n.a.	n.a.
Italy	n.a.	n.a.	n.a.	n.a.
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	n.a.	n.a.
Lithuania	n.a.	n.a.	n.a.	n.a.
Luxembourg	n.a.	n.a.	n.a.	n.a.
Hungary	n.a.	n.a.	n.a.	n.a.
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	n.a.	n.a.	n.a.	n.a.
Austria	n.a.	n.a.	n.a.	n.a.
Poland	n.a.	n.a.	n.a.	n.a.
Portugal	n.a.	n.a.	n.a.	n.a.
Romania	n.a.	n.a.	n.a.	n.a.
Slovenia	n.a.	n.a.	n.a.	n.a.
Slovakia	n.a.	n.a.	n.a.	n.a.
Finland	n.a.	n.a.	n.a.	n.a.
Sweden	n.a.	n.a.	n.a.	n.a.
United Kingdom	n.a.	n.a.	n.a.	n.a.
All Member States (average)	n.a.	n.a.	n.a.	n.a.

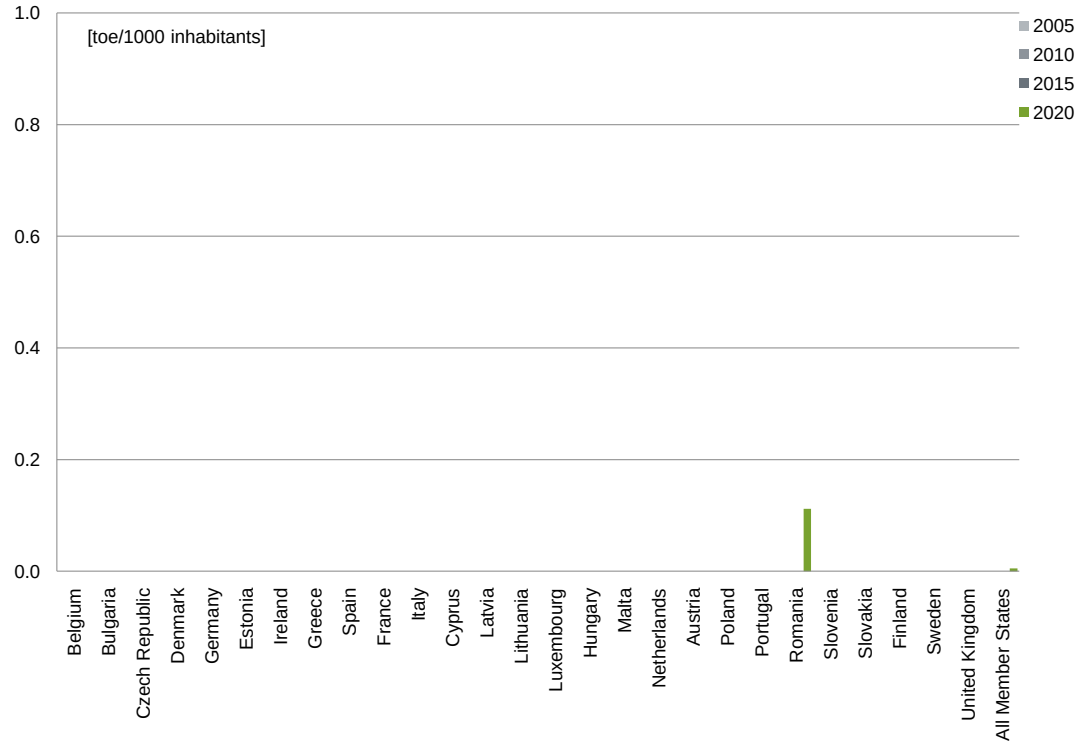


Figure 71: *Calculated per capita (2008) hydrogen from renewables in transport [toe/1000 inhabitants] for the period 2005 - 2020*

Table 154: *Calculated per capita (2008) hydrogen from renewables in transport [toe/1000 inhabitants] for the period 2005 - 2020*

	2005 [toe/1000 inhabitants]	2010 [toe/1000 inhabitants]	2015 [toe/1000 inhabitants]	2020 [toe/1000 inhabitants]
Belgium	0	0	0	0
Bulgaria	0	0	0	0
Czech Republic	0	0	0	0
Denmark	0	0	0	0
Germany	0	0	0	0
Estonia	0	n.a.	n.a.	n.a.
Ireland	n.a.	0	0	0
Greece	n.a.	n.a.	n.a.	n.a.
Spain	0	0	0	0
France	0	0	0	0
Italy	0	0	0	0
Cyprus	0	0	0	0
Latvia	0	0	0	0
Lithuania	0	0	0	0
Luxembourg	0	0	0	0
Hungary	0	0	0	0
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	0	0	0	0
Austria	0	0	0	0
Poland	n.a.	n.a.	n.a.	n.a.
Portugal	0	0	0	0
Romania	n.a.	n.a.	n.a.	0
Slovenia	n.a.	n.a.	n.a.	n.a.
Slovakia	0	0	0	0
Finland	0	0	0	0
Sweden	0	0	0	0
United Kingdom	0	0	0	0
All Member States (average)	0	0	0	0

The population data can be viewed in Table 14 (page 32)

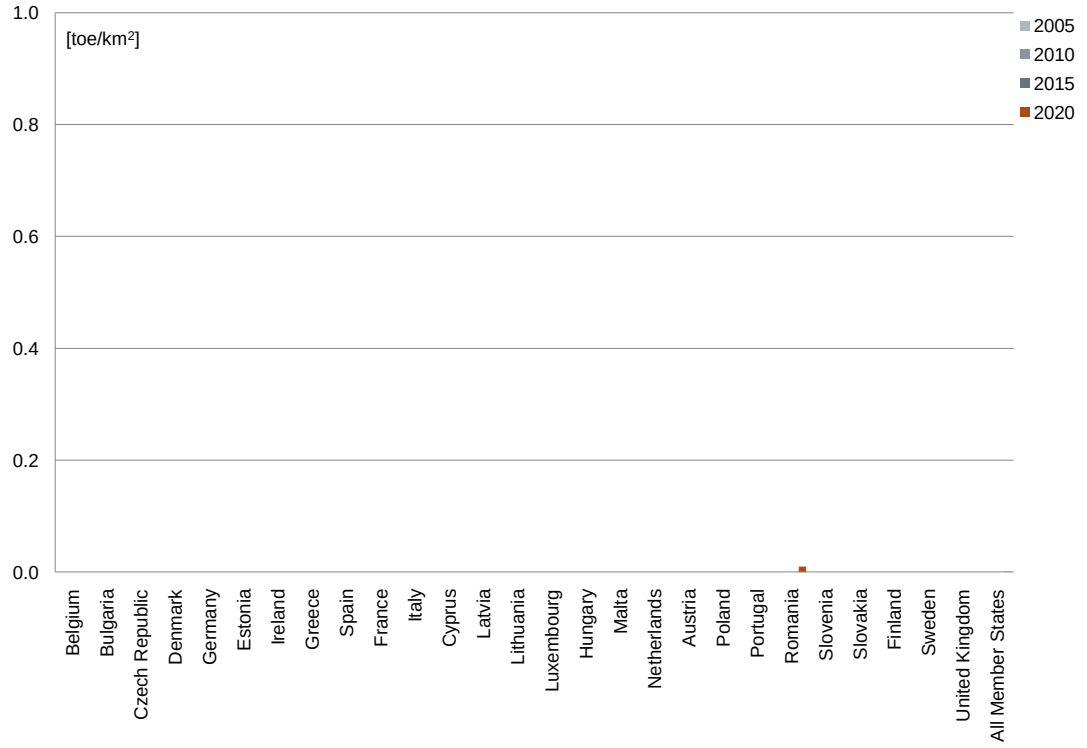


Figure 72: *Calculated per surface area (2004) hydrogen from renewables in transport [toe/km^2] for the period 2005 - 2020*

Table 155: *Calculated per surface area (2004) hydrogen from renewables in transport [toe/km^2] for the period 2005 - 2020*

	2005 [toe/km^2]	2010 [toe/km^2]	2015 [toe/km^2]	2020 [toe/km^2]
Belgium	0	0	0	0
Bulgaria	0	0	0	0
Czech Republic	0	0	0	0
Denmark	0	0	0	0
Germany	0	0	0	0
Estonia	0	n.a.	n.a.	n.a.
Ireland	n.a.	0	0	0
Greece	n.a.	n.a.	n.a.	n.a.
Spain	0	0	0	0
France	0	0	0	0
Italy	0	0	0	0
Cyprus	0	0	0	0
Latvia	0	0	0	0
Lithuania	0	0	0	0
Luxembourg	0	0	0	0
Hungary	0	0	0	0
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	0	0	0	0
Austria	0	0	0	0
Poland	n.a.	n.a.	n.a.	n.a.
Portugal	0	0	0	0
Romania	n.a.	n.a.	n.a.	0
Slovenia	n.a.	n.a.	n.a.	n.a.
Slovakia	0	0	0	0
Finland	0	0	0	0
Sweden	0	0	0	0
United Kingdom	0	0	0	0
All Member States (average)	0	0	0	0

The surface area data can be viewed in Table 14 (page 32)

Renewable electricity in transport

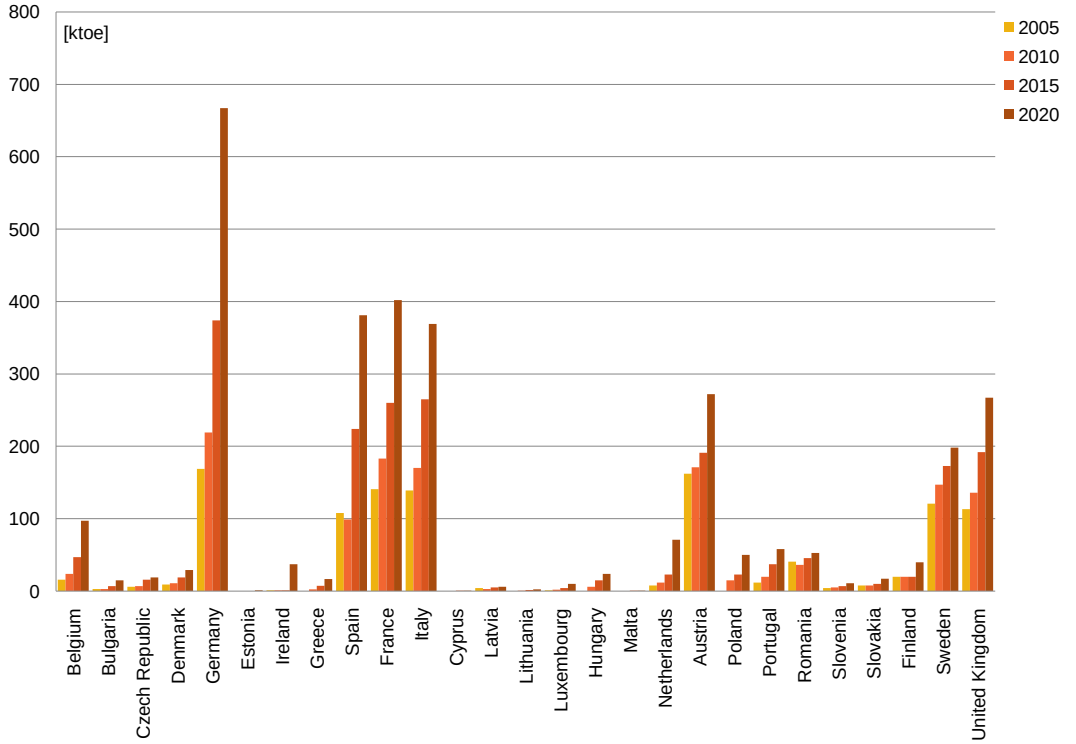


Figure 73: *Projected total renewable electricity in transport [ktoe] for the period 2005 - 2020*

Table 156: *Projected total renewable electricity in transport [ktoe] for the period 2005 - 2020*

	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	16	24	47	97	3
Bulgaria	3	3	7	15	0
Czech Republic	6	7	16	19	1
Denmark	9	11	19	29	1
Germany	169	219	374	667	21
Estonia	0	0	0	1	0
Ireland	1	1	1	37	1
Greece	n.a.	2	7	17	1
Spain	108	99	224	381	12
France	141	183	260	402	13
Italy	139	170	265	369	12
Cyprus	0	0	0	1	0
Latvia	4	3	5	6	0
Lithuania	0	0	2	3	0
Luxembourg	1	2	4	10	0
Hungary	0	6	15	24	1
Malta	n.a.	0	0	1	0
Netherlands	8	12	23	71	2
Austria	162	171	191	272	9
Poland	0	15	23	50	2
Portugal	12	20	37	58	2
Romania	41	36	45	53	2
Slovenia	4	5	7	11	0
Slovakia	8	8	10	17	1
Finland	20	20	20	40	1
Sweden	121	147	173	198	6
United Kingdom	113	136	192	267	9
All Member States (total)	1086	1301	1968	3114	**100**

More information on additional information on renewable electricity in transport (road and non-road transport) is presented in Table 158 on page 198.

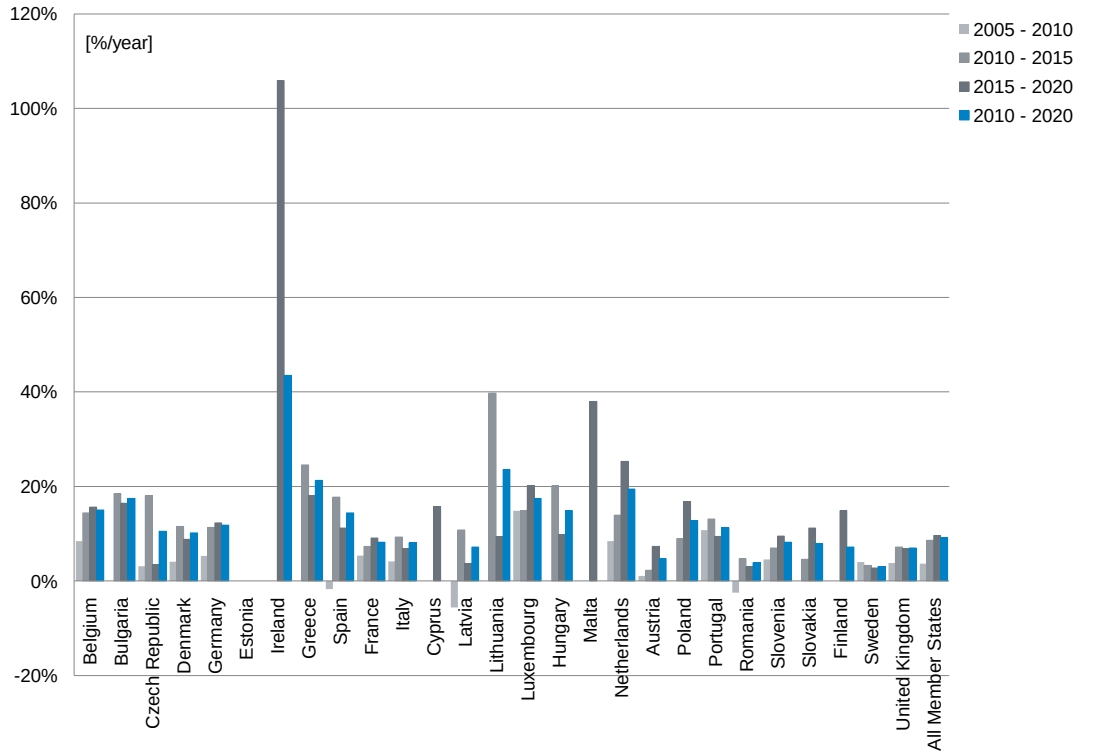


Figure 74: *Calculated average annual growth for renewable electricity in transport [%/year] for four periods*

Table 157: *Calculated average annual growth for renewable electricity in transport [%/year] for four periods*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	8.4	14.4	15.6	15.0
Bulgaria	0.0	18.5	16.5	17.5
Czech Republic	3.1	18.0	3.5	10.5
Denmark	4.1	11.6	8.8	10.2
Germany	5.3	11.3	12.3	11.8
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	0.0	0.0	105.9	43.5
Greece	n.a.	24.6	18.0	21.3
Spain	-1.7	17.7	11.2	14.4
France	5.4	7.3	9.1	8.2
Italy	4.1	9.3	6.8	8.1
Cyprus	n.a.	n.a.	15.7	n.a.
Latvia	-5.6	10.8	3.7	7.2
Lithuania	n.a.	39.8	9.3	23.6
Luxembourg	14.9	14.9	20.1	17.5
Hungary	n.a.	20.1	9.9	14.9
Malta	n.a.	n.a.	38.0	n.a.
Netherlands	8.4	13.9	25.3	19.5
Austria	1.1	2.2	7.3	4.8
Poland	n.a.	8.9	16.8	12.8
Portugal	10.8	13.1	9.4	11.2
Romania	-2.5	4.7	3.0	3.9
Slovenia	4.6	7.0	9.5	8.2
Slovakia	0.0	4.6	11.2	7.8
Finland	0.0	0.0	14.9	7.2
Sweden	4.0	3.3	2.7	3.0
United Kingdom	3.8	7.1	6.8	7.0
All Member States (average)	3.7	8.6	9.6	9.1

0

Table 158: *Projected renewable electricity in transport [ktoe] for the period 2005 - 2020, indicating the contribution of road and non-road transport*

	Renewable electricity road transport				Renewable electricity non-road transport				Total renewable electricity			
	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]
Belgium	0	0	6	42	16	24	42	56	16	24	47	97
Bulgaria	0	0	1	8	3	3	6	7	3	3	7	15
Czech Republic	0	0	0	1	6	7	16	19	6	7	16	19
Denmark	0	0	4	12	9	11	15	17	9	11	19	29
Germany	0	0	0	63	169	219	373	604	169	219	374	667
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	0	0	1
Ireland	n.a.	0	0	34	0	1	1	2	1	1	1	37
Greece	n.a.	1	1	5	n.a.	2	6	11	n.a.	2	7	17
Spain	0	0	31	123	108	99	193	258	108	99	224	381
France	0	0	31	110	141	183	229	292	141	183	260	402
Italy	0	6	45	98	139	164	219	271	139	170	265	369
Cyprus	0	0	0	1	0	0	0	0	0	0	0	1
Latvia	1	1	2	2	3	2	3	4	4	3	5	6
Lithuania	0	0	0	0	0	0	0	0	0	0	2	3
Luxembourg	0	0	0	5	1	2	3	5	1	2	4	10
Hungary	0	0	0	2	0	6	15	22	0	6	15	24
Malta	n.a.	0	0	1	n.a.	n.a.	n.a.	n.a.	n.a.	0	0	1
Netherlands	0	0	1	24	8	12	22	47	8	12	23	71
Austria	0	0	8	68	162	171	183	204	162	171	191	272
Poland	0	0	0	20	0	15	23	30	0	15	23	50
Portugal	0	0	5	20	12	20	32	38	12	20	37	58
Romania	11	10	13	14	30	26	33	39	41	36	45	53
Slovenia	0	0	0	1	4	5	7	9	4	5	7	11
Slovakia	0	0	0	5	8	8	10	12	8	8	10	17
Finland	0	0	0	10	20	20	20	20	20	20	20	40
Sweden	0	3	6	9	121	144	167	190	121	147	173	198
United Kingdom	0	0	4	29	113	136	187	238	113	136	192	267
All Member States (total)	12	21	159	706	1073	1279	1805	2395	1086	1301	1968	3114

0

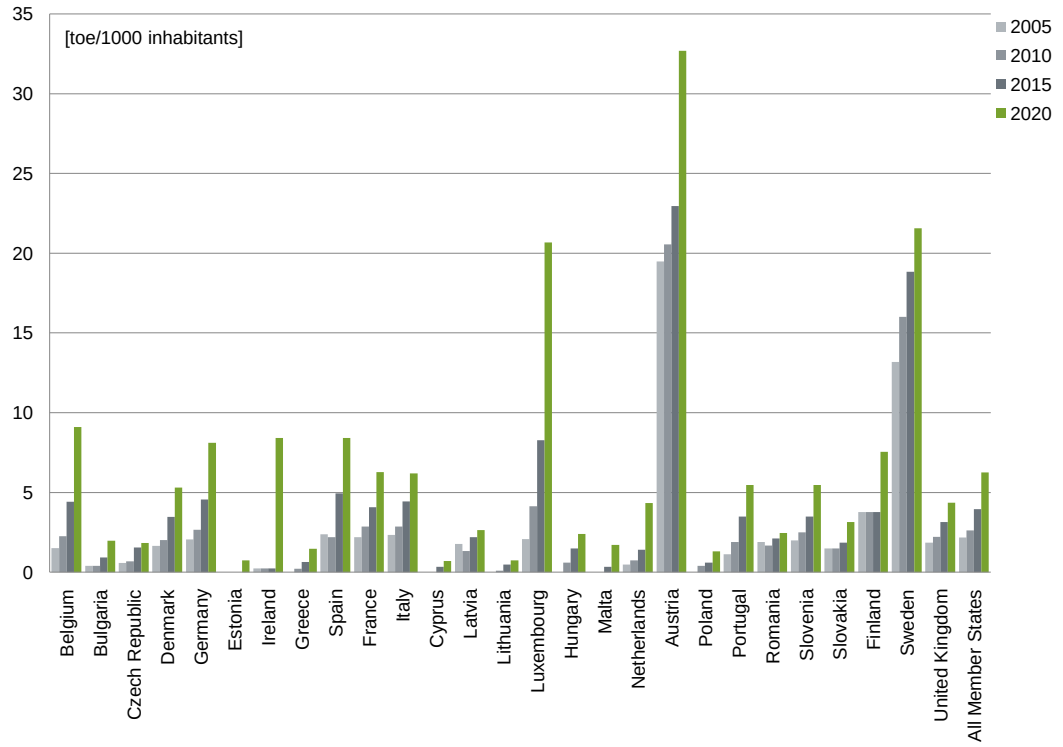


Figure 75: *Calculated per capita (2008) for total renewable electricity in transport [toe/1000 inhabitants] for the period 2005 - 2020*

Table 159: *Calculated per capita (2008) for total renewable electricity in transport [toe/1000 inhabitants] for the period 2005 - 2020*

	2005 [toe/1000 inhabitants]	2010 [toe/1000 inhabitants]	2015 [toe/1000 inhabitants]	2020 [toe/1000 inhabitants]
Belgium	1	2	4	9
Bulgaria	0	0	1	2
Czech Republic	1	1	2	2
Denmark	2	2	3	5
Germany	2	3	5	8
Estonia	0	0	0	1
Ireland	0	0	0	8
Greece	n.a.	0	1	1
Spain	2	2	5	8
France	2	3	4	6
Italy	2	3	4	6
Cyprus	0	0	0	1
Latvia	2	1	2	3
Lithuania	0	0	0	1
Luxembourg	2	4	8	21
Hungary	0	1	1	2
Malta	n.a.	0	0	2
Netherlands	0	1	1	4
Austria	19	21	23	33
Poland	0	0	1	1
Portugal	1	2	3	5
Romania	2	2	2	2
Slovenia	2	2	3	5
Slovakia	1	1	2	3
Finland	4	4	4	8
Sweden	13	16	19	22
United Kingdom	2	2	3	4
All Member States (average)	2	3	4	6

The population data can be viewed in Table 14 (page 32).

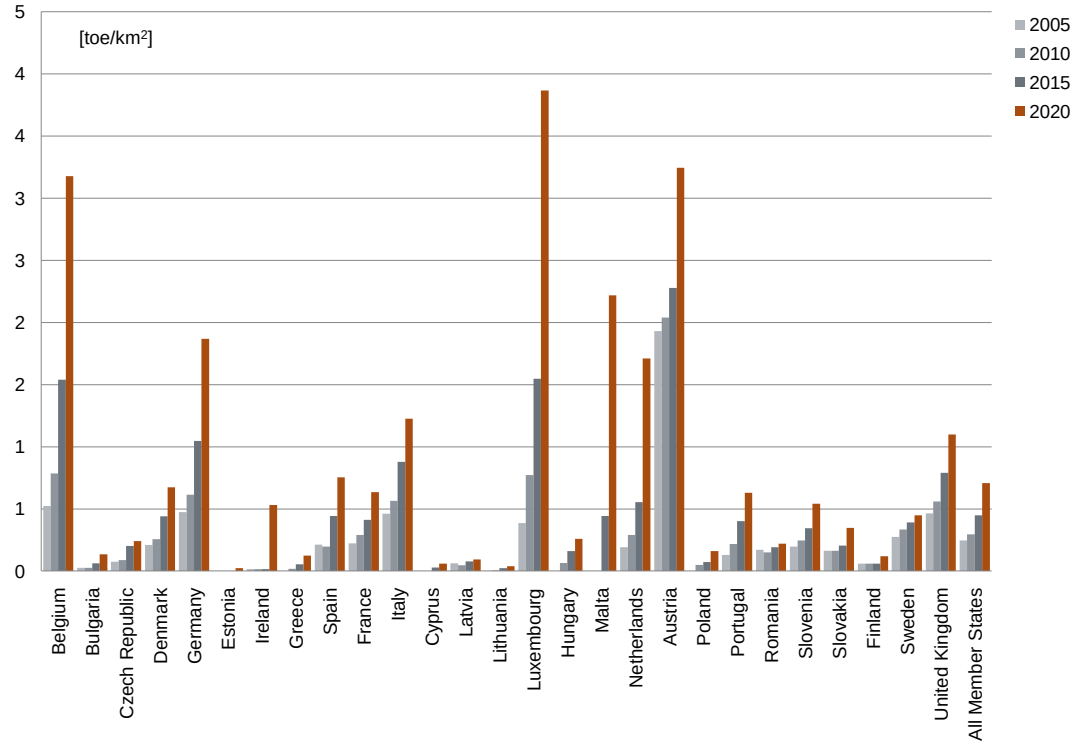


Figure 76: *Calculated per surface area (2004) for total renewable electricity in transport [toe/km^2] for the period 2005 - 2020*

Table 160: *Calculated per surface area (2004) for total renewable electricity in transport [toe/km^2] for the period 2005 - 2020*

	2005 [toe/km^2]	2010 [toe/km^2]	2015 [toe/km^2]	2020 [toe/km^2]
Belgium	1	1	2	3
Bulgaria	0	0	0	0
Czech Republic	0	0	0	0
Denmark	0	0	0	1
Germany	0	1	1	2
Estonia	0	0	0	0
Ireland	0	0	0	1
Greece	n.a.	0	0	0
Spain	0	0	0	1
France	0	0	0	1
Italy	0	1	1	1
Cyprus	0	0	0	0
Latvia	0	0	0	0
Lithuania	0	0	0	0
Luxembourg	0	1	2	4
Hungary	0	0	0	0
Malta	n.a.	0	0	2
Netherlands	0	0	1	2
Austria	2	2	2	3
Poland	0	0	0	0
Portugal	0	0	0	1
Romania	0	0	0	0
Slovenia	0	0	0	1
Slovakia	0	0	0	0
Finland	0	0	0	0
Sweden	0	0	0	0
United Kingdom	0	1	1	1
All Member States (average)	0	0	0	1

The surface area data can be viewed in Table 14 (page 32).

Other biofuels in transport

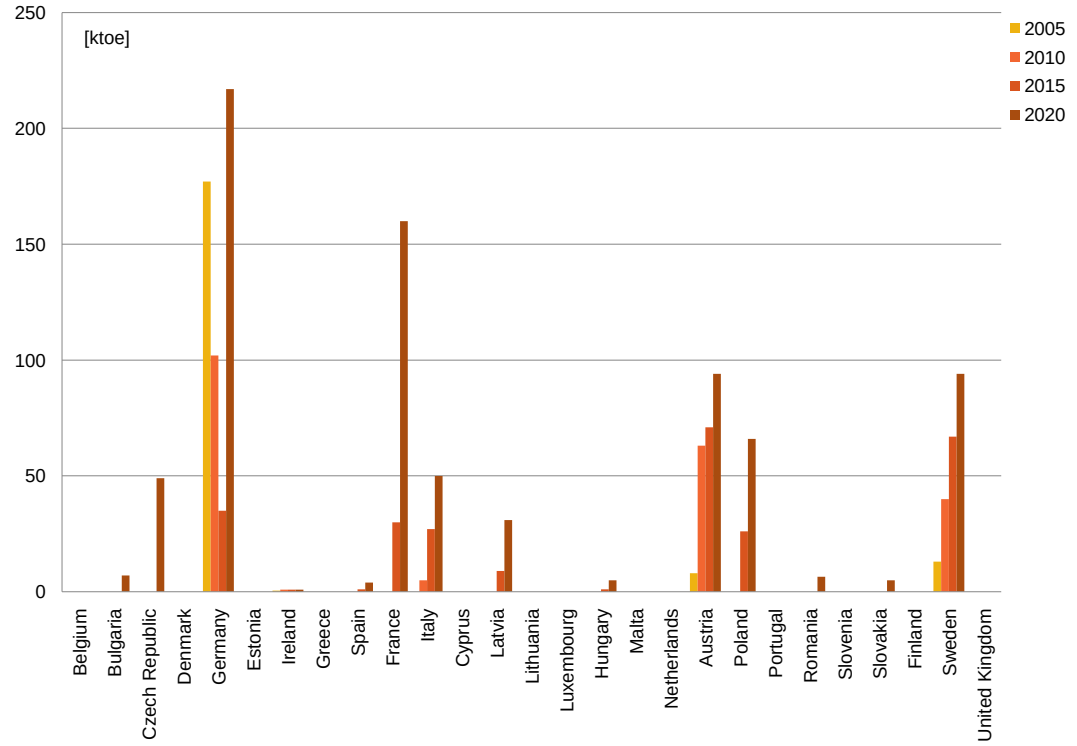


Figure 77: *Projected total other biofuels in transport [ktoe] for the period 2005 - 2020*

Table 161: *Projected total other biofuels in transport [ktoe] for the period 2005 - 2020*

	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2020 [%]
Belgium	0	0	0	0	0
Bulgaria	0	0	0	7	1
Czech Republic	0	0	0	49	6
Denmark	0	0	0	0	0
Germany	177	102	35	173 to 261	27
Estonia	0	0	0	0	0
Ireland	1	1	1	1	0
Greece	n.a.	n.a.	n.a.	n.a.	n.a.
Spain	0	0	1	4	1
France	0	0	30	160	20
Italy	0	5	27	50	6
Cyprus	0	0	0	0	0
Latvia	0	0	9	31	4
Lithuania	0	0	0	0	0
Luxembourg	0	0	0	0	0
Hungary	0	0	1	5	1
Malta	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	n.a.	n.a.	n.a.	n.a.	n.a.
Austria	8	63	71	94	12
Poland	n.a.	n.a.	26	66	8
Portugal	0	0	0	0	0
Romania	n.a.	n.a.	n.a.	7	1
Slovenia	n.a.	n.a.	n.a.	n.a.	n.a.
Slovakia	0	0	0	5	1
Finland	0	0	0	0	0
Sweden	13	40	67	94	12
United Kingdom	0	0	0	0	0
All Member States (total)	199	211	268	789	**100**

More information on additional information on other biofuels in transport (Article 21.2) is presented in Table 163 on page 204. The German Action Plan defines a *data range* for 'total other biofuels' in 2020. In the table the range is provided, but the total value for all Member States and the share in the last column use the average value of the range (217.0 ktoe).

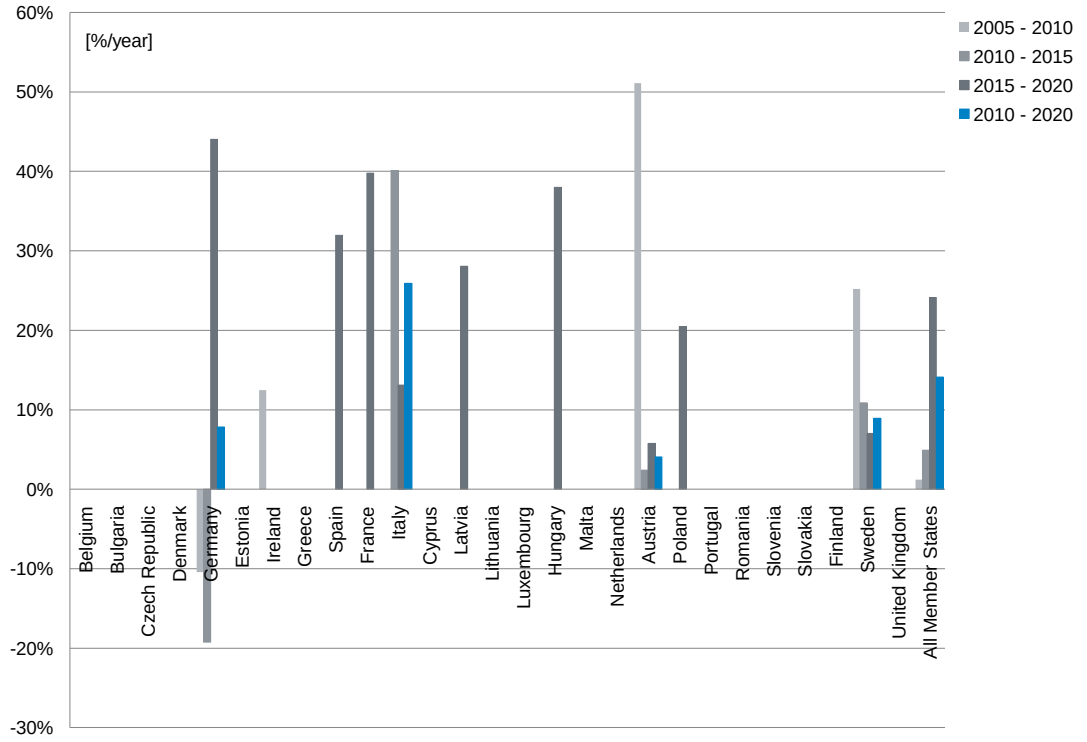


Figure 78: *Calculated average annual growth for other biofuels in transport [%/year] for four periods*

Table 162: *Calculated average annual growth for other biofuels in transport [%/year] for four periods*

	2005 - 2010 [%/year]	2010 - 2015 [%/year]	2015 - 2020 [%/year]	2010 - 2020 [%/year]
Belgium	n.a.	n.a.	n.a.	n.a.
Bulgaria	n.a.	n.a.	n.a.	n.a.
Czech Republic	n.a.	n.a.	n.a.	n.a.
Denmark	n.a.	n.a.	n.a.	n.a.
Germany	-10.4	-19.3	44.0	7.8
Estonia	n.a.	n.a.	n.a.	n.a.
Ireland	12.5	0.0	0.0	0.0
Greece	n.a.	n.a.	n.a.	n.a.
Spain	n.a.	n.a.	32.0	n.a.
France	n.a.	n.a.	39.8	n.a.
Italy	n.a.	40.1	13.1	25.9
Cyprus	n.a.	n.a.	n.a.	n.a.
Latvia	n.a.	n.a.	28.1	n.a.
Lithuania	n.a.	n.a.	n.a.	n.a.
Luxembourg	n.a.	n.a.	n.a.	n.a.
Hungary	n.a.	n.a.	38.0	n.a.
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	n.a.	n.a.	n.a.	n.a.
Austria	51.1	2.4	5.8	4.1
Poland	n.a.	n.a.	20.5	n.a.
Portugal	n.a.	n.a.	n.a.	n.a.
Romania	n.a.	n.a.	n.a.	n.a.
Slovenia	n.a.	n.a.	n.a.	n.a.
Slovakia	n.a.	n.a.	n.a.	n.a.
Finland	n.a.	n.a.	n.a.	n.a.
Sweden	25.2	10.9	7.0	8.9
United Kingdom	n.a.	n.a.	n.a.	n.a.
All Member States (average)	1.2	4.9	24.1	14.1

The German Action Plan defines a *data range* for 'total other biofuels' in 2020. In this table the average value of the range is used, see Table 161 on page 202.

Table 163: *Projected other biofuels in transport [ktoe] for the period 2005 - 2020, indicating the contribution of Article 21.2 fuels*

	Other biofuels Article 21.2				Total other biofuels in transport			
	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]	2005 [ktoe]	2010 [ktoe]	2015 [ktoe]	2020 [ktoe]
Belgium	0	0	0	0	0	0	0	0
Bulgaria	0	0	0	4	0	0	0	7
Czech Republic	0	0	0	48	0	0	0	49
Denmark	0	0	0	0	0	0	0	0
Germany	0	0	4	26 to 115	177	102	35	173 to 261
Estonia	n.a.	n.a.	n.a.	n.a.	0	0	0	0
Ireland	1	1	1	1	1	1	1	1
Greece	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Spain	0	0	0	0	0	0	1	4
France	0	0	0	50	0	0	30	160
Italy	0	5	27	50	0	5	27	50
Cyprus	0	0	0	0	0	0	0	0
Latvia	0	0	0	11	0	0	9	31
Lithuania	0	0	0	0	0	0	0	0
Luxembourg	0	0	0	0	0	0	0	0
Hungary	0	0	1	5	0	0	1	5
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Austria	0	0	0	0	8	63	71	94
Poland	n.a.	n.a.	26	66	n.a.	n.a.	26	66
Portugal	0	0	0	0	0	0	0	0
Romania	n.a.	n.a.	n.a.	6	n.a.	n.a.	n.a.	7
Slovenia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Slovakia	0	0	0	5	0	0	0	5
Finland	0	0	0	0	0	0	0	0
Sweden	13	40	67	94	13	40	67	94
United Kingdom	0	0	0	0	0	0	0	0
All Member States (total)	14	46	126	410	199	211	268	789

The German Action Plan defines a *data range* for both 'total' and 'Article 21.2' other biofuels. In the table the range is provided, but the total value for all Member States uses the average value of the range (70.5 ktoe for 'Article 21.2' other biofuels and 217.0 ktoe for 'total other biofuels' in 2020).

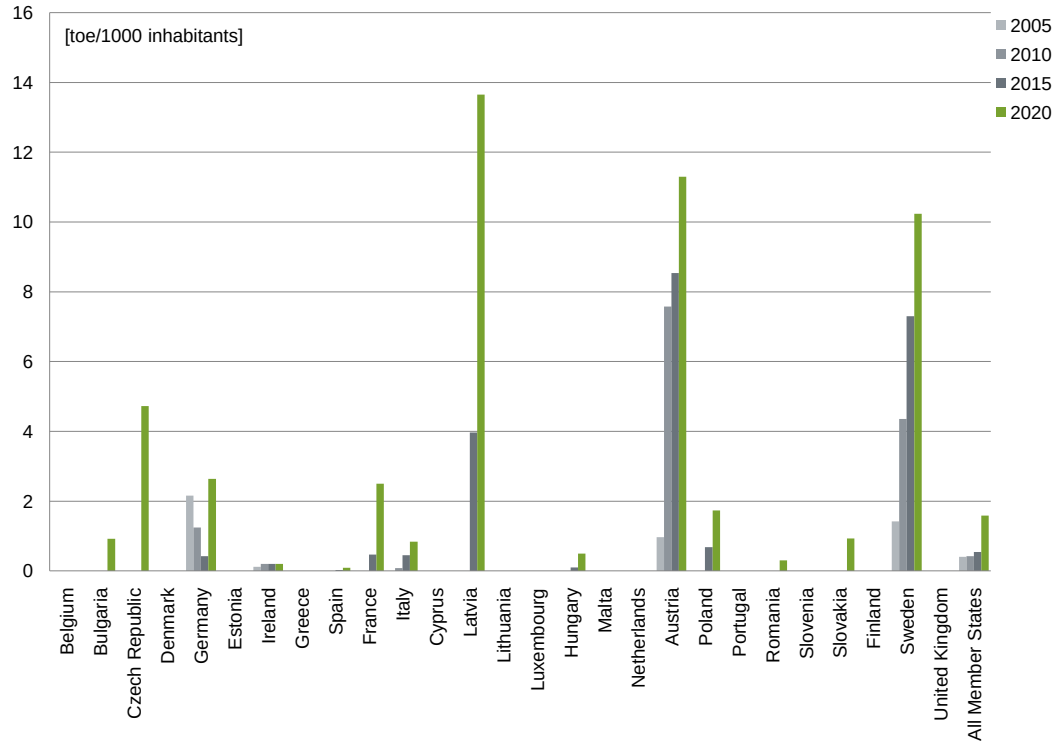


Figure 79: *Calculated per capita (2008) values for total other biofuels in transport [toe/1000 inhabitants] for the period 2005 - 2020*

Table 164: *Calculated per capita (2008) values for total other biofuels in transport [toe/1000 inhabitants] for the period 2005 - 2020*

	2005 [toe/1000 inhabitants]	2010 [toe/1000 inhabitants]	2015 [toe/1000 inhabitants]	2020 [toe/1000 inhabitants]
Belgium	0	0	0	0
Bulgaria	0	0	0	1
Czech Republic	0	0	0	5
Denmark	0	0	0	0
Germany	2	1	0	3
Estonia	0	0	0	0
Ireland	0	0	0	0
Greece	n.a.	n.a.	n.a.	n.a.
Spain	0	0	0	0
France	0	0	0	3
Italy	0	0	0	1
Cyprus	0	0	0	0
Latvia	0	0	4	14
Lithuania	0	0	0	0
Luxembourg	0	0	0	0
Hungary	0	0	0	0
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	n.a.	n.a.	n.a.	n.a.
Austria	1	8	9	11
Poland	n.a.	n.a.	1	2
Portugal	0	0	0	0
Romania	n.a.	n.a.	n.a.	0
Slovenia	n.a.	n.a.	n.a.	n.a.
Slovakia	0	0	0	1
Finland	0	0	0	0
Sweden	1	4	7	10
United Kingdom	0	0	0	0
All Member States (average)	0	0	1	2

The population data can be viewed in Table 14 (page 32). The German Action Plan defines a *data range* for 'total other biofuels' in 2020. In this table the average value of the range is used, see Table 161 on page 202.

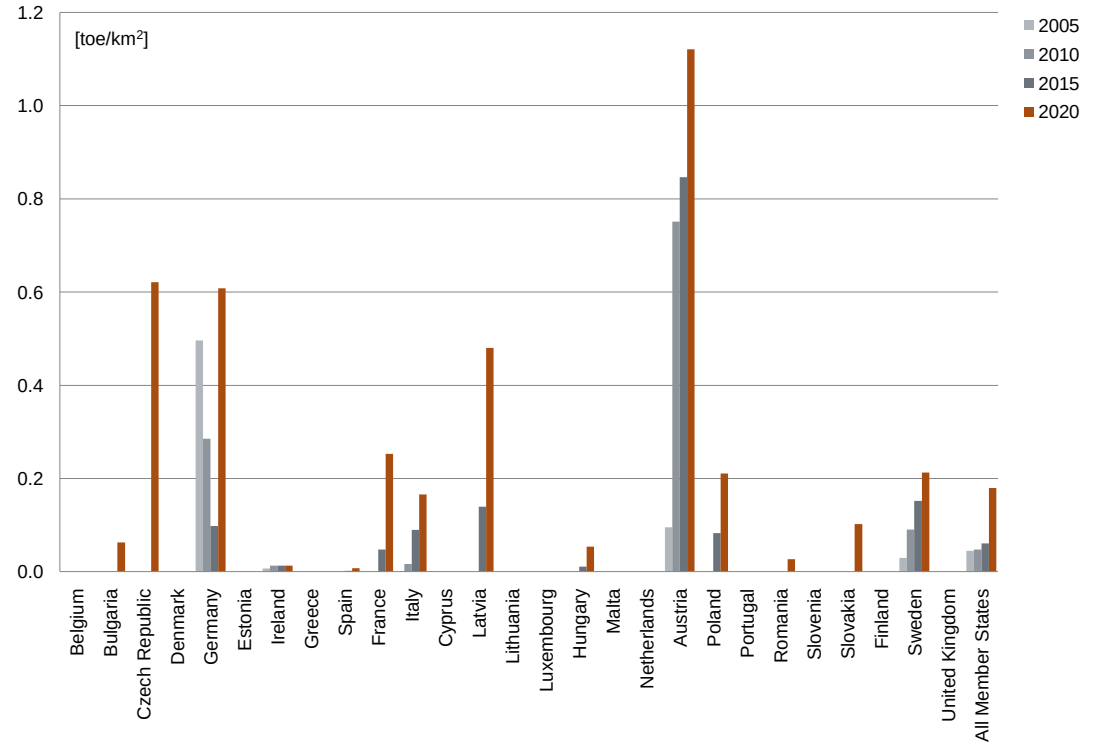


Figure 80: *Calculated per surface area (2004) values for total other biofuels in transport [toe/km^2] for the period 2005 - 2020*

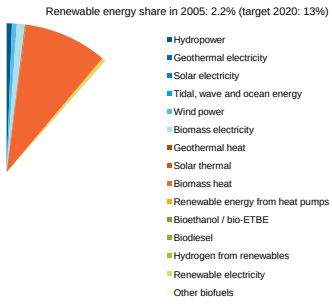
Table 165: *Calculated per surface area (2004) values for total other biofuels in transport [toe/km^2] for the period 2005 - 2020*

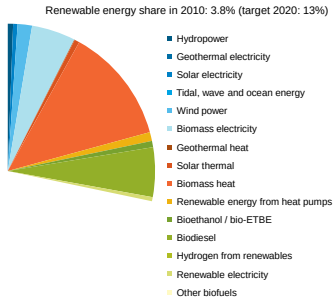
	2005 [toe/km^2]	2010 [toe/km^2]	2015 [toe/km^2]	2020 [toe/km^2]
Belgium	0	0	0	0
Bulgaria	0	0	0	0
Czech Republic	0	0	0	1
Denmark	0	0	0	0
Germany	0	0	0	1
Estonia	0	0	0	0
Ireland	0	0	0	0
Greece	n.a.	n.a.	n.a.	n.a.
Spain	0	0	0	0
France	0	0	0	0
Italy	0	0	0	0
Cyprus	0	0	0	0
Latvia	0	0	0	0
Lithuania	0	0	0	0
Luxembourg	0	0	0	0
Hungary	0	0	0	0
Malta	n.a.	n.a.	n.a.	n.a.
Netherlands	n.a.	n.a.	n.a.	n.a.
Austria	0	1	1	1
Poland	n.a.	n.a.	0	0
Portugal	0	0	0	0
Romania	n.a.	n.a.	n.a.	0
Slovenia	n.a.	n.a.	n.a.	n.a.
Slovakia	0	0	0	0
Finland	0	0	0	0
Sweden	0	0	0	0
United Kingdom	0	0	0	0
All Member States (average)	0	0	0	0

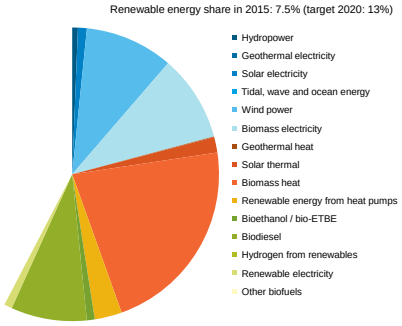
The surface area data can be viewed in Table 14 (page 32). The German Action Plan defines a *data range* for 'total other biofuels' in 2020. In this table the average value of the range is used, see Table 161 on page 202.

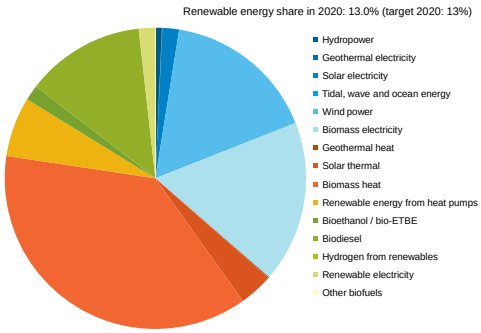
Country Tables

Belgium







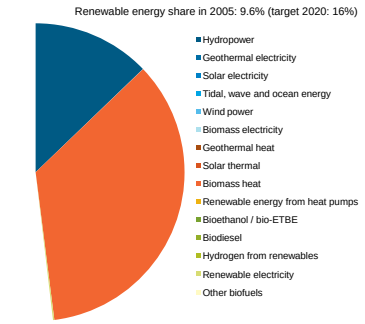


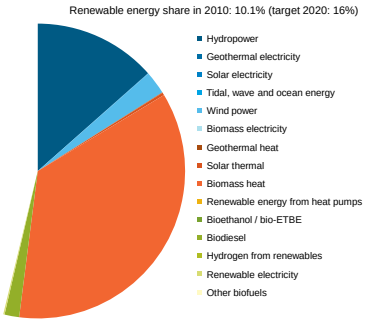
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 209 provides a background to the above figures.

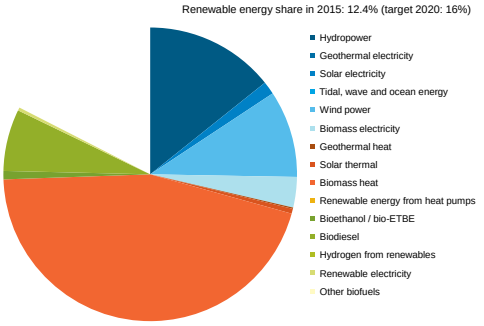
			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	350	30	52.2	4.3	0.4	0.1	362	31	7.8	2.0	0.4	0.1	391	34	3.0	1.1	0.4	0.1	440	38	1.9	0.7	0.4	0.1	*103*
		Geothermal	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	29	3	0.1	0.0	0.0	0.0	*110*
		Solar photovoltaic	1	0	0.1	0.0	0.0	0.0	304	26	6.5	1.7	0.3	0.1	610	52	4.7	1.7	0.6	0.1	1139	98	4.9	1.8	1.0	0.2	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	1	0	0.1	0.0	0.0	0.0	304	26	6.5	1.7	0.3	0.1	610	52	4.7	1.7	0.6	0.1	1139	98	4.9	1.8	1.0	0.2	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*128*
		Onshore wind	320	27	47.6	3.9	0.3	0.1	840	72	18.0	4.7	0.9	0.2	2100	181	16.1	5.8	2.0	0.4	4274	367	18.5	6.8	3.9	0.9	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	151	13	3.2	0.9	0.2	0.0	3984	343	30.6	11.1	3.9	0.8	6200	533	26.8	9.9	5.6	1.3	*139*
		Wind power (subtotal)	320	27	47.6	3.9	0.3	0.1	991	85	21.2	5.6	1.0	0.2	6084	523	46.7	16.9	5.9	1.3	10474	901	45.3	16.8	9.5	2.2	*139*
		Solid biomass	1521	131	226.7	18.6	1.7	0.3	2580	222	55.3	14.6	2.6	0.5	5145	442	39.5	14.3	5.0	1.1	9575	823	41.4	15.3	8.6	2.0	*149*
		Biogas	235	20	35.0	2.9	0.3	0.1	393	34	8.4	2.2	0.4	0.1	777	67	6.0	2.2	0.8	0.2	1439	124	6.2	2.3	1.3	0.3	*149*
		Bioliquids	35	3	5.2	0.4	0.0	0.0	34	3	0.7	0.2	0.0	0.0	30	3	0.2	0.1	0.0	0.0	25	2	0.1	0.0	0.0	0.0	*149*
		Biomass (subtotal)	540	46	80.5	6.6	0.6	0.1	3007	259	64.5	17.0	3.1	0.6	5952	512	45.7	16.5	5.8	1.2	11039	949	47.7	17.7	10.0	2.3	*149*
		Total (according to Template Tables 10a/b)	671	58	**100.0**	8.2	0.7	0.2	4664	401	**100.0**	26.4	4.8	1.0	13037	1121	**100.0**	36.2	12.7	2.7	23121	1988	**100.0**	37.0	20.9	4.8	-
		Sum of all technologies (Template Tables 10a/b)	1211	104	180.5	14.8	1.3	0.3	4664	401	100.0	26.4	4.8	1.0	13037	1121	100.0	36.2	12.7	2.7	23121	1988	100.0	37.0	20.9	4.8	-
		Gross final RES-E consumption (Template Table 4a)		212	367.4	30.2	2.7	0.6		401	100.0	26.4	4.8	1.0		1121	100.0	36.2	12.7	2.7		1988	100.0	37.0	20.9	4.8	*76 – 79*
	Heating and cooling	Geothermal		3	0.6	0.4	0.0	0.0		3	0.4	0.2	0.0	0.0		4	0.3	0.1	0.0	0.0		6	0.2	0.1	0.0	0.0	*154*
		Solar thermal		3	0.7	0.5	0.0	0.0		29	3.8	1.9	0.1	0.1		91	6.4	2.9	0.4	0.2		199	7.7	3.7	0.9	0.5	*160*
		Solid biomass		476	96.9	67.7	2.2	1.2		669	87.3	44.0	3.1	1.7		1138	79.3	36.7	5.2	2.8		1947	75.2	36.2	8.9	4.7	*168*
		Biogas		2	0.4	0.3	0.0	0.0		9	1.2	0.6	0.0	0.0		26	1.8	0.8	0.1	0.1		55	2.1	1.0	0.3	0.1	*168*
		Bioliquids		0	0.0	0.0	0.0	0.0		4	0.5	0.3	0.0	0.0		14	1.0	0.5	0.1	0.0		32	1.2	0.6	0.1	0.1	*168*
		Biomass (subtotal)		477	97.3	68.0	2.2	1.2		682	89.0	44.9	3.1	1.7		1178	82.1	38.0	5.4	2.9		2034	78.6	37.8	9.3	4.9	*168*
		Aerothermal heat pumps		4	0.7	0.5	0.0	0.0		26	3.4	1.7	0.1	0.1		78	5.4	2.5	0.4	0.2		168	6.5	3.1	0.8	0.4	*174*
		Geothermal heat pumps		3	0.6	0.4	0.0	0.0		21	2.7	1.4	0.1	0.1		68	4.7	2.2	0.3	0.2		147	5.7	2.7	0.7	0.4	*174*
		Hydrothermal heat pumps		1	0.1	0.1	0.0	0.0		5	0.7	0.3	0.0	0.0		16	1.1	0.5	0.1	0.0		35	1.4	0.7	0.2	0.1	*174*
		Renewable energy from heat pumps (subtotal)		7	1.4	1.0	0.0	0.0		52	6.8	3.4	0.2	0.1		161	11.3	5.2	0.7	0.4		350	13.5	6.5	1.6	0.8	*174*
		Total (according to Template Table 11)		491	**100.0**	69.9	2.3	1.3		766	**100.0**	50.4	3.5	1.9		1435	**100.0**	46.3	6.6	3.5		2588	**100.0**	48.2	11.9	6.3	-
		Sum of all technologies (Template Table 11)		491	100.0	69.9	2.3	1.3		767	100.0	50.4	3.5	1.9		1435	100.0	46.3	6.6	3.5		2588	100.0	48.2	11.9	6.3	-
		Gross final RES-H/C consumption (Template Table 4a)		491	100.1	69.9	2.3	1.3		766	99.9	50.4	3.5	1.9		1435	100.0	46.4	6.6	3.5		2588	100.0	48.2	11.9	6.3	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		37	10.5	2.4	0.4	0.1		47	8.6	1.5	0.5	0.1		91	10.3	1.7	1.0	0.2	*180*
		Biodiesel		0	0.0	0.0	0.0	0.0		292	82.7	19.2	3.1	0.7		449	82.5	14.5	4.8	1.1		698	78.8	13.0	8.0	1.7	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		16	100.0	2.3	0.2	0.0		24	6.8	1.6	0.3	0.1		47	8.6	1.5	0.5	0.1		97	10.9	1.8	1.1	0.2	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		16	**100.0**	2.3	0.2	0.0		353	**100.0**	23.2	3.8	0.9		544	**100.0**	17.6	5.8	1.3		886	**100.0**	16.5	10.1	2.1	-
		Sum of all technologies (Template Table 12)		16	100.0	2.3	0.2	0.0		353	100.0	23.2	3.8	0.9		543	99.8	17.5	5.8	1.3		886	100.0	16.5	10.1	2.1	-
		Gross final RES-T consumption (Template Table 4a)		16	100.0	2.3	0.2	0.0		353	100.0	23.2	3.8	0.9		541	99.4	17.5	5.8	1.3		798	90.1	14.8	9.1	1.9	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		16	100.0	2.3	0.2	0.0		353	100.0	23.2	3.8	0.9		544	100.0	17.6	5.8	1.3		886	100.0	16.5	10.1	2.1	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		702		100.0	8.3	1.8		1520		100.0	16.3	3.8		3096		100.0	33.3	7.5		5374		100.0	61.5	13.0	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		548		78.1	6.5	1.4		1496		98.4	16.1	3.7		3053		98.6	32.8	7.4		5365		99.8	61.4	13.0	-
		Sum all technologies in Template Tables 10a/b, 11, 12		611			7.2	1.6		1520			16.3	3.8		3099			33.3	7.5		5462			62.5	13.2	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		702		**100.0**	8.3	1.8		1520		**100.0**	16.3	3.8		3096		**100.0**	33.3	7.5		5374		**100.0**	61.5	13.0	*76 – 79*
Final consumption	Electricity	reference scenario[f]		7912						8670						9428						9985					*64*
		additional energy efficiency[f]		7912			**100.0**	20.7		8371			**100.0**	20.7		8829			**100.0**	21.5		9526			**100.0**	23.1	*65*
	Heating and cooling	reference scenario[f]		21804						21804						21804						21804					*66*
		additional energy efficiency[f]		21804			**100.0**	57.1		21804			**100.0**	53.8		21804			**100.0**	53.1		21804			**100.0**	52.8	*67*
	Transport	reference scenario[f]		8493						9485						9661						9333					*68*
		additional energy efficiency[f]		8493			**100.0**	22.2		9304			**100.0**	23.0		9306			**100.0**	22.7		8740			**100.0**	21.2	*69*
	Total before aviation reduction	reference scenario[f]		38209						41012						42057						42386					*70*
		additional energy efficiency[f]		38209				**100.0**		40517				**100.0**		41076				**100.0**		41301				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						2.2						4.4						7.1						13.0	*53*

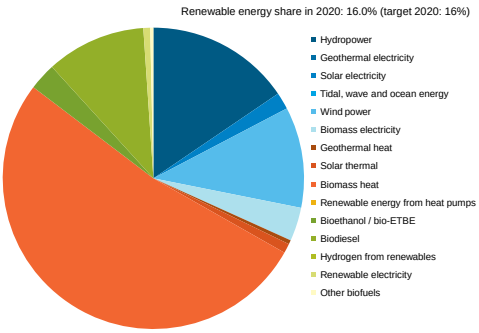
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Bulgaria







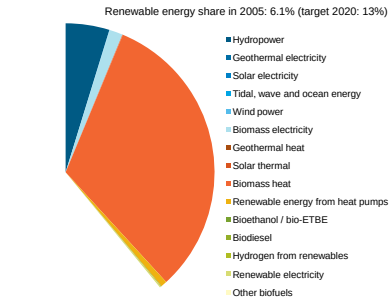


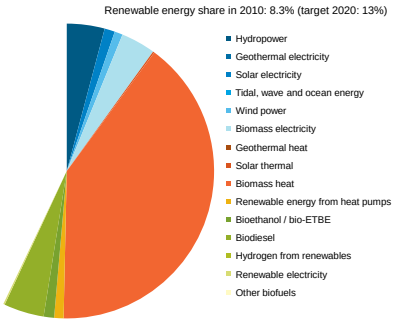
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 211 provides a background to the above figures.

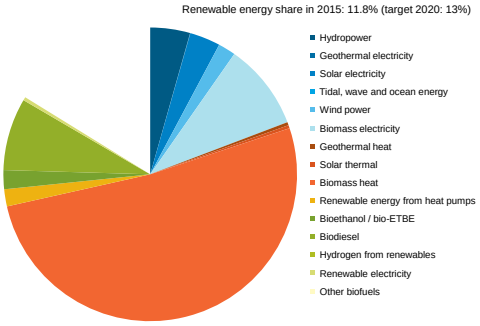
			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	3068	264	99.8	26.6	8.4	2.6	3223	277	83.9	26.5	8.9	2.7	3417	294	49.8	22.4	9.3	2.8	3712	319	48.8	18.6	10.1	3.0	*103*
		Geothermal	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	0	0	0.0	0.0	0.0	0.0	12	1	0.3	0.1	0.0	0.0	343	29	5.0	2.2	0.9	0.3	435	37	5.7	2.2	1.2	0.3	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	0	0	0.0	0.0	0.0	0.0	12	1	0.3	0.1	0.0	0.0	343	29	5.0	2.2	0.9	0.3	435	37	5.7	2.2	1.2	0.3	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*128*
		Onshore wind	5	0	0.2	0.0	0.0	0.0	605	52	15.8	5.0	1.7	0.5	2293	197	33.4	15.0	6.2	1.9	2592	223	34.1	13.0	7.1	2.1	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*139*
		Wind power (subtotal)	5	0	0.2	0.0	0.0	0.0	605	52	15.8	5.0	1.7	0.5	2293	197	33.4	15.0	6.2	1.9	2592	223	34.1	13.0	7.1	2.1	*139*
		Solid biomass	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	490	42	7.1	3.2	1.3	0.4	514	44	6.8	2.6	1.4	0.4	*149*
		Biogas	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	313	27	4.6	2.0	0.8	0.3	351	30	4.6	1.8	1.0	0.3	*149*
		Bioliquids	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	803	69	11.7	5.3	2.2	0.7	865	74	11.4	4.3	2.4	0.7	*149*
		Total (according to Template Tables 10a/b)	3073	264	**100.0**	26.7	8.4	2.6	3840	330	**100.0**	31.6	10.5	3.2	6856	590	**100.0**	44.9	18.6	5.6	7604	654	**100.0**	38.1	20.8	6.1	-
		Sum of all technologies (Template Tables 10a/b)	3073	264	100.0	26.7	8.4	2.6	3840	330	100.0	31.6	10.5	3.2	6856	590	100.0	44.9	18.6	5.6	7604	654	100.0	38.1	20.8	6.1	-
		Gross final RES-E consumption (Template Table 4a)		264	99.9	26.6	8.4	2.6		330	99.9	31.5	10.5	3.2		590	100.1	44.9	18.6	5.6		654	100.0	38.1	20.8	6.1	*76 – 79*
	Heating and cooling	Geothermal		n.a.	0.0	0.0	0.0	0.0		1	0.1	0.1	0.0	0.0		3	0.3	0.2	0.1	0.0		9	0.8	0.5	0.2	0.1	*154*
		Solar thermal		n.a.	0.0	0.0	0.0	0.0		6	0.8	0.6	0.1	0.1		11	1.2	0.8	0.2	0.1		21	1.9	1.2	0.5	0.2	*160*
		Solid biomass		724	100.0	73.1	15.9	7.0		734	99.1	70.2	16.3	7.1		916	97.1	69.8	20.2	8.6		1053	95.5	61.3	22.7	9.8	*168*
		Biogas		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		13	1.4	1.0	0.3	0.1		20	1.8	1.2	0.4	0.2	*168*
		Bioliquids		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		724	100.0	73.1	15.9	7.0		734	99.1	70.2	16.3	7.1		929	98.5	70.8	20.5	8.8		1073	97.3	62.5	23.1	10.0	*168*
		Aerothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Geothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*174*
		Total (according to Template Table 11)		724	**100.0**	73.1	15.9	7.0		741	**100.0**	70.8	16.5	7.1		943	**100.0**	71.8	20.8	8.9		1103	**100.0**	64.2	23.8	10.3	-
		Sum of all technologies (Template Table 11)		724	100.0	73.1	15.9	7.0		741	100.0	70.8	16.5	7.1		943	100.0	71.8	20.8	8.9		1103	100.0	64.2	23.8	10.3	-
		Gross final RES-H/C consumption (Template Table 4a)		724	100.0	73.1	15.9	7.0		741	100.0	70.8	16.5	7.1		943	100.0	71.8	20.8	8.9		1103	100.0	64.2	23.8	10.3	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		19	11.4	1.4	0.7	0.2		60	19.9	3.5	2.0	0.6	*180*
		Biodiesel		0	0.0	0.0	0.0	0.0		33	91.7	3.2	1.2	0.3		140	84.3	10.7	4.8	1.3		220	72.8	12.8	7.5	2.0	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		3	100.0	0.3	0.1	0.0		3	8.3	0.3	0.1	0.0		7	4.2	0.5	0.2	0.1		15	5.0	0.9	0.5	0.1	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		7	2.3	0.4	0.2	0.1	*204*
		Total (according to Template Table 12)		3	**100.0**	0.3	0.1	0.0		36	**100.0**	3.4	1.3	0.3		166	**100.0**	12.6	5.7	1.6		302	**100.0**	17.6	10.2	2.8	-
		Sum of all technologies (Template Table 12)		3	100.0	0.3	0.1	0.0		36	100.0	3.4	1.3	0.3		166	100.0	12.6	5.7	1.6		302	100.0	17.6	10.2	2.8	-
		Gross final RES-T consumption (Template Table 4a)		3	100.0	0.3	0.1	0.0		36	100.0	3.4	1.3	0.3		166	100.0	12.6	5.7	1.6		302	100.0	17.6	10.2	2.8	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		0	0.0	0.0	0.0	0.0		30	83.3	2.9	1.1	0.3		115	69.3	8.8	4.0	1.1		204	67.5	11.9	6.9	1.9	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		991		100.0	37.5	9.6		1107		105.8	39.9	10.6		1699		129.4	58.6	16.0		2059		119.8	69.7	19.2	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		988		99.7	37.4	9.6		1104		105.6	39.8	10.6		1692		128.8	58.4	15.9		2044		119.0	69.2	19.0	-
		Sum all technologies in Template Tables 10a/b, 11, 12		991			37.5	9.6		1107			39.9	10.6		1699			58.6	16.0		2059			69.7	19.2	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		61		5.8	2.2	0.6		386		29.4	13.3	3.6		341		19.8	11.6	3.2	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		991		**100.0**	37.5	9.6		1046		**100.0**	37.7	10.1		1313		**100.0**	45.3	12.4		1718		**100.0**	58.2	16.0	*76 – 79*
Final consumption	Electricity	reference scenario[f]		3129						3130						3355						3597					*64*
		additional energy efficiency[f]		3129			**100.0**	30.3		3130			**100.0**	30.1		3171			**100.0**	29.9		3148			**100.0**	29.3	*65*
	Heating and cooling	reference scenario[f]		4543						4851						5640						6193					*66*
		additional energy efficiency[f]		4543			**100.0**	44.0		4492			**100.0**	43.2		4539			**100.0**	42.8		4638			**100.0**	43.2	*67*
	Transport	reference scenario[f]		2642						2830						3191						3473					*68*
		additional energy efficiency[f]		2642			**100.0**	25.6		2776			**100.0**	26.7		2898			**100.0**	27.3		2952			**100.0**	27.5	*69*
	Total before aviation reduction	reference scenario[f]		10314						10811						12186						13263					*70*
		additional energy efficiency[f]		10314				**100.0**		10398				**100.0**		10608				**100.0**		10738				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						9.4						10.7						12.4						16.0	*53*

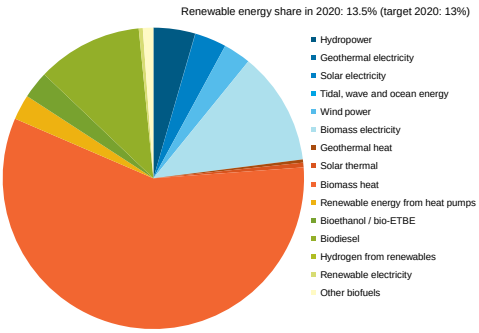
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Czech Republic







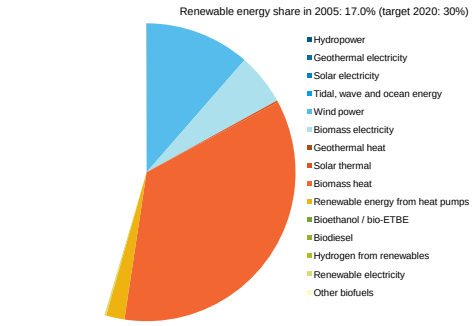


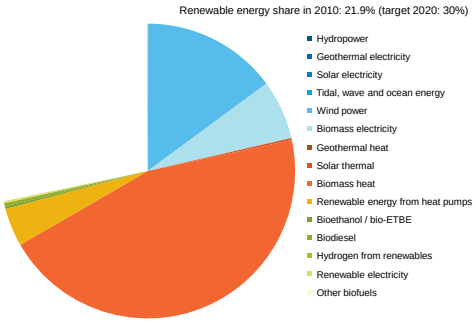
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 213 provides a background to the above figures.

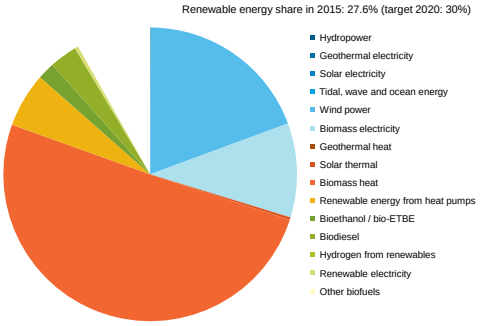
			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	2380	205	76.2	11.6	3.4	0.7	2109	181	41.6	7.2	3.0	0.6	2220	191	22.8	5.2	2.9	0.6	2274	196	19.5	4.5	2.7	0.6	*103*
		Geothermal	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	18	2	0.2	0.0	0.0	0.0	18	2	0.2	0.0	0.0	0.0	*110*
		Solar photovoltaic	0	0	0.0	0.0	0.0	0.0	578	50	11.4	2.0	0.8	0.2	1708	147	17.5	4.0	2.2	0.5	1726	148	14.8	3.4	2.1	0.5	*121*
		Concentrated solar power	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	0	0	0.0	0.0	0.0	0.0	578	50	11.4	2.0	0.8	0.2	1708	147	17.5	4.0	2.2	0.5	1726	148	14.8	3.4	2.1	0.5	*121*
		Tidal, wave and ocean energy	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*128*
		Onshore wind	21	2	0.7	0.1	0.0	0.0	454	39	9.0	1.6	0.6	0.1	975	84	10.0	2.3	1.3	0.3	1496	129	12.8	2.9	1.8	0.4	*139*
		Offshore wind	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*139*
		Wind power (subtotal)	21	2	0.7	0.1	0.0	0.0	454	39	9.0	1.6	0.6	0.1	975	84	10.0	2.3	1.3	0.3	1496	129	12.8	2.9	1.8	0.4	*139*
		Solid biomass	560	48	17.9	2.7	0.8	0.2	1306	112	25.7	4.5	1.9	0.4	3065	264	31.5	7.2	3.9	0.8	3294	283	28.2	6.5	3.9	0.9	*149*
		Biogas	161	14	5.2	0.8	0.2	0.0	624	54	12.3	2.1	0.9	0.2	1754	151	18.0	4.1	2.3	0.5	2871	247	24.6	5.6	3.4	0.8	*149*
		Bioliquids	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	721	62	23.1	3.5	1.0	0.2	1930	166	38.1	6.6	2.7	0.6	4819	414	49.5	11.3	6.2	1.3	6165	530	52.8	12.1	7.3	1.6	*149*
		Total (according to Template Tables 10a/b)	3122	268	**100.0**	15.3	4.5	0.9	5072	436	**100.0**	17.4	7.2	1.5	9741	838	**100.0**	22.8	12.5	2.7	11679	1004	**100.0**	22.9	13.9	3.1	-
		Sum of all technologies (Template Tables 10a/b)	3122	268	100.0	15.3	4.5	0.9	5071	436	100.0	17.4	7.2	1.5	9740	837	100.0	22.8	12.5	2.7	11679	1004	100.0	22.9	13.9	3.1	-
		Gross final RES-E consumption (Template Table 4a)		269	100.2	15.3	4.5	0.9		445	102.0	17.8	7.4	1.5		864	103.2	23.5	12.9	2.8		1038	103.4	23.7	14.4	3.2	*76 – 79*
	Heating and cooling	Geothermal		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		15	0.6	0.4	0.1	0.0		15	0.6	0.3	0.1	0.0	*154*
		Solar thermal		2	0.1	0.1	0.0	0.0		7	0.4	0.3	0.0	0.0		15	0.6	0.4	0.1	0.0		22	0.8	0.5	0.1	0.1	*160*
		Solid biomass		1351	96.2	76.8	7.7	4.6		1706	94.2	68.1	9.6	5.7		2137	91.2	58.1	11.9	6.9		2350	88.4	53.6	12.6	7.2	*168*
		Biogas		23	1.6	1.3	0.1	0.1		53	2.9	2.1	0.3	0.2		110	4.7	3.0	0.6	0.4		167	6.3	3.8	0.9	0.5	*168*
		Bioliquids		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		1374	97.8	78.1	7.8	4.6		1759	97.1	70.2	9.9	5.9		2247	95.9	61.1	12.5	7.2		2517	94.7	57.4	13.5	7.7	*168*
		Aerothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Geothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		29	2.1	1.6	0.2	0.1		45	2.5	1.8	0.3	0.2		82	3.5	2.2	0.5	0.3		118	4.4	2.7	0.6	0.4	*174*
		Total (according to Template Table 11)		1405	**100.0**	79.8	8.0	4.7		1811	**100.0**	72.3	10.2	6.0		2344	**100.0**	63.7	13.0	7.5		2657	**100.0**	60.6	14.2	8.2	-
		Sum of all technologies (Template Table 11)		1405	100.0	79.8	8.0	4.7		1811	100.0	72.3	10.2	6.0		2359	100.6	64.2	13.1	7.6		2672	100.6	61.0	14.3	8.2	-
		Gross final RES-H/C consumption (Template Table 4a)		1482	105.5	84.2	8.4	5.0		1811	100.0	72.3	10.2	6.0		2359	100.6	64.2	13.1	7.6		2672	100.6	61.0	14.3	8.2	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		50	20.0	2.0	0.8	0.2		91	20.0	2.5	1.4	0.3		128	18.5	2.9	1.9	0.4	*180*
		Biodiesel		3	33.3	0.2	0.0	0.0		193	77.2	7.7	3.1	0.6		347	76.3	9.4	5.4	1.1		495	71.6	11.3	7.5	1.5	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		6	66.7	0.3	0.1	0.0		7	2.8	0.3	0.1	0.0		16	3.5	0.4	0.2	0.1		19	2.7	0.4	0.3	0.1	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		49	7.1	1.1	0.7	0.2	*204*
		Total (according to Template Table 12)		9	**100.0**	0.5	0.1	0.0		250	**100.0**	10.0	4.1	0.8		455	**100.0**	12.4	7.1	1.5		691	**100.0**	15.8	10.4	2.1	-
		Sum of all technologies (Template Table 12)		9	100.0	0.5	0.1	0.0		250	100.0	10.0	4.1	0.8		454	99.8	12.3	7.1	1.5		691	100.0	15.8	10.4	2.1	-
		Gross final RES-T consumption (Template Table 4a)		9	100.0	0.5	0.1	0.0		250	100.0	10.0	4.1	0.8		455	100.0	12.4	7.1	1.5		691	100.0	15.8	10.4	2.1	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		9	100.0	0.5	0.1	0.0		250	100.0	10.0	4.1	0.8		455	100.0	12.4	7.1	1.5		691	100.0	15.8	10.4	2.1	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		1760		100.0	29.3	5.9		2506		100.0	40.9	8.4		3677		100.0	57.2	11.8		4383		100.0	66.2	13.5	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		1676		95.3	27.9	5.7		2490		99.4	40.6	8.3		3621		98.5	56.3	11.6		4333		98.9	65.5	13.3	-
		Sum all technologies in Template Tables 10a/b, 11, 12		1682			28.0	5.7		2497			40.7	8.3		3650			56.8	11.7		4367			66.0	13.4	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		1760		**100.0**	29.3	5.9		2506		**100.0**	40.9	8.4		3677		**100.0**	57.2	11.8		4383		**100.0**	66.2	13.5	*76 – 79*
Final consumption	Electricity	reference scenario[f]		6014						6151						6903						7563					*64*
		additional energy efficiency[f]		6014			**100.0**	20.3		6036			**100.0**	20.1		6697			**100.0**	21.5		7232			**100.0**	22.2	*65*
	Heating and cooling	reference scenario[f]		17644						18326						18856						19992					*66*
		additional energy efficiency[f]		17644			**100.0**	59.5		17805			**100.0**	59.4		17963			**100.0**	57.8		18680			**100.0**	57.4	*67*
	Transport	reference scenario[f]		6007						6146						6506						6573					*68*
		additional energy efficiency[f]		6007			**100.0**	20.2		6128			**100.0**	20.4		6429			**100.0**	20.7		6618			**100.0**	20.3	*69*
	Total before aviation reduction	reference scenario[f]		29665						30623						32265						34128					*70*
		additional energy efficiency[f]		29665				**100.0**		29969				**100.0**		31089				**100.0**		32531				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						6.1						7.5						9.2						13.0	*53*

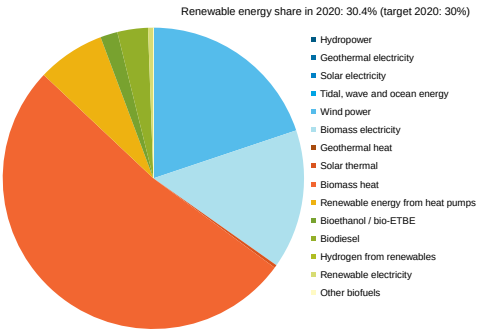
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Denmark







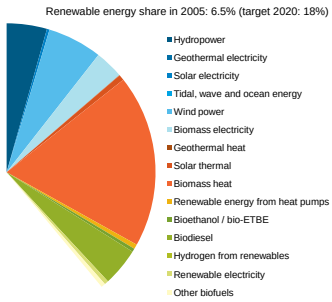


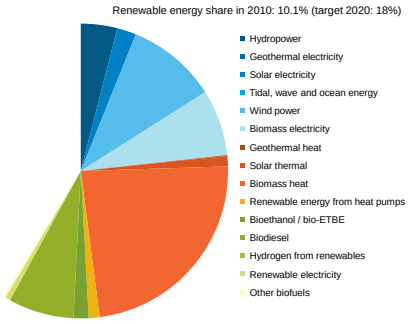
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 215 provides a background to the above figures.

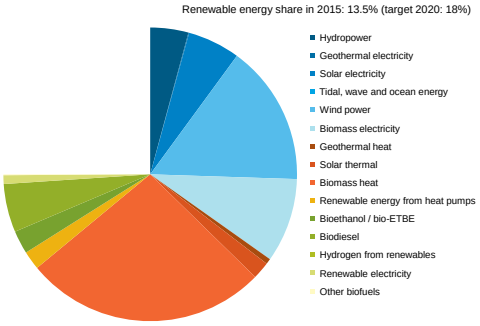
			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	23	2	0.2	0.1	0.1	0.0	31	3	0.2	0.1	0.1	0.0	31	3	0.2	0.1	0.1	0.0	31	3	0.2	0.1	0.1	0.0	*103*
		Geothermal	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	2	0	0.0	0.0	0.0	0.0	2	0	0.0	0.0	0.0	0.0	3	0	0.0	0.0	0.0	0.0	4	0	0.0	0.0	0.0	0.0	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	2	0	0.0	0.0	0.0	0.0	2	0	0.0	0.0	0.0	0.0	3	0	0.0	0.0	0.0	0.0	4	0	0.0	0.0	0.0	0.0	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*128*
		Onshore wind	5158	444	52.2	16.3	14.0	2.7	6121	526	49.3	14.7	16.9	3.2	6322	544	36.5	14.5	16.8	3.3	6391	550	31.0	11.2	16.9	3.3	*139*
		Offshore wind	1456	125	14.7	4.6	4.0	0.8	2485	214	20.0	6.0	6.9	1.3	4920	423	28.4	11.3	13.1	2.5	5322	458	25.8	9.3	14.1	2.8	*139*
		Wind power (subtotal)	6614	569	66.9	20.9	18.0	3.5	8606	740	69.3	20.7	23.8	4.5	11242	967	64.9	25.8	29.9	5.8	11713	1007	56.9	20.4	31.0	6.1	*139*
		Solid biomass	2960	255	30.0	9.4	8.0	1.5	3578	308	28.8	8.6	9.9	1.9	5312	457	30.7	12.2	14.1	2.8	6345	546	30.8	11.1	16.8	3.3	*149*
		Biogas	283	24	2.9	0.9	0.8	0.1	194	17	1.6	0.5	0.5	0.1	721	62	4.2	1.7	1.9	0.4	2493	214	12.1	4.4	6.6	1.3	*149*
		Bioliquids	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	1	0	0.0	0.0	0.0	0.0	8	1	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	3243	279	32.8	10.3	8.8	1.7	3772	324	30.4	9.1	10.4	2.0	6035	519	34.9	13.9	16.0	3.1	8846	761	43.0	15.4	23.4	4.6	*149*
		Total (according to Template Tables 10a/b)	9881	850	**100.0**	31.3	26.8	5.2	12412	1067	**100.0**	29.8	34.3	6.5	17312	1489	**100.0**	39.7	46.0	9.0	20595	1771	**100.0**	35.9	54.5	10.8	-
		Sum of all technologies (Template Tables 10a/b)	9882	850	100.0	31.3	26.8	5.2	12411	1067	100.0	29.8	34.3	6.5	17311	1488	100.0	39.7	46.0	9.0	20594	1771	100.0	35.9	54.5	10.8	-
		Gross final RES-E consumption (Template Table 4a)		850	100.0	31.3	26.8	5.2		1067	100.0	29.8	34.3	6.5		1477	99.2	39.4	45.7	8.9		1685	95.2	34.2	51.9	10.3	*76 – 79*
	Heating and cooling	Geothermal		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*154*
		Solar thermal		10	0.5	0.4	0.1	0.1		11	0.4	0.3	0.1	0.1		14	0.5	0.4	0.2	0.1		16	0.5	0.3	0.2	0.1	*160*
		Solid biomass		1714	91.7	63.1	21.2	10.4		2178	88.3	60.9	27.1	13.3		2426	85.4	64.8	30.6	14.6		2470	81.6	50.1	32.3	15.0	*168*
		Biogas		45	2.4	1.7	0.6	0.3		59	2.4	1.6	0.7	0.4		92	3.2	2.5	1.2	0.6		165	5.4	3.3	2.2	1.0	*168*
		Bioliquids		0	0.0	0.0	0.0	0.0		8	0.3	0.2	0.1	0.0		8	0.3	0.2	0.1	0.0		8	0.3	0.2	0.1	0.0	*168*
		Biomass (subtotal)		1759	94.1	64.7	21.8	10.7		2245	91.0	62.7	27.9	13.8		2526	88.9	67.4	31.9	15.2		2643	87.3	53.7	34.5	16.1	*168*
		Aerothermal heat pumps		48	2.6	1.8	0.6	0.3		91	3.7	2.5	1.1	0.6		135	4.8	3.6	1.7	0.8		170	5.6	3.5	2.2	1.0	*174*
		Geothermal heat pumps		52	2.8	1.9	0.6	0.3		119	4.8	3.3	1.5	0.7		166	5.8	4.4	2.1	1.0		199	6.6	4.0	2.6	1.2	*174*
		Hydrothermal heat pumps		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		100	5.4	3.7	1.2	0.6		210	8.5	5.9	2.6	1.3		301	10.6	8.0	3.8	1.8		370	12.2	7.5	4.8	2.3	*174*
		Total (according to Template Table 11)		1869	**100.0**	68.8	23.2	11.3		2466	**100.0**	68.9	30.7	15.1		2841	**100.0**	75.8	35.8	17.1		3028	**100.0**	61.5	39.6	18.4	-
		Sum of all technologies (Template Table 11)		1869	100.0	68.8	23.2	11.3		2466	100.0	68.9	30.7	15.1		2841	100.0	75.8	35.8	17.1		3029	100.0	61.5	39.6	18.4	-
		Gross final RES-H/C consumption (Template Table 4a)		1869	100.0	68.8	23.2	11.3		2480	100.6	69.3	30.8	15.2		2855	100.5	76.2	36.0	17.2		3042	100.5	61.8	39.7	18.5	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		13	31.0	0.4	0.3	0.1		95	35.7	2.5	2.2	0.6		94	32.3	1.9	2.2	0.6	*180*
		Biodiesel		0	0.0	0.0	0.0	0.0		18	42.9	0.5	0.4	0.1		152	57.1	4.1	3.5	0.9		167	57.4	3.4	3.9	1.0	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		9	100.0	0.3	0.2	0.1		11	26.2	0.3	0.3	0.1		19	7.1	0.5	0.4	0.1		29	10.0	0.6	0.7	0.2	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		9	**100.0**	0.3	0.2	0.1		42	**100.0**	1.2	1.0	0.3		266	**100.0**	7.1	6.1	1.6		291	**100.0**	5.9	6.7	1.8	-
		Sum of all technologies (Template Table 12)		9	100.0	0.3	0.2	0.1		42	100.0	1.2	1.0	0.3		266	100.0	7.1	6.1	1.6		290	99.7	5.9	6.7	1.8	-
		Gross final RES-T consumption (Template Table 4a)		9	100.0	0.3	0.2	0.1		42	100.0	1.2	1.0	0.3		266	100.0	7.1	6.1	1.6		291	100.0	5.9	6.7	1.8	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		9	100.0	0.3	0.2	0.1		42	100.0	1.2	1.0	0.3		292	109.8	7.8	6.7	1.8		439	150.9	8.9	10.1	2.7	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		2718		100.0	65.6	16.5		3578		100.0	85.4	21.9		4579		122.2	105.2	27.6		4989		101.3	115.2	30.4	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		2719		100.0	65.6	16.5		3564		99.6	85.0	21.8		4577		122.2	105.1	27.6		5061		102.7	116.8	30.8	-
		Sum all technologies in Template Tables 10a/b, 11, 12		2728			65.8	16.6		3575			85.3	21.9		4595			105.6	27.7		5090			117.5	31.0	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		0		0.0	0.0	0.0		833		22.2	19.1	5.0		63		1.3	1.5	0.4	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		2718		**100.0**	65.6	16.5		3578		**100.0**	85.4	21.9		3746		**100.0**	86.1	22.6		4926		**100.0**	113.7	30.0	*76 – 79*
Final consumption	Electricity	reference scenario[f]		3166						3144						3418						3564					*64*
		additional energy efficiency[f]		3166			**100.0**	19.2		3108			**100.0**	19.0		3234			**100.0**	19.5		3247			**100.0**	19.8	*65*
	Heating and cooling	reference scenario[f]		8071						8161						8512						8727					*66*
		additional energy efficiency[f]		8071			**100.0**	49.0		8042			**100.0**	49.3		7929			**100.0**	47.8		7653			**100.0**	46.6	*67*
	Transport	reference scenario[f]		4145						4207						4428						4464					*68*
		additional energy efficiency[f]		4145			**100.0**	25.2		4191			**100.0**	25.7		4353			**100.0**	26.2		4332			**100.0**	26.4	*69*
	Total before aviation reduction	reference scenario[f]		16475						16495						17453						17984					*70*
		additional energy efficiency[f]		16475				**100.0**		16324				**100.0**		16596				**100.0**		16419				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		16346				99.6	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						17.0						19.6						22.9						30.0	*53*

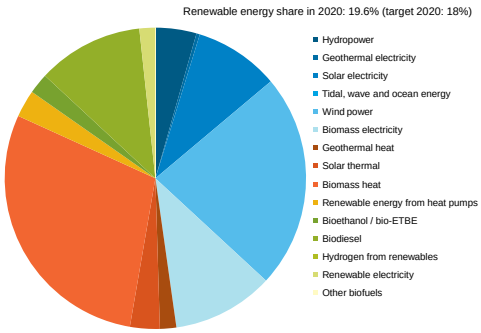
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Germany







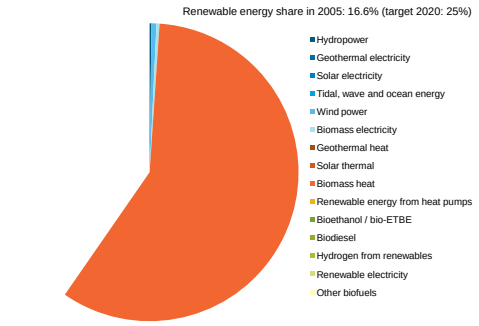


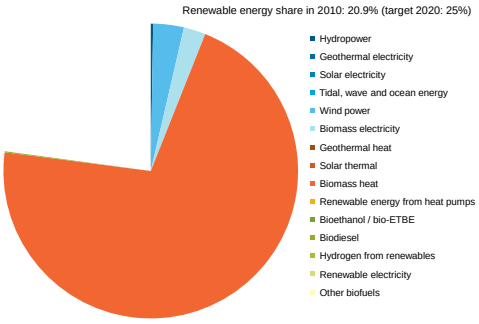
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 217 provides a background to the above figures.

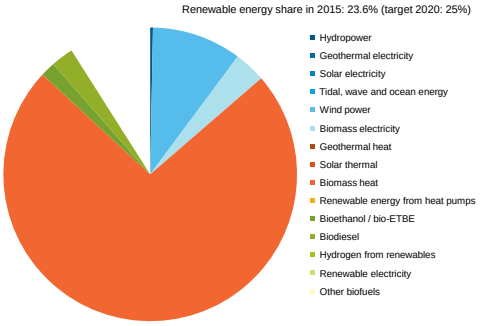
			2005					2010						2015						2020						*Page*
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	19687	1693	31.9	11.3	3.3	0.7	18000	1548	17.1	6.9	3.0	0.7	19000	1634	12.1	5.7	3.2	0.8	20000	1720	9.2	4.5	3.6	0.9	*103*
		Geothermal	0	0	0.0	0.0	0.0	0.0	27	2	0.0	0.0	0.0	0.0	377	32	0.2	0.1	0.1	0.0	1654	142	0.8	0.4	0.3	0.1	*110*
		Solar photovoltaic	1282	110	2.1	0.7	0.2	0.0	9499	817	9.0	3.6	1.6	0.4	26161	2249	16.6	7.8	4.4	1.1	41389	3559	19.1	9.2	7.4	1.8	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	1282	110	2.1	0.7	0.2	0.0	9499	817	9.0	3.6	1.6	0.4	26161	2249	16.6	7.8	4.4	1.1	41389	3559	19.1	9.2	7.4	1.8	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*128*
		Onshore wind	26658	2292	43.2	15.4	4.4	1.0	44397	3817	42.3	16.9	7.4	1.7	61990	5330	39.3	18.5	10.5	2.5	72664	6248	33.5	16.2	12.9	3.2	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	271	23	0.3	0.1	0.0	0.0	8004	688	5.1	2.4	1.4	0.3	31771	2732	14.6	7.1	5.7	1.4	*139*
		Wind power (subtotal)	26658	2292	43.2	15.4	4.4	1.0	44668	3841	42.6	17.0	7.4	1.7	69994	6018	44.4	20.9	11.9	2.8	104435	8980	48.1	23.3	18.6	4.6	*139*
		Solid biomass	10044	864	16.3	5.8	1.7	0.4	17498	1505	16.7	6.7	2.9	0.7	21695	1865	13.8	6.5	3.7	0.9	24569	2113	11.3	5.5	4.4	1.1	*149*
		Biogas	3652	314	5.9	2.1	0.6	0.1	13829	1189	13.2	5.3	2.3	0.5	18946	1629	12.0	5.7	3.2	0.8	23438	2015	10.8	5.2	4.2	1.0	*149*
		Bioliquids	329	28	0.5	0.2	0.1	0.0	1450	125	1.4	0.6	0.2	0.1	1450	125	0.9	0.4	0.2	0.1	1450	125	0.7	0.3	0.3	0.1	*149*
		Biomass (subtotal)	14025	1206	22.7	8.1	2.3	0.5	32778	2818	31.2	12.5	5.4	1.3	42090	3619	26.7	12.6	7.2	1.7	49457	4253	22.8	11.0	8.8	2.2	*149*
		Total (according to Template Tables 10a/b)	61653	5301	**100.0**	35.5	10.2	2.3	104972	9026	**100.0**	40.0	17.4	4.0	157623	13553	**100.0**	47.0	26.8	6.4	216935	18653	**100.0**	48.4	38.6	9.5	-
		Sum of all technologies (Template Tables 10a/b)	61652	5301	100.0	35.5	10.2	2.3	104972	9026	100.0	40.0	17.4	4.0	157622	13553	100.0	47.0	26.8	6.4	216935	18653	100.0	48.4	38.6	9.5	-
		Gross final RES-E consumption (Template Table 4a)		5301	100.0	35.5	10.2	2.3		9026	100.0	40.0	17.4	4.0		13553	100.0	47.0	26.8	6.4		18653	100.0	48.4	38.6	9.5	*76 – 79*
	Heating and cooling	Geothermal		12	0.2	0.1	0.0	0.0		34	0.3	0.2	0.0	0.0		234	1.9	0.8	0.2	0.1		686	4.8	1.8	0.7	0.3	*154*
		Solar thermal		238	3.1	1.6	0.2	0.1		440	4.4	1.9	0.4	0.2		741	6.1	2.6	0.7	0.3		1245	8.6	3.2	1.3	0.6	*160*
		Solid biomass		6794	88.2	45.5	5.8	3.0		7516	74.9	33.3	6.7	3.4		8389	69.0	29.1	8.1	3.9		8952	62.0	23.2	9.6	4.5	*168*
		Biogas		154	2.0	1.0	0.1	0.1		912	9.1	4.0	0.8	0.4		1312	10.8	4.6	1.3	0.6		1692	11.7	4.4	1.8	0.9	*168*
		Bioliquids		313	4.1	2.1	0.3	0.1		664	6.6	2.9	0.6	0.3		688	5.7	2.4	0.7	0.3		711	4.9	1.8	0.8	0.4	*168*
		Biomass (subtotal)		7261	94.2	48.6	6.2	3.2		9092	90.6	40.3	8.1	4.1		10389	85.4	36.0	10.0	4.9		11355	78.7	29.4	12.2	5.8	*168*
		Aerothermal heat pumps		39	0.5	0.3	0.0	0.0		165	1.6	0.7	0.1	0.1		338	2.8	1.2	0.3	0.2		547	3.8	1.4	0.6	0.3	*174*
		Geothermal heat pumps		130	1.7	0.9	0.1	0.1		258	2.6	1.1	0.2	0.1		400	3.3	1.4	0.4	0.2		521	3.6	1.4	0.6	0.3	*174*
		Hydrothermal heat pumps		27	0.4	0.2	0.0	0.0		42	0.4	0.2	0.0	0.0		62	0.5	0.2	0.1	0.0		77	0.5	0.2	0.1	0.0	*174*
		Renewable energy from heat pumps (subtotal)		196	2.5	1.3	0.2	0.1		465	4.6	2.1	0.4	0.2		800	6.6	2.8	0.8	0.4		1144	7.9	3.0	1.2	0.6	*174*
		Total (according to Template Table 11)		7706	**100.0**	51.6	6.6	3.4		10031	**100.0**	44.4	9.0	4.5		12163	**100.0**	42.2	11.7	5.7		14431	**100.0**	37.4	15.5	7.3	-
		Sum of all technologies (Template Table 11)		7707	100.0	51.6	6.6	3.4		10031	100.0	44.4	9.0	4.5		12164	100.0	42.2	11.7	5.7		14430	100.0	37.4	15.5	7.3	-
		Gross final RES-H/C consumption (Template Table 4a)		7706	100.0	51.6	6.6	3.4		10031	100.0	44.4	9.0	4.5		12163	100.0	42.2	11.7	5.7		14431	100.0	37.4	15.5	7.3	*76 – 79*
	Transport	Bioethanol / bio-ETBE		144	6.9	1.0	0.3	0.1		639	17.0	2.8	1.2	0.3		996	28.6	3.5	1.9	0.5		857	0.0	2.2	1.8	0.4	*180*
		Biodiesel		1598	76.6	10.7	3.0	0.7		2790	74.4	12.4	5.3	1.2		2074	59.6	7.2	4.0	1.0		4443	0.0	11.5	9.2	2.3	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		169	8.1	1.1	0.3	0.1		219	5.8	1.0	0.4	0.1		374	10.8	1.3	0.7	0.2		667	0.0	1.7	1.4	0.3	*198*
		Other biofuels		177	8.5	1.2	0.3	0.1		102	2.7	0.5	0.2	0.0		35	1.0	0.1	0.1	0.0		n.a.	0.0	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		2087	**100.0**	14.0	3.9	0.9		3749	**100.0**	16.6	7.2	1.7		3479	**100.0**	12.1	6.8	1.6		n.a.	0.0	0.0	0.0	0.0	-
		Sum of all technologies (Template Table 12)		2088	100.0	14.0	3.9	0.9		3750	100.0	16.6	7.2	1.7		3479	100.0	12.1	6.8	1.6		5967	0.0	15.5	12.4	3.0	-
		Gross final RES-T consumption (Template Table 4a)		2087	100.0	14.0	3.9	0.9		3749	100.0	16.6	7.2	1.7		3479	100.0	12.1	6.8	1.6		6140	0.0	15.9	12.7	3.1	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		2087	100.0	14.0	3.9	0.9		3847	102.6	17.0	7.3	1.7		3613	103.9	12.5	7.0	1.7		6390	0.0	16.6	13.2	3.2	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		14926		100.0	27.8	6.5		22588		100.0	43.1	10.1		28822		100.0	56.2	13.5		38557		100.0	79.8	19.6	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		14925		100.0	27.8	6.5		22587		100.0	43.1	10.1		28821		100.0	56.2	13.5		32417		84.1	67.1	16.4	-
		Sum all technologies in Template Tables 10a/b, 11, 12		15096			28.2	6.6		22807			43.6	10.2		29196			56.9	13.7		39050			80.8	19.8	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		14926		**100.0**	27.8	6.5		22588		**100.0**	43.1	10.1		28822		**100.0**	56.2	13.5		38557		**100.0**	79.8	19.6	*76 – 79*
Final consumption	Electricity	reference scenario[f]		51813						51973						52554						52627					*64*
		additional energy efficiency[f]		51813			**100.0**	22.6		51925			**100.0**	23.2		50588			**100.0**	23.7		48317			**100.0**	24.5	*65*
	Heating and cooling	reference scenario[f]		116842						111661						106215						98766					*66*
		additional energy efficiency[f]		116842			**100.0**	51.0		111597			**100.0**	49.9		103588			**100.0**	48.6		93139			**100.0**	47.2	*67*
	Transport	reference scenario[f]		53602						52427						52187						51996					*68*
		additional energy efficiency[f]		53602			**100.0**	23.4		52355			**100.0**	23.4		51279			**100.0**	24.1		48302			**100.0**	24.5	*69*
	Total before aviation reduction	reference scenario[f]		229092						223767						218926						211599					*70*
		additional energy efficiency[f]		229092				**100.0**		223584				**100.0**		213122				**100.0**		197178				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						5.8						8.2						11.3						18.0	*54*

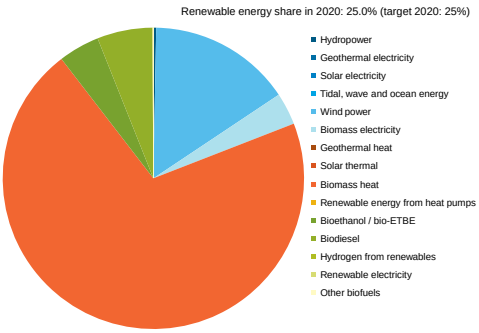
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Estonia







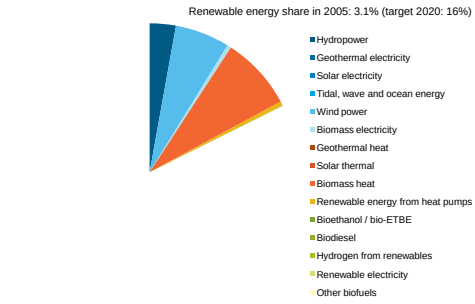


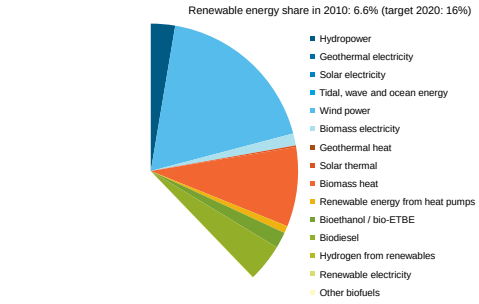
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 219 provides a background to the above figures.

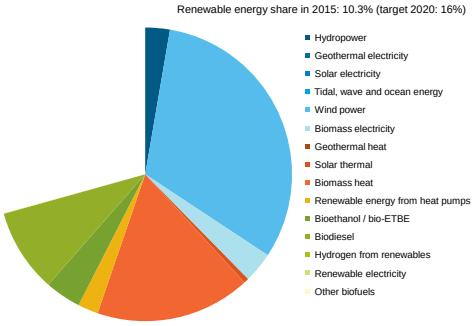
			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	20	2	0.0	0.3	0.2	0.1	26	2	0.0	0.3	0.3	0.1	30	3	0.0	0.4	0.3	0.1	30	3	0.0	0.3	0.3	0.1	*103*
		Geothermal	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*121*
		Concentrated solar power	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Tidal, wave and ocean energy	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*128*
		Onshore wind	54	5	0.0	0.9	0.6	0.1	337	29	0.0	4.4	3.5	0.9	981	84	0.0	12.0	9.5	2.5	974	84	0.0	9.7	8.9	2.4	*139*
		Offshore wind	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	563	48	0.0	5.6	5.2	1.4	*139*
		Wind power (subtotal)	54	5	0.0	0.9	0.6	0.1	337	29	0.0	4.4	3.5	0.9	981	84	0.0	12.0	9.5	2.5	1537	132	0.0	15.3	14.1	3.8	*139*
		Solid biomass	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*149*
		Biogas	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*149*
		Bioliquids	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	33	3	0.0	0.6	0.4	0.1	241	21	0.0	3.1	2.5	0.6	346	30	0.0	4.2	3.4	0.9	346	30	0.0	3.4	3.2	0.9	*149*
		Total (according to Template Tables 10a/b)	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	-
		Sum of all technologies (Template Tables 10a/b)	107	9	0.0	1.8	1.2	0.3	604	52	0.0	7.8	6.3	1.6	1357	117	0.0	16.6	13.2	3.5	1913	164	0.0	19.1	17.5	4.8	-
		Gross final RES-E consumption (Template Table 4a)		9	0.0	1.7	1.2	0.3		53	0.0	8.0	6.4	1.7		117	0.0	16.6	13.2	3.5		165	0.0	19.1	17.6	4.8	*76 – 79*
	Heating and cooling	Geothermal		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*154*
		Solar thermal		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*160*
		Solid biomass		505	100.0	98.1	31.3	16.3		612	100.0	91.9	38.9	19.2		626	100.0	88.9	39.7	18.8		607	100.0	70.3	38.4	17.6	*168*
		Biogas		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*168*
		Bioliquids		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		505	100.0	98.1	31.3	16.3		612	100.0	91.9	38.9	19.2		626	100.0	88.9	39.7	18.8		607	100.0	70.3	38.4	17.6	*168*
		Aerothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Geothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*174*
		Total (according to Template Table 11)		505	**100.0**	98.1	31.3	16.3		612	**100.0**	91.9	38.9	19.2		626	**100.0**	88.9	39.7	18.8		607	**100.0**	70.3	38.4	17.6	-
		Sum of all technologies (Template Table 11)		505	100.0	98.1	31.3	16.3		612	100.0	91.9	38.9	19.2		626	100.0	88.9	39.7	18.8		607	100.0	70.3	38.4	17.6	-
		Gross final RES-H/C consumption (Template Table 4a)		505	100.0	98.1	31.3	16.3		612	100.0	91.9	38.9	19.2		626	100.0	88.9	39.7	18.8		607	100.0	70.3	38.4	17.6	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		14	40.0	2.0	1.6	0.4		38	42.2	4.4	4.1	1.1	*180*
		Biodiesel		0	0.0	0.0	0.0	0.0		1	100.0	0.2	0.1	0.0		21	60.0	3.0	2.4	0.6		51	56.7	5.9	5.5	1.5	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		1	1.1	0.1	0.1	0.0	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		0	0.0	0.0	0.0	0.0		1	**100.0**	0.2	0.1	0.0		35	**100.0**	5.0	4.0	1.1		90	**100.0**	10.4	9.6	2.6	-
		Sum of all technologies (Template Table 12)		0	0.0	0.0	0.0	0.0		1	100.0	0.2	0.1	0.0		35	100.0	5.0	4.0	1.1		90	100.0	10.4	9.6	2.6	-
		Gross final RES-T consumption (Template Table 4a)		0	0.0	0.0	0.0	0.0		1	100.0	0.2	0.1	0.0		42	120.0	6.0	4.8	1.3		92	102.2	10.7	9.9	2.7	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		515		100.0	69.0	16.6		666		100.0	84.4	20.9		786		111.6	90.6	23.6		863		100.0	92.4	25.0	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		505		98.1	67.7	16.3		613		92.0	77.7	19.2		661		93.9	76.2	19.9		696		80.6	74.5	20.2	-
		Sum all technologies in Template Tables 10a/b, 11, 12		514			68.9	16.6		665			84.3	20.8		778			89.6	23.4		861			92.2	25.0	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		81		11.5	9.3	2.4		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		515		**100.0**	69.0	16.6		666		**100.0**	84.4	20.9		704		**100.0**	81.1	21.1		863		**100.0**	92.4	25.0	*76 – 79*
Final consumption	Electricity	reference scenario[f]		738						829						896						951					*64*
		additional energy efficiency[f]		738			**100.0**	23.8		829			**100.0**	26.0		884			**100.0**	26.6		938			**100.0**	27.2	*65*
	Heating and cooling	reference scenario[f]		1615						1592						1637						1698					*66*
		additional energy efficiency[f]		1615			**100.0**	52.1		1572			**100.0**	49.3		1577			**100.0**	47.4		1579			**100.0**	45.8	*67*
	Transport	reference scenario[f]		746						789						886						954					*68*
		additional energy efficiency[f]		746			**100.0**	24.1		789			**100.0**	24.7		868			**100.0**	26.1		934			**100.0**	27.1	*69*
	Total before aviation reduction	reference scenario[f]		3098						3210						3419						3602					*70*
		additional energy efficiency[f]		3098				**100.0**		3190				**100.0**		3329				**100.0**		3451				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						18.0						19.4						21.2						25.0	*54*

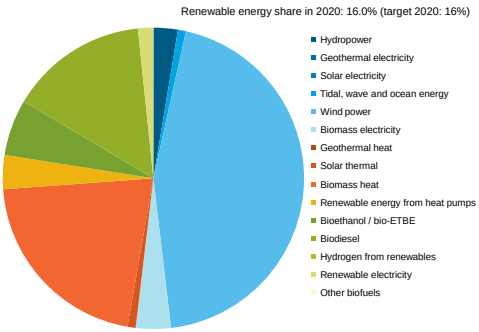
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Ireland









The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 221 provides a background to the above figures.

			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	760	65	30.8	17.5	2.8	0.5	701	60	12.0	7.0	2.4	0.5	714	61	7.2	4.4	2.3	0.5	701	60	5.0	2.7	2.1	0.4	*103*
		Geothermal	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Concentrated solar power	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	230	20	1.7	0.9	0.7	0.1	*128*
		Onshore wind	n.a.	n.a.	0.0	0.0	0.0	0.0	4701	404	80.1	47.1	16.3	3.1	7525	647	75.7	46.4	24.5	4.8	10228	879	73.5	38.8	31.3	6.2	*139*
		Offshore wind	n.a.	n.a.	0.0	0.0	0.0	0.0	116	10	2.0	1.2	0.4	0.1	814	70	8.2	5.0	2.7	0.5	1742	150	12.5	6.6	5.3	1.1	*139*
		Wind power (subtotal)	1588	137	64.4	36.6	5.8	1.1	4817	414	82.1	48.2	16.7	3.2	8339	717	83.9	51.4	27.2	5.3	11970	1029	86.1	45.4	36.6	7.3	*139*
		Solid biomass	8	1	0.3	0.2	0.0	0.0	28	2	0.5	0.3	0.1	0.0	567	49	5.7	3.5	1.8	0.4	687	59	4.9	2.6	2.1	0.4	*149*
		Biogas	108	9	4.4	2.5	0.4	0.1	320	28	5.5	3.2	1.1	0.2	320	28	3.2	2.0	1.0	0.2	319	27	2.3	1.2	1.0	0.2	*149*
		Bioliquids	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	116	10	4.7	2.7	0.4	0.1	347	30	5.9	3.5	1.2	0.2	887	76	8.9	5.5	2.9	0.6	1006	87	7.2	3.8	3.1	0.6	*149*
		Total (according to Template Tables 10a/b)	2465	212	**100.0**	56.8	9.1	1.7	5866	504	**100.0**	58.7	20.4	3.9	9939	855	**100.0**	61.3	32.4	6.3	13909	1196	**100.0**	52.7	42.5	8.5	-
		Sum of all technologies (Template Tables 10a/b)	2464	212	100.0	56.8	9.1	1.7	5865	504	100.0	58.7	20.4	3.9	9940	855	100.0	61.3	32.4	6.3	13907	1196	100.0	52.7	42.5	8.5	-
		Gross final RES-E consumption (Template Table 4a)		180	84.9	48.3	7.7	1.4		504	99.9	58.7	20.4	3.9		855	100.0	61.3	32.4	6.3		1196	100.0	52.7	42.5	8.5	*76 – 79*
	Heating and cooling	Geothermal		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*154*
		Solar thermal		0	0.0	0.0	0.0	0.0		4	1.8	0.5	0.1	0.0		12	2.7	0.9	0.2	0.1		20	3.4	0.9	0.4	0.1	*160*
		Solid biomass		176	91.2	47.2	3.2	1.4		188	85.5	21.9	3.6	1.4		362	80.3	26.0	7.1	2.7		453	76.6	20.0	9.2	3.2	*168*
		Biogas		7	3.6	1.9	0.1	0.1		10	4.5	1.2	0.2	0.1		26	5.8	1.9	0.5	0.2		33	5.6	1.5	0.7	0.2	*168*
		Bioliquids		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		183	94.8	49.1	3.3	1.4		198	90.0	23.1	3.8	1.5		388	86.0	27.8	7.7	2.9		486	82.2	21.4	9.9	3.4	*168*
		Aerothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Geothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		10	5.2	2.7	0.2	0.1		18	8.2	2.1	0.3	0.1		51	11.3	3.7	1.0	0.4		84	14.2	3.7	1.7	0.6	*174*
		Total (according to Template Table 11)		193	**100.0**	51.7	3.5	1.5		220	**100.0**	25.6	4.3	1.7		451	**100.0**	32.4	8.9	3.3		591	**100.0**	26.0	12.0	4.2	-
		Sum of all technologies (Template Table 11)		193	100.0	51.7	3.5	1.5		220	100.0	25.6	4.3	1.7		451	100.0	32.4	8.9	3.3		590	99.8	26.0	12.0	4.2	-
		Gross final RES-H/C consumption (Template Table 4a)		193	100.0	51.7	3.5	1.5		220	100.0	25.6	4.3	1.7		451	100.0	32.4	8.9	3.3		591	100.0	26.0	12.0	4.2	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		40	29.6	4.7	0.9	0.3		90	30.0	6.5	1.7	0.7		139	28.8	6.1	2.4	1.0	*180*
		Biodiesel		1	100.0	0.3	0.0	0.0		94	69.6	10.9	2.1	0.7		209	69.7	15.0	4.1	1.5		342	71.0	15.1	6.0	2.4	*186*
		Hydrogen from renewables		n.a.	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		1	100.0	0.3	0.0	0.0		1	0.7	0.1	0.0	0.0		1	0.3	0.1	0.0	0.0		37	7.7	1.6	0.6	0.3	*198*
		Other biofuels		1	50.0	0.1	0.0	0.0		1	0.7	0.1	0.0	0.0		1	0.3	0.1	0.0	0.0		1	0.2	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		1	**100.0**	0.3	0.0	0.0		135	**100.0**	15.7	3.0	1.0		300	**100.0**	21.5	5.8	2.2		482	**100.0**	21.2	8.4	3.4	-
		Sum of all technologies (Template Table 12)		3	250.0	0.7	0.1	0.0		136	100.7	15.8	3.0	1.0		301	100.3	21.6	5.8	2.2		519	107.7	22.9	9.0	3.7	-
		Gross final RES-T consumption (Template Table 4a)		1	100.0	0.3	0.0	0.0		135	100.0	15.7	3.0	1.0		300	100.0	21.5	5.8	2.2		482	100.0	21.2	8.4	3.4	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		1	100.0	0.3	0.0	0.0		138	102.2	16.1	3.0	1.1		304	101.3	21.8	5.9	2.2		575	119.3	25.3	10.0	4.1	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		373		100.0	9.5	2.9		859		100.0	18.8	6.6		1605		115.1	31.2	11.8		2269		100.0	39.5	16.0	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		405		108.6	10.4	3.2		858		99.9	18.8	6.6		1605		115.1	31.1	11.8		2232		98.4	38.8	15.8	-
		Sum all technologies in Template Tables 10a/b, 11, 12		407			10.4	3.2		860			18.8	6.6		1607			31.2	11.8		2305			40.1	16.3	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		0		0.0	0.0	0.0		211		15.1	4.1	1.6		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		373		**100.0**	9.5	2.9		859		**100.0**	18.8	6.6		1394		**100.0**	27.1	10.3		2269		**100.0**	39.5	16.0	*76 – 79*
Final consumption	Electricity	reference scenario[f]		2341						2511						2764						2937					*64*
		additional energy efficiency[f]		2341			**100.0**	18.3		2473			**100.0**	19.0		2636			**100.0**	19.4		2813			**100.0**	19.9	*65*
	Heating and cooling	reference scenario[f]		5516						5184						5388						5724					*66*
		additional energy efficiency[f]		5516			**100.0**	43.1		5160			**100.0**	39.6		5069			**100.0**	37.3		4931			**100.0**	34.9	*67*
	Transport	reference scenario[f]		3912						4605						5311						5913					*68*
		additional energy efficiency[f]		3912			**100.0**	30.5		4564			**100.0**	35.0		5152			**100.0**	38.0		5747			**100.0**	40.6	*69*
	Total before aviation reduction	reference scenario[f]		12807						13127						14181						15367					*70*
		additional energy efficiency[f]		12807				**100.0**		13024				**100.0**		13575				**100.0**		14142				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		12741						13106						n.a.						n.a.					*72*
		additional energy efficiency[f]		12741				99.5		12996				99.8		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						3.1						5.7						8.9						16.0	*54*

[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
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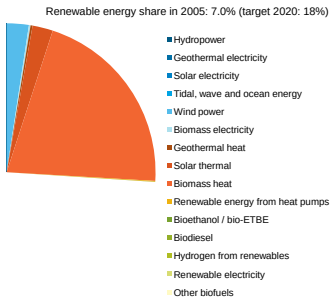
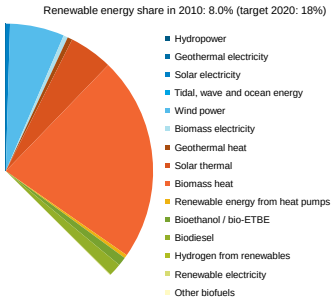
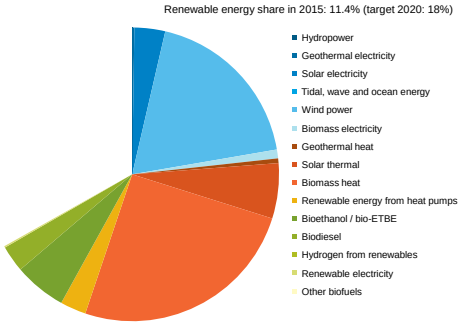
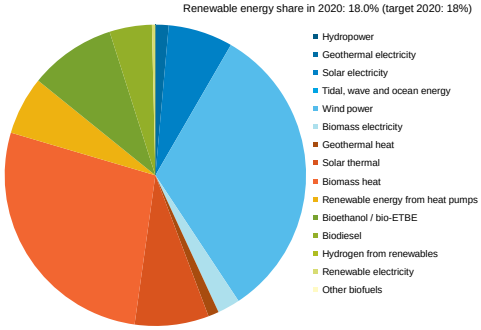
Greece







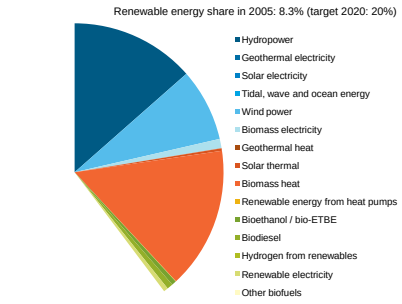


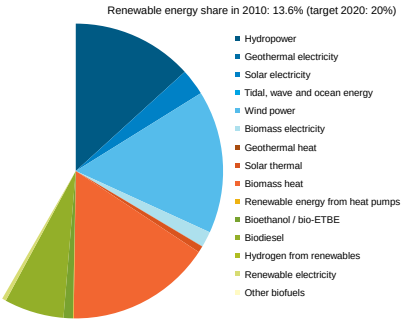
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 223 provides a background to the above figures.

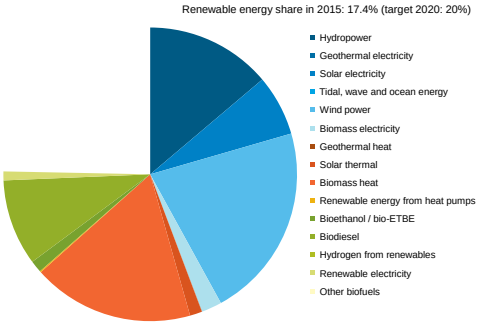
			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*103*
		Geothermal	n.a.	n.a.	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	123	11	0.7	0.4	0.2	0.0	736	63	2.7	1.5	1.1	0.3	*110*
		Solar photovoltaic	1	0	0.0	0.0	0.0	0.0	242	21	3.1	1.2	0.4	0.1	1668	143	9.8	5.7	2.7	0.6	2891	249	10.6	5.7	4.2	1.0	*121*
		Concentrated solar power	n.a.	n.a.	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	86	7	0.5	0.3	0.1	0.0	714	61	2.6	1.4	1.0	0.3	*121*
		Solar (subtotal)	1	0	0.0	0.0	0.0	0.0	242	21	3.1	1.2	0.4	0.1	1754	151	10.3	5.9	2.9	0.7	3605	310	13.2	7.1	5.3	1.3	*121*
		Tidal, wave and ocean energy	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*128*
		Onshore wind	1267	109	21.9	7.2	2.0	0.5	3129	269	39.9	15.0	5.3	1.2	9674	832	57.0	32.8	15.7	3.7	16125	1387	59.1	31.9	23.6	5.7	*139*
		Offshore wind	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	672	58	2.5	1.3	1.0	0.2	*139*
		Wind power (subtotal)	1267	109	21.9	7.2	2.0	0.5	3129	269	39.9	15.0	5.3	1.2	9674	832	57.0	32.8	15.7	3.7	16797	1444	61.6	33.3	24.5	6.0	*139*
		Solid biomass	n.a.	n.a.	0.0	0.0	0.0	0.0	73	6	0.9	0.4	0.1	0.0	73	6	0.4	0.2	0.1	0.0	364	31	1.3	0.7	0.5	0.1	*149*
		Biogas	94	8	1.6	0.5	0.1	0.0	181	16	2.3	0.9	0.3	0.1	431	37	2.5	1.5	0.7	0.2	895	77	3.3	1.8	1.3	0.3	*149*
		Bioliquids	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	94	8	1.6	0.5	0.1	0.0	254	22	3.2	1.2	0.4	0.1	504	43	3.0	1.7	0.8	0.2	1259	108	4.6	2.5	1.8	0.4	*149*
		Total (according to Template Tables 10a/b)	5786	498	**100.0**	33.0	9.1	2.3	7838	674	**100.0**	37.6	13.3	3.0	16967	1459	**100.0**	57.5	27.6	6.6	27269	2345	**100.0**	54.0	39.8	9.7	-
		Sum of all technologies (Template Tables 10a/b)	1362	117	23.5	7.8	2.1	0.5	3625	312	46.2	17.4	6.2	1.4	12055	1037	71.0	40.9	19.6	4.7	22397	1926	82.1	44.4	32.7	8.0	-
		Gross final RES-E consumption (Template Table 4a)		440	88.4	29.2	8.0	2.0		674	100.0	37.6	13.3	3.0		1459	100.0	57.5	27.6	6.6		2345	100.0	54.0	39.8	9.7	*76 – 79*
	Heating and cooling	Geothermal		10	0.9	0.7	0.1	0.0		24	1.9	1.3	0.3	0.1		23	1.5	0.9	0.3	0.1		51	2.7	1.2	0.5	0.2	*154*
		Solar thermal		101	9.5	6.7	1.2	0.5		216	17.0	12.0	2.5	1.0		271	17.5	10.7	3.1	1.2		355	18.6	8.2	3.7	1.5	*160*
		Solid biomass		951	89.2	63.1	11.4	4.4		1012	79.7	56.4	11.7	4.5		1128	72.9	44.5	13.0	5.1		1222	64.0	28.2	12.6	5.1	*168*
		Biogas		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*168*
		Bioliquids		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		951	89.2	63.1	11.4	4.4		1012	79.7	56.4	11.7	4.5		1128	72.9	44.5	13.0	5.1		1222	64.0	28.2	12.6	5.1	*168*
		Aerothermal heat pumps		3	0.3	0.2	0.0	0.0		14	1.1	0.8	0.2	0.1		104	6.7	4.1	1.2	0.5		229	12.0	5.3	2.4	0.9	*174*
		Geothermal heat pumps		1	0.1	0.1	0.0	0.0		3	0.2	0.2	0.0	0.0		23	1.5	0.9	0.3	0.1		50	2.6	1.2	0.5	0.2	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		4	0.4	0.3	0.0	0.0		17	1.3	0.9	0.2	0.1		127	8.2	5.0	1.5	0.6		279	14.6	6.4	2.9	1.2	*174*
		Total (according to Template Table 11)		1066	**100.0**	70.7	12.8	4.9		1269	**100.0**	70.8	14.7	5.7		1548	**100.0**	61.0	17.9	7.0		1908	**100.0**	44.0	19.7	7.9	-
		Sum of all technologies (Template Table 11)		1066	100.0	70.7	12.8	4.9		1269	100.0	70.8	14.7	5.7		1549	100.1	61.1	17.9	7.0		1907	99.9	43.9	19.7	7.9	-
		Gross final RES-H/C consumption (Template Table 4a)		1066	100.0	70.7	12.8	4.9		1269	100.0	70.8	14.7	5.7		1548	100.0	61.0	17.9	7.0		1908	100.0	44.0	19.7	7.9	*76 – 79*
	Transport	Bioethanol / bio-ETBE		n.a.	0.0	0.0	0.0	0.0		43	39.1	2.4	0.7	0.2		256	65.1	10.1	4.1	1.2		414	65.3	9.5	6.5	1.7	*180*
		Biodiesel		1	100.0	0.1	0.0	0.0		64	58.2	3.6	1.0	0.3		130	33.1	5.1	2.1	0.6		203	32.0	4.7	3.2	0.8	*186*
		Hydrogen from renewables		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		n.a.	0.0	0.0	0.0	0.0		2	2.2	0.1	0.0	0.0		7	1.8	0.3	0.1	0.0		17	2.6	0.4	0.3	0.1	*198*
		Other biofuels		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		1	**100.0**	0.1	0.0	0.0		110	**100.0**	6.1	1.7	0.5		393	**100.0**	15.5	6.3	1.8		634	**100.0**	14.6	10.0	2.6	-
		Sum of all technologies (Template Table 12)		1	100.0	0.1	0.0	0.0		109	99.5	6.1	1.7	0.5		393	100.1	15.5	6.3	1.8		634	99.9	14.6	10.0	2.6	-
		Gross final RES-T consumption (Template Table 4a)		1	100.0	0.1	0.0	0.0		110	100.0	6.1	1.7	0.5		393	100.0	15.5	6.3	1.8		634	100.0	14.6	10.0	2.6	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		1	100.0	0.1	0.0	0.0		111	100.9	6.2	1.7	0.5		395	100.5	15.6	6.3	1.8		641	101.1	14.8	10.1	2.7	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		1507		100.0	22.9	7.0		2050		114.3	31.4	9.1		3393		133.7	54.3	15.2		4870		112.2	76.9	20.2	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		1565		103.8	23.8	7.2		2051		114.4	31.4	9.1		3393		133.7	54.3	15.2		4870		112.2	76.9	20.2	-
		Sum all technologies in Template Tables 10a/b, 11, 12		1184			18.0	5.5		1690			25.9	7.5		2979			47.6	13.4		4466			70.5	18.5	-
	Co-operation mechanisms	Transfer from other Member States and third countries		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		n.a.		0.0	0.0	0.0		257		14.3	3.9	1.1		856		33.7	13.7	3.8		529		12.2	8.3	2.2	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		1507		**100.0**	22.9	7.0		1793		**100.0**	27.5	8.0		2537		**100.0**	40.6	11.4		4341		**100.0**	68.5	18.0	*76 – 79*
Final consumption	Electricity	reference scenario[f]		5486						5061						5480						6179					*64*
		additional energy efficiency[f]		5486			**100.0**	25.3		5061			**100.0**	22.6		5285			**100.0**	23.8		5887			**100.0**	24.4	*65*
	Heating and cooling	reference scenario[f]		8355						8644						8743						9600					*66*
		additional energy efficiency[f]		8355			**100.0**	38.6		8644			**100.0**	38.6		8658			**100.0**	38.9		9674			**100.0**	40.1	*67*
	Transport	reference scenario[f]		6568						6774						6864						7257					*68*
		additional energy efficiency[f]		6568			**100.0**	30.3		6528			**100.0**	29.1		6253			**100.0**	28.1		6336			**100.0**	26.3	*69*
	Total before aviation reduction	reference scenario[f]		21649						22714						23150						25262					*70*
		additional energy efficiency[f]		21649				**100.0**		22418				**100.0**		22251				**100.0**		24114				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						6.9						9.1						11.9						18.0	*54*

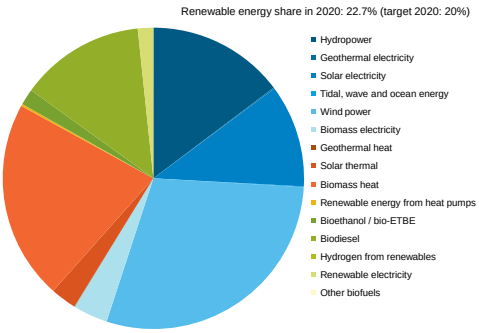
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Spain







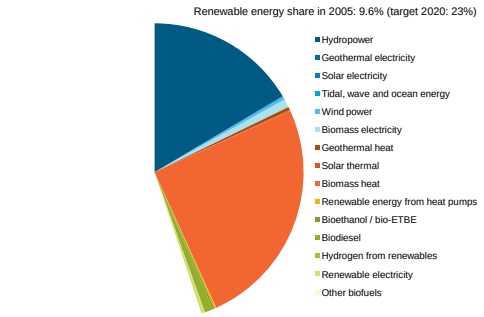


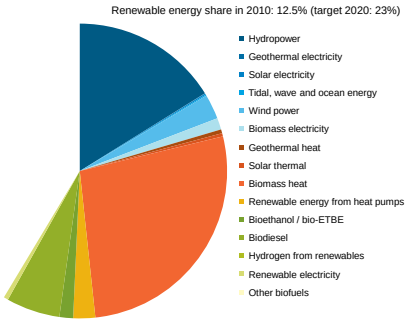
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 225 provides a background to the above figures.

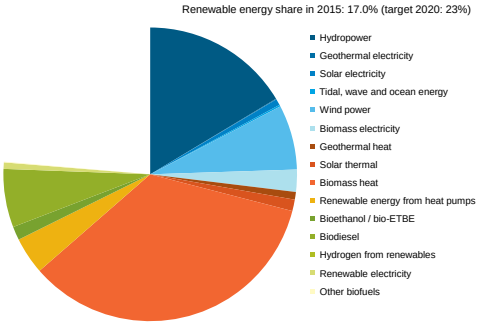
			2005				2010					2015					2020					Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	35503	3053	66.0	36.2	12.2	3.0	34617	2977	41.2	23.5	11.9	3.2	36732	3158	33.1	19.2	11.2	3.3	39593	3404	26.4	15.4	10.6	3.5	*103*
		Geothermal	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	300	26	0.2	0.1	0.1	0.0	*110*
		Solar photovoltaic	41	4	0.1	0.0	0.0	0.0	6417	552	7.6	4.3	2.2	0.6	9872	849	8.9	5.2	3.0	0.9	14316	1231	9.5	5.6	3.8	1.3	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	1144	98	1.4	0.8	0.4	0.1	7913	680	7.1	4.1	2.4	0.7	15353	1320	10.2	6.0	4.1	1.4	*121*
		Solar (subtotal)	41	4	0.1	0.0	0.0	0.0	7561	650	9.0	5.1	2.6	0.7	17785	1529	16.0	9.3	5.4	1.6	29669	2551	19.8	11.6	7.9	2.6	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	220	19	0.1	0.1	0.1	0.0	*128*
		Onshore wind	20729	1782	38.5	21.1	7.1	1.8	40978	3523	48.8	27.8	14.1	3.8	56786	4883	51.2	29.7	17.3	5.2	70502	6062	47.0	27.5	18.8	6.2	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	300	26	0.3	0.2	0.1	0.0	7753	667	5.2	3.0	2.1	0.7	*139*
		Wind power (subtotal)	20729	1782	38.5	21.1	7.1	1.8	40978	3523	48.8	27.8	14.1	3.8	57086	4909	51.4	29.9	17.4	5.2	78254	6729	52.2	30.5	20.9	6.9	*139*
		Solid biomass	2029	174	3.8	2.1	0.7	0.2	3719	320	4.4	2.5	1.3	0.3	4660	401	4.2	2.4	1.4	0.4	7400	636	4.9	2.9	2.0	0.7	*149*
		Biogas	623	54	1.2	0.6	0.2	0.1	799	69	1.0	0.5	0.3	0.1	1302	112	1.2	0.7	0.4	0.1	2617	225	1.7	1.0	0.7	0.2	*149*
		Bioliquids	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	2653	228	4.9	2.7	0.9	0.2	4517	388	5.4	3.1	1.6	0.4	5962	513	5.4	3.1	1.8	0.5	10017	861	6.7	3.9	2.7	0.9	*149*
		Total (according to Template Tables 10a/b)	53773	4624	**100.0**	54.8	18.4	4.5	84034	7226	**100.0**	56.9	28.8	7.8	110988	9543	**100.0**	58.1	33.8	10.1	150030	12900	**100.0**	58.5	40.0	13.3	-
		Sum of all technologies (Template Tables 10a/b)	58926	5067	109.6	60.1	20.2	5.0	87673	7539	104.3	59.4	30.1	8.1	117565	10109	105.9	61.6	35.8	10.7	158053	13590	105.3	61.6	42.1	14.0	-
		Gross final RES-E consumption (Template Table 4a)		4624	100.0	54.8	18.4	4.5		7227	100.0	56.9	28.8	7.8		9545	100.0	58.1	33.8	10.1		12903	100.0	58.5	40.0	13.3	*76 – 79*
	Heating and cooling	Geothermal		4	0.1	0.0	0.0	0.0		4	0.1	0.0	0.0	0.0		5	0.1	0.0	0.0	0.0		10	0.2	0.0	0.0	0.0	*154*
		Solar thermal		61	1.7	0.7	0.2	0.1		159	4.2	1.3	0.5	0.2		308	7.0	1.9	1.0	0.3		644	11.4	2.9	2.2	0.7	*160*
		Solid biomass		3441	96.9	40.8	8.5	3.4		3550	94.3	28.0	10.6	3.8		3997	90.8	24.3	12.7	4.2		4850	85.8	22.0	16.2	5.0	*168*
		Biogas		36	1.0	0.4	0.1	0.0		33	0.9	0.3	0.1	0.0		63	1.4	0.4	0.2	0.1		100	1.8	0.5	0.3	0.1	*168*
		Bioliquids		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		3477	97.9	41.2	8.6	3.4		3583	95.2	28.2	10.7	3.8		4060	92.2	24.7	12.9	4.3		4950	87.5	22.4	16.6	5.1	*168*
		Aerothermal heat pumps		4	0.1	0.0	0.0	0.0		5	0.1	0.0	0.0	0.0		7	0.2	0.0	0.0	0.0		10	0.2	0.0	0.0	0.0	*174*
		Geothermal heat pumps		4	0.1	0.0	0.0	0.0		12	0.3	0.1	0.0	0.0		23	0.5	0.1	0.1	0.0		41	0.7	0.2	0.1	0.0	*174*
		Hydrothermal heat pumps		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		8	0.2	0.1	0.0	0.0		17	0.5	0.1	0.1	0.0		31	0.7	0.2	0.1	0.0		51	0.9	0.2	0.2	0.1	*174*
		Total (according to Template Table 11)		3550	**100.0**	42.1	8.8	3.5		3764	**100.0**	29.7	11.3	4.0		4404	**100.0**	26.8	14.0	4.7		5654	**100.0**	25.6	18.9	5.8	-
		Sum of all technologies (Template Table 11)		3550	100.0	42.1	8.8	3.5		3763	100.0	29.6	11.3	4.0		4404	100.0	26.8	14.0	4.7		5655	100.0	25.6	18.9	5.8	-
		Gross final RES-H/C consumption (Template Table 4a)		3550	100.0	42.1	8.8	3.5		3764	100.0	29.7	11.3	4.0		4404	100.0	26.8	14.0	4.7		5654	100.0	25.6	18.9	5.8	*76 – 79*
	Transport	Bioethanol / bio-ETBE		113	30.9	1.3	0.3	0.1		232	12.9	1.8	0.8	0.2		301	11.2	1.8	1.0	0.3		400	10.3	1.8	1.3	0.4	*180*
		Biodiesel		145	39.6	1.7	0.4	0.1		1471	81.6	11.6	4.8	1.6		2169	80.5	13.2	6.9	2.3		3100	79.8	14.1	9.8	3.2	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		108	29.5	1.3	0.3	0.1		99	5.5	0.8	0.3	0.1		224	8.3	1.4	0.7	0.2		381	9.8	1.7	1.2	0.4	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		1	0.0	0.0	0.0	0.0		4	0.1	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		366	**100.0**	4.3	1.1	0.4		1802	**100.0**	14.2	5.8	1.9		2695	**100.0**	16.4	8.6	2.8		3885	**100.0**	17.6	12.3	4.0	-
		Sum of all technologies (Template Table 12)		366	100.0	4.3	1.1	0.4		1802	100.0	14.2	5.8	1.9		2695	100.0	16.4	8.6	2.8		3885	100.0	17.6	12.3	4.0	-
		Gross final RES-T consumption (Template Table 4a)		366	100.0	4.3	1.1	0.4		1802	100.0	14.2	5.8	1.9		2695	100.0	16.4	8.6	2.8		3885	100.0	17.6	12.3	4.0	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		366	100.0	4.3	1.1	0.4		1852	102.8	14.6	6.0	2.0		2902	107.7	17.7	9.3	3.1		4322	111.2	19.6	13.6	4.5	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		8433		100.0	26.0	8.3		12693		100.0	41.1	13.6		16419		100.0	52.6	17.4		22057		100.0	69.6	22.7	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		8432		100.0	26.0	8.3		12693		100.0	41.1	13.6		16418		100.0	52.6	17.4		22058		100.0	69.6	22.7	-
		Sum all technologies in Template Tables 10a/b, 11, 12		8983			27.7	8.8		13104			42.4	14.1		17208			55.1	18.2		23130			73.0	23.8	-
	Co-operation mechanisms	Transfer from other Member States and third countries		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		8433		**100.0**	26.0	8.3		12693		**100.0**	41.1	13.6		16419		**100.0**	52.6	17.4		22057		**100.0**	69.6	22.7	*76 – 79*
Final consumption	Electricity	reference scenario[f]		25080						25056						29647						35816					*64*
		additional energy efficiency[f]		25080			**100.0**	24.6		25056			**100.0**	26.9		28264			**100.0**	29.9		32269			**100.0**	33.3	*65*
	Heating and cooling	reference scenario[f]		40254						33340						32315						31837					*66*
		additional energy efficiency[f]		40254			**100.0**	39.5		33340			**100.0**	35.8		31452			**100.0**	33.2		29849			**100.0**	30.8	*67*
	Transport	reference scenario[f]		32407						30891						34391						39410					*68*
		additional energy efficiency[f]		32407			**100.0**	31.8		30875			**100.0**	33.1		31222			**100.0**	33.0		31681			**100.0**	32.6	*69*
	Total before aviation reduction	reference scenario[f]		101845						93379						100923						112530					*70*
		additional energy efficiency[f]		101845				**100.0**		93226				**100.0**		94593				**100.0**		97041				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						100866						111882					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						8.7						11.0						13.8						20.0	*55*

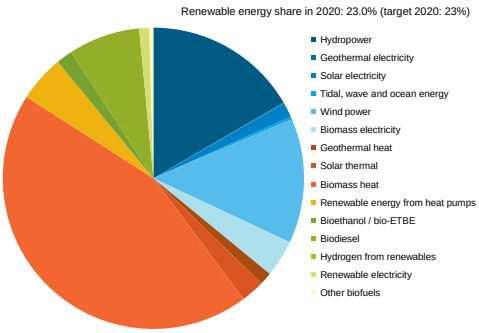
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

France







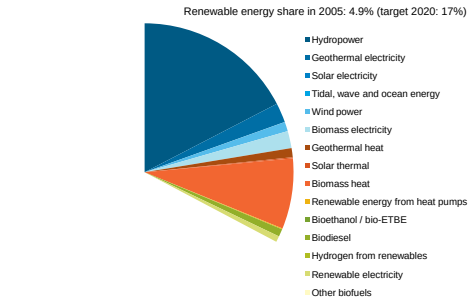


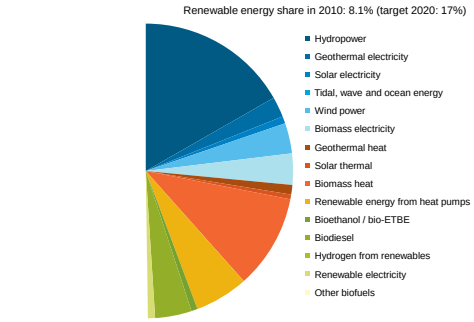
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 227 provides a background to the above figures.

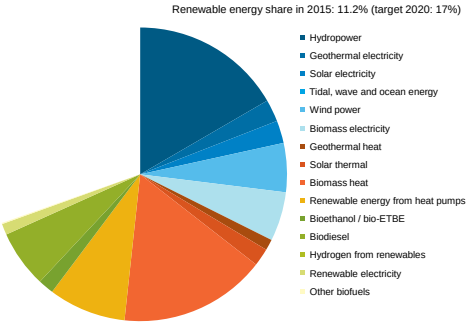
			2005					2010						2015						2020						*Page*
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	70240	6040	92.6	37.9	13.3	3.6	69024	5935	79.0	28.4	12.9	3.6	70363	6050	60.9	22.1	13.0	3.8	71703	6165	46.2	17.1	13.1	4.0	*103*
		Geothermal	95	8	0.1	0.1	0.0	0.0	153	13	0.2	0.1	0.0	0.0	314	27	0.3	0.1	0.1	0.0	475	41	0.3	0.1	0.1	0.0	*110*
		Solar photovoltaic	22	2	0.0	0.0	0.0	0.0	613	53	0.7	0.3	0.1	0.0	2617	225	2.3	0.8	0.5	0.1	5913	508	3.8	1.4	1.1	0.3	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	365	31	0.3	0.1	0.1	0.0	972	84	0.6	0.2	0.2	0.1	*121*
		Solar (subtotal)	22	2	0.0	0.0	0.0	0.0	613	53	0.7	0.3	0.1	0.0	2981	256	2.6	0.9	0.6	0.2	6885	592	4.4	1.6	1.3	0.4	*121*
		Tidal, wave and ocean energy	535	46	0.7	0.3	0.1	0.0	500	43	0.6	0.2	0.1	0.0	789	68	0.7	0.2	0.1	0.0	1150	99	0.7	0.3	0.2	0.1	*128*
		Onshore wind	1128	97	1.5	0.6	0.2	0.1	11638	1001	13.3	4.8	2.2	0.6	22634	1946	19.6	7.1	4.2	1.2	39900	3431	25.7	9.5	7.3	2.2	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	8000	688	6.9	2.5	1.5	0.4	18000	1548	11.6	4.3	3.3	1.0	*139*
		Wind power (subtotal)	1128	97	1.5	0.6	0.2	0.1	11638	1001	13.3	4.8	2.2	0.6	30634	2634	26.5	9.6	5.7	1.6	57900	4979	37.3	13.8	10.6	3.2	*139*
		Solid biomass	3341	287	4.4	1.8	0.6	0.2	4506	387	5.2	1.9	0.8	0.2	8366	719	7.2	2.6	1.6	0.4	13470	1158	8.7	3.2	2.5	0.7	*149*
		Biogas	478	41	0.6	0.3	0.1	0.0	935	80	1.1	0.4	0.2	0.0	2129	183	1.8	0.7	0.4	0.1	3701	318	2.4	0.9	0.7	0.2	*149*
		Bioliquids	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	3819	328	5.0	2.1	0.7	0.2	5441	468	6.2	2.2	1.0	0.3	10496	902	9.1	3.3	1.9	0.6	17171	1476	11.1	4.1	3.1	1.0	*149*
		Total (according to Template Tables 10a/b)	75839	6521	**100.0**	41.0	14.4	3.9	87369	7512	**100.0**	35.9	16.4	4.6	115577	9938	**100.0**	36.3	21.4	6.2	155284	13352	**100.0**	37.0	28.5	8.6	-
		Sum of all technologies (Template Tables 10a/b)	75839	6521	100.0	41.0	14.4	3.9	87369	7512	100.0	35.9	16.4	4.6	115577	9938	100.0	36.3	21.4	6.2	155284	13352	100.0	37.0	28.5	8.6	-
		Gross final RES-E consumption (Template Table 4a)		6118	93.8	38.4	13.5	3.7		7073	94.2	33.8	15.4	4.3		9407	94.7	34.3	20.3	5.9		12729	95.3	35.2	27.1	8.2	*76 – 79*
	Heating and cooling	Geothermal		130	1.4	0.8	0.2	0.1		155	1.4	0.7	0.2	0.1		310	2.1	1.1	0.5	0.2		500	2.5	1.4	0.8	0.3	*154*
		Solar thermal		38	0.4	0.2	0.1	0.0		130	1.2	0.6	0.2	0.1		465	3.1	1.7	0.7	0.3		927	4.7	2.6	1.5	0.6	*160*
		Solid biomass		9067	96.5	57.0	13.2	5.4		9870	88.8	47.2	15.0	6.0		12500	83.1	45.6	19.8	7.8		15900	80.6	44.0	26.5	10.2	*168*
		Biogas		86	0.9	0.5	0.1	0.1		83	0.7	0.4	0.1	0.1		260	1.7	0.9	0.4	0.2		555	2.8	1.5	0.9	0.4	*168*
		Bioliquids		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		9153	97.4	57.5	13.3	5.5		9953	89.5	47.6	15.1	6.1		12760	84.8	46.6	20.3	8.0		16455	83.4	45.6	27.4	10.6	*168*
		Aerothermal heat pumps		27	0.3	0.2	0.0	0.0		664	6.0	3.2	1.0	0.4		1080	7.2	3.9	1.7	0.7		1280	6.5	3.5	2.1	0.8	*174*
		Geothermal heat pumps		49	0.5	0.3	0.1	0.0		222	2.0	1.1	0.3	0.1		425	2.8	1.6	0.7	0.3		570	2.9	1.6	1.0	0.4	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		76	0.8	0.5	0.1	0.0		886	8.0	4.2	1.3	0.5		1505	10.0	5.5	2.4	0.9		1850	9.4	5.1	3.1	1.2	*174*
		Total (according to Template Table 11)		9397	**100.0**	59.0	13.6	5.6		11121	**100.0**	53.2	16.9	6.8		15040	**100.0**	54.9	23.9	9.4		19732	**100.0**	54.6	32.9	12.7	-
		Sum of all technologies (Template Table 11)		9397	100.0	59.0	13.6	5.6		11124	100.0	53.2	16.9	6.8		15040	100.0	54.9	23.9	9.4		19732	100.0	54.6	32.9	12.7	-
		Gross final RES-H/C consumption (Template Table 4a)		9397	100.0	59.0	13.6	5.6		11124	100.0	53.2	16.9	6.8		15040	100.0	54.9	23.9	9.4		19732	100.0	54.6	32.9	12.7	*76 – 79*
	Transport	Bioethanol / bio-ETBE		75	13.8	0.5	0.2	0.0		550	19.0	2.6	1.2	0.3		550	17.1	2.0	1.3	0.3		650	16.0	1.8	1.5	0.4	*180*
		Biodiesel		328	60.3	2.1	0.7	0.2		2165	74.7	10.4	4.7	1.3		2375	73.9	8.7	5.4	1.5		2850	70.2	7.9	6.8	1.8	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		141	25.9	0.9	0.3	0.1		183	6.3	0.9	0.4	0.1		260	8.1	0.9	0.6	0.2		402	9.9	1.1	1.0	0.3	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		30	0.9	0.1	0.1	0.0		160	3.9	0.4	0.4	0.1	*204*
		Total (according to Template Table 12)		544	**100.0**	3.4	1.2	0.3		2898	**100.0**	13.9	6.3	1.8		3215	**100.0**	11.7	7.3	2.0		4062	**100.0**	11.2	9.6	2.6	-
		Sum of all technologies (Template Table 12)		544	100.0	3.4	1.2	0.3		2898	100.0	13.9	6.3	1.8		3215	100.0	11.7	7.3	2.0		4062	100.0	11.2	9.6	2.6	-
		Gross final RES-T consumption (Template Table 4a)		544	100.0	3.4	1.2	0.3		2898	100.0	13.9	6.3	1.8		3215	100.0	11.7	7.3	2.0		4062	100.0	11.2	9.6	2.6	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		544	100.0	3.4	1.2	0.3		2948	101.7	14.1	6.5	1.8		3372	104.9	12.3	7.7	2.1		4427	109.0	12.3	10.5	2.9	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		15918		100.0	35.3	9.5		20912		100.0	45.8	12.7		27402		100.0	62.3	17.1		36121		100.0	85.8	23.3	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		16321		102.5	36.2	9.8		21348		102.1	46.7	13.0		27933		101.9	63.5	17.5		36744		101.7	87.3	23.7	-
		Sum all technologies in Template Tables 10a/b, 11, 12		16462			36.5	9.9		21534			47.1	13.1		28193			64.1	17.6		37146			88.2	23.9	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		15918		**100.0**	35.3	9.5		20912		**100.0**	45.8	12.7		27402		**100.0**	62.3	17.1		36121		**100.0**	85.8	23.3	*76 – 79*
Final consumption	Electricity	reference scenario[f]		45317						47378						49439						51500					*64*
		additional energy efficiency[f]		45317			**100.0**	27.2		45849			**100.0**	27.9		46381			**100.0**	29.0		46913			**100.0**	30.2	*65*
	Heating and cooling	reference scenario[f]		68949						72333						75716						79100					*66*
		additional energy efficiency[f]		68949			**100.0**	41.4		65966			**100.0**	40.1		62983			**100.0**	39.4		60000			**100.0**	38.6	*67*
	Transport	reference scenario[f]		45080						53100						55100						57500					*68*
		additional energy efficiency[f]		45080			**100.0**	27.0		45700			**100.0**	27.8		44000			**100.0**	27.5		42100			**100.0**	27.1	*69*
	Total before aviation reduction	reference scenario[f]		166689						179877						187610						195745					*70*
		additional energy efficiency[f]		166689				**100.0**		164349				**100.0**		159909				**100.0**		155268				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						9.6						12.8						16.0						23.0	*55*

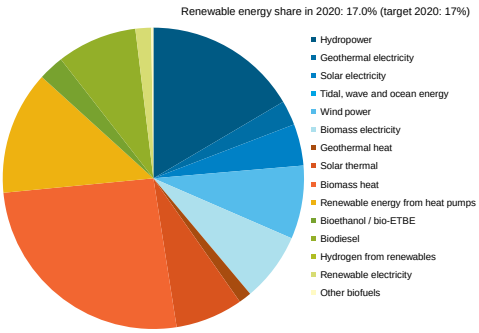
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Italy







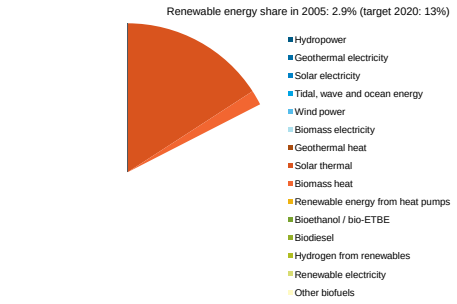


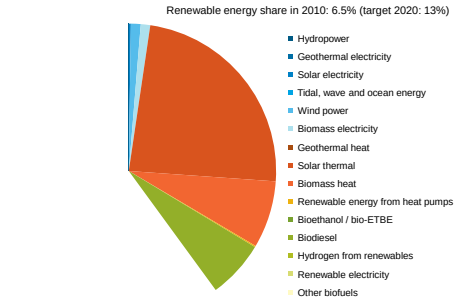
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 229 provides a background to the above figures.

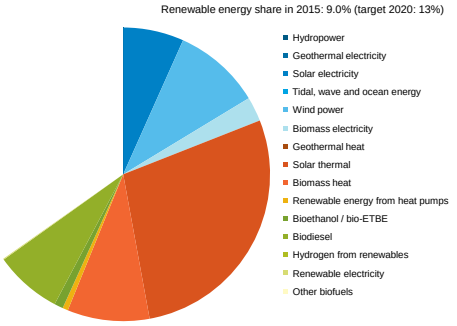
			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	43768	3763	77.7	54.2	12.7	2.7	42141	3623	63.1	34.1	11.8	2.7	42070	3617	51.4	24.3	11.5	2.7	42000	3611	42.5	16.0	11.2	2.7	*103*
		Geothermal	5325	458	9.4	6.6	1.5	0.3	5632	484	8.4	4.6	1.6	0.4	6191	532	7.6	3.6	1.7	0.4	6750	580	6.8	2.6	1.8	0.4	*110*
		Solar photovoltaic	31	3	0.1	0.0	0.0	0.0	1967	169	2.9	1.6	0.6	0.1	6122	526	7.5	3.5	1.7	0.4	9650	830	9.8	3.7	2.6	0.6	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	9	1	0.0	0.0	0.0	0.0	170	15	0.2	0.1	0.0	0.0	1700	146	1.7	0.6	0.5	0.1	*121*
		Solar (subtotal)	31	3	0.1	0.0	0.0	0.0	1976	170	3.0	1.6	0.6	0.1	6292	541	7.7	3.6	1.7	0.4	11350	976	11.5	4.3	3.0	0.7	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	1	0	0.0	0.0	0.0	0.0	5	0	0.0	0.0	0.0	0.0	*128*
		Onshore wind	2558	220	4.5	3.2	0.7	0.2	8398	722	12.6	6.8	2.4	0.5	13199	1135	16.1	7.6	3.6	0.9	18000	1548	18.2	6.8	4.8	1.2	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	453	39	0.6	0.3	0.1	0.0	2000	172	2.0	0.8	0.5	0.1	*139*
		Wind power (subtotal)	2558	220	4.5	3.2	0.7	0.2	8398	722	12.6	6.8	2.4	0.5	13652	1174	16.7	7.9	3.7	0.9	20000	1720	20.2	7.6	5.3	1.3	*139*
		Solid biomass	3477	299	6.2	4.3	1.0	0.2	4758	409	7.1	3.9	1.3	0.3	6329	544	7.7	3.7	1.7	0.4	7900	679	8.0	3.0	2.1	0.5	*149*
		Biogas	1198	103	2.1	1.5	0.3	0.1	2129	183	3.2	1.7	0.6	0.1	4074	350	5.0	2.4	1.1	0.3	6020	518	6.1	2.3	1.6	0.4	*149*
		Bioliquids	0	0	0.0	0.0	0.0	0.0	1758	151	2.6	1.4	0.5	0.1	3309	285	4.0	1.9	0.9	0.2	4860	418	4.9	1.8	1.3	0.3	*149*
		Biomass (subtotal)	4675	402	8.3	5.8	1.4	0.3	8645	743	12.9	7.0	2.4	0.6	13712	1179	16.7	7.9	3.7	0.9	18780	1615	19.0	7.1	5.0	1.2	*149*
		Total (according to Template Tables 10a/b)	56356	4846	**100.0**	69.8	16.3	3.4	66791	5743	**100.0**	54.1	18.7	4.4	81918	7044	**100.0**	47.3	22.4	5.3	98885	8503	**100.0**	37.6	26.4	6.4	-
		Sum of all technologies (Template Tables 10a/b)	56357	4846	100.0	69.8	16.3	3.4	66792	5743	100.0	54.1	18.7	4.4	81918	7044	100.0	47.3	22.4	5.3	98885	8503	100.0	37.6	26.4	6.4	-
		Gross final RES-E consumption (Template Table 4a)		4847	100.0	69.8	16.3	3.4		5744	100.0	54.1	18.7	4.4		7045	100.0	47.3	22.4	5.3		8504	100.0	37.6	26.4	6.4	*76 – 79*
	Heating and cooling	Geothermal		213	11.1	3.1	0.3	0.2		226	5.9	2.1	0.4	0.2		260	4.3	1.7	0.4	0.2		300	2.9	1.3	0.5	0.2	*154*
		Solar thermal		27	1.4	0.4	0.0	0.0		113	2.9	1.1	0.2	0.1		424	7.0	2.8	0.7	0.3		1586	15.2	7.0	2.6	1.2	*160*
		Solid biomass		1629	85.0	23.5	2.4	1.2		2206	57.3	20.8	3.7	1.7		3404	56.2	22.9	5.7	2.6		5254	50.2	23.2	8.6	3.9	*168*
		Biogas		26	1.4	0.4	0.0	0.0		26	0.7	0.2	0.0	0.0		83	1.4	0.6	0.1	0.1		266	2.5	1.2	0.4	0.2	*168*
		Bioliquids		0	0.0	0.0	0.0	0.0		7	0.2	0.1	0.0	0.0		33	0.5	0.2	0.1	0.0		150	1.4	0.7	0.2	0.1	*168*
		Biomass (subtotal)		1655	86.4	23.8	2.4	1.2		2239	58.1	21.1	3.8	1.7		3520	58.1	23.7	5.9	2.7		5670	54.2	25.1	9.3	4.3	*168*
		Aerothermal heat pumps		16	0.8	0.2	0.0	0.0		1127	29.3	10.6	1.9	0.9		1566	25.8	10.5	2.6	1.2		2175	20.8	9.6	3.6	1.6	*174*
		Geothermal heat pumps		4	0.2	0.1	0.0	0.0		40	1.0	0.4	0.1	0.0		145	2.4	1.0	0.2	0.1		522	5.0	2.3	0.9	0.4	*174*
		Hydrothermal heat pumps		2	0.1	0.0	0.0	0.0		105	2.7	1.0	0.2	0.1		146	2.4	1.0	0.2	0.1		203	1.9	0.9	0.3	0.2	*174*
		Renewable energy from heat pumps (subtotal)		21	1.1	0.3	0.0	0.0		1273	33.1	12.0	2.2	1.0		1857	30.6	12.5	3.1	1.4		2900	27.7	12.8	4.7	2.2	*174*
		Total (according to Template Table 11)		1916	**100.0**	27.6	2.8	1.4		3851	**100.0**	36.3	6.5	2.9		6062	**100.0**	40.7	10.1	4.6		10456	**100.0**	46.2	17.1	7.9	-
		Sum of all technologies (Template Table 11)		1916	100.0	27.6	2.8	1.4		3851	100.0	36.3	6.5	2.9		6061	100.0	40.7	10.1	4.6		10456	100.0	46.2	17.1	7.9	-
		Gross final RES-H/C consumption (Template Table 4a)		1916	100.0	27.6	2.8	1.4		3851	100.0	36.3	6.5	2.9		6062	100.0	40.7	10.1	4.6		10456	100.0	46.2	17.1	7.9	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		148	12.4	1.4	0.4	0.1		374	18.3	2.5	1.1	0.3		600	20.7	2.7	1.8	0.5	*180*
		Biodiesel		179	56.3	2.6	0.5	0.1		868	72.9	8.2	2.3	0.7		1374	67.4	9.2	3.9	1.0		1880	64.8	8.3	5.5	1.4	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		139	43.7	2.0	0.4	0.1		170	14.3	1.6	0.5	0.1		265	13.0	1.8	0.7	0.2		369	12.7	1.6	1.1	0.3	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		5	0.4	0.0	0.0	0.0		27	1.3	0.2	0.1	0.0		50	1.7	0.2	0.1	0.0	*204*
		Total (according to Template Table 12)		318	**100.0**	4.6	0.8	0.2		1190	**100.0**	11.2	3.2	0.9		2040	**100.0**	13.7	5.7	1.5		2899	**100.0**	12.8	8.5	2.2	-
		Sum of all technologies (Template Table 12)		318	100.0	4.6	0.8	0.2		1191	100.1	11.2	3.2	0.9		2040	100.0	13.7	5.7	1.5		2899	100.0	12.8	8.5	2.2	-
		Gross final RES-T consumption (Template Table 4a)		179	56.3	2.6	0.5	0.1		1020	85.7	9.6	2.8	0.8		1775	87.0	11.9	5.0	1.3		2530	87.3	11.2	7.4	1.9	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		338	106.3	4.9	0.9	0.2		1295	108.8	12.2	3.5	1.0		2356	115.5	15.8	6.6	1.8		3445	118.8	15.2	10.1	2.6	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		6942		100.0	17.8	4.9		10615		100.0	28.6	8.1		14882		100.0	41.9	11.2		21490		95.0	63.3	16.2	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		6941		100.0	17.8	4.9		10614		100.0	28.6	8.1		14881		100.0	41.9	11.2		21489		95.0	63.3	16.2	-
		Sum all technologies in Template Tables 10a/b, 11, 12		7080			18.2	5.0		10785			29.1	8.2		15145			42.6	11.4		21858			64.3	16.4	-
	Co-operation mechanisms	Transfer from other Member States and third countries		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		1127		5.0	3.3	0.8	*76 – 79*
		Transfer to other Member States		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		6942		**100.0**	17.8	4.9		10615		**100.0**	28.6	8.1		14882		**100.0**	41.9	11.2		22617		**100.0**	66.6	17.0	*76 – 79*
Final consumption	Electricity	reference scenario[f]		29749						29505						31853						35034					*64*
		additional energy efficiency[f]		29749			**100.0**	21.1		30701			**100.0**	23.3		31465			**100.0**	23.8		32227			**100.0**	24.2	*65*
	Heating and cooling	reference scenario[f]		68501						64194						65532						66499					*66*
		additional energy efficiency[f]		68501			**100.0**	48.5		58976			**100.0**	44.7		60081			**100.0**	45.4		61185			**100.0**	46.0	*67*
	Transport	reference scenario[f]		39000						36467						37986						38544					*68*
		additional energy efficiency[f]		39000			**100.0**	27.6		37054			**100.0**	28.1		35513			**100.0**	26.8		33972			**100.0**	25.5	*69*
	Total before aviation reduction	reference scenario[f]		141226						134643						140399						145566					*70*
		additional energy efficiency[f]		141226				**100.0**		131801				**100.0**		132422				**100.0**		133042				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						5.2						7.6						10.5						17.0	*55*

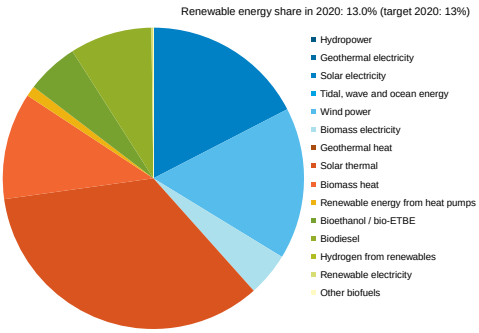
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Cyprus







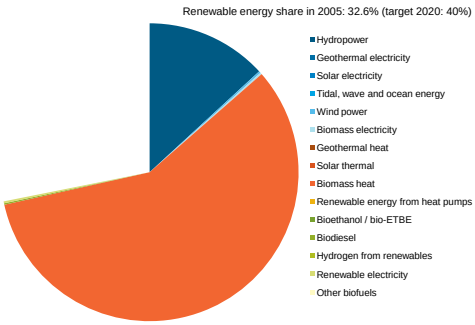


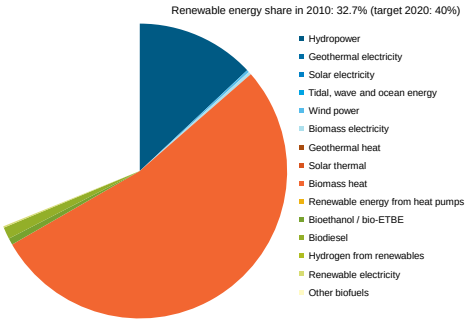
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 231 provides a background to the above figures.

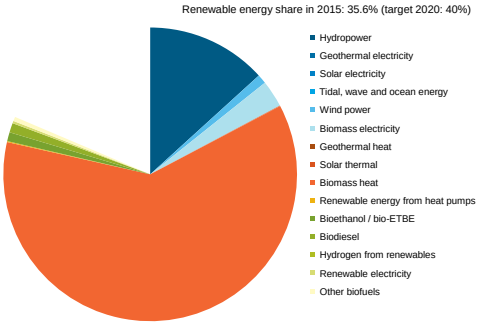
			2005					2010					2015					2020					Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*103*
		Geothermal	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	0	0	100.0	0.0	0.0	0.0	6	1	9.5	0.5	0.1	0.0	59	5	10.0	3.0	0.9	0.2	309	27	26.3	10.1	4.2	1.2	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	149	13	25.2	7.5	2.3	0.6	224	19	19.1	7.3	3.0	0.9	*121*
		Solar (subtotal)	0	0	100.0	0.0	0.0	0.0	6	1	9.5	0.5	0.1	0.0	208	18	35.1	10.5	3.3	0.9	533	46	45.4	17.4	7.2	2.0	*121*
		Tidal, wave and ocean energy	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*128*
		Onshore wind	0	0	0.0	0.0	0.0	0.0	31	3	45.7	2.3	0.6	0.1	300	26	50.7	15.2	4.7	1.2	499	43	42.5	16.3	6.8	1.9	*139*
		Offshore wind	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*139*
		Wind power (subtotal)	0	0	0.0	0.0	0.0	0.0	31	3	45.7	2.3	0.6	0.1	300	26	50.7	15.2	4.7	1.2	499	43	42.5	16.3	6.8	1.9	*139*
		Solid biomass	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*149*
		Biogas	0	0	0.0	0.0	0.0	0.0	30	3	44.2	2.3	0.6	0.1	84	7	14.2	4.2	1.3	0.3	143	12	12.2	4.7	1.9	0.5	*149*
		Bioliquids	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	0	0	0.0	0.0	0.0	0.0	30	3	44.2	2.3	0.6	0.1	84	7	14.2	4.2	1.3	0.3	143	12	12.2	4.7	1.9	0.5	*149*
		Total (according to Template Tables 10a/b)	0	0	**100.0**	0.0	0.0	0.0	68	6	**100.0**	5.1	1.3	0.3	592	51	**100.0**	29.9	9.3	2.4	1175	101	**100.0**	38.4	16.0	4.5	-
		Sum of all technologies (Template Tables 10a/b)	0	0	100.0	0.0	0.0	0.0	67	6	99.4	5.1	1.3	0.3	592	51	100.0	29.9	9.3	2.4	1175	101	100.0	38.4	16.0	4.5	-
		Gross final RES-E consumption (Template Table 4a)		0	0.0	0.0	0.0	0.0		20	342.8	17.5	4.3	1.0		46	90.4	27.1	8.4	2.2		101	100.0	38.4	16.0	4.5	*76 – 79*
	Heating and cooling	Geothermal		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*154*
		Solar thermal		41	90.8	86.0	7.8	2.2		59	76.0	51.8	12.3	3.1		75	74.4	44.2	14.8	3.6		90	73.2	34.4	17.2	4.0	*160*
		Solid biomass		4	9.2	8.8	0.8	0.2		16	21.0	14.3	3.4	0.8		20	19.5	11.6	3.9	0.9		24	19.5	9.2	4.6	1.1	*168*
		Biogas		n.a.	0.0	0.0	0.0	0.0		2	2.6	1.8	0.4	0.1		5	4.5	2.6	0.9	0.2		6	4.9	2.3	1.1	0.3	*168*
		Bioliquids		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		4	9.2	8.8	0.8	0.2		18	23.6	16.1	3.8	1.0		24	24.0	14.2	4.8	1.2		30	24.4	11.5	5.7	1.3	*168*
		Aerothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Geothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		0	0.0	0.0	0.0	0.0		0	0.4	0.3	0.1	0.0		2	1.6	0.9	0.3	0.1		3	2.4	1.1	0.6	0.1	*174*
		Total (according to Template Table 11)		45	**100.0**	94.7	8.6	2.4		78	**100.0**	68.1	16.2	4.0		101	**100.0**	59.4	19.8	4.9		124	**100.0**	47.0	23.5	5.5	-
		Sum of all technologies (Template Table 11)		45	100.0	94.7	8.6	2.4		78	100.0	68.1	16.2	4.0		101	100.0	59.4	19.8	4.9		124	100.0	47.0	23.5	5.5	-
		Gross final RES-H/C consumption (Template Table 4a)		48	105.6	100.0	9.1	2.5		78	100.4	68.4	16.3	4.1		101	100.0	59.4	19.8	4.9		124	100.3	47.1	23.5	5.5	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		3	11.5	1.5	0.3	0.1		15	38.3	5.6	1.9	0.7	*180*
		Biodiesel		0	0.0	0.0	0.0	0.0		16	100.0	13.8	2.2	0.8		20	87.2	11.6	2.7	1.0		23	60.4	8.8	3.0	1.0	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	1.2	0.2	0.0	0.0		1	1.5	0.2	0.1	0.0	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		0	0.0	0.0	0.0	0.0		16	**100.0**	13.8	2.2	0.8		23	**100.0**	13.4	3.1	1.1		38	**100.0**	14.6	5.0	1.7	-
		Sum of all technologies (Template Table 12)		0	0.0	0.0	0.0	0.0		16	100.0	13.8	2.2	0.8		23	99.9	13.3	3.0	1.1		38	100.2	14.6	5.0	1.7	-
		Gross final RES-T consumption (Template Table 4a)		0	0.0	0.0	0.0	0.0		16	101.9	14.0	2.2	0.8		23	101.3	13.5	3.1	1.1		38	99.0	14.4	4.9	1.7	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		0	0.0	0.0	0.0	0.0		16	102.9	14.2	2.2	0.8		25	108.1	14.4	3.3	1.2		77	200.8	29.3	10.0	3.4	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		48		100.0	7.0	2.5		114		100.0	15.8	5.9		170		100.0	22.8	8.2		263		100.0	34.2	11.7	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		45		94.7	6.7	2.4		99		87.0	13.8	5.2		174		102.5	23.4	8.4		262		99.8	34.2	11.7	-
		Sum all technologies in Template Tables 10a/b, 11, 12		45			6.7	2.4		99			13.8	5.2		175			23.5	8.4		263			34.3	11.7	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		48		**100.0**	7.0	2.5		114		**100.0**	15.8	5.9		170		**100.0**	22.8	8.2		263		**100.0**	34.2	11.7	*76 – 79*
Final consumption	Electricity	reference scenario[f]		374						464						573						683					*64*
		additional energy efficiency[f]		374			**100.0**	19.9		463			**100.0**	24.1		548			**100.0**	26.3		633			**100.0**	28.3	*65*
	Heating and cooling	reference scenario[f]		530						480						517						551					*66*
		additional energy efficiency[f]		530			**100.0**	28.1		480			**100.0**	25.0		509			**100.0**	24.5		527			**100.0**	23.5	*67*
	Transport	reference scenario[f]		682						721						771						825					*68*
		additional energy efficiency[f]		682			**100.0**	36.2		720			**100.0**	37.5		744			**100.0**	35.8		768			**100.0**	34.3	*69*
	Total before aviation reduction	reference scenario[f]		1884						1921						2150						2380					*70*
		additional energy efficiency[f]		1884				**100.0**		1919				**100.0**		2080				**100.0**		2240				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		1661						1744						1952						2159					*72*
		additional energy efficiency[f]		1661				88.2		1742				90.8		1884				90.6		2023				90.3	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						2.9						4.9						7.4						13.0	*55*

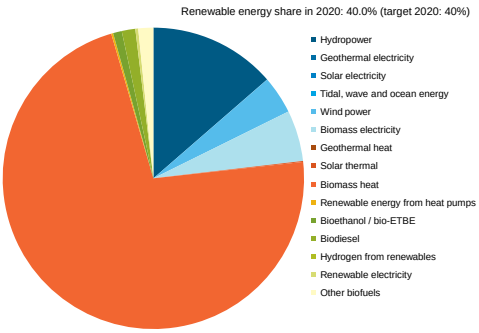
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Latvia







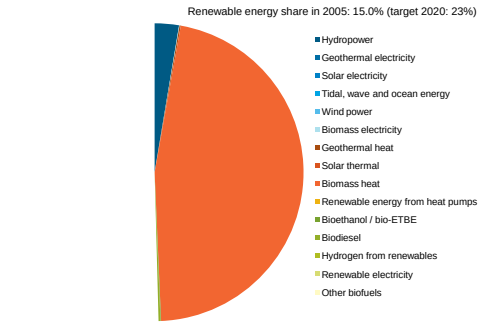


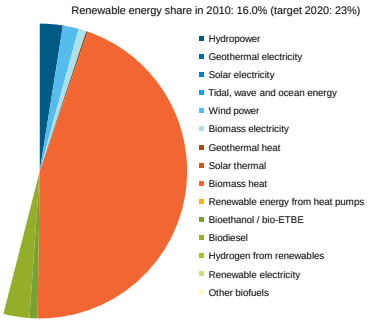
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 233 provides a background to the above figures.

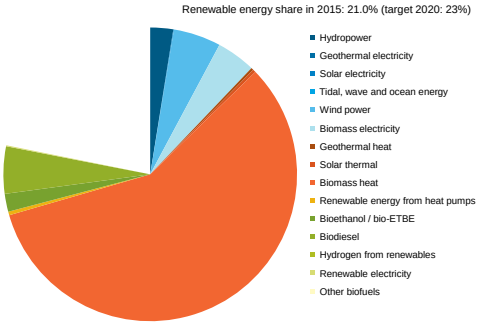
			2005					2010					2015					2020					Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	2942	253	97.1	18.4	43.5	6.0	2906	250	95.7	18.9	42.8	6.2	2965	255	76.9	16.3	39.5	5.8	3051	262	58.8	13.7	35.2	5.5	*103*
		Geothermal	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	1	0	0.0	0.0	0.0	0.0	4	0	0.1	0.0	0.0	0.0	*121*
		Concentrated solar power	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	1	0	0.0	0.0	0.0	0.0	4	0	0.1	0.0	0.0	0.0	*121*
		Tidal, wave and ocean energy	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*128*
		Onshore wind	47	4	1.6	0.3	0.7	0.1	58	5	1.9	0.4	0.9	0.1	228	20	5.9	1.3	3.0	0.4	519	45	10.0	2.3	6.0	0.9	*139*
		Offshore wind	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	391	34	7.5	1.8	4.5	0.7	*139*
		Wind power (subtotal)	47	4	1.6	0.3	0.7	0.1	58	5	1.9	0.4	0.9	0.1	228	20	5.9	1.3	3.0	0.4	910	78	17.5	4.1	10.5	1.6	*139*
		Solid biomass	5	0	0.2	0.0	0.1	0.0	8	1	0.3	0.1	0.1	0.0	271	23	7.0	1.5	3.6	0.5	642	55	12.4	2.9	7.4	1.2	*149*
		Biogas	36	3	1.2	0.2	0.5	0.1	64	6	2.1	0.4	0.9	0.1	393	34	10.2	2.2	5.2	0.8	584	50	11.3	2.6	6.7	1.0	*149*
		Bioliquids	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	41	4	1.4	0.3	0.6	0.1	72	6	2.4	0.5	1.1	0.2	664	57	17.2	3.7	8.8	1.3	1226	105	23.6	5.5	14.1	2.2	*149*
		Total (according to Template Tables 10a/b)	3030	261	**100.0**	18.9	44.8	6.1	3036	261	**100.0**	19.8	44.7	6.5	3858	332	**100.0**	21.3	51.4	7.6	5191	446	**100.0**	23.3	59.8	9.3	-
		Sum of all technologies (Template Tables 10a/b)	3030	261	100.0	18.9	44.8	6.1	3036	261	100.0	19.8	44.7	6.5	3858	332	100.0	21.3	51.4	7.6	5191	446	100.0	23.3	59.8	9.3	-
		Gross final RES-E consumption (Template Table 4a)		261	100.2	19.0	44.9	6.2		261	100.0	19.8	44.7	6.5		332	100.1	21.3	51.4	7.6		446	99.9	23.3	59.8	9.3	*76 – 79*
	Heating and cooling	Geothermal		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*154*
		Solar thermal		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		1	0.1	0.1	0.0	0.0		2	0.1	0.1	0.1	0.0	*160*
		Solid biomass		1113	99.9	80.8	42.7	26.2		1013	99.3	76.7	45.0	25.1		1139	96.5	73.0	47.0	26.0		1343	96.2	70.0	51.4	28.0	*168*
		Biogas		1	0.1	0.1	0.0	0.0		7	0.7	0.5	0.3	0.2		39	3.3	2.5	1.6	0.9		49	3.5	2.6	1.9	1.0	*168*
		Bioliquids		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		1114	100.0	80.9	42.7	26.3		1020	100.0	77.3	45.3	25.3		1178	99.8	75.5	48.6	26.9		1392	99.7	72.6	53.3	29.0	*168*
		Aerothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Geothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		2	0.2	0.1	0.1	0.0		4	0.3	0.2	0.2	0.1	*174*
		Total (according to Template Table 11)		1114	**100.0**	80.9	42.7	26.3		1020	**100.0**	77.3	45.3	25.3		1180	**100.0**	75.6	48.7	26.9		1396	**100.0**	72.8	53.4	29.1	-
		Sum of all technologies (Template Table 11)		1114	100.0	80.9	42.7	26.3		1020	100.0	77.3	45.3	25.3		1181	100.1	75.7	48.7	26.9		1398	100.1	72.9	53.5	29.1	-
		Gross final RES-H/C consumption (Template Table 4a)		1114	100.0	80.9	42.7	26.3		1020	100.0	77.3	45.3	25.3		1179	99.9	75.6	48.6	26.9		1395	99.9	72.7	53.4	29.1	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		14	33.3	1.1	1.3	0.3		19	35.8	1.2	1.6	0.4		18	21.7	0.9	1.4	0.4	*180*
		Biodiesel		3	42.9	0.2	0.3	0.1		25	59.5	1.9	2.3	0.6		20	37.7	1.3	1.7	0.5		28	33.7	1.5	2.2	0.6	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		4	57.1	0.3	0.4	0.1		3	7.1	0.2	0.3	0.1		5	9.4	0.3	0.4	0.1		6	7.2	0.3	0.5	0.1	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		9	17.0	0.6	0.8	0.2		31	37.3	1.6	2.4	0.6	*204*
		Total (according to Template Table 12)		7	**100.0**	0.5	0.7	0.2		42	**100.0**	3.2	3.8	1.0		53	**100.0**	3.4	4.4	1.2		83	**100.0**	4.3	6.4	1.7	-
		Sum of all technologies (Template Table 12)		7	100.0	0.5	0.7	0.2		42	100.0	3.2	3.8	1.0		53	100.0	3.4	4.4	1.2		83	100.0	4.3	6.4	1.7	-
		Gross final RES-T consumption (Template Table 4a)		7	100.0	0.5	0.7	0.2		42	100.0	3.2	3.8	1.0		53	100.0	3.4	4.4	1.2		83	100.0	4.3	6.4	1.7	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		9	128.6	0.7	0.9	0.2		44	104.8	3.3	4.0	1.1		56	105.7	3.6	4.7	1.3		130	156.6	6.8	10.0	2.7	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		1377		100.0	140.2	32.5		1320		100.0	120.4	32.7		1560		100.0	130.1	35.6		1918		100.0	147.7	40.0	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		1378		100.0	140.3	32.5		1320		100.0	120.4	32.7		1560		100.0	130.1	35.6		1919		100.1	147.8	40.0	-
		Sum all technologies in Template Tables 10a/b, 11, 12		1382			140.7	32.6		1323			120.7	32.8		1566			130.6	35.7		1927			148.4	40.2	-
	Co-operation mechanisms	Transfer from other Member States and third countries		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		1377		**100.0**	140.2	32.5		1320		**100.0**	120.4	32.7		1560		**100.0**	130.1	35.6		1918		**100.0**	147.7	40.0	*76 – 79*
Final consumption	Electricity	reference scenario[f]		581						588						686						860					*64*
		additional energy efficiency[f]		581			**100.0**	13.7		584			**100.0**	14.5		646			**100.0**	14.7		746			**100.0**	15.6	*65*
	Heating and cooling	reference scenario[f]		2607						2271						2604						3114					*66*
		additional energy efficiency[f]		2607			**100.0**	61.5		2251			**100.0**	55.8		2425			**100.0**	55.3		2612			**100.0**	54.5	*67*
	Transport	reference scenario[f]		982						1099						1212						1320					*68*
		additional energy efficiency[f]		982			**100.0**	23.2		1096			**100.0**	27.2		1199			**100.0**	27.4		1299			**100.0**	27.1	*69*
	Total before aviation reduction	reference scenario[f]		4241						4060						4615						5434					*70*
		additional energy efficiency[f]		4241				**100.0**		4033				**100.0**		4383				**100.0**		4796				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						32.6						34.1						35.9						40.0	*56*

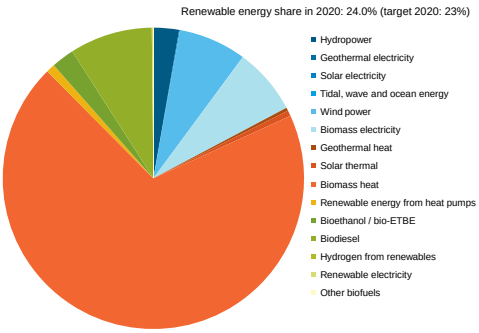
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Lithuania







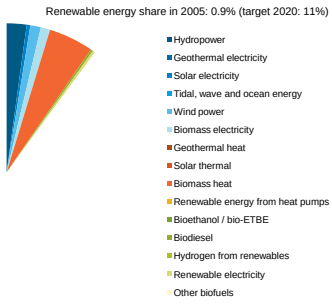


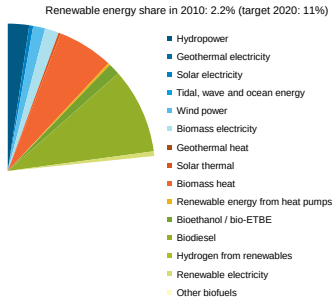
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 235 provides a background to the above figures.

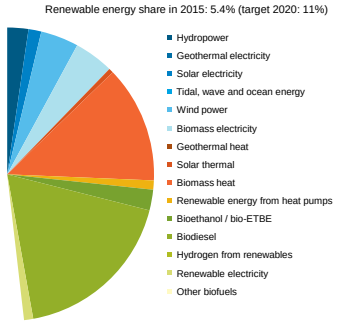
			2005					2010					2015					2020					Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	451	39	98.0	5.3	3.9	0.8	432	37	49.3	4.7	4.1	0.7	446	38	20.8	3.4	3.7	0.7	470	40	15.9	2.7	3.4	0.7	*103*
		Geothermal	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	13	1	0.6	0.1	0.1	0.0	15	1	0.5	0.1	0.1	0.0	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	13	1	0.6	0.1	0.1	0.0	15	1	0.5	0.1	0.1	0.0	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*128*
		Onshore wind	2	0	0.4	0.0	0.0	0.0	297	26	33.9	3.2	2.8	0.5	924	79	43.1	7.0	7.6	1.4	1250	107	42.3	7.3	9.0	1.8	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*139*
		Wind power (subtotal)	2	0	0.4	0.0	0.0	0.0	297	26	33.9	3.2	2.8	0.5	924	79	43.1	7.0	7.6	1.4	1250	107	42.3	7.3	9.0	1.8	*139*
		Solid biomass	3	0	0.7	0.0	0.0	0.0	98	8	11.2	1.1	0.9	0.2	533	46	24.9	4.0	4.4	0.8	810	70	27.4	4.7	5.8	1.1	*149*
		Biogas	4	0	0.9	0.0	0.0	0.0	50	4	5.7	0.5	0.5	0.1	228	20	10.6	1.7	1.9	0.3	413	36	14.0	2.4	3.0	0.6	*149*
		Bioliquids	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	7	1	1.5	0.1	0.1	0.0	147	13	16.8	1.6	1.4	0.3	761	65	35.5	5.7	6.2	1.2	1223	105	41.3	7.1	8.8	1.7	*149*
		Total (according to Template Tables 10a/b)	460	40	**100.0**	5.4	4.0	0.8	876	75	**100.0**	9.5	8.3	1.5	2143	184	**100.0**	16.1	17.6	3.3	2958	254	**100.0**	17.3	21.3	4.2	-
		Sum of all technologies (Template Tables 10a/b)	460	40	100.0	5.4	4.0	0.8	876	75	100.0	9.5	8.3	1.5	2144	184	100.0	16.1	17.6	3.3	2958	254	100.0	17.3	21.3	4.2	-
		Gross final RES-E consumption (Template Table 4a)		38	96.1	5.2	3.9	0.8		74	98.2	9.3	8.1	1.5		182	98.8	15.9	17.4	3.2		254	99.9	17.2	21.3	4.2	*76 – 79*
	Heating and cooling	Geothermal		2	0.3	0.3	0.1	0.0		3	0.5	0.4	0.1	0.1		4	0.4	0.4	0.2	0.1		5	0.5	0.3	0.2	0.1	*154*
		Solar thermal		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		5	0.6	0.4	0.2	0.1		9	0.9	0.6	0.3	0.1	*160*
		Solid biomass		685	99.6	93.8	26.5	14.0		657	98.6	82.6	27.2	13.1		851	95.2	74.5	32.7	15.2		973	92.6	66.0	36.3	16.0	*168*
		Biogas		1	0.1	0.1	0.0	0.0		6	0.9	0.8	0.2	0.1		28	3.1	2.5	1.1	0.5		50	4.8	3.4	1.9	0.8	*168*
		Bioliquids		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		686	99.7	94.0	26.6	14.0		663	99.5	83.4	27.4	13.2		879	98.3	77.0	33.8	15.7		1023	97.3	69.4	38.1	16.8	*168*
		Aerothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Geothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		6	0.7	0.5	0.2	0.1		14	1.3	0.9	0.5	0.2	*174*
		Total (according to Template Table 11)		688	**100.0**	94.2	26.6	14.0		666	**100.0**	83.8	27.6	13.2		894	**100.0**	78.3	34.4	15.9		1051	**100.0**	71.3	39.2	17.3	-
		Sum of all technologies (Template Table 11)		688	100.0	94.2	26.6	14.0		666	100.0	83.8	27.6	13.2		894	100.0	78.3	34.4	15.9		1051	100.0	71.3	39.2	17.3	-
		Gross final RES-H/C consumption (Template Table 4a)		688	100.0	94.2	26.6	14.0		666	100.0	83.8	27.6	13.2		849	95.0	74.3	32.6	15.1		1051	100.0	71.3	39.2	17.3	*76 – 79*
	Transport	Bioethanol / bio-ETBE		1	25.0	0.1	0.1	0.0		13	23.2	1.6	1.0	0.3		30	26.5	2.6	2.0	0.5		36	20.8	2.4	2.1	0.6	*180*
		Biodiesel		3	75.0	0.4	0.3	0.1		42	75.0	5.3	3.2	0.8		79	69.9	6.9	5.2	1.4		131	75.7	8.9	7.6	2.2	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		0	0.0	0.0	0.0	0.0		0	0.5	0.0	0.0	0.0		2	1.4	0.1	0.1	0.0		3	1.4	0.2	0.1	0.0	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		4	**100.0**	0.5	0.4	0.1		56	**100.0**	7.0	4.2	1.1		113	**100.0**	9.9	7.4	2.0		173	**100.0**	11.7	10.0	2.8	-
		Sum of all technologies (Template Table 12)		4	100.0	0.5	0.4	0.1		55	98.8	7.0	4.1	1.1		111	97.9	9.7	7.2	2.0		170	98.0	11.5	9.8	2.8	-
		Gross final RES-T consumption (Template Table 4a)		4	100.0	0.5	0.4	0.1		55	98.2	6.9	4.1	1.1		111	98.2	9.7	7.3	2.0		169	97.7	11.5	9.7	2.8	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		4	100.0	0.5	0.4	0.1		55	98.2	6.9	4.1	1.1		113	100.0	9.9	7.4	2.0		173	100.0	11.7	10.0	2.8	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		730		100.0	64.4	14.9		795		100.0	59.6	15.8		1142		100.0	74.8	20.4		1474		100.0	85.0	24.2	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		732		100.2	64.6	14.9		797		100.3	59.8	15.8		1190		104.2	77.9	21.2		1476		100.1	85.1	24.3	-
		Sum all technologies in Template Tables 10a/b, 11, 12		732			64.6	14.9		797			59.8	15.8		1189			77.9	21.2		1475			85.1	24.2	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		730		**100.0**	64.4	14.9		795		**100.0**	59.6	15.8		1142		**100.0**	74.8	20.4		1474		**100.0**	85.0	24.2	*76 – 79*
Final consumption	Electricity	reference scenario[f]		985						913						1053						1204					*64*
		additional energy efficiency[f]		985			**100.0**	20.1		911			**100.0**	18.1		1048			**100.0**	18.7		1193			**100.0**	19.6	*65*
	Heating and cooling	reference scenario[f]		2583						2417						2697						2886					*66*
		additional energy efficiency[f]		2583			**100.0**	52.6		2417			**100.0**	48.0		2601			**100.0**	46.4		2684			**100.0**	44.1	*67*
	Transport	reference scenario[f]		1133						1336						1554						1817					*68*
		additional energy efficiency[f]		1133			**100.0**	23.1		1333			**100.0**	26.5		1527			**100.0**	27.2		1734			**100.0**	28.5	*69*
	Total before aviation reduction	reference scenario[f]		4907						5034						5698						6296					*70*
		additional energy efficiency[f]		4907				**100.0**		5031				**100.0**		5610				**100.0**		6084				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						15.0						16.6						18.6						23.0	*56*

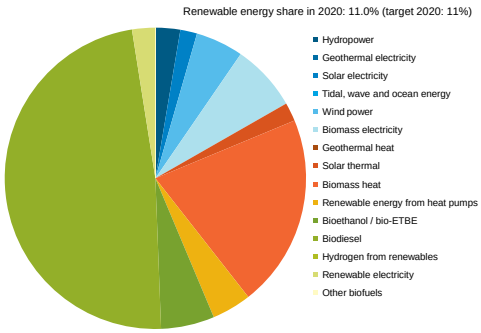
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Luxembourg







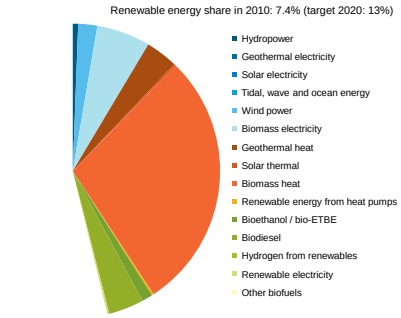


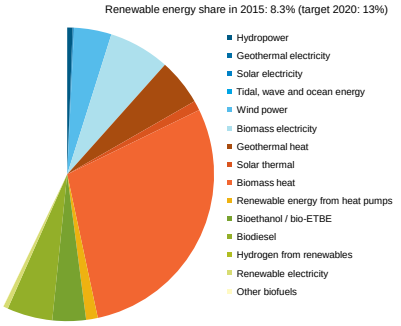
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 237 provides a background to the above figures.

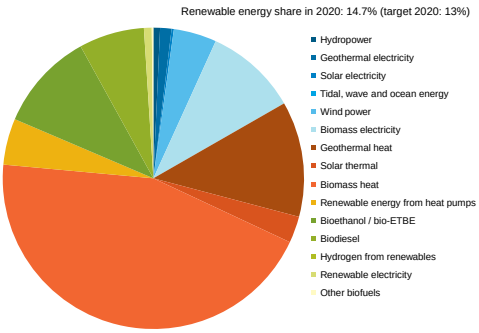
			2005					2010					2015					2020					Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	98	8	45.8	21.1	1.5	0.2	107	9	41.8	10.3	1.7	0.2	107	9	19.0	4.0	1.7	0.2	124	11	15.9	2.2	1.9	0.2	*103*
		Geothermal	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	18	2	8.4	3.9	0.3	0.0	20	2	7.8	1.9	0.3	0.0	65	6	11.5	2.4	1.0	0.1	84	7	10.8	1.5	1.3	0.2	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	18	2	8.4	3.9	0.3	0.0	20	2	7.8	1.9	0.3	0.0	65	6	11.5	2.4	1.0	0.1	84	7	10.8	1.5	1.3	0.2	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*128*
		Onshore wind	52	4	24.3	11.2	0.8	0.1	60	5	23.4	5.8	0.9	0.1	192	17	34.0	7.1	3.0	0.4	239	21	30.6	4.2	3.6	0.5	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*139*
		Wind power (subtotal)	52	4	24.3	11.2	0.8	0.1	60	5	23.4	5.8	0.9	0.1	192	17	34.0	7.1	3.0	0.4	239	21	30.6	4.2	3.6	0.5	*139*
		Solid biomass	19	2	8.9	4.1	0.3	0.0	25	2	9.8	2.4	0.4	0.1	77	7	13.7	2.9	1.2	0.2	190	16	24.4	3.4	2.9	0.4	*149*
		Biogas	27	2	12.6	5.8	0.4	0.1	44	4	17.2	4.3	0.7	0.1	123	11	21.8	4.6	1.9	0.2	144	12	18.5	2.6	2.2	0.3	*149*
		Bioliquids	n.a.	n.a.	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	46	4	21.5	9.9	0.7	0.1	70	6	27.3	6.8	1.1	0.1	200	17	35.5	7.4	3.2	0.4	334	29	42.8	5.9	5.0	0.6	*149*
		Total (according to Template Tables 10a/b)	214	18	**100.0**	46.0	3.2	0.4	256	22	**100.0**	24.7	4.0	0.5	564	48	**100.0**	21.0	8.9	1.1	780	67	**100.0**	13.9	11.8	1.5	-
		Sum of all technologies (Template Tables 10a/b)	214	18	100.0	46.0	3.2	0.4	257	22	100.4	24.8	4.0	0.5	564	48	100.0	21.0	8.9	1.1	781	67	100.1	13.9	11.8	1.5	-
		Gross final RES-E consumption (Template Table 4a)		18	97.8	45.0	3.2	0.4		22	99.9	24.7	4.0	0.5		49	101.0	21.2	9.0	1.1		67	99.9	13.8	11.8	1.5	*76 – 79*
	Heating and cooling	Geothermal		n.a.	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*154*
		Solar thermal		0	0.0	0.0	0.0	0.0		1	3.8	1.1	0.1	0.0		2	3.5	0.9	0.2	0.0		8	7.4	1.7	0.6	0.2	*160*
		Solid biomass		16	80.0	40.0	1.3	0.3		19	73.1	21.3	1.5	0.4		39	68.4	16.9	3.2	0.9		70	64.8	14.5	5.5	1.5	*168*
		Biogas		3	15.0	7.5	0.3	0.1		5	19.2	5.6	0.4	0.1		12	21.1	5.2	1.0	0.3		13	12.0	2.7	1.0	0.3	*168*
		Bioliquids		n.a.	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		19	95.0	47.5	1.6	0.4		24	92.3	27.0	1.9	0.6		51	89.5	22.1	4.1	1.2		83	76.9	17.1	6.5	1.8	*168*
		Aerothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Geothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		0	0.0	0.0	0.0	0.0		1	3.8	1.1	0.1	0.0		4	7.0	1.7	0.3	0.1		17	15.7	3.5	1.3	0.4	*174*
		Total (according to Template Table 11)		20	**100.0**	50.0	1.7	0.4		26	**100.0**	29.2	2.1	0.6		57	**100.0**	24.7	4.6	1.3		108	**100.0**	22.3	8.5	2.4	-
		Sum of all technologies (Template Table 11)		19	95.0	47.5	1.6	0.4		26	100.0	29.2	2.1	0.6		57	100.0	24.7	4.6	1.3		108	100.0	22.3	8.5	2.4	-
		Gross final RES-H/C consumption (Template Table 4a)		20	100.0	50.0	1.7	0.4		26	100.0	29.2	2.1	0.6		57	100.0	24.7	4.6	1.3		108	100.0	22.3	8.5	2.4	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		5	11.6	5.6	0.2	0.1		9	10.7	3.9	0.4	0.2		23	10.2	4.8	1.0	0.5	*180*
		Biodiesel		1	50.0	2.5	0.0	0.0		37	86.0	41.6	1.8	0.9		72	85.7	31.2	3.3	1.6		193	85.4	39.9	8.3	4.3	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		1	50.0	2.5	0.0	0.0		2	4.7	2.2	0.1	0.0		4	4.8	1.7	0.2	0.1		10	4.4	2.1	0.4	0.2	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		2	**100.0**	5.0	0.1	0.0		43	**100.0**	48.3	2.1	1.0		84	**100.0**	36.4	3.8	1.9		226	**100.0**	46.7	9.7	5.0	-
		Sum of all technologies (Template Table 12)		2	100.0	5.0	0.1	0.0		44	102.3	49.4	2.1	1.0		85	101.2	36.8	3.8	1.9		226	100.0	46.7	9.7	5.0	-
		Gross final RES-T consumption (Template Table 4a)		2	100.0	5.0	0.1	0.0		43	100.0	48.3	2.1	1.0		84	100.0	36.4	3.8	1.9		226	100.0	46.7	9.7	5.0	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		2	100.0	5.0	0.1	0.0		43	100.0	48.3	2.1	1.0		85	101.2	36.8	3.8	1.9		234	103.5	48.3	10.0	5.2	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		40		100.0	1.7	0.9		89		100.0	4.3	2.1		186		80.5	8.4	4.2		391		80.8	16.8	8.6	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		39		98.5	1.6	0.9		89		100.0	4.3	2.1		185		80.3	8.4	4.2		391		80.8	16.8	8.6	-
		Sum all technologies in Template Tables 10a/b, 11, 12		39			1.6	0.9		92			4.4	2.2		190			8.6	4.3		401			17.2	8.9	-
	Co-operation mechanisms	Transfer from other Member States and third countries		n.a.		0.0	0.0	0.0		0		0.0	0.0	0.0		45		19.5	2.0	1.0		93		19.2	4.0	2.1	*76 – 79*
		Transfer to other Member States		n.a.		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		40		**100.0**	1.7	0.9		89		**100.0**	4.3	2.1		231		**100.0**	10.4	5.3		484		**100.0**	20.7	10.7	*76 – 79*
Final consumption	Electricity	reference scenario[f]		567						553						568						602					*64*
		additional energy efficiency[f]		567			**100.0**	12.3		549			**100.0**	12.8		544			**100.0**	12.4		569			**100.0**	12.6	*65*
	Heating and cooling	reference scenario[f]		1189						1293						1344						1436					*66*
		additional energy efficiency[f]		1189			**100.0**	25.8		1235			**100.0**	28.9		1234			**100.0**	28.1		1268			**100.0**	28.0	*67*
	Transport	reference scenario[f]		2416						2309						2448						2584					*68*
		additional energy efficiency[f]		2416			**100.0**	52.5		2086			**100.0**	48.8		2211			**100.0**	50.4		2334			**100.0**	51.5	*69*
	Total before aviation reduction	reference scenario[f]		4605						4558						4760						5019					*70*
		additional energy efficiency[f]		4605				**100.0**		4273				**100.0**		4386				**100.0**		4530				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		4457						4426						4641						4915					*72*
		additional energy efficiency[f]		4457				96.8		4123				96.5		4243				96.7		4396				97.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						0.9						2.9						5.4						11.0	*56*

[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Hungary





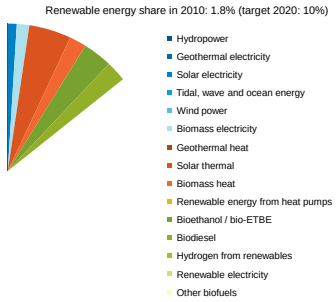


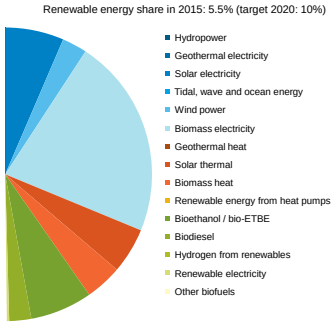
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 239 provides a background to the above figures.

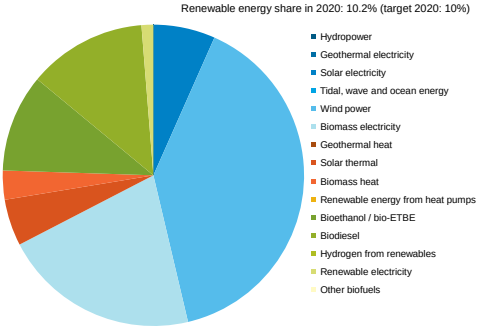
			2005					2010					2015					2020					Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	0	0	0.0	0.0	0.0	0.0	194	17	6.8	1.2	0.5	0.1	196	17	5.1	1.0	0.4	0.1	238	20	4.3	0.7	0.5	0.1	*103*
		Geothermal	n.a.	n.a.	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	29	2	0.7	0.2	0.1	0.0	410	35	7.3	1.2	0.8	0.2	*110*
		Solar photovoltaic	n.a.	n.a.	0.0	0.0	0.0	0.0	2	0	0.1	0.0	0.0	0.0	26	2	0.7	0.1	0.1	0.0	81	7	1.4	0.2	0.2	0.0	*121*
		Concentrated solar power	n.a.	n.a.	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	0	0	0.0	0.0	0.0	0.0	2	0	0.1	0.0	0.0	0.0	26	2	0.7	0.1	0.1	0.0	81	7	1.4	0.2	0.2	0.0	*121*
		Tidal, wave and ocean energy	n.a.	n.a.	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*128*
		Onshore wind	n.a.	n.a.	0.0	0.0	0.0	0.0	692	60	24.3	4.4	1.6	0.3	1377	118	35.5	7.2	2.9	0.6	1545	133	27.6	4.6	3.0	0.7	*139*
		Offshore wind	n.a.	n.a.	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*139*
		Wind power (subtotal)	0	0	0.0	0.0	0.0	0.0	692	60	24.3	4.4	1.6	0.3	1377	118	35.5	7.2	2.9	0.6	1545	133	27.6	4.6	3.0	0.7	*139*
		Solid biomass	n.a.	n.a.	0.0	0.0	0.0	0.0	1870	161	65.8	12.0	4.4	0.9	1988	171	51.3	10.4	4.2	0.9	2688	231	48.0	8.0	5.2	1.2	*149*
		Biogas	n.a.	n.a.	0.0	0.0	0.0	0.0	85	7	3.0	0.5	0.2	0.0	262	23	6.8	1.4	0.5	0.1	636	55	11.4	1.9	1.2	0.3	*149*
		Bioliquids	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	0	0	0.0	0.0	0.0	0.0	1955	168	68.8	12.5	4.6	0.9	2250	193	58.0	11.7	4.7	1.0	3324	286	59.4	9.9	6.5	1.5	*149*
		Total (according to Template Tables 10a/b)	n.a.	n.a.	0.0	0.0	0.0	0.0	2843	244	**100.0**	18.2	6.7	1.3	3878	333	**100.0**	20.2	8.1	1.7	5597	481	**100.0**	16.7	10.9	2.4	-
		Sum of all technologies (Template Tables 10a/b)	0	0	0.0	0.0	0.0	0.0	2843	244	100.0	18.2	6.7	1.3	3878	333	100.0	20.2	8.1	1.7	5598	481	100.0	16.7	10.9	2.5	-
		Gross final RES-E consumption (Template Table 4a)		n.a.	0.0	0.0	0.0	0.0		244	99.8	18.2	6.6	1.3		333	99.9	20.2	8.1	1.7		481	99.9	16.7	10.9	2.4	*76 – 79*
	Heating and cooling	Geothermal		n.a.	0.0	0.0	0.0	0.0		101	10.6	7.5	1.0	0.6		147	14.0	8.9	1.4	0.7		357	19.2	12.4	3.6	1.8	*154*
		Solar thermal		n.a.	0.0	0.0	0.0	0.0		6	0.6	0.4	0.1	0.0		31	3.0	1.9	0.3	0.2		82	4.4	2.8	0.8	0.4	*160*
		Solid biomass		n.a.	0.0	0.0	0.0	0.0		812	85.6	60.4	7.7	4.4		800	76.3	48.5	7.4	4.0		1225	65.8	42.5	12.4	6.2	*168*
		Biogas		n.a.	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		30	2.9	1.8	0.3	0.2		56	3.0	1.9	0.6	0.3	*168*
		Bioliquids		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		0	0.0	0.0	0.0	0.0		812	85.6	60.4	7.7	4.4		830	79.1	50.4	7.7	4.2		1281	68.8	44.5	13.0	6.5	*168*
		Aerothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		2	0.2	0.1	0.0	0.0		7	0.4	0.2	0.1	0.0	*174*
		Geothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		5	0.5	0.4	0.0	0.0		28	2.7	1.7	0.3	0.1		107	5.7	3.7	1.1	0.5	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		1	0.1	0.1	0.0	0.0		7	0.7	0.4	0.1	0.0		29	1.6	1.0	0.3	0.1	*174*
		Renewable energy from heat pumps (subtotal)		0	0.0	0.0	0.0	0.0		6	0.6	0.4	0.1	0.0		37	3.5	2.2	0.3	0.2		143	7.7	5.0	1.4	0.7	*174*
		Total (according to Template Table 11)		n.a.	0.0	0.0	0.0	0.0		949	**100.0**	70.6	9.0	5.2		1049	**100.0**	63.7	9.8	5.3		1863	**100.0**	64.7	18.9	9.5	-
		Sum of all technologies (Template Table 11)		0	0.0	0.0	0.0	0.0		925	97.5	68.8	8.8	5.1		1045	99.6	63.4	9.7	5.3		1863	100.0	64.7	18.9	9.5	-
		Gross final RES-H/C consumption (Template Table 4a)		n.a.	0.0	0.0	0.0	0.0		949	100.0	70.6	9.0	5.2		1049	100.0	63.7	9.8	5.3		1863	100.0	64.7	18.9	9.5	*76 – 79*
	Transport	Bioethanol / bio-ETBE		5	100.0	0.0	0.1	0.0		34	22.7	2.5	0.8	0.2		106	39.8	6.4	2.2	0.5		304	56.8	10.6	5.7	1.5	*180*
		Biodiesel		0	0.0	0.0	0.0	0.0		110	73.3	8.2	2.7	0.6		144	54.1	8.7	2.9	0.7		202	37.8	7.0	3.8	1.0	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		0	0.0	0.0	0.0	0.0		6	4.0	0.4	0.1	0.0		15	5.6	0.9	0.3	0.1		24	4.5	0.8	0.4	0.1	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		1	0.4	0.1	0.0	0.0		5	0.9	0.2	0.1	0.0	*204*
		Total (according to Template Table 12)		5	**100.0**	0.0	0.1	0.0		150	**100.0**	11.2	3.7	0.8		266	**100.0**	16.1	5.4	1.3		535	**100.0**	18.6	10.0	2.7	-
		Sum of all technologies (Template Table 12)		5	100.0	0.0	0.1	0.0		150	100.0	11.2	3.7	0.8		266	100.0	16.1	5.4	1.3		535	100.0	18.6	10.0	2.7	-
		Gross final RES-T consumption (Template Table 4a)		n.a.	0.0	0.0	0.0	0.0		150	100.0	11.2	3.7	0.8		266	100.0	16.1	5.4	1.3		535	100.0	18.6	10.0	2.7	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		5	100.0	0.0	0.1	0.0		177	118.0	13.2	4.3	1.0		310	116.5	18.8	6.3	1.6		598	111.8	20.8	11.2	3.0	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		n.a.		0.0	0.0	0.0		1344		100.0	32.9	7.4		1648		100.0	33.5	8.3		2879		100.0	53.8	14.7	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		5		0.0	0.1	0.0		1337		99.5	32.8	7.3		1633		99.1	33.2	8.3		2855		99.2	53.4	14.5	-
		Sum all technologies in Template Tables 10a/b, 11, 12		5			0.1	0.0		1319			32.3	7.2		1644			33.4	8.3		2879			53.8	14.7	-
	Co-operation mechanisms	Transfer from other Member States and third countries		n.a.		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		n.a.		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		n.a.		0.0	0.0	0.0		1344		**100.0**	32.9	7.4		1648		**100.0**	33.5	8.3		2879		**100.0**	53.8	14.7	*76 – 79*
Final consumption	Electricity	reference scenario[f]		3609						3682						4169						4506					*64*
		additional energy efficiency[f]		3609			**100.0**	18.1		3675			**100.0**	20.1		4118			**100.0**	20.8		4418			**100.0**	22.5	*65*
	Heating and cooling	reference scenario[f]		12192						10520						11008						10412					*66*
		additional energy efficiency[f]		12192			**100.0**	61.2		10497			**100.0**	57.5		10742			**100.0**	54.3		9877			**100.0**	50.3	*67*
	Transport	reference scenario[f]		3964						4107						5005						5492					*68*
		additional energy efficiency[f]		3964			**100.0**	19.9		4083			**100.0**	22.4		4922			**100.0**	24.9		5349			**100.0**	27.2	*69*
	Total before aviation reduction	reference scenario[f]		19909						18309						20288						20525					*70*
		additional energy efficiency[f]		19909				**100.0**		18255				**100.0**		19782				**100.0**		19644				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						4.3						6.0						8.2						13.0	*56*

[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Malta





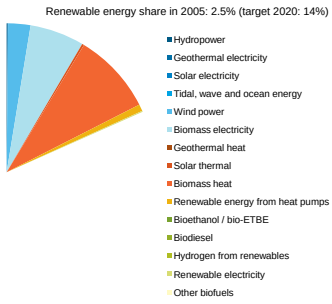


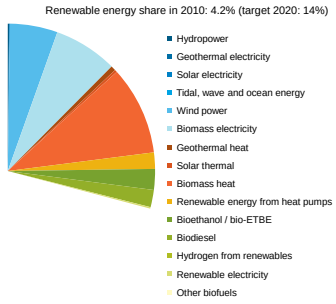
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 241 provides a background to the above figures.

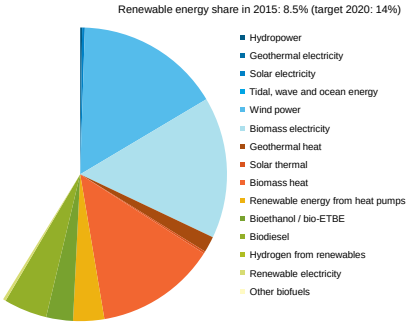
			2005						2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*103*
		Geothermal	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	n.a.	n.a.	0.0	0.0	0.0	0.0	6	1	41.6	6.8	0.2	0.1	41	4	20.7	13.0	1.4	0.6	43	4	9.9	6.7	1.4	0.6	*121*
		Concentrated solar power	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	0	0	0.0	0.0	0.0	0.0	6	1	41.6	6.8	0.2	0.1	41	4	20.7	13.0	1.4	0.6	43	4	9.9	6.7	1.4	0.6	*121*
		Tidal, wave and ocean energy	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*128*
		Onshore wind	n.a.	n.a.	0.0	0.0	0.0	0.0	0	0	0.1	0.0	0.0	0.0	17	2	8.8	5.5	0.6	0.3	38	3	8.9	6.0	1.2	0.5	*139*
		Offshore wind	n.a.	n.a.	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	216	19	50.0	34.1	6.9	3.1	*139*
		Wind power (subtotal)	0	0	0.0	0.0	0.0	0.0	0	0	0.1	0.0	0.0	0.0	17	2	8.8	5.5	0.6	0.3	255	22	58.8	40.2	8.1	3.6	*139*
		Solid biomass	n.a.	n.a.	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	86	7	43.1	27.1	3.0	1.3	86	7	19.8	13.5	2.7	1.2	*149*
		Biogas	n.a.	n.a.	0.0	0.0	0.0	0.0	9	1	58.3	9.6	0.3	0.1	54	5	27.4	17.2	1.9	0.8	50	4	11.5	7.9	1.6	0.7	*149*
		Bioliquids	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	0	0	0.0	0.0	0.0	0.0	9	1	58.3	9.6	0.3	0.1	140	12	70.5	44.4	4.9	2.1	135	12	31.3	21.4	4.3	1.9	*149*
		Total (according to Template Tables 10a/b)	n.a.	n.a.	0.0	0.0	0.0	0.0	15	1	**100.0**	16.4	0.6	0.3	198	17	**100.0**	62.9	7.0	3.0	433	37	**100.0**	68.3	13.8	6.2	-
		Sum of all technologies (Template Tables 10a/b)	0	0	0.0	0.0	0.0	0.0	15	1	99.9	16.4	0.6	0.3	198	17	100.0	62.9	7.0	3.0	433	37	100.0	68.3	13.8	6.2	-
		Gross final RES-E consumption (Template Table 4a)		n.a.	0.0	0.0	0.0	0.0		1	101.5	16.7	0.6	0.3		17	100.3	63.1	7.0	3.0		37	100.0	68.3	13.8	6.2	*76 – 79*
	Heating and cooling	Geothermal		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*154*
		Solar thermal		n.a.	0.0	0.0	0.0	0.0		3	71.4	32.3	5.6	0.5		3	55.4	10.1	4.3	0.5		3	61.7	5.1	3.8	0.5	*160*
		Solid biomass		n.a.	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*168*
		Biogas		n.a.	0.0	0.0	0.0	0.0		1	28.6	12.9	2.3	0.2		2	44.6	8.2	3.5	0.4		2	38.5	3.2	2.4	0.3	*168*
		Bioliquids		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		0	0.0	0.0	0.0	0.0		1	28.6	12.9	2.3	0.2		2	44.6	8.2	3.5	0.4		2	38.5	3.2	2.4	0.3	*168*
		Aerothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Geothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*174*
		Total (according to Template Table 11)		n.a.	0.0	0.0	0.0	0.0		4	**100.0**	45.3	7.9	0.7		5	**100.0**	18.3	7.9	0.9		4	**100.0**	8.2	6.1	0.7	-
		Sum of all technologies (Template Table 11)		0	0.0	0.0	0.0	0.0		4	100.0	45.3	7.9	0.7		5	100.0	18.3	7.9	0.9		4	100.2	8.2	6.2	0.7	-
		Gross final RES-H/C consumption (Template Table 4a)		n.a.	0.0	0.0	0.0	0.0		4	99.2	44.9	7.8	0.7		5	99.0	18.1	7.8	0.9		5	100.7	8.3	6.2	0.7	*76 – 79*
	Transport	Bioethanol / bio-ETBE		n.a.	0.0	0.0	0.0	0.0		2	58.7	22.4	1.1	0.3		4	71.9	13.8	2.4	0.7		6	42.8	10.6	3.5	1.0	*180*
		Biodiesel		n.a.	0.0	0.0	0.0	0.0		1	41.3	15.8	0.8	0.2		1	25.4	4.9	0.8	0.2		7	52.0	12.9	4.3	1.2	*186*
		Hydrogen from renewables		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		n.a.	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	2.7	0.5	0.1	0.0		1	5.2	1.3	0.4	0.1	*198*
		Other biofuels		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		n.a.	0.0	0.0	0.0	0.0		3	**100.0**	38.2	2.0	0.6		5	**100.0**	19.2	3.3	0.9		14	**100.0**	24.8	8.2	2.2	-
		Sum of all technologies (Template Table 12)		0	0.0	0.0	0.0	0.0		3	100.0	38.2	2.0	0.6		5	100.0	19.2	3.3	0.9		14	100.0	24.8	8.2	2.2	-
		Gross final RES-T consumption (Template Table 4a)		n.a.	0.0	0.0	0.0	0.0		3	100.7	38.5	2.0	0.6		5	98.1	18.8	3.2	0.9		13	94.7	23.5	7.8	2.1	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		n.a.	0.0	0.0	0.0	0.0		4	140.9	53.8	2.8	0.8		7	128.8	24.7	4.2	1.2		18	130.9	32.5	10.7	2.9	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		n.a.		0.0	0.0	0.0		8		100.0	5.1	1.5		27		100.0	17.1	4.8		55		100.0	33.0	9.0	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		0		0.0	0.0	0.0		8		99.9	5.1	1.5		27		99.9	17.0	4.8		55		100.0	33.1	9.0	-
		Sum all technologies in Template Tables 10a/b, 11, 12		0			0.0	0.0		8			5.1	1.5		27			17.1	4.9		55			33.5	9.2	-
	Co-operation mechanisms	Transfer from other Member States and third countries		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		n.a.		0.0	0.0	0.0		8		**100.0**	5.1	1.5		27		**100.0**	17.1	4.8		55		**100.0**	33.0	9.0	*76 – 79*
Final consumption	Electricity	reference scenario[f]		n.a.						226						258						291					*64*
		additional energy efficiency[f]		n.a.			0.0	0.0		215			**100.0**	42.5		244			**100.0**	43.4		270			**100.0**	44.8	*65*
	Heating and cooling	reference scenario[f]		n.a.						46						66						76					*66*
		additional energy efficiency[f]		n.a.			0.0	0.0		45			**100.0**	8.8		63			**100.0**	11.2		73			**100.0**	12.1	*67*
	Transport	reference scenario[f]		n.a.						152						159						165					*68*
		additional energy efficiency[f]		n.a.			0.0	0.0		152			**100.0**	30.1		159			**100.0**	28.3		165			**100.0**	27.3	*69*
	Total before aviation reduction	reference scenario[f]		n.a.						517						577						625					*70*
		additional energy efficiency[f]		n.a.				0.0		506				**100.0**		561				**100.0**		603				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		434				85.6		490				87.4		534				88.6	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						0.0						2.0						4.5						10.0	*57*

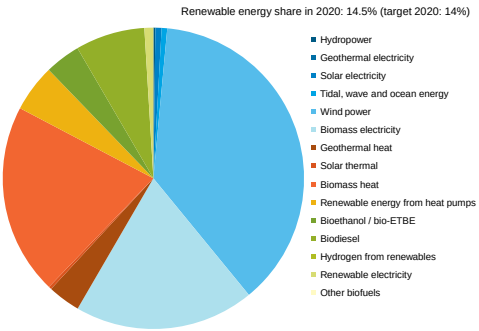
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Netherlands







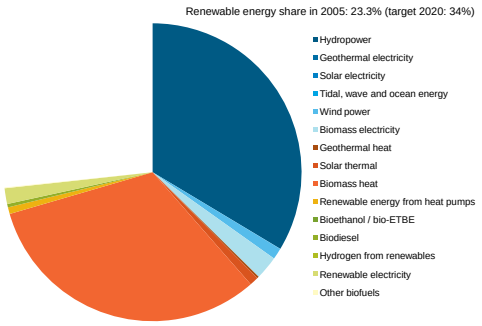


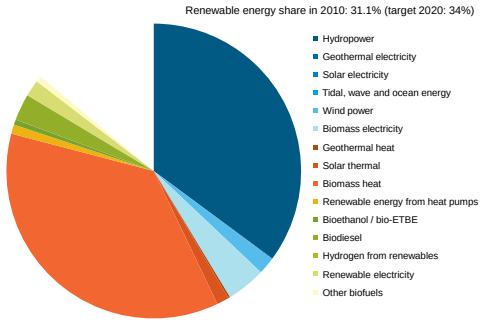
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 243 provides a background to the above figures.

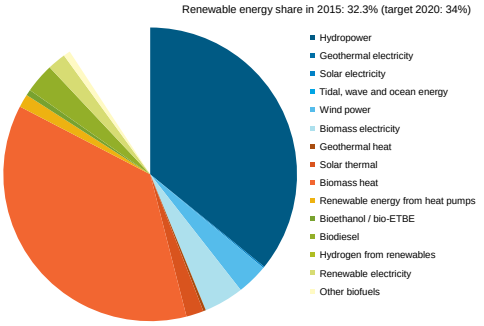
			2005					2010					2015					2020					Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	100	9	1.4	0.6	0.1	0.0	127	11	1.2	0.5	0.1	0.0	184	16	0.7	0.4	0.1	0.0	184	16	0.4	0.2	0.1	0.0	*103*
		Geothermal	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	40	3	0.6	0.3	0.0	0.0	73	6	0.7	0.3	0.1	0.0	250	21	0.9	0.5	0.2	0.0	570	49	1.1	0.7	0.4	0.1	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	40	3	0.6	0.3	0.0	0.0	73	6	0.7	0.3	0.1	0.0	250	21	0.9	0.5	0.2	0.0	570	49	1.1	0.7	0.4	0.1	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	514	44	1.0	0.6	0.4	0.1	*128*
		Onshore wind	2067	178	28.6	13.3	1.7	0.3	3667	315	34.5	14.8	3.0	0.6	9508	818	34.6	19.0	7.3	1.6	13372	1150	26.6	15.7	9.8	2.2	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	803	69	7.5	3.2	0.6	0.1	4147	357	15.1	8.3	3.2	0.7	19036	1637	37.8	22.3	14.0	3.1	*139*
		Wind power (subtotal)	2067	178	28.6	13.3	1.7	0.3	4470	384	42.0	18.1	3.6	0.8	13655	1174	49.8	27.3	10.5	2.3	32408	2787	64.4	38.0	23.9	5.3	*139*
		Solid biomass	4758	409	65.8	30.6	4.0	0.8	5103	439	48.0	20.6	4.1	0.9	11189	962	40.8	22.3	8.6	1.9	11975	1030	23.8	14.0	8.8	2.0	*149*
		Biogas	283	24	3.9	1.8	0.2	0.0	872	75	8.2	3.5	0.7	0.1	2161	186	7.9	4.3	1.7	0.4	4664	401	9.3	5.5	3.4	0.8	*149*
		Bioliquids	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	5041	433	69.7	32.4	4.2	0.8	5975	514	56.2	24.1	4.8	1.0	13350	1148	48.6	26.7	10.2	2.2	16639	1431	33.1	19.5	12.2	2.7	*149*
		Total (according to Template Tables 10a/b)	7233	622	**100.0**	46.4	6.0	1.2	10636	915	**100.0**	43.0	8.6	1.8	27442	2360	**100.0**	54.8	21.0	4.6	50317	4326	**100.0**	58.9	37.0	8.3	-
		Sum of all technologies (Template Tables 10a/b)	7248	623	100.2	46.5	6.0	1.2	10645	915	100.1	43.0	8.6	1.8	27439	2359	100.0	54.8	21.0	4.6	50315	4326	100.0	58.9	37.0	8.3	-
		Gross final RES-E consumption (Template Table 4a)		622	100.0	46.5	6.0	1.2		915	100.1	43.0	8.6	1.8		2360	100.0	54.8	21.1	4.6		4326	100.0	58.9	37.0	8.3	*76 – 79*
	Heating and cooling	Geothermal		0	0.0	0.0	0.0	0.0		39	4.3	1.8	0.2	0.1		130	9.4	3.0	0.5	0.3		259	11.9	3.5	1.0	0.5	*154*
		Solar thermal		16	2.2	1.2	0.1	0.0		20	2.2	0.9	0.1	0.0		17	1.2	0.4	0.1	0.0		23	1.1	0.3	0.1	0.0	*160*
		Solid biomass		540	75.3	40.3	1.9	1.0		573	63.2	26.9	2.3	1.1		604	43.8	14.0	2.5	1.2		650	29.8	8.9	2.6	1.2	*168*
		Biogas		69	9.6	5.2	0.2	0.1		111	12.3	5.2	0.5	0.2		174	12.6	4.0	0.7	0.3		288	13.2	3.9	1.2	0.6	*168*
		Bioliquids		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*168*
		Bio-SNG for grid feed-in		38	5.3	2.8	0.1	0.1		31	3.4	1.5	0.1	0.1		202	14.6	4.7	0.8	0.4		582	26.7	7.9	2.3	1.1	*168*
		Biomass (subtotal)		647	90.2	48.3	2.3	1.2		715	78.9	33.6	2.9	1.4		980	71.0	22.8	4.0	1.9		1520	69.8	20.7	6.1	2.9	*168*
		Aerothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		35	3.9	1.6	0.1	0.1		81	5.9	1.9	0.3	0.2		117	5.4	1.6	0.5	0.2	*174*
		Geothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		90	9.9	4.2	0.4	0.2		161	11.7	3.7	0.7	0.3		242	11.1	3.3	1.0	0.5	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		3	0.2	0.1	0.0	0.0		11	0.5	0.1	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		54	7.5	4.0	0.2	0.1		132	14.6	6.2	0.5	0.3		252	18.3	5.9	1.0	0.5		377	17.3	5.1	1.5	0.7	*174*
		Total (according to Template Table 11)		717	**100.0**	53.5	2.5	1.3		906	**100.0**	42.6	3.7	1.8		1380	**100.0**	32.0	5.6	2.7		2179	**100.0**	29.7	8.7	4.2	-
		Sum of all technologies (Template Table 11)		717	100.0	53.5	2.5	1.3		906	100.0	42.6	3.7	1.8		1379	99.9	32.0	5.6	2.7		2179	100.0	29.7	8.7	4.2	-
		Gross final RES-H/C consumption (Template Table 4a)		717	100.0	53.5	2.5	1.3		906	100.0	42.6	3.7	1.8		1380	100.0	32.0	5.6	2.7		2179	100.0	29.7	8.7	4.2	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		168	52.7	7.9	1.4	0.3		217	36.7	5.0	1.9	0.4		282	31.2	3.8	2.7	0.5	*180*
		Biodiesel		0	0.0	0.0	0.0	0.0		139	43.6	6.5	1.2	0.3		350	59.2	8.1	3.1	0.7		552	61.0	7.5	5.2	1.1	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		8	100.0	0.6	0.1	0.0		12	3.8	0.6	0.1	0.0		23	3.9	0.5	0.2	0.0		71	7.8	1.0	0.7	0.1	*198*
		Other biofuels		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		8	**100.0**	0.6	0.1	0.0		319	**100.0**	15.0	2.7	0.6		591	**100.0**	13.7	5.2	1.1		905	**100.0**	12.3	8.5	1.7	-
		Sum of all technologies (Template Table 12)		8	100.0	0.6	0.1	0.0		319	100.0	15.0	2.7	0.6		590	99.8	13.7	5.2	1.1		905	100.0	12.3	8.5	1.7	-
		Gross final RES-T consumption (Template Table 4a)		8	100.0	0.6	0.1	0.0		319	100.0	15.0	2.7	0.6		591	100.0	13.7	5.2	1.1		905	100.0	12.3	8.5	1.7	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		8	100.0	0.6	0.1	0.0		475	148.9	22.3	4.1	0.9		685	115.9	15.9	6.0	1.3		1097	121.2	14.9	10.3	2.1	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		1339		100.0	11.8	2.5		2128		100.0	18.2	4.2		4307		100.0	37.7	8.3		7340		100.0	69.0	14.1	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		1339		100.0	11.8	2.5		2128		100.0	18.2	4.2		4308		100.0	37.7	8.3		7339		100.0	69.0	14.1	-
		Sum all technologies in Template Tables 10a/b, 11, 12		1348			11.9	2.5		2140			18.3	4.2		4328			37.9	8.4		7410			69.7	14.2	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		1339		**100.0**	11.8	2.5		2128		**100.0**	18.2	4.2		4307		**100.0**	37.7	8.3		7340		**100.0**	69.0	14.1	*76 – 79*
Final consumption	Electricity	reference scenario[f]		10347						n.a.						n.a.						n.a.					*64*
		additional energy efficiency[f]		10347			**100.0**	19.2		10627			**100.0**	20.8		11210			**100.0**	21.7		11681			**100.0**	22.4	*65*
	Heating and cooling	reference scenario[f]		28436						n.a.						n.a.						n.a.					*66*
		additional energy efficiency[f]		28436			**100.0**	52.6		24612			**100.0**	48.3		24618			**100.0**	47.6		24989			**100.0**	48.0	*67*
	Transport	reference scenario[f]		11351						n.a.						n.a.						n.a.					*68*
		additional energy efficiency[f]		11351			**100.0**	21.0		11699			**100.0**	22.9		11419			**100.0**	22.1		10634			**100.0**	20.4	*69*
	Total before aviation reduction	reference scenario[f]		54010						n.a.						n.a.						n.a.					*70*
		additional energy efficiency[f]		54010				**100.0**		51008				**100.0**		51698				**100.0**		52088				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		53717						n.a.						n.a.						n.a.					72
		additional energy efficiency[f]		53717				99.5		50240				98.5		50554				97.8		50532				97.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						2.4						4.7						7.6						14.0	*57*

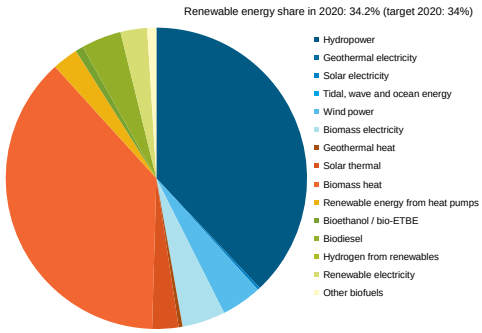
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Austria







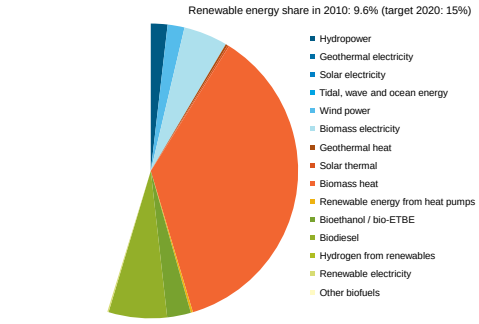


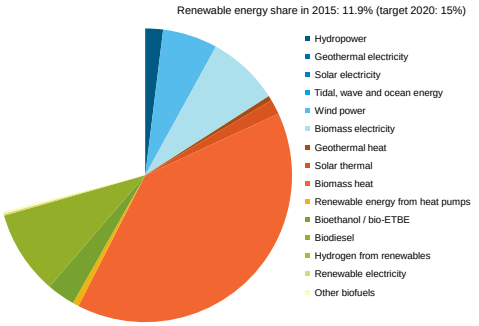
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 245 provides a background to the above figures.

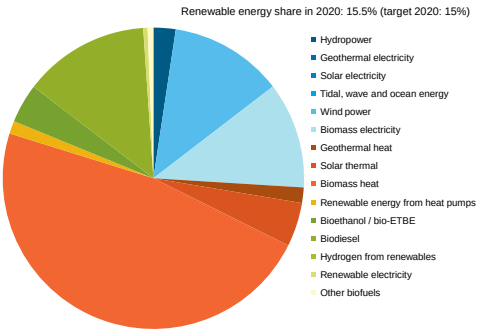
			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	37125	3192	89.9	47.4	55.8	11.6	38542	3314	84.9	41.7	58.8	12.9	39423	3390	81.8	40.4	58.3	13.0	42112	3621	80.4	39.1	56.8	13.4	*103*
		Geothermal	2	0	0.0	0.0	0.0	0.0	2	0	0.0	0.0	0.0	0.0	2	0	0.0	0.0	0.0	0.0	2	0	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	21	2	0.1	0.0	0.0	0.0	85	7	0.2	0.1	0.1	0.0	170	15	0.4	0.2	0.3	0.1	306	26	0.6	0.3	0.4	0.1	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	21	2	0.1	0.0	0.0	0.0	85	7	0.2	0.1	0.1	0.0	170	15	0.4	0.2	0.3	0.1	306	26	0.6	0.3	0.4	0.1	*121*
		Tidal, wave and ocean energy	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*128*
		Onshore wind	1343	115	3.3	1.7	2.0	0.4	2034	175	4.5	2.2	3.1	0.7	3780	325	7.8	3.9	5.6	1.2	4811	414	9.2	4.5	6.5	1.5	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*139*
		Wind power (subtotal)	1343	115	3.3	1.7	2.0	0.4	2034	175	4.5	2.2	3.1	0.7	3780	325	7.8	3.9	5.6	1.2	4811	414	9.2	4.5	6.5	1.5	*139*
		Solid biomass	2507	216	6.1	3.2	3.8	0.8	4131	355	9.1	4.5	6.3	1.4	4223	363	8.8	4.3	6.2	1.4	4530	390	8.6	4.2	6.1	1.4	*149*
		Biogas	283	24	0.7	0.4	0.4	0.1	553	48	1.2	0.6	0.8	0.2	567	49	1.2	0.6	0.8	0.2	581	50	1.1	0.5	0.8	0.2	*149*
		Bioliquids	33	3	0.1	0.0	0.0	0.0	36	3	0.1	0.0	0.1	0.0	36	3	0.1	0.0	0.1	0.0	36	3	0.1	0.0	0.0	0.0	*149*
		Biomass (subtotal)	2823	243	6.8	3.6	4.2	0.9	4720	406	10.4	5.1	7.2	1.6	4826	415	10.0	4.9	7.1	1.6	5147	443	9.8	4.8	6.9	1.6	*149*
		Total (according to Template Tables 10a/b)	41314	3552	**100.0**	52.7	62.1	12.9	45383	3902	**100.0**	49.1	69.3	15.2	48200	4144	**100.0**	49.4	71.2	15.9	52377	4504	**100.0**	48.6	70.6	16.6	-
		Sum of all technologies (Template Tables 10a/b)	41314	3552	100.0	52.7	62.1	12.9	45383	3902	100.0	49.1	69.3	15.2	48201	4145	100.0	49.4	71.2	15.9	52378	4504	100.0	48.6	70.6	16.6	-
		Gross final RES-E consumption (Template Table 4a)		3480	98.0	51.7	60.8	12.6		3902	100.0	49.1	69.3	15.2		4144	100.0	49.4	71.2	15.9		4503	100.0	48.6	70.6	16.6	*76 – 79*
	Heating and cooling	Geothermal		19	0.6	0.3	0.1	0.1		19	0.5	0.2	0.2	0.1		27	0.7	0.3	0.2	0.1		40	1.0	0.4	0.3	0.1	*154*
		Solar thermal		92	2.9	1.4	0.7	0.3		127	3.5	1.6	1.1	0.5		181	4.8	2.2	1.5	0.7		269	6.4	2.9	2.1	1.0	*160*
		Solid biomass		3025	94.1	44.9	22.9	11.0		3400	93.0	42.8	28.3	13.2		3447	90.5	41.1	28.2	13.2		3591	85.9	38.8	28.1	13.2	*168*
		Biogas		8	0.2	0.1	0.1	0.0		15	0.4	0.2	0.1	0.1		16	0.4	0.2	0.1	0.1		16	0.4	0.2	0.1	0.1	*168*
		Bioliquids		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		3033	94.4	45.0	23.0	11.0		3415	93.4	42.9	28.4	13.3		3463	90.9	41.3	28.4	13.3		3607	86.3	38.9	28.2	13.3	*168*
		Aerothermal heat pumps		0	0.0	0.0	0.0	0.0		38	1.0	0.5	0.3	0.1		55	1.4	0.7	0.5	0.2		105	2.5	1.1	0.8	0.4	*174*
		Geothermal heat pumps		0	0.0	0.0	0.0	0.0		10	0.3	0.1	0.1	0.0		14	0.4	0.2	0.1	0.1		26	0.6	0.3	0.2	0.1	*174*
		Hydrothermal heat pumps		0	0.0	0.0	0.0	0.0		48	1.3	0.6	0.4	0.2		68	1.8	0.8	0.6	0.3		131	3.1	1.4	1.0	0.5	*174*
		Renewable energy from heat pumps (subtotal)		69	2.1	1.0	0.5	0.2		96	2.6	1.2	0.8	0.4		137	3.6	1.6	1.1	0.5		263	6.3	2.8	2.1	1.0	*174*
		Total (according to Template Table 11)		3213	**100.0**	47.7	24.3	11.6		3657	**100.0**	46.0	30.5	14.2		3808	**100.0**	45.4	31.2	14.6		4179	**100.0**	45.1	32.6	15.4	-
		Sum of all technologies (Template Table 11)		3213	100.0	47.7	24.3	11.6		3657	100.0	46.0	30.5	14.2		3808	100.0	45.4	31.2	14.6		4179	100.0	45.1	32.6	15.4	-
		Gross final RES-H/C consumption (Template Table 4a)		3213	100.0	47.7	24.3	11.6		3657	100.0	46.0	30.5	14.2		3808	100.0	45.4	31.2	14.6		4179	100.0	45.1	32.6	15.4	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		54	9.6	0.7	0.6	0.2		61	9.7	0.7	0.7	0.2		80	9.3	0.9	1.0	0.3	*180*
		Biodiesel		35	17.1	0.5	0.4	0.1		276	48.9	3.5	3.3	1.1		309	49.0	3.7	3.7	1.2		410	47.9	4.4	4.9	1.5	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		162	79.0	2.4	1.8	0.6		171	30.3	2.2	2.1	0.7		191	30.3	2.3	2.3	0.7		272	31.8	2.9	3.2	1.0	*198*
		Other biofuels		8	3.9	0.1	0.1	0.0		63	11.2	0.8	0.8	0.2		71	11.3	0.8	0.8	0.3		94	11.0	1.0	1.1	0.3	*204*
		Total (according to Template Table 12)		205	**100.0**	3.0	2.3	0.7		564	**100.0**	7.1	6.8	2.2		631	**100.0**	7.5	7.5	2.4		856	**100.0**	9.2	10.2	3.2	-
		Sum of all technologies (Template Table 12)		205	100.0	3.0	2.3	0.7		564	100.0	7.1	6.8	2.2		632	100.2	7.5	7.5	2.4		856	100.0	9.2	10.2	3.2	-
		Gross final RES-T consumption (Template Table 4a)		205	100.0	3.0	2.3	0.7		564	100.0	7.1	6.8	2.2		631	100.0	7.5	7.5	2.4		856	100.0	9.2	10.2	3.2	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		214	104.4	3.2	2.4	0.8		564	100.0	7.1	6.8	2.2		656	104.0	7.8	7.8	2.5		976	114.0	10.5	11.6	3.6	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		6735		100.0	75.3	24.4		7952		100.0	95.4	30.9		8392		100.0	100.2	32.1		9266		100.0	110.1	34.2	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		6808		101.1	76.1	24.7		7952		100.0	95.4	30.9		8392		100.0	100.2	32.1		9267		100.0	110.1	34.2	-
		Sum all technologies in Template Tables 10a/b, 11, 12		6970			77.9	25.2		8123			97.4	31.6		8585			102.5	32.9		9539			113.4	35.2	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		6735		**100.0**	75.3	24.4		7952		**100.0**	95.4	30.9		8392		**100.0**	100.2	32.1		9266		**100.0**	110.1	34.2	*76 – 79*
Final consumption	Electricity	reference scenario[f]		5725						5634						6091						6666					*64*
		additional energy efficiency[f]		5725			**100.0**	20.7		5634			**100.0**	21.9		5817			**100.0**	22.3		6377			**100.0**	23.5	*65*
	Heating and cooling	reference scenario[f]		13206						12007						13009						14274					*66*
		additional energy efficiency[f]		13206			**100.0**	47.8		12007			**100.0**	46.7		12203			**100.0**	46.7		12802			**100.0**	47.2	*67*
	Transport	reference scenario[f]		8945						8336						9055						10065					*68*
		additional energy efficiency[f]		8945			**100.0**	32.4		8336			**100.0**	32.4		8374			**100.0**	32.1		8414			**100.0**	31.0	*69*
	Total before aviation reduction	reference scenario[f]		27610						25726						27893						30622					*70*
		additional energy efficiency[f]		27610				**100.0**		25726				**100.0**		26113				**100.0**		27109				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						23.3						25.4						28.1						34.0	*57*

[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Poland





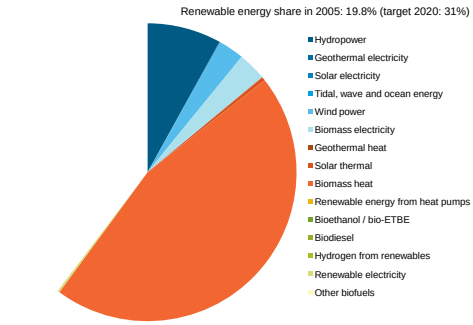


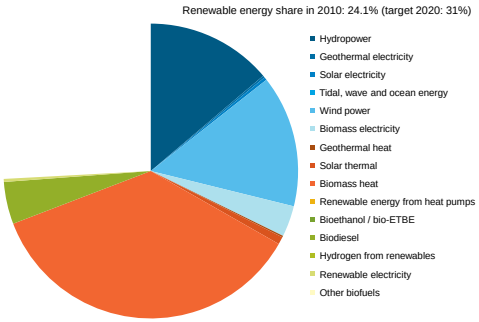
Data provided for Poland in 2005 are not sufficient to produce the pie chart for this year.

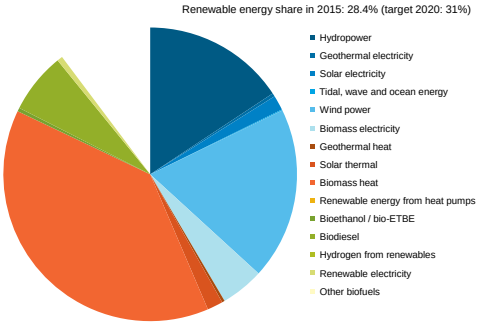
			2005					2010						2015						2020						*Page*
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	2201	189	58.1	0.0	0.0	0.0	2279	196	21.5	3.3	1.6	0.3	2439	210	12.3	2.8	1.6	0.3	2969	255	9.2	2.4	1.7	0.4	*103*
		Geothermal	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	0	0	0.0	0.0	0.0	0.0	1	0	0.0	0.0	0.0	0.0	2	0	0.0	0.0	0.0	0.0	3	0	0.0	0.0	0.0	0.0	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	0	0	0.0	0.0	0.0	0.0	1	0	0.0	0.0	0.0	0.0	2	0	0.0	0.0	0.0	0.0	3	0	0.0	0.0	0.0	0.0	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*128*
		Onshore wind	136	12	3.6	0.0	0.0	0.0	2310	199	21.8	3.4	1.6	0.3	7370	634	37.1	8.3	4.8	1.0	13160	1132	40.6	10.6	7.8	1.6	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	1500	129	4.6	1.2	0.9	0.2	*139*
		Wind power (subtotal)	136	12	3.6	0.0	0.0	0.0	2310	199	21.8	3.4	1.6	0.3	7541	648	37.9	8.5	4.9	1.0	15210	1308	46.9	12.2	9.0	1.9	*139*
		Solid biomass	1340	115	35.4	0.0	0.0	0.0	5700	490	53.7	8.3	4.1	0.8	8950	770	45.0	10.1	5.9	1.2	10200	877	31.5	8.2	6.0	1.3	*149*
		Biogas	111	10	2.9	0.0	0.0	0.0	328	28	3.1	0.5	0.2	0.0	943	81	4.7	1.1	0.6	0.1	4018	345	12.4	3.2	2.4	0.5	*149*
		Bioliquids	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	1451	125	38.3	0.0	0.0	0.0	6028	518	56.8	8.8	4.3	0.8	9893	851	49.8	11.2	6.5	1.3	14218	1223	43.9	11.4	8.4	1.8	*149*
		Total (according to Template Tables 10a/b)	3787	326	**100.0**	0.0	0.0	0.0	10618	913	**100.0**	15.5	7.5	1.5	19875	1709	**100.0**	22.4	13.0	2.7	32400	2786	**100.0**	26.0	19.1	4.0	-
		Sum of all technologies (Template Tables 10a/b)	3788	326	100.0	0.0	0.0	0.0	10618	913	100.0	15.5	7.5	1.5	19875	1709	100.0	22.4	13.0	2.7	32400	2786	100.0	26.0	19.1	4.0	-
		Gross final RES-E consumption (Template Table 4a)		n.a.	0.0	0.0	0.0	0.0		913	100.0	15.5	7.5	1.5		1709	100.0	22.4	13.0	2.7		2786	100.0	26.0	19.1	4.0	*76 – 79*
	Heating and cooling	Geothermal		n.a.	0.0	0.0	0.0	0.0		23	0.6	0.4	0.1	0.0		57	1.3	0.7	0.2	0.1		178	3.0	1.7	0.5	0.3	*154*
		Solar thermal		n.a.	0.0	0.0	0.0	0.0		21	0.5	0.4	0.1	0.0		176	3.9	2.3	0.5	0.3		506	8.5	4.7	1.5	0.7	*160*
		Solid biomass		n.a.	0.0	0.0	0.0	0.0		3846	96.6	65.5	11.9	6.3		3996	88.2	52.5	12.1	6.2		4636	78.3	43.2	13.4	6.7	*168*
		Biogas		n.a.	0.0	0.0	0.0	0.0		65	1.6	1.1	0.2	0.1		231	5.1	3.0	0.7	0.4		453	7.7	4.2	1.3	0.7	*168*
		Bioliquids		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		0	0.0	0.0	0.0	0.0		3911	98.3	66.6	12.1	6.4		4227	93.3	55.5	12.8	6.6		5089	85.9	47.4	14.7	7.4	*168*
		Aerothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Geothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		0	0.0	0.0	0.0	0.0		25	0.6	0.4	0.1	0.0		72	1.6	0.9	0.2	0.1		148	2.5	1.4	0.4	0.2	*174*
		Total (according to Template Table 11)		n.a.	0.0	0.0	0.0	0.0		3980	**100.0**	67.8	12.3	6.5		4532	**100.0**	59.5	13.7	7.1		5921	**100.0**	55.2	17.1	8.6	-
		Sum of all technologies (Template Table 11)		0	0.0	0.0	0.0	0.0		3980	100.0	67.8	12.3	6.5		4532	100.0	59.5	13.7	7.1		5921	100.0	55.2	17.1	8.6	-
		Gross final RES-H/C consumption (Template Table 4a)		n.a.	0.0	0.0	0.0	0.0		3980	100.0	67.8	12.3	6.5		4532	100.0	59.5	13.7	7.1		5921	100.0	55.2	17.1	8.6	*76 – 79*
	Transport	Bioethanol / bio-ETBE		28	65.1	0.0	0.0	0.0		279	28.4	4.8	1.7	0.5		334	24.3	4.4	1.9	0.5		451	22.3	4.2	2.3	0.7	*180*
		Biodiesel		15	34.9	0.0	0.0	0.0		687	70.0	11.7	4.1	1.1		993	72.2	13.0	5.6	1.6		1451	71.9	13.5	7.3	2.1	*186*
		Hydrogen from renewables		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		0	0.0	0.0	0.0	0.0		15	1.5	0.3	0.1	0.0		23	1.7	0.3	0.1	0.0		50	2.5	0.5	0.3	0.1	*198*
		Other biofuels		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		26	1.9	0.3	0.1	0.0		66	3.3	0.6	0.3	0.1	*204*
		Total (according to Template Table 12)		43	**100.0**	0.0	0.0	0.0		981	**100.0**	16.7	5.8	1.6		1376	**100.0**	18.1	7.7	2.2		2018	**100.0**	18.8	10.1	2.9	-
		Sum of all technologies (Template Table 12)		43	100.0	0.0	0.0	0.0		981	100.0	16.7	5.8	1.6		1376	100.0	18.1	7.7	2.2		2018	100.0	18.8	10.1	2.9	-
		Gross final RES-T consumption (Template Table 4a)		n.a.	0.0	0.0	0.0	0.0		981	100.0	16.7	5.8	1.6		1376	100.0	18.1	7.7	2.2		2018	100.0	18.8	10.1	2.9	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		43	100.0	0.0	0.0	0.0		971	99.0	16.5	5.8	1.6		1444	104.9	19.0	8.1	2.3		2194	108.7	20.5	11.0	3.2	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		n.a.		0.0	0.0	0.0		5873		100.0	35.0	9.6		7617		100.0	42.8	11.9		10725		100.0	53.9	15.5	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		369		0.0	0.0	0.0		5859		99.8	34.9	9.6		7594		99.7	42.7	11.9		10675		99.5	53.6	15.4	-
		Sum all technologies in Template Tables 10a/b, 11, 12		369			0.0	0.0		5874			35.0	9.6		7617			42.8	11.9		10725			53.9	15.5	-
	Co-operation mechanisms	Transfer from other Member States and third countries		n.a.		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		n.a.		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		n.a.		0.0	0.0	0.0		5873		**100.0**	35.0	9.6		7617		**100.0**	42.8	11.9		10725		**100.0**	53.9	15.5	*76 – 79*
Final consumption	Electricity	reference scenario[f]		n.a.						12900						15300						17400					*64*
		additional energy efficiency[f]		n.a.			0.0	0.0		12100			**100.0**	19.7		13100			**100.0**	20.5		14600			**100.0**	21.1	*65*
	Heating and cooling	reference scenario[f]		n.a.						31600						38800						46200					*66*
		additional energy efficiency[f]		n.a.			0.0	0.0		32400			**100.0**	52.9		33100			**100.0**	51.7		34700			**100.0**	50.1	*67*
	Transport	reference scenario[f]		n.a.						16800						17900						19100					*68*
		additional energy efficiency[f]		n.a.			0.0	0.0		16800			**100.0**	27.4		17800			**100.0**	27.8		19900			**100.0**	28.8	*69*
	Total before aviation reduction	reference scenario[f]		n.a.						61300						72000						82700					*70*
		additional energy efficiency[f]		n.a.				0.0		61300				**100.0**		64000				**100.0**		69200				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						7.2						8.8						10.7						15.0	*57*

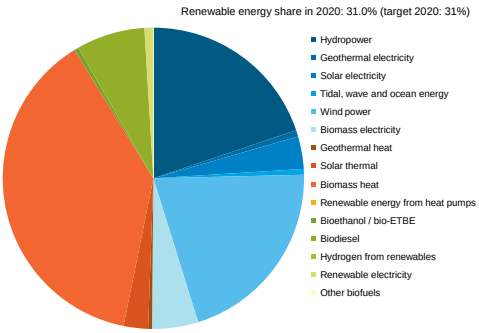
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Portugal







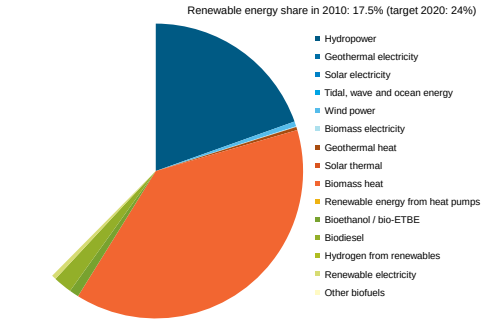


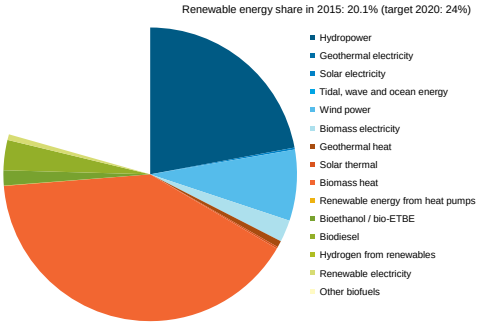
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 249 provides a background to the above figures.

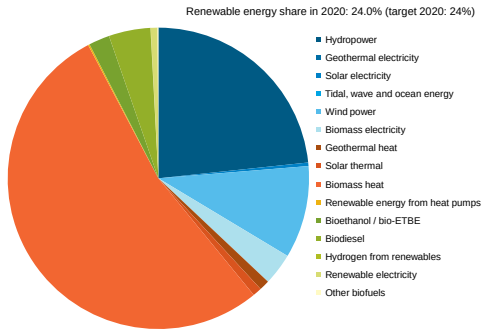
			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	5118	440	57.3	11.4	9.7	2.2	9742	838	42.8	18.7	17.7	4.5	11101	955	37.7	17.6	18.8	5.0	14074	1210	39.6	20.0	21.8	6.2	*103*
		Geothermal	55	5	0.6	0.1	0.1	0.0	163	14	0.7	0.3	0.3	0.1	260	22	0.9	0.4	0.4	0.1	488	42	1.4	0.7	0.8	0.2	*110*
		Solar photovoltaic	3	0	0.0	0.0	0.0	0.0	230	20	1.0	0.4	0.4	0.1	797	69	2.7	1.3	1.4	0.4	1475	127	4.1	2.1	2.3	0.7	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	360	31	1.2	0.6	0.6	0.2	1000	86	2.8	1.4	1.6	0.4	*121*
		Solar (subtotal)	3	0	0.0	0.0	0.0	0.0	230	20	1.0	0.4	0.4	0.1	1157	99	3.9	1.8	2.0	0.5	2475	213	7.0	3.5	3.8	1.1	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	1	0	0.0	0.0	0.0	0.0	75	6	0.3	0.1	0.1	0.0	437	38	1.2	0.6	0.7	0.2	*128*
		Onshore wind	1773	152	19.9	3.9	3.3	0.8	10214	878	44.9	19.6	18.6	4.7	13420	1154	45.6	21.3	22.7	6.0	14416	1240	40.5	20.5	22.3	6.4	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	60	5	0.2	0.1	0.1	0.0	180	15	0.5	0.3	0.3	0.1	*139*
		Wind power (subtotal)	1773	152	19.9	3.9	3.3	0.8	10214	878	44.9	19.6	18.6	4.7	13400	1152	45.5	21.3	22.7	6.0	14596	1255	41.0	20.8	22.6	6.4	*139*
		Solid biomass	934	80	10.5	2.1	1.8	0.4	1092	94	4.8	2.1	2.0	0.5	1468	126	5.0	2.3	2.5	0.7	1468	126	4.1	2.1	2.3	0.6	*149*
		Biogas	34	3	0.4	0.1	0.1	0.0	138	12	0.6	0.3	0.3	0.1	368	32	1.3	0.6	0.6	0.2	525	45	1.5	0.7	0.8	0.2	*149*
		Bioliquids	1008	87	11.3	2.2	1.9	0.4	1170	101	5.1	2.2	2.1	0.5	1523	131	5.2	2.4	2.6	0.7	1523	131	4.3	2.2	2.4	0.7	*149*
		Biomass (subtotal)	1976	170	22.1	4.4	3.7	0.9	2400	206	10.5	4.6	4.4	1.1	3358	289	11.4	5.3	5.7	1.5	3516	302	9.9	5.0	5.5	1.6	*149*
		Total (according to Template Tables 10a/b)	8925	767	**100.0**	19.9	16.8	3.9	22751	1956	**100.0**	43.7	41.4	10.5	29430	2531	**100.0**	46.7	49.9	13.3	35584	3060	**100.0**	50.6	55.2	15.7	-
		Sum of all technologies (Template Tables 10a/b)	8925	767	100.0	19.9	16.8	3.9	22750	1956	100.0	43.7	41.4	10.5	29351	2524	99.7	46.6	49.7	13.2	35586	3060	100.0	50.6	55.2	15.7	-
		Gross final RES-E consumption (Template Table 4a)		1337	174.2	34.6	29.3	6.8		1956	100.0	43.7	41.4	10.5		2531	100.0	46.7	49.9	13.3		3060	100.0	50.6	55.2	15.7	*76 – 79*
	Heating and cooling	Geothermal		1	0.0	0.0	0.0	0.0		10	0.4	0.2	0.1	0.1		18	0.7	0.3	0.2	0.1		25	1.0	0.4	0.3	0.1	*154*
		Solar thermal		22	0.9	0.6	0.3	0.1		50	2.2	1.1	0.7	0.3		105	4.3	1.9	1.4	0.5		160	6.4	2.6	2.0	0.8	*160*
		Solid biomass		1785	70.6	46.2	22.5	9.1		1514	67.6	33.8	20.8	8.1		1515	61.5	27.9	19.7	7.9		1484	59.2	24.6	18.1	7.6	*168*
		Biogas		10	0.4	0.3	0.1	0.1		10	0.4	0.2	0.1	0.1		23	0.9	0.4	0.3	0.1		37	1.5	0.6	0.5	0.2	*168*
		Bioliquids		713	28.2	18.4	9.0	3.6		655	29.2	14.6	9.0	3.5		801	32.5	14.8	10.4	4.2		801	32.0	13.3	9.8	4.1	*168*
		Biomass (subtotal)		2508	99.1	64.9	31.6	12.8		2179	97.3	48.7	29.9	11.7		2339	95.0	43.1	30.4	12.2		2322	92.6	38.4	28.3	11.9	*168*
		Aerothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Geothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*174*
		Total (according to Template Table 11)		2530	**100.0**	65.4	31.9	12.9		2240	**100.0**	50.0	30.7	12.0		2462	**100.0**	45.4	31.9	12.9		2507	**100.0**	41.5	30.6	12.9	-
		Sum of all technologies (Template Table 11)		2531	100.0	65.5	31.9	12.9		2239	100.0	50.0	30.7	12.0		2462	100.0	45.4	31.9	12.9		2507	100.0	41.5	30.6	12.9	-
		Gross final RES-H/C consumption (Template Table 4a)		2529	100.0	65.4	31.9	12.9		2240	100.0	50.0	30.7	12.0		2462	100.0	45.4	31.9	12.9		2507	100.0	41.5	30.6	12.9	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		24	5.2	0.4	0.4	0.1		27	5.0	0.4	0.5	0.1	*180*
		Biodiesel		0	0.0	0.0	0.0	0.0		281	93.4	6.3	4.7	1.5		405	86.9	7.5	6.8	2.1		450	84.1	7.4	7.8	2.3	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		12	100.0	0.3	0.2	0.1		20	6.6	0.4	0.3	0.1		37	7.9	0.7	0.6	0.2		58	10.8	1.0	1.0	0.3	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		12	**100.0**	0.3	0.2	0.1		301	**100.0**	6.7	5.0	1.6		466	**100.0**	8.6	7.8	2.4		535	**100.0**	8.9	9.3	2.7	-
		Sum of all technologies (Template Table 12)		12	100.0	0.3	0.2	0.1		301	100.0	6.7	5.0	1.6		466	100.0	8.6	7.8	2.4		535	100.0	8.9	9.3	2.7	-
		Gross final RES-T consumption (Template Table 4a)		12	100.0	0.3	0.2	0.1		301	100.0	6.7	5.0	1.6		466	100.0	8.6	7.8	2.4		535	100.0	8.9	9.3	2.7	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		12	100.0	0.3	0.2	0.1		305	101.3	6.8	5.0	1.6		479	102.8	8.8	8.0	2.5		574	107.3	9.5	10.0	2.9	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		3866		100.0	62.1	19.7		4476		100.0	74.1	24.1		5421		100.0	90.7	28.4		6044		100.0	105.2	31.0	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		3297		85.3	53.0	16.8		4477		100.0	74.1	24.1		5422		100.0	90.7	28.4		6044		100.0	105.2	31.0	-
		Sum all technologies in Template Tables 10a/b, 11, 12		3310			53.2	16.9		4496			74.4	24.2		5452			91.2	28.6		6102			106.2	31.3	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		3866		**100.0**	62.1	19.7		4476		**100.0**	74.1	24.1		5421		**100.0**	90.7	28.4		6044		**100.0**	105.2	31.0	*76 – 79*
Final consumption	Electricity	reference scenario[f]		4558						4730						5076						5721					*64*
		additional energy efficiency[f]		4558			**100.0**	23.3		4730			**100.0**	25.4		5076			**100.0**	26.6		5547			**100.0**	28.5	*65*
	Heating and cooling	reference scenario[f]		7927						7286						7706						8371					*66*
		additional energy efficiency[f]		7927			**100.0**	40.5		7286			**100.0**	39.2		7706			**100.0**	40.4		8197			**100.0**	42.1	*67*
	Transport	reference scenario[f]		6223						6040						5980						6010					*68*
		additional energy efficiency[f]		6223			**100.0**	31.8		6040			**100.0**	32.5		5980			**100.0**	31.3		5743			**100.0**	29.5	*69*
	Total before aviation reduction	reference scenario[f]		19582						18592						19094						20082					*70*
		additional energy efficiency[f]		19582				**100.0**		18592				**100.0**		19094				**100.0**		19467				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						20.5						22.6						25.2						31.0	*58*

[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Romania





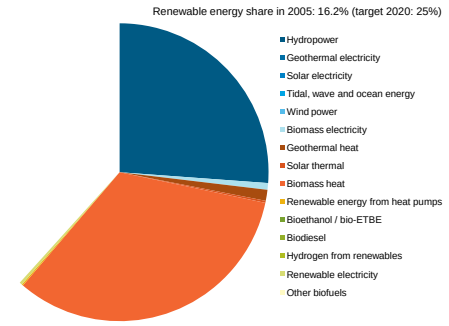


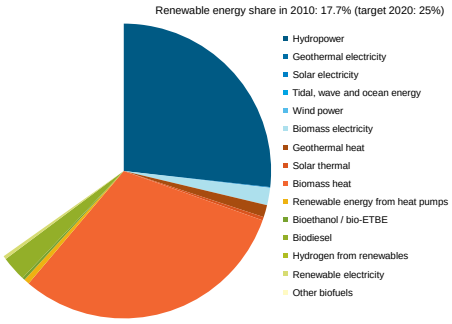
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 251 provides a background to the above figures.

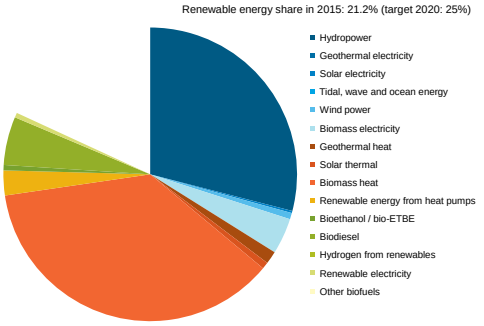
			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	16091	1384	100.0	28.1	30.1	5.0	16567	1425	96.9	31.5	26.6	5.5	18679	1606	67.9	27.8	28.4	5.6	19768	1700	63.0	23.4	26.8	5.6	*103*
		Geothermal	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	180	15	0.7	0.3	0.3	0.1	320	28	1.0	0.4	0.4	0.1	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	180	15	0.7	0.3	0.3	0.1	320	28	1.0	0.4	0.4	0.1	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*128*
		Onshore wind	0	0	0.0	0.0	0.0	0.0	460	40	2.7	0.9	0.7	0.2	6614	569	24.0	9.9	10.1	2.0	8400	722	26.8	9.9	11.4	2.4	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*139*
		Wind power (subtotal)	0	0	0.0	0.0	0.0	0.0	460	40	2.7	0.9	0.7	0.2	6614	569	24.0	9.9	10.1	2.0	8400	722	26.8	9.9	11.4	2.4	*139*
		Solid biomass	0	0	0.0	0.0	0.0	0.0	48	4	0.3	0.1	0.1	0.0	1450	125	5.3	2.2	2.2	0.4	1950	168	6.2	2.3	2.6	0.6	*149*
		Biogas	0	0	0.0	0.0	0.0	0.0	19	2	0.1	0.0	0.0	0.0	600	52	2.2	0.9	0.9	0.2	950	82	3.0	1.1	1.3	0.3	*149*
		Bioliquids	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	0	0	0.0	0.0	0.0	0.0	67	6	0.4	0.1	0.1	0.0	2050	176	7.4	3.1	3.1	0.6	2900	249	9.2	3.4	3.9	0.8	*149*
		Total (according to Template Tables 10a/b)	16091	1384	**100.0**	28.1	30.1	5.0	17094	1470	**100.0**	32.5	27.5	5.7	27523	2367	**100.0**	41.0	41.8	8.3	31388	2699	**100.0**	37.1	42.6	8.9	-
		Sum of all technologies (Template Tables 10a/b)	16091	1384	100.0	28.1	30.1	5.0	17094	1470	100.0	32.5	27.5	5.7	27523	2367	100.0	41.0	41.8	8.3	31388	2699	100.0	37.1	42.6	8.9	-
		Gross final RES-E consumption (Template Table 4a)		1347	97.4	27.4	29.3	4.9		1435	97.6	31.7	26.8	5.5		2333	98.6	40.4	41.3	8.2		2666	98.8	36.7	42.1	8.8	*76 – 79*
	Heating and cooling	Geothermal		17	0.5	0.3	0.1	0.1		25	0.9	0.6	0.2	0.1		52	1.7	0.9	0.3	0.2		80	2.0	1.1	0.4	0.3	*154*
		Solar thermal		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		14	0.5	0.2	0.1	0.0		70	1.7	1.0	0.4	0.2	*160*
		Solid biomass		0	0.0	0.0	0.0	0.0		2793	99.1	61.7	17.7	10.8		2919	97.3	50.6	16.6	10.2		3845	95.2	52.9	21.0	12.7	*168*
		Biogas		0	0.0	0.0	0.0	0.0		1	0.0	0.0	0.0	0.0		10	0.3	0.2	0.1	0.0		20	0.5	0.3	0.1	0.1	*168*
		Bioliquids		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		2	0.1	0.0	0.0	0.0		11	0.3	0.2	0.1	0.0	*168*
		Biomass (subtotal)		0	0.0	0.0	0.0	0.0		2794	99.1	61.7	17.7	10.8		2931	97.7	50.8	16.7	10.2		3876	96.0	53.3	21.2	12.8	*168*
		Aerothermal heat pumps		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		1	0.0	0.0	0.0	0.0		4	0.1	0.1	0.0	0.0	*174*
		Geothermal heat pumps		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		2	0.1	0.0	0.0	0.0		8	0.2	0.1	0.0	0.0	*174*
		Hydrothermal heat pumps		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		3	0.1	0.1	0.0	0.0		12	0.3	0.2	0.1	0.0	*174*
		Total (according to Template Table 11)		3183	**100.0**	64.7	16.9	11.6		2819	**100.0**	62.2	17.9	10.9		3000	**100.0**	52.0	17.1	10.5		4038	**100.0**	55.6	22.0	13.3	-
		Sum of all technologies (Template Table 11)		17	0.5	0.3	0.1	0.1		2819	100.0	62.2	17.9	10.9		3000	100.0	52.0	17.1	10.5		4038	100.0	55.6	22.0	13.3	-
		Gross final RES-H/C consumption (Template Table 4a)		3516	110.5	71.4	18.7	12.8		2819	100.0	62.2	17.9	10.9		3000	100.0	52.0	17.1	10.5		4038	100.0	55.6	22.0	13.3	*76 – 79*
	Transport	Bioethanol / bio-ETBE		n.a.	0.0	0.0	0.0	0.0		75	25.3	1.7	1.6	0.3		121	26.7	2.1	2.2	0.4		163	22.8	2.2	2.9	0.5	*180*
		Biodiesel		n.a.	0.0	0.0	0.0	0.0		149	50.3	3.3	3.2	0.6		242	53.3	4.2	4.5	0.8		326	45.7	4.5	5.8	1.1	*186*
		Hydrogen from renewables		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		2	0.3	0.0	0.0	0.0	*190*
		Renewable electricity		41	50.0	0.8	1.0	0.1		36	12.2	0.8	0.8	0.1		45	10.0	0.8	0.8	0.2		53	7.4	0.7	0.9	0.2	*198*
		Other biofuels		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		7	0.9	0.1	0.1	0.0	*204*
		Total (according to Template Table 12)		82	**100.0**	1.7	2.0	0.3		296	**100.0**	6.5	6.3	1.1		454	**100.0**	7.9	8.4	1.6		714	**100.0**	9.8	12.7	2.4	-
		Sum of all technologies (Template Table 12)		41	50.0	0.8	1.0	0.1		260	87.8	5.7	5.5	1.0		408	90.0	7.1	7.6	1.4		551	77.1	7.6	9.8	1.8	-
		Gross final RES-T consumption (Template Table 4a)		58	70.9	1.2	1.4	0.2		275	92.8	6.1	5.8	1.1		436	96.1	7.6	8.1	1.5		564	79.0	7.8	10.0	1.9	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		58	70.9	1.2	1.4	0.2		275	92.8	6.1	5.8	1.1		436	96.1	7.6	8.1	1.5		564	79.0	7.8	10.0	1.9	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		4921		100.0	118.9	17.9		4529		100.0	95.9	17.5		5769		100.0	107.3	20.2		7268		100.0	129.1	24.0	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		4607		93.6	111.3	16.7		4549		100.4	96.3	17.6		5775		100.1	107.4	20.2		7395		101.8	131.4	24.4	-
		Sum all technologies in Template Tables 10a/b, 11, 12		1441			34.8	5.2		4549			96.3	17.6		5775			107.4	20.2		7287			129.5	24.1	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		4921		**100.0**	118.9	17.9		4529		**100.0**	95.9	17.5		5769		**100.0**	107.3	20.2		7268		**100.0**	129.1	24.0	*76 – 79*
Final consumption	Electricity	reference scenario[f]		4601						5350						6189						7439					*64*
		additional energy efficiency[f]		4601			**100.0**	16.7		5350			**100.0**	20.7		5655			**100.0**	19.8		6334			**100.0**	20.9	*65*
	Heating and cooling	reference scenario[f]		18779						16056						18943						20696					*66*
		additional energy efficiency[f]		18779			**100.0**	68.2		15788			**100.0**	61.0		17572			**100.0**	61.4		18316			**100.0**	60.5	*67*
	Transport	reference scenario[f]		4139						4856						5707						6239					*68*
		additional energy efficiency[f]		4139			**100.0**	15.0		4725			**100.0**	18.3		5379			**100.0**	18.8		5628			**100.0**	18.6	*69*
	Total before aviation reduction	reference scenario[f]		27519						26261						30838						34374					*70*
		additional energy efficiency[f]		27519				**100.0**		25863				**100.0**		28606				**100.0**		30278				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						17.8						19.0						20.6						24.0	*58*

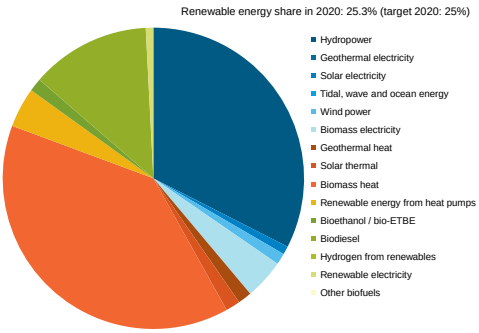
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Slovenia







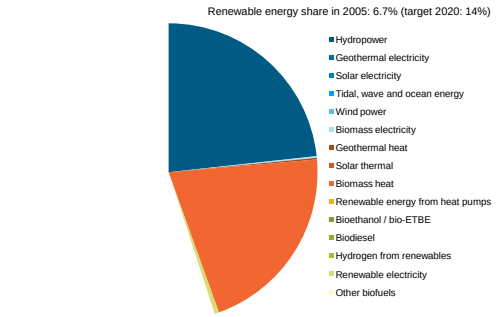


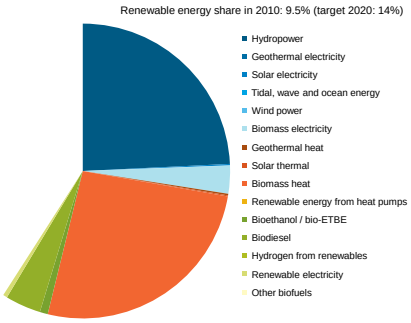
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 253 provides a background to the above figures.

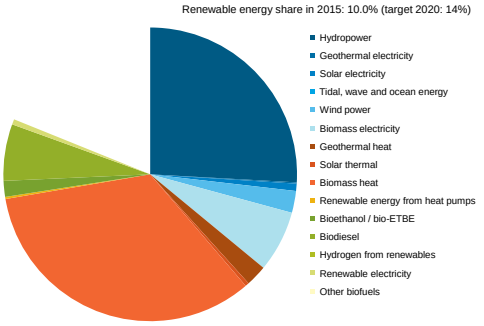
			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	4099	352	97.3	42.6	27.7	6.9	4198	361	93.1	41.3	30.2	7.3	4559	392	85.6	35.7	30.3	7.6	5121	440	83.6	32.8	32.8	8.3	*103*
		Geothermal	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	0	0	0.0	0.0	0.0	0.0	12	1	0.3	0.1	0.1	0.0	37	3	0.7	0.3	0.2	0.1	139	12	2.3	0.9	0.9	0.2	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	0	0	0.0	0.0	0.0	0.0	12	1	0.3	0.1	0.1	0.0	37	3	0.7	0.3	0.2	0.1	139	12	2.3	0.9	0.9	0.2	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*128*
		Onshore wind	0	0	0.0	0.0	0.0	0.0	2	0	0.0	0.0	0.0	0.0	109	9	2.0	0.9	0.7	0.2	191	16	3.1	1.2	1.2	0.3	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*139*
		Wind power (subtotal)	0	0	0.0	0.0	0.0	0.0	2	0	0.0	0.0	0.0	0.0	109	9	2.0	0.9	0.7	0.2	191	16	3.1	1.2	1.2	0.3	*139*
		Solid biomass	82	7	1.9	0.9	0.6	0.1	150	13	3.3	1.5	1.1	0.3	272	23	5.1	2.1	1.8	0.5	309	27	5.0	2.0	2.0	0.5	*149*
		Biogas	32	3	0.8	0.3	0.2	0.1	148	13	3.3	1.5	1.1	0.3	351	30	6.6	2.7	2.3	0.6	367	32	6.0	2.3	2.4	0.6	*149*
		Bioliquids	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	114	10	2.7	1.2	0.8	0.2	298	26	6.6	2.9	2.1	0.5	623	54	11.7	4.9	4.1	1.0	676	58	11.0	4.3	4.3	1.1	*149*
		Total (according to Template Tables 10a/b)	4213	362	**100.0**	43.8	28.5	7.1	4510	388	**100.0**	44.4	32.4	7.9	5328	458	**100.0**	41.7	35.4	8.8	6126	527	**100.0**	39.2	39.3	9.9	-
		Sum of all technologies (Template Tables 10a/b)	4213	362	100.0	43.8	28.5	7.1	4510	388	100.0	44.4	32.4	7.9	5328	458	100.0	41.7	35.4	8.8	6127	527	100.0	39.2	39.3	9.9	-
		Gross final RES-E consumption (Template Table 4a)		362	99.9	43.7	28.5	7.1		388	100.1	44.4	32.4	7.9		458	100.0	41.7	35.4	8.8		527	100.0	39.2	39.3	9.9	*76 – 79*
	Heating and cooling	Geothermal		16	3.4	1.9	0.7	0.3		18	4.0	2.1	0.9	0.4		19	3.4	1.7	0.9	0.4		20	3.2	1.5	1.0	0.4	*154*
		Solar thermal		3	0.6	0.4	0.1	0.1		5	1.1	0.6	0.3	0.1		10	1.8	0.9	0.5	0.2		21	3.4	1.6	1.0	0.4	*160*
		Solid biomass		401	86.2	48.4	17.5	7.9		415	93.3	47.5	20.8	8.4		483	86.1	43.9	23.5	9.3		497	79.5	37.0	24.5	9.3	*168*
		Biogas		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*168*
		Bioliquids		43	9.2	5.2	1.9	0.8		0	0.0	0.0	0.0	0.0		12	2.1	1.1	0.6	0.2		28	4.5	2.1	1.4	0.5	*168*
		Biomass (subtotal)		444	95.5	53.6	19.4	8.7		415	93.3	47.5	20.8	8.4		495	88.2	45.0	24.1	9.5		525	84.0	39.1	25.9	9.9	*168*
		Aerothermal heat pumps		0	0.0	0.0	0.0	0.0		1	0.2	0.1	0.1	0.0		7	1.2	0.6	0.3	0.1		14	2.2	1.0	0.7	0.3	*174*
		Geothermal heat pumps		0	0.0	0.0	0.0	0.0		4	0.9	0.5	0.2	0.1		26	4.6	2.4	1.3	0.5		38	6.1	2.8	1.9	0.7	*174*
		Hydrothermal heat pumps		0	0.0	0.0	0.0	0.0		2	0.4	0.2	0.1	0.0		5	0.9	0.5	0.2	0.1		5	0.8	0.4	0.2	0.1	*174*
		Renewable energy from heat pumps (subtotal)		2	0.4	0.2	0.1	0.0		8	1.8	0.9	0.4	0.2		37	6.6	3.4	1.8	0.7		58	9.3	4.3	2.9	1.1	*174*
		Total (according to Template Table 11)		465	**100.0**	56.2	20.3	9.1		445	**100.0**	50.9	22.3	9.0		561	**100.0**	51.0	27.3	10.8		625	**100.0**	46.5	30.8	11.7	-
		Sum of all technologies (Template Table 11)		465	100.0	56.2	20.3	9.1		446	100.2	51.0	22.3	9.1		561	100.0	51.0	27.3	10.8		624	99.8	46.4	30.8	11.7	-
		Gross final RES-H/C consumption (Template Table 4a)		465	100.0	56.2	20.3	9.1		445	100.0	50.9	22.3	9.0		561	100.0	51.0	27.3	10.8		625	100.0	46.5	30.8	11.7	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		4	8.7	0.5	0.2	0.1		8	9.3	0.7	0.4	0.2		19	9.4	1.4	1.0	0.4	*180*
		Biodiesel		0	0.0	0.0	0.0	0.0		37	80.4	4.2	2.1	0.8		72	83.7	6.6	3.9	1.4		174	85.7	12.9	8.9	3.3	*186*
		Hydrogen from renewables		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		4	100.0	0.5	0.3	0.1		5	10.9	0.6	0.3	0.1		7	8.1	0.6	0.4	0.1		11	5.4	0.8	0.6	0.2	*198*
		Other biofuels		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		4	**100.0**	0.5	0.3	0.1		46	**100.0**	5.3	2.7	0.9		86	**100.0**	7.8	4.7	1.7		203	**100.0**	15.1	10.4	3.8	-
		Sum of all technologies (Template Table 12)		4	100.0	0.5	0.3	0.1		46	100.0	5.3	2.7	0.9		87	101.2	7.9	4.7	1.7		204	100.5	15.2	10.4	3.8	-
		Gross final RES-T consumption (Template Table 4a)		0	0.0	0.0	0.0	0.0		40	87.0	4.6	2.3	0.8		79	91.9	7.2	4.3	1.5		192	94.6	14.3	9.8	3.6	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		4	100.0	0.5	0.3	0.1		46	100.0	5.3	2.7	0.9		86	100.0	7.8	4.7	1.7		204	100.5	15.2	10.4	3.8	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		828		100.0	54.3	16.3		874		100.0	50.4	17.7		1099		100.0	59.8	21.2		1344		100.0	68.8	25.2	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		827		99.9	54.2	16.3		874		100.0	50.4	17.7		1098		99.9	59.7	21.2		1344		100.0	68.8	25.2	-
		Sum all technologies in Template Tables 10a/b, 11, 12		831			54.5	16.3		880			50.7	17.9		1106			60.1	21.3		1355			69.4	25.5	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		828		**100.0**	54.3	16.3		874		**100.0**	50.4	17.7		1099		**100.0**	59.8	21.2		1344		**100.0**	68.8	25.2	*76 – 79*
Final consumption	Electricity	reference scenario[f]		1272						n.a.						n.a.						n.a.					*64*
		additional energy efficiency[f]		1272			**100.0**	25.0		1196			**100.0**	24.3		1293			**100.0**	24.9		1342			**100.0**	25.2	*65*
	Heating and cooling	reference scenario[f]		2291						n.a.						n.a.						n.a.					*66*
		additional energy efficiency[f]		2291			**100.0**	45.0		1996			**100.0**	40.5		2054			**100.0**	39.6		2029			**100.0**	38.1	*67*
	Transport	reference scenario[f]		1526						n.a.						n.a.						n.a.					*68*
		additional energy efficiency[f]		1526			**100.0**	30.0		1735			**100.0**	35.2		1839			**100.0**	35.5		1953			**100.0**	36.7	*69*
	Total before aviation reduction	reference scenario[f]		5090						n.a.						n.a.						n.a.					*70*
		additional energy efficiency[f]		5090				**100.0**		4927				**100.0**		5186				**100.0**		5323				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						16.0						17.8						20.1						25.0	*58*

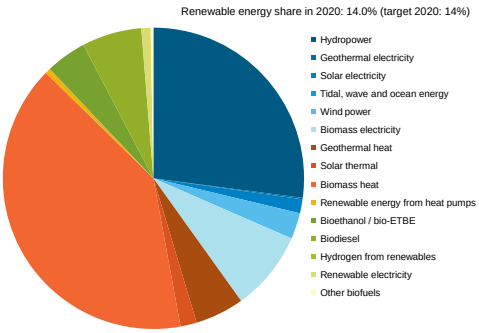
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Slovakia







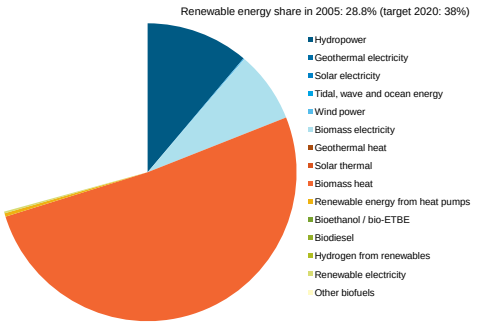


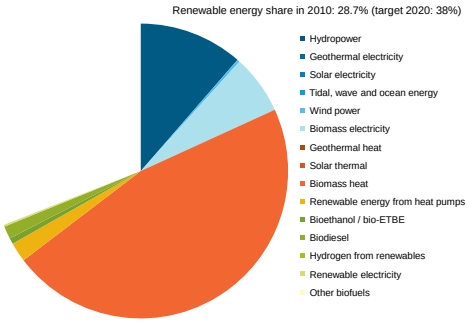
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 255 provides a background to the above figures.

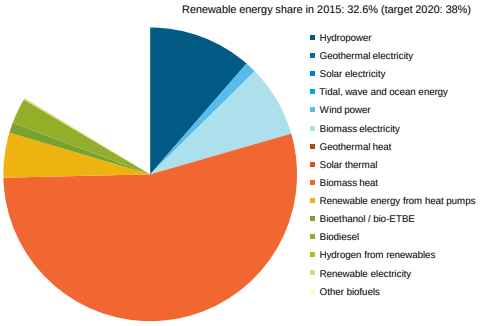
			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	4638	399	99.2	51.7	16.5	3.9	4834	416	88.2	41.0	16.9	3.9	5161	444	71.9	40.9	16.6	4.1	5400	464	67.5	29.5	16.2	4.1	*103*
		Geothermal	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	28	2	0.4	0.2	0.1	0.0	30	3	0.4	0.2	0.1	0.0	*110*
		Solar photovoltaic	0	0	0.0	0.0	0.0	0.0	30	3	0.5	0.3	0.1	0.0	160	14	2.2	1.3	0.5	0.1	300	26	3.8	1.6	0.9	0.2	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	0	0	0.0	0.0	0.0	0.0	30	3	0.5	0.3	0.1	0.0	160	14	2.2	1.3	0.5	0.1	300	26	3.8	1.6	0.9	0.2	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*128*
		Onshore wind	7	1	0.1	0.1	0.0	0.0	7	1	0.1	0.1	0.0	0.0	480	41	6.7	3.8	1.5	0.4	560	48	7.0	3.1	1.7	0.4	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*139*
		Wind power (subtotal)	7	1	0.1	0.1	0.0	0.0	7	1	0.1	0.1	0.0	0.0	480	41	6.7	3.8	1.5	0.4	560	48	7.0	3.1	1.7	0.4	*139*
		Solid biomass	27	2	0.6	0.3	0.1	0.0	540	46	9.9	4.6	1.9	0.4	725	62	10.1	5.7	2.3	0.6	850	73	10.6	4.6	2.6	0.7	*149*
		Biogas	5	0	0.1	0.1	0.0	0.0	70	6	1.3	0.6	0.2	0.1	624	54	8.7	4.9	2.0	0.5	860	74	10.8	4.7	2.6	0.7	*149*
		Bioliquids	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	32	3	0.7	0.4	0.1	0.0	610	52	11.1	5.2	2.1	0.5	1349	116	18.8	10.7	4.3	1.1	1710	147	21.4	9.4	5.1	1.3	*149*
		Total (according to Template Tables 10a/b)	4677	402	**100.0**	52.1	16.7	3.9	5481	471	**100.0**	46.5	19.2	4.4	7178	617	**100.0**	56.8	23.0	5.7	8000	688	**100.0**	43.8	24.0	6.1	-
		Sum of all technologies (Template Tables 10a/b)	4677	402	100.0	52.1	16.7	3.9	5481	471	100.0	46.5	19.2	4.4	7178	617	100.0	56.8	23.0	5.7	8000	688	100.0	43.8	24.0	6.1	-
		Gross final RES-E consumption (Template Table 4a)		404	100.5	52.3	16.7	4.0		471	99.9	46.5	19.1	4.4		617	100.0	56.8	23.0	5.7		688	100.0	43.8	24.0	6.1	*76 – 79*
	Heating and cooling	Geothermal		3	0.8	0.4	0.0	0.0		3	0.7	0.3	0.1	0.0		40	6.4	3.7	0.7	0.4		90	11.0	5.7	1.6	0.8	*154*
		Solar thermal		0	0.0	0.0	0.0	0.0		2	0.4	0.2	0.0	0.0		7	1.1	0.6	0.1	0.1		30	3.7	1.9	0.5	0.3	*160*
		Solid biomass		357	98.9	46.2	5.8	3.5		443	98.0	43.7	7.4	4.2		540	86.1	49.7	9.4	5.0		630	76.8	40.1	11.2	5.6	*168*
		Biogas		1	0.3	0.1	0.0	0.0		4	0.9	0.4	0.1	0.0		36	5.7	3.3	0.6	0.3		60	7.3	3.8	1.1	0.5	*168*
		Bioliquids		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		358	99.2	46.4	5.8	3.5		447	98.9	44.1	7.5	4.2		576	91.9	53.0	10.0	5.3		690	84.1	43.9	12.3	6.1	*168*
		Aerothermal heat pumps		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		1	0.2	0.1	0.0	0.0		3	0.4	0.2	0.1	0.0	*174*
		Geothermal heat pumps		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		2	0.3	0.2	0.0	0.0		4	0.5	0.3	0.1	0.0	*174*
		Hydrothermal heat pumps		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		1	0.2	0.1	0.0	0.0		3	0.4	0.2	0.1	0.0	*174*
		Renewable energy from heat pumps (subtotal)		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		4	0.6	0.4	0.1	0.0		10	1.2	0.6	0.2	0.1	*174*
		Total (according to Template Table 11)		361	**100.0**	46.8	5.9	3.5		452	**100.0**	44.6	7.6	4.2		627	**100.0**	57.7	10.9	5.8		820	**100.0**	52.2	14.6	7.3	-
		Sum of all technologies (Template Table 11)		361	100.0	46.8	5.9	3.5		452	100.0	44.6	7.6	4.2		627	100.0	57.7	10.9	5.8		820	100.0	52.2	14.6	7.3	-
		Gross final RES-H/C consumption (Template Table 4a)		361	100.0	46.8	5.9	3.5		452	100.0	44.6	7.6	4.2		627	100.0	57.7	10.9	5.8		820	100.0	52.2	14.6	7.3	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		15	16.7	1.5	0.7	0.1		30	20.4	2.8	1.2	0.3		75	36.2	4.8	2.7	0.7	*180*
		Biodiesel		0	0.0	0.0	0.0	0.0		67	74.4	6.6	3.0	0.6		107	72.8	9.9	4.4	1.0		110	53.1	7.0	4.0	1.0	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		8	100.0	1.0	0.5	0.1		8	8.9	0.8	0.4	0.1		10	6.8	0.9	0.4	0.1		17	8.2	1.1	0.6	0.2	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		5	2.4	0.3	0.2	0.0	*204*
		Total (according to Template Table 12)		8	**100.0**	1.0	0.5	0.1		90	**100.0**	8.9	4.1	0.8		147	**100.0**	13.5	6.0	1.4		207	**100.0**	13.2	7.5	1.8	-
		Sum of all technologies (Template Table 12)		8	100.0	1.0	0.5	0.1		90	100.0	8.9	4.1	0.8		147	100.0	13.5	6.0	1.4		207	100.0	13.2	7.5	1.8	-
		Gross final RES-T consumption (Template Table 4a)		8	100.0	1.0	0.5	0.1		90	100.0	8.9	4.1	0.8		147	100.0	13.5	6.0	1.4		207	100.0	13.2	7.5	1.8	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		8	100.0	1.0	0.5	0.1		90	100.0	8.9	4.1	0.8		147	100.0	13.5	6.0	1.4		275	132.9	17.5	10.0	2.4	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		772		100.0	44.3	7.6		1013		100.0	45.6	9.5		1391		128.1	56.8	12.8		1715		109.1	62.4	15.3	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		763		98.9	43.8	7.5		1005		99.2	45.3	9.4		1381		127.2	56.4	12.7		1698		108.0	61.8	15.1	-
		Sum all technologies in Template Tables 10a/b, 11, 12		771			44.2	7.6		1013			45.6	9.5		1391			56.8	12.8		1715			62.4	15.3	-
	Co-operation mechanisms	Transfer from other Member States and third countries		n.a.		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		305		28.1	12.5	2.8		143		9.1	5.2	1.3	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		772		**100.0**	44.3	7.6		1013		**100.0**	45.6	9.5		1086		**100.0**	44.3	10.0		1572		**100.0**	57.2	14.0	*76 – 79*
Final consumption	Electricity	reference scenario[f]		2412						2460						2796						3057					*64*
		additional energy efficiency[f]		2412			**100.0**	23.6		2460			**100.0**	23.1		2681			**100.0**	24.7		2866			**100.0**	25.5	*65*
	Heating and cooling	reference scenario[f]		6162						5971						6210						6449					*66*
		additional energy efficiency[f]		6162			**100.0**	60.4		5971			**100.0**	56.0		5732			**100.0**	52.8		5613			**100.0**	50.0	*67*
	Transport	reference scenario[f]		1744						2221						2556						2938					*68*
		additional energy efficiency[f]		1744			**100.0**	17.1		2221			**100.0**	20.8		2449			**100.0**	22.5		2747			**100.0**	24.5	*69*
	Total before aviation reduction	reference scenario[f]		10199						10653						11562						12443					*70*
		additional energy efficiency[f]		10199				**100.0**		10653				**100.0**		10862				**100.0**		11226				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						6.7						8.2						10.0						14.0	*58*

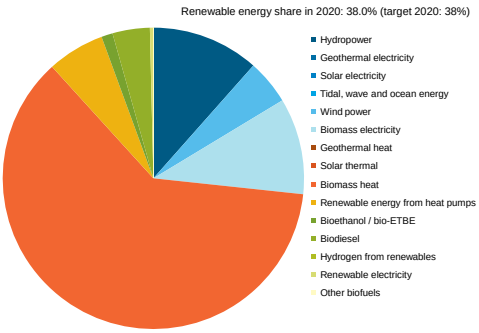
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Finland







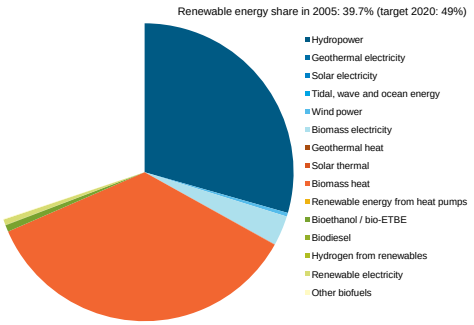


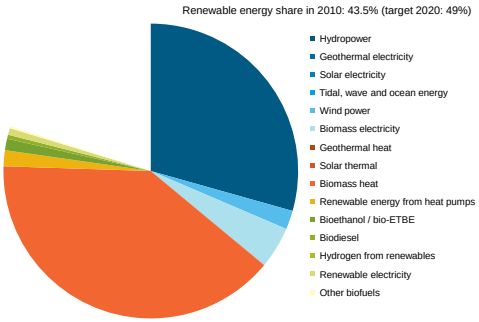
The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 257 provides a background to the above figures.

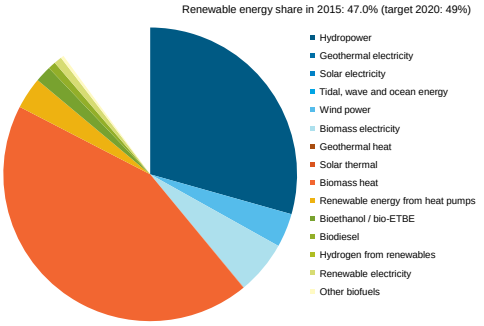
			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	13910	1196	58.6	15.8	15.9	4.6	14210	1222	62.7	16.6	16.2	4.7	14210	1222	55.5	13.7	14.9	4.5	14410	1239	43.1	11.6	14.2	4.4	*103*
		Geothermal	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Tidal, wave and ocean energy	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*128*
		Onshore wind	150	13	0.6	0.2	0.2	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	3500	301	10.5	2.8	3.4	1.1	*139*
		Offshore wind	0	0	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	2500	215	7.5	2.0	2.5	0.8	*139*
		Wind power (subtotal)	150	13	0.6	0.2	0.2	0.0	360	31	1.6	0.4	0.4	0.1	1520	131	5.9	1.5	1.6	0.5	6000	516	18.0	4.8	5.9	1.8	*139*
		Solid biomass	9640	829	40.6	11.0	11.0	3.2	3930	338	17.3	4.6	4.5	1.3	5300	456	20.7	5.1	5.6	1.7	7860	676	23.5	6.3	7.7	2.4	*149*
		Biogas	20	2	0.1	0.0	0.0	0.0	40	3	0.2	0.0	0.0	0.0	50	4	0.2	0.0	0.1	0.0	270	23	0.8	0.2	0.3	0.1	*149*
		Bioliquids	n.a.	n.a.	0.0	0.0	0.0	0.0	4120	354	18.2	4.8	4.7	1.4	4530	390	17.7	4.4	4.7	1.4	4780	411	14.3	3.8	4.7	1.5	*149*
		Biomass (subtotal)	9660	831	40.7	11.0	11.0	3.2	8090	696	35.7	9.4	9.2	2.7	9880	850	38.6	9.5	10.3	3.1	12910	1110	38.6	10.4	12.7	3.9	*149*
		Total (according to Template Tables 10a/b)	23730	2040	**100.0**	27.0	27.1	7.8	22660	1948	**100.0**	26.4	25.8	7.6	25620	2203	**100.0**	24.6	26.8	8.0	33420	2874	**100.0**	26.9	32.9	10.2	-
		Sum of all technologies (Template Tables 10a/b)	23720	2040	100.0	27.0	27.1	7.8	22660	1948	100.0	26.4	25.8	7.6	25610	2202	100.0	24.6	26.8	8.0	33320	2865	99.7	26.8	32.8	10.2	-
		Gross final RES-E consumption (Template Table 4a)		2030	99.5	26.9	27.0	7.7		1950	100.1	26.4	25.8	7.6		2200	99.9	24.6	26.8	8.0		2870	99.9	26.8	32.8	10.2	*76 – 79*
	Heating and cooling	Geothermal		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*154*
		Solar thermal		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*160*
		Solid biomass		5450	98.6	72.1	39.0	20.8		2710	52.0	36.7	19.3	10.5		3300	52.1	36.9	22.0	12.0		3940	54.2	36.8	25.8	14.0	*168*
		Biogas		40	0.7	0.5	0.3	0.2		30	0.6	0.4	0.2	0.1		30	0.5	0.3	0.2	0.1		60	0.8	0.6	0.4	0.2	*168*
		Bioliquids		n.a.	0.0	0.0	0.0	0.0		2240	43.0	30.4	16.0	8.7		2470	39.0	27.6	16.5	9.0		2610	35.9	24.4	17.1	9.3	*168*
		Biomass (subtotal)		5490	99.3	72.6	39.3	20.9		4980	95.6	67.5	35.5	19.4		5800	91.5	64.8	38.7	21.2		6610	90.9	61.8	43.2	23.5	*168*
		Aerothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Geothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		40	0.7	0.5	0.3	0.2		230	4.4	3.1	1.6	0.9		530	8.4	5.9	3.5	1.9		660	9.1	6.2	4.3	2.3	*174*
		Total (according to Template Table 11)		5530	**100.0**	73.1	39.6	21.1		5210	**100.0**	70.6	37.2	20.2		6340	**100.0**	70.8	42.3	23.1		7270	**100.0**	67.9	47.5	25.8	-
		Sum of all technologies (Template Table 11)		5530	100.0	73.1	39.6	21.1		5210	100.0	70.6	37.2	20.2		6330	99.8	70.7	42.2	23.1		7270	100.0	67.9	47.5	25.8	-
		Gross final RES-H/C consumption (Template Table 4a)		5530	100.0	73.1	39.6	21.1		5210	100.0	70.6	37.2	20.2		6340	100.0	70.8	42.3	23.1		7270	100.0	67.9	47.5	25.8	*76 – 79*
	Transport	Bioethanol / bio-ETBE		0	0.0	0.0	0.0	0.0		70	30.4	0.9	1.7	0.3		120	27.3	1.3	2.9	0.4		130	21.7	1.2	3.2	0.5	*180*
		Biodiesel		0	0.0	0.0	0.0	0.0		150	65.2	2.0	3.7	0.6		300	68.2	3.4	7.3	1.1		430	71.7	4.0	10.5	1.5	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		20	100.0	0.3	0.5	0.1		20	8.7	0.3	0.5	0.1		20	4.5	0.2	0.5	0.1		40	6.7	0.4	1.0	0.1	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		20	**100.0**	0.3	0.5	0.1		230	**100.0**	3.1	5.7	0.9		440	**100.0**	4.9	10.7	1.6		600	**100.0**	5.6	14.7	2.1	-
		Sum of all technologies (Template Table 12)		20	100.0	0.3	0.5	0.1		240	104.3	3.3	6.0	0.9		440	100.0	4.9	10.7	1.6		600	100.0	5.6	14.7	2.1	-
		Gross final RES-T consumption (Template Table 4a)		0	0.0	0.0	0.0	0.0		220	95.7	3.0	5.5	0.9		410	93.2	4.6	10.0	1.5		560	93.3	5.2	13.7	2.0	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		20	100.0	0.3	0.5	0.1		230	100.0	3.1	5.7	0.9		510	115.9	5.7	12.4	1.9		800	133.3	7.5	19.6	2.8	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		7560		100.0	179.1	28.8		7380		100.0	183.1	28.7		8950		100.0	218.3	32.6		10700		100.0	262.3	38.0	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		7570		100.1	179.4	28.8		7368		99.8	182.8	28.6		8963		100.1	218.6	32.7		10704		100.0	262.3	38.0	-
		Sum all technologies in Template Tables 10a/b, 11, 12		7590			179.8	28.9		7398			183.6	28.8		8972			218.8	32.7		10735			263.1	38.1	-
	Co-operation mechanisms	Transfer from other Member States and third countries		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		7560		**100.0**	179.1	28.8		7380		**100.0**	183.1	28.7		8950		**100.0**	218.3	32.6		10700		**100.0**	262.3	38.0	*76 – 79*
Final consumption	Electricity	reference scenario[f]		7530						n.a.						n.a.						n.a.					*64*
		additional energy efficiency[f]		7530			**100.0**	28.7		7550			**100.0**	29.3		8210			**100.0**	29.9		8740			**100.0**	31.0	*65*
	Heating and cooling	reference scenario[f]		13970						n.a.						n.a.						n.a.					*66*
		additional energy efficiency[f]		13970			**100.0**	53.2		14010			**100.0**	54.5		15000			**100.0**	54.7		15300			**100.0**	54.3	*67*
	Transport	reference scenario[f]		4220						n.a.						n.a.						n.a.					*68*
		additional energy efficiency[f]		4220			**100.0**	16.1		4030			**100.0**	15.7		4100			**100.0**	15.0		4080			**100.0**	14.5	*69*
	Total before aviation reduction	reference scenario[f]		26260						n.a.						n.a.						n.a.					*70*
		additional energy efficiency[f]		26260				**100.0**		25730				**100.0**		27420				**100.0**		28170				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						28.5						30.4						32.8						38.0	*59*

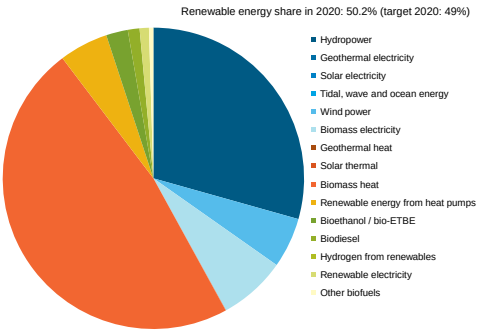
[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

Sweden









The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 259 provides a background to the above figures.

			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	68421	5883	88.9	43.0	45.3	17.0	68210	5865	81.6	37.4	44.8	16.3	68140	5859	75.3	33.1	44.4	15.6	68000	5847	69.9	29.7	44.0	14.9	*103*
		Geothermal	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	0	0	0.0	0.0	0.0	0.0	1	0	0.0	0.0	0.0	0.0	3	0	0.0	0.0	0.0	0.0	4	0	0.0	0.0	0.0	0.0	*121*
		Concentrated solar power	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	0	0	0.0	0.0	0.0	0.0	1	0	0.0	0.0	0.0	0.0	3	0	0.0	0.0	0.0	0.0	4	0	0.0	0.0	0.0	0.0	*121*
		Tidal, wave and ocean energy	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*128*
		Onshore wind	877	75	1.1	0.6	0.6	0.2	4585	394	5.5	2.5	3.0	1.1	8292	713	9.2	4.0	5.4	1.9	12000	1032	12.3	5.2	7.8	2.6	*139*
		Offshore wind	62	5	0.1	0.0	0.0	0.0	208	18	0.2	0.1	0.1	0.0	354	30	0.4	0.2	0.2	0.1	500	43	0.5	0.2	0.3	0.1	*139*
		Wind power (subtotal)	939	81	1.2	0.6	0.6	0.2	4793	412	5.7	2.6	3.1	1.1	8646	743	9.6	4.2	5.6	2.0	12500	1075	12.9	5.5	8.1	2.7	*139*
		Solid biomass	7452	641	9.7	4.7	4.9	1.9	10513	904	12.6	5.8	6.9	2.5	13574	1167	15.0	6.6	8.8	3.1	16635	1430	17.1	7.3	10.8	3.6	*149*
		Biogas	53	5	0.1	0.0	0.0	0.0	53	5	0.1	0.0	0.0	0.0	53	5	0.1	0.0	0.0	0.0	53	5	0.1	0.0	0.0	0.0	*149*
		Bioliquids	65	6	0.1	0.0	0.0	0.0	65	6	0.1	0.0	0.0	0.0	65	6	0.1	0.0	0.0	0.0	65	6	0.1	0.0	0.0	0.0	*149*
		Biomass (subtotal)	7570	651	9.8	4.8	5.0	1.9	10631	914	12.7	5.8	7.0	2.5	13693	1177	15.1	6.7	8.9	3.1	16754	1441	17.2	7.3	10.8	3.7	*149*
		Total (according to Template Tables 10a/b)	76931	6615	**100.0**	48.3	50.9	19.2	83635	7191	**100.0**	45.8	54.9	19.9	90482	7780	**100.0**	44.0	59.0	20.7	97258	8363	**100.0**	42.4	62.9	21.3	-
		Sum of all technologies (Template Tables 10a/b)	76930	6615	100.0	48.3	50.9	19.2	83635	7191	100.0	45.8	54.9	19.9	90482	7780	100.0	44.0	59.0	20.7	97258	8363	100.0	42.4	62.9	21.3	-
		Gross final RES-E consumption (Template Table 4a)		6605	99.9	48.3	50.9	19.1		7189	100.0	45.8	54.9	19.9		7772	99.9	43.9	58.9	20.6		8356	99.9	42.4	62.9	21.3	*76 – 79*
	Heating and cooling	Geothermal		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*154*
		Solar thermal		6	0.1	0.0	0.0	0.0		6	0.1	0.0	0.0	0.0		6	0.1	0.0	0.0	0.0		6	0.1	0.0	0.0	0.0	*160*
		Solid biomass		6992	98.7	51.1	53.0	20.3		7800	94.7	49.7	54.0	21.6		8607	91.7	48.6	54.8	22.9		9415	89.3	47.8	55.5	24.0	*168*
		Biogas		21	0.3	0.2	0.2	0.1		18	0.2	0.1	0.1	0.0		14	0.1	0.1	0.1	0.0		11	0.1	0.1	0.1	0.0	*168*
		Bioliquids		65	0.9	0.5	0.5	0.2		65	0.8	0.4	0.4	0.2		65	0.7	0.4	0.4	0.2		65	0.6	0.3	0.4	0.2	*168*
		Biomass (subtotal)		7078	99.9	51.7	53.7	20.5		7883	95.7	50.2	54.6	21.8		8686	92.5	49.1	55.3	23.1		9491	90.0	48.2	55.9	24.2	*168*
		Aerothermal heat pumps		0	0.0	0.0	0.0	0.0		50	0.6	0.3	0.3	0.1		100	1.1	0.6	0.6	0.3		150	1.4	0.8	0.9	0.4	*174*
		Geothermal heat pumps		0	0.0	0.0	0.0	0.0		272	3.3	1.7	1.9	0.8		544	5.8	3.1	3.5	1.4		815	7.7	4.1	4.8	2.1	*174*
		Hydrothermal heat pumps		0	0.0	0.0	0.0	0.0		27	0.3	0.2	0.2	0.1		54	0.6	0.3	0.3	0.1		80	0.8	0.4	0.5	0.2	*174*
		Renewable energy from heat pumps (subtotal)		0	0.0	0.0	0.0	0.0		349	4.2	2.2	2.4	1.0		697	7.4	3.9	4.4	1.9		1046	9.9	5.3	6.2	2.7	*174*
		Total (according to Template Table 11)		7084	**100.0**	51.7	53.7	20.5		8237	**100.0**	52.5	57.0	22.8		9390	**100.0**	53.0	59.8	24.9		10543	**100.0**	53.5	62.1	26.9	-
		Sum of all technologies (Template Table 11)		7084	100.0	51.7	53.7	20.5		8238	100.0	52.5	57.0	22.8		9389	100.0	53.0	59.8	24.9		10543	100.0	53.5	62.1	26.9	-
		Gross final RES-H/C consumption (Template Table 4a)		7084	100.0	51.7	53.7	20.5		8237	100.0	52.5	57.0	22.8		9390	100.0	53.0	59.8	24.9		10543	100.0	53.5	62.1	26.9	*76 – 79*
	Transport	Bioethanol / bio-ETBE		144	50.0	1.1	1.9	0.4		251	47.5	1.6	3.3	0.7		358	46.6	2.0	4.5	1.0		465	46.1	2.4	5.7	1.2	*180*
		Biodiesel		9	3.1	0.1	0.1	0.0		89	16.9	0.6	1.2	0.2		170	22.1	1.0	2.2	0.5		251	24.9	1.3	3.1	0.6	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		121	42.0	0.9	1.6	0.4		147	27.8	0.9	1.9	0.4		173	22.5	1.0	2.2	0.5		198	19.6	1.0	2.4	0.5	*198*
		Other biofuels		13	4.5	0.1	0.2	0.0		40	7.6	0.3	0.5	0.1		67	8.7	0.4	0.8	0.2		94	9.3	0.5	1.2	0.2	*204*
		Total (according to Template Table 12)		288	**100.0**	2.1	3.9	0.8		528	**100.0**	3.4	6.9	1.5		768	**100.0**	4.3	9.7	2.0		1008	**100.0**	5.1	12.4	2.6	-
		Sum of all technologies (Template Table 12)		287	99.7	2.1	3.8	0.8		527	99.8	3.4	6.9	1.5		768	100.0	4.3	9.7	2.0		1008	100.0	5.1	12.4	2.6	-
		Gross final RES-T consumption (Template Table 4a)		288	100.0	2.1	3.9	0.8		528	100.0	3.4	6.9	1.5		768	100.0	4.3	9.7	2.0		1008	100.0	5.1	12.4	2.6	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		301	104.5	2.2	4.0	0.9		573	108.5	3.7	7.5	1.6		844	109.9	4.8	10.7	2.2		1116	110.7	5.7	13.8	2.8	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		13689		100.0	183.2	39.7		15695		100.0	204.2	43.5		17702		100.0	224.1	47.0		19709		100.0	243.0	50.2	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		13866		101.3	185.5	40.2		15809		100.7	205.7	43.8		17765		100.4	224.9	47.2		19716		100.0	243.1	50.3	-
		Sum all technologies in Template Tables 10a/b, 11, 12		13986			187.2	40.5		15956			207.6	44.2		17937			227.1	47.6		19914			245.5	50.8	-
	Co-operation mechanisms	Transfer from other Member States and third countries		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		13689		**100.0**	183.2	39.7		15695		**100.0**	204.2	43.5		17702		**100.0**	224.1	47.0		19709		**100.0**	243.0	50.2	*76 – 79*
Final consumption	Electricity	reference scenario[f]		12987						13650						14314						14977					*64*
		additional energy efficiency[f]		12987			**100.0**	37.6		13089			**100.0**	36.3		13191			**100.0**	35.0		13293			**100.0**	33.9	*65*
	Heating and cooling	reference scenario[f]		13190						15339						17488						19637					*66*
		additional energy efficiency[f]		13190			**100.0**	38.2		14448			**100.0**	40.0		15706			**100.0**	41.7		16964			**100.0**	43.2	*67*
	Transport	reference scenario[f]		7473						7923						8373						8823					*68*
		additional energy efficiency[f]		7473			**100.0**	21.6		7686			**100.0**	21.3		7898			**100.0**	21.0		8111			**100.0**	20.7	*69*
	Total before aviation reduction	reference scenario[f]		34519						37826						41132						44439					*70*
		additional energy efficiency[f]		34519				**100.0**		36089				**100.0**		37660				**100.0**		39231				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		n.a.						n.a.						n.a.						n.a.					*72*
		additional energy efficiency[f]		n.a.				0.0		n.a.				0.0		n.a.				0.0		n.a.				0.0	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						39.8						41.6						43.9						49.0	*59*

[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
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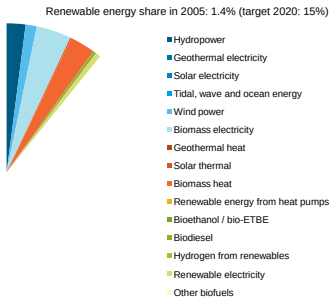
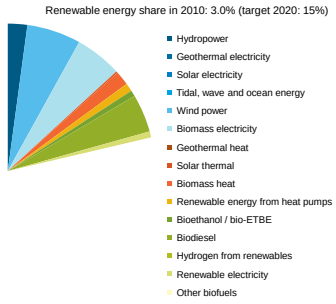
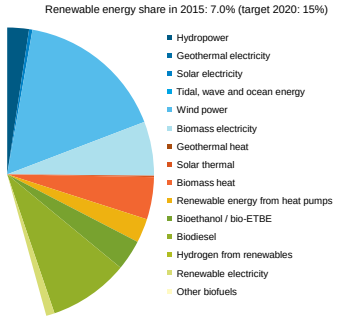
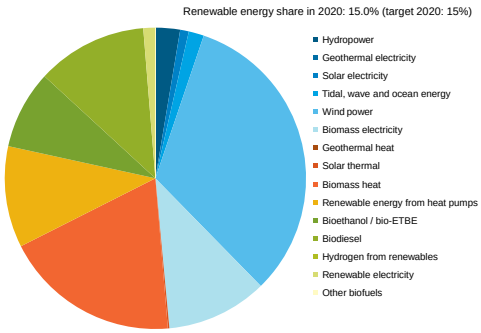
United Kingdom









The *pie charts* have been based on absolute energy values in ktoe whereas the figure *titles* display information on the share of renewables in a specific year in comparison to the target for the year 2020. The shares also contain information about the future gross final energy consumption, which in some countries might increase considerably up to 2020. For some countries the above figures may therefore seem counter-intuitive. The table on page 261 provides a background to the above figures.

			2005					2010						2015						2020						Page
			[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	[GWh]	[ktoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower 1MW - 10 MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower >10MW	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*103*
		Hydropower (subtotal)	4921	423	0.0	20.6	1.3	0.3	5100	439	16.1	10.2	1.4	0.3	5730	493	9.5	5.3	1.5	0.3	6360	547	5.4	2.7	1.7	0.4	*103*
		Geothermal	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	*110*
		Solar photovoltaic	8	1	0.0	0.0	0.0	0.0	40	3	0.1	0.1	0.0	0.0	890	77	1.5	0.8	0.2	0.1	2240	193	1.9	0.9	0.6	0.1	*121*
		Concentrated solar power	n.a.	n.a.	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*121*
		Solar (subtotal)	8	1	0.0	0.0	0.0	0.0	40	3	0.1	0.1	0.0	0.0	890	77	1.5	0.8	0.2	0.1	2240	193	1.9	0.9	0.6	0.1	*121*
		Tidal, wave and ocean energy	n.a.	n.a.	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	3950	340	3.4	1.7	1.0	0.2	*128*
		Onshore wind	2501	215	0.0	10.5	0.7	0.1	9520	819	30.1	19.0	2.6	0.6	20610	1772	34.2	19.0	5.5	1.2	34150	2936	29.2	14.3	9.1	2.0	*139*
		Offshore wind	403	35	0.0	1.7	0.1	0.0	4630	398	14.6	9.2	1.3	0.3	18820	1618	31.2	17.4	5.0	1.1	44120	3794	37.7	18.5	11.7	2.6	*139*
		Wind power (subtotal)	2904	250	0.0	12.2	0.8	0.2	14150	1217	44.7	28.3	3.8	0.8	39430	3390	65.4	36.4	10.6	2.3	78270	6730	66.9	32.8	20.8	4.7	*139*
		Solid biomass	4347	374	0.0	18.2	1.2	0.2	5500	473	17.4	11.0	1.5	0.3	7990	687	13.2	7.4	2.1	0.5	20590	1770	17.6	8.6	5.5	1.2	*149*
		Biogas	4762	409	0.0	20.0	1.3	0.3	6830	587	21.6	13.6	1.9	0.4	6300	542	10.4	5.8	1.7	0.4	5570	479	4.8	2.3	1.5	0.3	*149*
		Bioliquids	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	*149*
		Biomass (subtotal)	9109	783	0.0	38.2	2.4	0.5	12330	1060	39.0	24.6	3.3	0.7	14290	1229	23.7	13.2	3.8	0.8	26160	2249	22.4	11.0	6.9	1.6	*149*
		Total (according to Template Tables 10a/b)	n.a.	n.a.	0.0	0.0	0.0	0.0	31630	2720	**100.0**	63.2	8.6	1.9	60330	5187	**100.0**	55.7	16.2	3.6	116970	10058	**100.0**	49.0	31.0	7.0	-
		Sum of all technologies (Template Tables 10a/b)	16942	1457	0.0	71.1	4.5	0.9	31620	2719	100.0	63.2	8.6	1.9	60340	5188	100.0	55.7	16.2	3.6	116980	10058	100.0	49.0	31.0	7.0	-
		Gross final RES-E consumption (Template Table 4a)		1506	0.0	73.5	4.7	1.0		2720	100.0	63.2	8.6	1.9		5189	100.0	55.8	16.2	3.6		10059	100.0	49.0	31.0	7.0	*76 – 79*
	Heating and cooling	Geothermal		1	0.2	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*154*
		Solar thermal		29	4.9	1.4	0.0	0.0		34	6.6	0.8	0.1	0.0		34	2.2	0.4	0.1	0.0		34	0.5	0.2	0.1	0.0	*160*
		Solid biomass		493	83.6	24.0	0.7	0.3		305	58.9	7.1	0.5	0.2		904	58.8	9.7	1.6	0.6		3612	58.3	17.6	7.0	2.5	*168*
		Biogas		67	11.4	3.3	0.1	0.0		18	3.5	0.4	0.0	0.0		54	3.5	0.6	0.1	0.0		302	4.9	1.5	0.6	0.2	*168*
		Bioliquids		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*168*
		Biomass (subtotal)		560	94.9	27.3	0.8	0.4		323	62.4	7.5	0.5	0.2		958	62.3	10.3	1.7	0.7		3914	63.1	19.1	7.6	2.7	*168*
		Aerothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		66	12.7	1.5	0.1	0.0		194	12.6	2.1	0.4	0.1		1301	21.0	6.3	2.5	0.9	*174*
		Geothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		120	23.2	2.8	0.2	0.1		354	23.0	3.8	0.6	0.2		953	15.4	4.6	1.9	0.7	*174*
		Hydrothermal heat pumps		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	*174*
		Renewable energy from heat pumps (subtotal)		0	0.0	0.0	0.0	0.0		186	35.9	4.3	0.3	0.1		548	35.7	5.9	1.0	0.4		2254	36.4	11.0	4.4	1.6	*174*
		Total (according to Template Table 11)		590	**100.0**	28.8	0.9	0.4		518	**100.0**	12.0	0.9	0.4		1537	**100.0**	16.5	2.8	1.1		6199	**100.0**	30.2	12.0	4.3	-
		Sum of all technologies (Template Table 11)		590	100.0	28.8	0.9	0.4		543	104.8	12.6	0.9	0.4		1540	100.2	16.5	2.8	1.1		6202	100.0	30.2	12.0	4.3	-
		Gross final RES-H/C consumption (Template Table 4a)		475	80.5	23.2	0.7	0.3		518	100.0	12.0	0.9	0.4		1537	100.0	16.5	2.8	1.1		6199	100.0	30.2	12.0	4.3	*76 – 79*
	Transport	Bioethanol / bio-ETBE		18	9.6	0.9	0.0	0.0		135	11.9	3.1	0.3	0.1		692	25.6	7.4	1.6	0.5		1743	39.0	8.5	4.2	1.2	*180*
		Biodiesel		57	30.3	2.8	0.1	0.0		861	76.1	20.0	2.1	0.6		1818	67.3	19.5	4.3	1.2		2462	55.1	12.0	5.9	1.7	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		113	60.1	5.5	0.3	0.1		136	12.0	3.2	0.3	0.1		192	7.1	2.1	0.5	0.1		267	6.0	1.3	0.6	0.2	*198*
		Other biofuels		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*204*
		Total (according to Template Table 12)		188	**100.0**	9.2	0.5	0.1		1132	**100.0**	26.3	2.8	0.8		2702	**100.0**	29.0	6.4	1.9		4472	**100.0**	21.8	10.7	3.1	-
		Sum of all technologies (Template Table 12)		188	100.0	9.2	0.5	0.1		1132	100.0	26.3	2.8	0.8		2702	100.0	29.0	6.4	1.9		4472	100.0	21.8	10.7	3.1	-
		Gross final RES-T consumption (Template Table 4a)		69	36.7	3.4	0.2	0.0		1066	94.2	24.8	2.6	0.7		2581	95.5	27.7	6.1	1.8		4251	95.1	20.7	10.2	3.0	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		69	36.7	3.4	0.2	0.0		1066	94.2	24.8	2.6	0.7		2587	95.7	27.8	6.2	1.8		4295	96.0	20.9	10.3	3.0	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		2050		100.0	4.9	1.3		4304		100.0	10.6	2.9		9307		100.0	22.2	6.4		20510		100.0	49.1	14.2	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		665		32.4	1.6	0.4		4234		98.4	10.5	2.9		9234		99.2	22.0	6.3		20462		99.8	49.0	14.2	-
		Sum all technologies in Template Tables 10a/b, 11, 12		2235			5.4	1.4		4394			10.9	3.0		9430			22.5	6.5		20732			49.6	14.4	-
	Co-operation mechanisms	Transfer from other Member States and third countries		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		2050		**100.0**	4.9	1.3		4304		**100.0**	10.6	2.9		9307		**100.0**	22.2	6.4		20510		**100.0**	49.1	14.2	*76 – 79*
Final consumption	Electricity	reference scenario[f]		32100						31800						33100						34200					*64*
		additional energy efficiency[f]		32100			**100.0**	20.8		31700			**100.0**	21.6		32100			**100.0**	22.0		32400			**100.0**	22.5	*65*
	Heating and cooling	reference scenario[f]		66900						60000						56900						54800					*66*
		additional energy efficiency[f]		66900			**100.0**	43.3		60000			**100.0**	41.0		55300			**100.0**	38.0		51500			**100.0**	35.7	*67*
	Transport	reference scenario[f]		41704						40485						42002						41779					*68*
		additional energy efficiency[f]		41704			**100.0**	27.0		40485			**100.0**	27.6		42002			**100.0**	28.8		41779			**100.0**	29.0	*69*
	Total before aviation reduction	reference scenario[f]		154500						146600						148300						149000					*70*
		additional energy efficiency[f]		154500				**100.0**		146500				**100.0**		145600				**100.0**		144100				**100.0**	*71*
	Total after aviation reduction	reference scenario[f]		150900						142800						143000						142000					*72*
		additional energy efficiency[f]		150900				97.7		142700				97.4		140200				96.3		136700				94.9	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]						1.3						4.0						7.5						15.0	*59*

[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*before* aviation reduction of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

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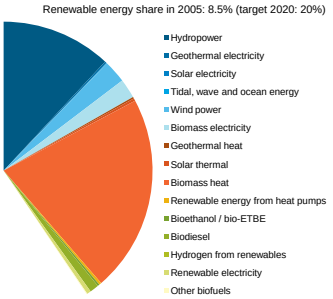

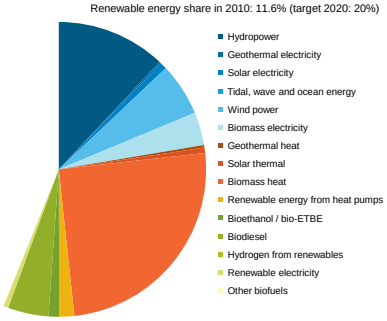

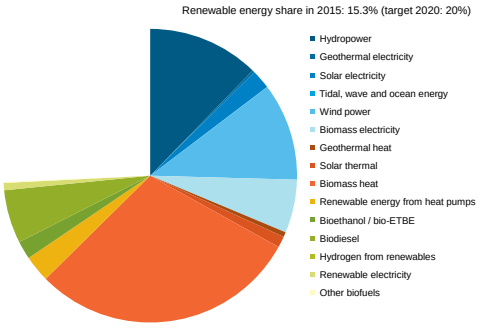

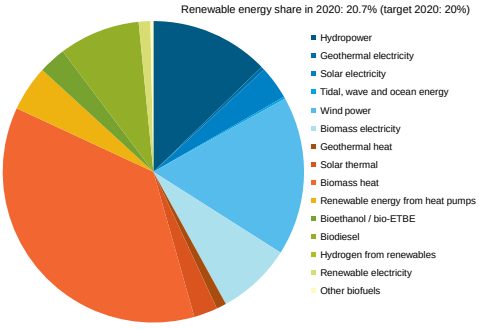

			2005					2010						2015						2020						*Page*
			[TWh]	[Mtoe]	[%][a]	[%][b]	[%][c]	[%][d]	[TWh]	[Mtoe]	[%][a]	[%][b]	[%][c]	[%][d]	[TWh]	[Mtoe]	[%][a]	[%][b]	[%][c]	[%][d]	[TWh]	[Mtoe]	[%][a]	[%][b]	[%][c]	[%][d]	
Renewable production	Electricity	Hydropower < 1MW	11	1	2.4	1.0	0.4	0.1	11	1	1.7	0.7	0.3	0.1	12	1	1.3	0.6	0.3	0.1	13	1	1.0	0.4	0.4	0.1	*103*
		Hydropower 1MW - 10 MW	34	3	7.1	3.0	1.1	0.3	34	3	5.3	2.1	1.0	0.2	37	3	4.1	1.7	1.1	0.3	40	3	3.3	1.4	1.1	0.3	*103*
		Hydropower >10MW	295	25	61.5	25.7	9.4	2.2	292	25	45.7	18.3	8.9	2.1	299	26	33.2	14.2	8.8	2.2	309	27	25.4	10.9	8.8	2.3	*103*
		Hydropower (subtotal)	341	29	71.2	29.7	10.9	2.5	343	29	53.6	21.5	10.4	2.5	354	30	39.3	16.8	10.4	2.6	369	32	30.4	13.0	10.5	2.7	*103*
		Geothermal	5	0	1.1	0.5	0.2	0.0	6	1	0.9	0.4	0.2	0.0	7	1	0.8	0.3	0.2	0.1	11	1	0.9	0.4	0.3	0.1	*110*
		Solar photovoltaic	1	0	0.3	0.1	0.0	0.0	20	2	3.2	1.3	0.6	0.1	52	4	5.7	2.5	1.5	0.4	83	7	6.9	2.9	2.4	0.6	*121*
		Concentrated solar power	0	0	0.0	0.0	0.0	0.0	1	0	0.2	0.1	0.0	0.0	9	1	1.0	0.4	0.3	0.1	20	2	1.6	0.7	0.6	0.1	*121*
		Solar (subtotal)	1	0	0.3	0.1	0.0	0.0	21	2	3.3	1.3	0.6	0.2	61	5	6.8	2.9	1.8	0.4	103	9	8.5	3.6	2.9	0.8	*121*
		Tidal, wave and ocean energy	1	0	0.1	0.0	0.0	0.0	1	0	0.1	0.0	0.0	0.0	1	0	0.1	0.0	0.0	0.0	7	1	0.5	0.2	0.2	0.0	*128*
		Onshore wind	67	6	14.0	5.8	2.1	0.5	156	13	24.4	9.8	4.7	1.1	258	22	28.6	12.2	7.6	1.9	352	30	28.9	12.4	10.0	2.6	*139*
		Offshore wind	2	0	0.4	0.2	0.1	0.0	9	1	1.4	0.5	0.3	0.1	50	4	5.5	2.4	1.5	0.4	142	12	11.7	5.0	4.0	1.0	*139*
		Wind power (subtotal)	70	6	14.7	6.1	2.3	0.5	165	14	25.8	10.3	5.0	1.2	309	27	34.3	14.7	9.1	2.2	495	43	40.7	17.4	14.0	3.6	*139*
		Solid biomass	55	5	11.5	4.8	1.8	0.4	77	7	12.0	4.8	2.3	0.6	114	10	12.6	5.4	3.3	0.8	155	13	12.7	5.4	4.4	1.1	*149*
		Biogas	12	1	2.6	1.1	0.4	0.1	29	2	4.5	1.8	0.9	0.2	44	4	4.9	2.1	1.3	0.3	64	6	5.3	2.2	1.8	0.5	*149*
		Bioliquids	1	0	0.3	0.1	0.0	0.0	9	1	1.4	0.5	0.3	0.1	11	1	1.2	0.5	0.3	0.1	13	1	1.0	0.4	0.4	0.1	*149*
		Biomass (subtotal)	60	5	12.6	5.2	1.9	0.4	104	9	16.2	6.5	3.1	0.8	169	15	18.8	8.0	5.0	1.2	232	20	19.1	8.2	6.6	1.7	*149*
		Total (according to Template Tables 10a/b)	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	-
		Sum of all technologies (Template Tables 10a/b)	479	41	**100.0**	41.7	15.3	3.5	639	55	**100.0**	40.1	19.4	4.6	901	77	**100.0**	42.8	26.5	6.5	1217	105	**100.0**	42.8	34.5	8.9	-
		Gross final RES-E consumption (Template Table 4a)		41	99.8	41.6	15.3	3.5		55	100.2	40.2	19.4	4.6		76	98.5	42.1	26.1	6.4		103	98.5	42.1	34.0	8.7	*76 – 79*
	Heating and cooling	Geothermal		0	0.8	0.4	0.1	0.0		1	1.0	0.5	0.1	0.1		1	1.6	0.7	0.3	0.1		3	2.4	1.1	0.5	0.2	*154*
		Solar thermal		1	1.3	0.7	0.1	0.1		1	2.1	1.1	0.3	0.1		3	3.6	1.7	0.6	0.3		6	5.7	2.6	1.2	0.5	*160*
		Solid biomass		48	87.8	48.3	8.6	4.1		57	83.4	41.3	10.4	4.8		66	78.1	36.6	12.4	5.6		81	72.6	33.1	15.6	6.9	*168*
		Biogas		1	1.2	0.6	0.1	0.1		2	2.2	1.1	0.3	0.1		3	3.4	1.6	0.5	0.2		5	4.5	2.1	1.0	0.4	*168*
		Bioliquids		1	2.1	1.1	0.2	0.1		4	5.4	2.7	0.7	0.3		4	4.8	2.3	0.8	0.3		4	4.0	1.8	0.8	0.4	*168*
		Biomass (subtotal)		53	96.8	53.2	9.5	4.5		62	90.9	45.0	11.4	5.2		73	86.3	40.4	13.7	6.2		90	81.1	37.0	17.4	7.7	*168*
		Aerothermal heat pumps		0	0.3	0.1	0.0	0.0		2	3.4	1.7	0.4	0.2		4	4.4	2.1	0.7	0.3		6	5.6	2.6	1.2	0.5	*174*
		Geothermal heat pumps		0	0.4	0.2	0.0	0.0		1	1.7	0.9	0.2	0.1		2	2.8	1.3	0.4	0.2		4	3.8	1.7	0.8	0.4	*174*
		Hydrothermal heat pumps		0	0.1	0.0	0.0	0.0		0	0.3	0.2	0.0	0.0		0	0.4	0.2	0.1	0.0		1	0.5	0.2	0.1	0.0	*174*
		Renewable energy from heat pumps (subtotal)		1	1.1	0.6	0.1	0.1		4	5.9	2.9	0.7	0.3		7	8.6	4.0	1.4	0.6		12	10.9	5.0	2.3	1.0	*174*
		Total (according to Template Table 11)		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	-
		Sum of all technologies (Template Table 11)		54	**100.0**	55.0	9.8	4.7		68	**100.0**	49.5	12.5	5.7		85	**100.0**	46.8	15.9	7.2		112	**100.0**	45.6	21.4	9.5	-
		Gross final RES-H/C consumption (Template Table 4a)		55	100.7	55.4	9.9	4.7		68	100.1	49.5	12.5	5.7		85	100.0	46.8	15.9	7.2		112	100.1	45.6	21.4	9.5	*76 – 79*
	Transport	Bioethanol / bio-ETBE		1	12.6	0.5	0.2	0.0		3	18.7	2.1	0.9	0.2		5	22.8	2.7	1.6	0.4		7	22.2	3.0	2.3	0.6	*180*
		Biodiesel		2	56.7	2.4	0.8	0.2		11	71.4	8.0	3.5	0.9		15	66.9	8.0	4.6	1.2		22	65.9	8.8	6.9	1.8	*186*
		Hydrogen from renewables		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	*190*
		Renewable electricity		1	25.9	1.1	0.4	0.1		1	8.5	0.9	0.4	0.1		2	9.0	1.1	0.6	0.2		3	9.5	1.3	1.0	0.3	*198*
		Other biofuels		0	4.7	0.2	0.1	0.0		0	1.4	0.2	0.1	0.0		0	1.2	0.1	0.1	0.0		1	2.4	0.3	0.3	0.1	*204*
		Total (according to Template Table 12)		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0		n.a.	0.0	0.0	0.0	0.0	-
		Sum of all technologies (Template Table 12)		4	**100.0**	4.2	1.4	0.4		15	**100.0**	11.2	4.9	1.3		22	**100.0**	12.0	6.9	1.8		33	**100.0**	13.4	10.5	2.8	-
		Gross final RES-T consumption (Template Table 4a)		4	92.5	3.9	1.3	0.3		15	98.4	11.0	4.8	1.3		21	98.2	11.8	6.8	1.8		32	97.6	13.1	10.3	2.7	*76 – 79*
		RES-T including Article 21.2 (Template Table 4b)[e]		4	98.5	4.2	1.4	0.4		16	103.0	11.5	5.0	1.3		23	104.9	12.6	7.2	1.9		35	107.6	14.4	11.3	3.0	*76 – 79*
	All RES excl. co-operation mech.	Gross final RES consumption (Template Table 4a)		99		100.0	33.0	8.5		137		100.0	43.7	11.6		181		100.0	57.4	15.3		245		100.0	78.3	20.7	*76 – 79*
		Sum totals Template Tables 10a/b, 11, 12 (corr. Art 5(1))		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0	-
		Sum all technologies in Template Tables 10a/b, 11, 12		100			33.3	8.6		138			44.0	11.7		184			58.4	15.5		249			79.7	21.1	-
	Co-operation mechanisms	Transfer from other Member States and third countries		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0		n.a.		0.0	0.0	0.0	*76 – 79*
		Transfer to other Member States		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0		0		0.0	0.0	0.0	*76 – 79*
	All RES incl. co-operation mech.	Total (Template Table 4a)		99		**100.0**	33.0	8.5		137		**100.0**	43.7	11.6		181		**100.0**	57.4	15.3		245		100.0	78.3	20.7	*76 – 79*
Final consumption	Electricity	reference scenario[f]		268						286						307						329					*64*
		additional energy efficiency[f]		268			**100.0**	23.1		283			**100.0**	23.9		293			**100.0**	24.7		304			**100.0**	25.7	*65*
	Heating and cooling	reference scenario[f]		552						556						569						581					*66*
		additional energy efficiency[f]		552			**100.0**	47.5		543			**100.0**	45.8		532			**100.0**	44.9		521			**100.0**	44.1	*67*
	Transport	reference scenario[f]		299						322						337						349					*68*
		additional energy efficiency[f]		299			**100.0**	25.7		313			**100.0**	26.5		315			**100.0**	26.6		312			**100.0**	26.5	*69*
	Total before aviation reduction	reference scenario[f]		1166						1213						1266						1317					*70*
		additional energy efficiency[f]		1166				100.4		1189				100.4		1192				100.6		1189				100.8	*71*
	Total after aviation reduction	reference scenario[f]		1162						1208						1259						1307					*72*
		additional energy efficiency[f]		1162				**100.0**		1184				**100.0**		1185				**100.0**		1180				**100.0**	*73*
Target		Transport fuels target																								10.0	-
		Overall renewable target[g]																								20.0	-

[a] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector-total (RES-E, RES-H/C or RES-T, see values highlighted in bold).
[b] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in total RES (if applicable including co-operation mechanisms, see value highlighted in bold).
[c] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the sector total of the final gross energy consumption ('*Additional energy efficiency scenario*' only), see values highlighted in bold).
[d] The percentages refer to the values in the column '[ktoe]' and express the share of the renewable technology in the total final gross energy consumption (*after* aviation reduction (this is different for EU-27) of the *Additional energy efficiency scenario*), see value highlighted in bold).
[e] Art. 21.2 adjustment refers to double counting of certain biofuels (times 2) and and renewable electricity in road transport (times 2.5).
[f] In 'Final consumption' values for the year 2005 refer to the 'base year' in Template Table 1 (see Table 47 (page 64) to Table 56 (page 73).)
[g] For the years 2005 and 2020 the shares as defined in Annex I of Directive 2009/28/EC are presented, for the years 2010 and 2015 it is referred to the trajectory periods 2011-2012 and 2015-2016.
General: where is referred to Tables 1, 4a, 10a/b, 11 and 12 it is meant to the Template, prepared by the European Commission and available for download at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0548:EN:NOT

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