Renewable Energy Progress Reports Data for 2009-2010

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Acknowledgement

This report aims to serve the European energy experts and policy makers with a reference book on renewable energy. The report focuses on the Progres Reports that were due in 2011, with data for 2009 and 2010. The ambition is to also release a database with data from the Progress Reports that are due in December 2013. See www.ecn.nl/nreap for the developments regarding new work, but also to provide your highly appreciated feedback on this report and the database. The author would like to thank his colleagues at ECN for the support to compile the database and edit this data report, which has been typeset in LaTeX. For more information or background on this report contact the author at nreap@ecn.nl.

Abstract

This report compiles and presents all data that were published by 27 European Member States to comply with Article 22 from the Renewable Energy Directive (2009/28/EC). These reports were due by December 2011 and present the status of renewable energy for the statistical years 2009 and 2010. The original Progress Reports are available publicly, but grabbing the data from the predefined tables is a challenge. In this report and the underlying database (both available at www.ecn.nl/nreap) all data are presented in an accessble manner. In the first part of the report the data have been grouped per country, in the second part per technology. Where possible EU-27 totals have been calculated in this second part. The report features an extensive index in order to increase its value as a reference book.

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Introduction

This work is an integrated compilation of all Progress Reports on renewable energy in the European Union (27 Member States). First, the legal documents following the European Directive and their context are being mentioned (Section 1.1), followed by a reader's guide to this work (Section 1.2). Next, the purpose of this report and the targeted audience are explained in Section 1.3. Then, possible future work is being announced (Section 1.4) and finally an the possibility is introduced for the reader to provide feedback (Section 1.5).

1.1 Progress Reports: the context

Following the European Union Directive 2009/28/EC all European Union (EU) Member States (MS) have the obligation to inform the European Commission (EC) on:

All European Union Member States have obligations on reporting in the framework of RES Directive 2009/28/EC

1. Their estimate for Renewable Energy Sources (RES) development up to the year 2020, as defined in Article 4 of the RES Directive. These projections have all been published and are available for download at the website of the European Commission[1]. These reports are called 'National Renewable Energy Action Plans' (NREAPs).
2. Their progress regarding the implementation of RES. This needs to be done in a 'Progress Report' (PR) which is to be published every two years, as defined in Article 22 of the RES Directive. The first versions of the 27 Progress Reports (with data for 2009 and 2010) were due on 31 December 2011 and are available for download at the website of the European Commission[2]. An overview of the Progress Reports and their delivery dates is presented in Table 1.

ECN has compiled a database (last update November 2011) of all the energy projections towards 2020 (the NREAPs, available at www.ecn.nl/nreap). This database and the accompanying data report assist stakeholders in evaluating the ambitions of the European Union Member States. These NREAPs were all published in 2010-2011 and are 'carved in stone', i.e. these documents will remain valid up to 2021, when the EU RES target will be evaluated. Possibly, MS provide updates of their reports, which might be added to the

Previously, ECN has made all RES projections up to 2020 publicly available at www.ecn.nl/nreap

1 http://ec.europa.eu/energy/renewables/action_plan_en.htm (sourced October 2013)

2 http://ec.europa.eu/energy/renewables/reports/2011_en.htm (sourced October 2013)

ECN database[3] in a later stage.

This report makes all Progress Report data integrally available, along with a database. Both are available at www.ecn.nl/nreap

Until now the data from the progress reports (which were due in December 2011) were never released in an integral and accessible manner. This has been done in the current report. A worksheet with all underlying data is available for download at www.ecn.nl/nreap.

1.2 How to read this report?

The PDF version of this report has clickable references.

This data report and the accompanying data tables make a large amount of data available. Consequently, this report features many tables. In some cases comments have been made to the data, which mostly stem from the original progress reports but also have been added by the author for clarification. In most cases the translated versions of the progress reports have been used.

The nomenclature of the tables in this report follow the original numbering as defined in the Template for the Progress Report[4].

The report first presents an overview of renewable energy per country, starting with Austria (page 17) up to the United Kingdom (page 181). The added value of these tables is that all data are available at a glance, and can easily be compared to data from other countries. Moreover, the achievements in renewable electricity, in renewable heating and cooling and in renewable transport have been displayed in aggregate tables (one for 2009 and one for 2010), which additionally shows the importance of each of these sources in the overall picture by calculated shares. On page 189 an overview is presented for the European Union (27 Member States). These data have been calculated by summing the contributions from the individual Member States.

Secondly, the report presents a separate table for country contributions to each of the Progress Report table's rows. This makes it possible to see differences between countries for each reported parameter. This part runs from page 195 to 240.

Note that Member States in their Progress Reports do not consistently apply the same amount of decimals in their data tables. Naturally, for smaller countries the decimals have more relevance than for large countries. For the purpose of this report it has been decided to display the original decimals without rounding. This makes that the table columns align data non-consistently.

As the report is meant as a reference book, the reader is encouraged to not print the document, but to use in in its original format, namely PDF. This version has additional functionality like automated cross-links (pagenumbers in the comments and the index) and active hyperlinks to relevant locations on the internet.

1.3 Purpose and target audience

Energy professionals and policy makers may benefit from the work in this report

The intention of this work is to serve the European energy experts with a reference book on renewable energy: research institutes, statistical offices, the energy industry, energy service companies, renewable energy associations, energy consultants, banks and policy makers on local, national and European level. This report focuses on the Progres Reports

3 After the closure of the ECN NREAP database in November 2011 three Member States amended their projections: the Czech Republic, Poland and Spain. This has not been covered yet in the NREAP database and data report.

4 http://ec.europa.eu/energy/renewables/reports/2011_en.htm (sourced October 2013)

	Author	Date	Page
Austria	Bundesministerium für Wirtschaft, Familie und Jugend	23 Feb 2012*	17
Belgium	CONCERE-ENOVER	24 Apr 2012	23
Bulgaria	Ministry of the Economy, Energy and Tourism	Dec 2011	29
Cyprus	Ministry of Commerce, Industry and Tourism	25 Jul 2012*	35
Czech Republic	n.a.	n.a.	41
Denmark	Unknown	Dec 2011	47
Estonia	Ministry of Economic Affairs and Communications	2011	53
Finland	Ministry of Employment and the Economy	3 May 2012	59
France	The French Authorities	9 Dec 2011	65
Germany	n.a.	31 Dec 2012	71
Greece	Ministry of Environment, Energy and Climate Change	2012	77
Hungary	Ministry of National Development	18 Jul 2012*	83
Ireland	n.a.	Jan 2012	89
Italy	n.a.	Dec 2011	95
Latvia	Ministry of Economics	2012	103
Lithuania	n.a.	2011	109
Luxembourg	n.a.	27 Jun 2012*	115
Malta	n.a.	11 Apr 2012*	121
Netherlands	Rijksoverheid	16 Mar 2012*	127
Poland	Ministerstwo Gospodarki	2012	133
Portugal	n.a.	May 2012	141
Romania	n.a.	3 Apr 2012*	147
Slovakia	Ministry of the Economy of the Slovak Republic	2012	153
Slovenia	Ministrstvo za gospodarstvo, Direktorat za Energijo	22 Dec 2011	159
Spain	Instituto para la Diversificación y Ahorro de la Energía	1 Jun 2012	165
Sweden	Government Offices of Sweden	6 Mar 2012*	171
United Kingdom	United Kingdom Government	5 Jan 2012*	181

Table 1: Overview of Progress Reports by the 27 European Union Member States. Some reports don't mention an author, others don't mention a publication date. For documents without a publication date the PDF creation date has been listed, indicated by an '*'. The last column refers to the page number in this report.

that were due in 2011 (with data for renewable energy for the years 2009 and 2010. In order to assist professionals in their energy system analyses the data have all been made available in a separately available database, see www.ecn.nl/nreap.

1.4 Future work

At the end of 2013 a next release round of Member State Progress Reports can be expected, as the formal deadline to deliver (among others) the new statistical data on 2011 and 2012 has been defined as 31st of December 2013. Expectedly in the beginning of 2014 this information will become available, and it will be the most actual official data: other data sources still do exist, but these have all their limitations. Eurostat for example is expected not have the 2012 data for the first months in 2012. Moreover, the cross-sections and aggregates in the renewable energy data have been compiled in different ways than in the progress reports. Another data project, EurObserv'ER, does have projections for 2012 but it generally is not using official member state estimates for their reporting.

ECN is crowdfunding to compile a similar report and database for the series 2013 Progress Reports

Future updates of the Progress Reports are expected in 2015, 2017, 2019 and 2021 (conform Article 22 of Directive 2009/EC/28). If there is a demand for this type of data reports and databases ECN has the ambition to continue making these data integrally available to the audience. For this activity, means will be acquired through crowdfunding, see www.ecn.nl/nreap for more information.

1.5 Questionnaire

ECN welcomes feedback on this report at www.ecn.nl/nreap

In order to know more about the preferences of the targeted audience, ECN is hosting an online questionnaire at www.ecn.nl/nreap where readers can indicate which features they would prefer for the upcoming reports. The following options might be ticked:

1. In which form are the Progress Report data most useful to you?
    a) Data report in PDF.
    b) Database in spreadsheet format.
    c) Database ready for use in pivot tables.
2. What features would you welcome for the upcoming Progress Report compilation report?
    a) Derived indicators (annual growth, relative shares, per capita figures).
    b) Not only tables but also graphs.
    c) A comparison with other data sources (Eurostat, EurObserv'ER).
    d) Online access and online graphical interface.
    e) Comparison to the 'Indicative Trajectory' as defined in Directive 28/2009/EC.
    f) A presentation in different energy units (TJ or GWh instead of ktoe).

The questionnaire also addresses questions on the financing of this new report, in return of which readers may obtain 'early-releases' of the new-to-be-published progress report compilation or database. Finally, it is possible to leave your e-mail address for receiving a notification once the report has been published.

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Austria

	Unit	2009	2010	Comment
Renewable heating and cooling	%	32.3	32.2	
Renewable electricity	%	67.4	65.3	
Renewable Transport	%	8	7.9	
Overall renewable energy share	**%**	**30.9**	**30.8**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 2: Austrian PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Austria (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	3678	4070	
Gross final consumption of electricity from RES	ktoe	3886	3948	
Gross final consumption of energy from RES in transport	ktoe	728	716	
Gross total RES consumption	**ktoe**	**8100**	**8539**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**8100**	**8539**	

Table 3: Austrian PR Table 1a: Calculation table for the renewable energy contribution in Austria of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 4: Austrian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Austria for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**10651**	**38757**	**3333**	***40.2%***	
Hydropower (non pumped)	7828	34653	2980	*35.9%*	
Hydropower <1 MW (non pumped)	222	1610	138	*1.7%*	
Hydropower 1 MW - 10 MW (non pumped)	630	3251	280	*3.4%*	
Hydropower >10 MW (non pumped)	6976	29793	2562	*30.9%*	
Hydropower pumped storage	2823	4104	353	*4.3%*	
Hydropower mixed (normalised)	**10651**	**38757**	**3333**	***40.2%***	
Geothermal	1	2	0	*0.0%*	
Solar	**51**	**49**	**4**	***0.1%***	
Solar photovoltaic	51	49	4	*0.1%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**994**	**2024**	**174**	***2.1%***	
Onshore wind	994	2024	174	*2.1%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**1150**	**4370**	**376**	***4.5%***	
Solid biomass	684	2599	223	*2.7%*	
Biogas	161	611	53	*0.6%*	
Bioliquids	305	1160	100	*1.2%*	
Total	**14709**	**45201**	**3887**	***46.9%***	
Total CHP	**563**	**2141**	**184**	***2.2%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			19	*0.2%*	
Solar thermal			123	*1.5%*	
Biomass			**3421**	***41.3%***	
Solid biomass			3388	*40.9%*	
Biogas			27	*0.3%*	
Bioliquids			6	*0.1%*	
Renewable energy from heat pumps			**115**	***1.4%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**3678**	***44.4%***	
Total district heating			**614**	***7.4%***	
Total biomass in households			**1504**	***18.1%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**63**	***0.8%***	
Bioethanol / bio-ETBE Article 21.2			n.a.	*n.a.*	
Bioethanol / bio-ETBE imported			34	*0.4%*	
Biodiesel			**355**	***4.3%***	
Biodiesel Article 21.2			n.a.	*n.a.*	
Biodiesel imported			278	*3.4%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**193**	***2.3%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			193	*2.3%*	
Other biofuels			114	*1.4%*	
Other biofuels Article 21.2			n.a.	*n.a.*	
Total			**728**	***8.8%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**10600**	**39237**	**3374**	***40.7%***	
Hydropower (non pumped)	7843	34647	2979	*35.9%*	
Hydropower <1 MW (non pumped)	134	1677	144	*1.7%*	
Hydropower 1 MW - 10 MW (non pumped)	762	3343	287	*3.5%*	
Hydropower >10 MW (non pumped)	6947	29627	2547	*30.7%*	
Hydropower pumped storage	2757	4590	395	*4.8%*	
Hydropower mixed (normalised)	**10600**	**39237**	**3374**	***40.7%***	
Geothermal	1	1	0	*0.0%*	
Solar	**93**	**89**	**8**	***0.1%***	
Solar photovoltaic	93	89	8	*0.1%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**977**	**2035**	**175**	***2.1%***	
Onshore wind	994	2035	175	*2.1%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**1198**	**4554**	**392**	***4.7%***	
Solid biomass	704	2674	230	*2.8%*	
Biogas	171	649	56	*0.7%*	
Bioliquids	324	1232	106	*1.3%*	
Total	**14971**	**45916**	**3948**	***47.6%***	
Total CHP	**616**	**2339**	**201**	***2.4%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			20	*0.2%*	
Solar thermal			164	*2.0%*	
Biomass			**3767**	***45.4%***	
Solid biomass			3734	*45.0%*	
Biogas			28	*0.3%*	
Bioliquids			4	*0.0%*	
Renewable energy from heat pumps			**119**	***1.4%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**4070**	***49.1%***	
Total district heating			**727**	***8.8%***	
Total biomass in households			**1681**	***20.3%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**68**	***0.8%***	
Bioethanol / bio-ETBE Article 21.2			n.a.	*n.a.*	
Bioethanol / bio-ETBE imported			39	*0.5%*	
Biodiesel			**374**	***4.5%***	
Biodiesel Article 21.2			n.a.	*n.a.*	
Biodiesel imported			322	*3.9%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**194**	***2.3%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			194	*2.3%*	
Other biofuels			77	*0.9%*	
Other biofuels Article 21.2			n.a.	*n.a.*	
Total			**720**	***8.7%***	

Table 5: Austrian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Austria for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 6: Austrian PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	1660	n.a.	
Indirect supply of wood biomass	ktoe	1320	n.a.	
Energy crops	ktoe	5	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**2985**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**2985**	**0**	

Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	200	n.a.	
Indirect supply of wood biomass	ktoe	880	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**1080**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	0	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	0	n.a.	
Others	ktoe	0	n.a.	
Total biomass for transport*	**ktoe**	**0**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**1080**	**0**	

Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	70	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**70**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	0	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	0	n.a.	
Others	ktoe	0	n.a.	
Total biomass for transport*	**ktoe**	**0**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**70**	**0**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	50000	50000	1 (p.22)
Land used for short rotation trees	ha	900	1100	
Land used for other energy crops such as grasses	ha	1450	1320	

Table 7: Austrian PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	0	0	2 (p.22)
Consumption - Fuel type X	ktoe	0	0	
Total production Art.21.2.biofuels	ktoe	0	0	
Total consumption Art.21.2. biofuels	ktoe	0	0	
Share of 21(2) fuels from total RES-T	**%**	**0**	**0**	

Table 8: Austrian PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**28.8**	**29.9**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	17.9	18.2	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	10.9	11.7	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	n.a.	n.a.	

Table 9: Austrian PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	-	-	
Origin/destination	-	-	
Unit	**ktoe**	**ktoe**	
2010	0	0	
2011	0	0	
2012	0	0	
2013	0	0	
2014	0	0	
2015	0	0	
2016	0	0	
2017	0	0	
2018	0	0	
2019	0	0	
2020	0	0	

Table 10: Austrian PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Austria (ktoe) (see Table 9 of the NREAP)

Comments for Austria

1: Values: 50000 ha (net) versus 115000 ha (gross). Net surface takes into account surface factoring for coproduction of protein feed (DDGS, rapeseed cake). Only part of ethanol production (starch) and vegetable oil production (oil) yield is used to produce biofuels; most of the raw material is used for high-grade protein feed for livestock and, as such, can substitute protein feed imports (e.g. soya imports from soya-growing areas in South America). Gross surface, does not take into account coproduction of high-grade protein feeds. Gross surfaces are often used in misleading argumentations about the competitive position of land use, therefore, the indication of net surfaces has greater importance.
2: At the moment there are no market-relevant volumes in Austria

3

Belgium

	Unit	2009	2010	Comment
Renewable heating and cooling	%	4.35	4.51	
Renewable electricity	%	6.33	6.97	
Renewable Transport	%	3.03	4.46	
Overall renewable energy share	**%**	**4.51**	**5.05**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 11: Belgian PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Belgium (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	839.48	987.48	
Gross final consumption of electricity from RES	ktoe	493.98	596.23	
Gross final consumption of energy from RES in transport	ktoe	228.49	345.49	
Gross total RES consumption	**ktoe**	**1561.95**	**1929.21**	
Transfer of RES to other Member States	ktoe	n.a.	n.a.	
Transfer of RES from other Member States and 3rd countries	ktoe	n.a.	n.a.	
RES consumption adjusted for target	**ktoe**	**n.a.**	**n.a.**	

Table 12: Belgian PR Table 1a: Calculation table for the renewable energy contribution in Belgium of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 13: Belgian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Belgium for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**1428.9**	**1801.3**	**155**	***9.2%***	
Hydropower (non pumped)	118.9	372.1	32	*1.9%*	
Hydropower <1 MW (non pumped)	8.8	24.7	2	*0.1%*	
Hydropower 1 MW - 10 MW (non pumped)	54.7	198.2	17	*1.0%*	
Hydropower >10 MW (non pumped)	55.3	149.1	13	*0.8%*	
Hydropower pumped storage	1310	1429.3	123	*7.3%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**218.4**	**169.4**	**15**	***0.9%***	
Solar photovoltaic	218.4	169.4	15	*0.9%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**586.4**	**1092.7**	**94**	***5.6%***	
Onshore wind	554.9	1010.8	87	*5.2%*	
Offshore wind	31.5	82	7	*0.4%*	
Biomass	**900.7**	**4103.8**	**353**	***21.0%***	
Solid biomass	638	3268.1	281	*16.7%*	
Biogas	111.8	462.2	40	*2.4%*	
Bioliquids	150.9	373.5	32	*1.9%*	
Total	**3134.3**	**7167.3**	**616**	***36.6%***	
Total CHP	**181**	**971.5**	**84**	***5.0%***	

Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			1.9	*0.1%*	
Solar thermal			11.1	*0.7%*	
Biomass			**814.4**	***48.4%***	
Solid biomass			755.1	*44.9%*	
Biogas			23.5	*1.4%*	
Bioliquids			36.4	*2.2%*	
Renewable energy from heat pumps			**11.4**	***0.7%***	
Aerothermal heat pumps			0	*0.0%*	
Geothermal heat pumps			11.4	*0.7%*	
Hydrothermal heat pumps			0	*0.0%*	
Total			**838.8**	***49.8%***	
Total district heating			**18.3**	***1.1%***	
Total biomass in households			**220.4**	***13.1%***	

Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**30.8**	***1.8%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			15.4	*0.9%*	
Biodiesel			**195.5**	***11.6%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			183.3	*10.9%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**1.9**	***0.1%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			1.9	*0.1%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**228.2**	***13.6%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**1428.6**	**1720.9**	**148**	***8.8%***	
Hydropower (non pumped)	118.6	372.4	32	*1.9%*	
Hydropower <1 MW (non pumped)	8.7	26.1	2	*0.1%*	
Hydropower 1 MW - 10 MW (non pumped)	54.6	194.5	17	*1.0%*	
Hydropower >10 MW (non pumped)	55.4	151.8	13	*0.8%*	
Hydropower pumped storage	1310	1348.5	116	*6.9%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**660.7**	**557.5**	**48**	***2.8%***	
Solar photovoltaic	660.7	557.5	48	*2.8%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**919.5**	**1589.3**	**137**	***8.1%***	
Onshore wind	723	1399.7	120	*7.1%*	
Offshore wind	196.5	189.6	16	*1.0%*	
Biomass	**1010.7**	**4413.8**	**380**	***22.5%***	
Solid biomass	726.8	3575.9	307	*18.3%*	
Biogas	123.6	568.2	49	*2.9%*	
Bioliquids	160.2	269.6	23	*1.4%*	
Total	**4019.5**	**8281.4**	**712**	***42.3%***	
Total CHP	**271.4**	**1511.6**	**130**	***7.7%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			1.9	*0.1%*	
Solar thermal			12	*0.7%*	
Biomass			**957.5**	***56.9%***	
Solid biomass			890.4	*52.9%*	
Biogas			26.2	*1.6%*	
Bioliquids			41.6	*2.5%*	
Renewable energy from heat pumps			**13.4**	***0.8%***	
Aerothermal heat pumps			26.1	*1.6%*	
Geothermal heat pumps			29	*1.7%*	
Hydrothermal heat pumps			5.2	*0.3%*	
Total			**984.8**	***58.5%***	
Total district heating			**19.8**	***1.2%***	
Total biomass in households			**248.9**	***14.8%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**38.2**	***2.3%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			19.1	*1.1%*	
Biodiesel			**304.6**	***18.1%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			292.4	*17.4%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**2.4**	***0.1%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			2.4	*0.1%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**345.3**	***20.5%***	

Table 14: Belgian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Belgium for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 15: Belgian PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	267	244	
Indirect supply of wood biomass	ktoe	381	545	
Energy crops	ktoe	4	4	1 (p.28)
Agricultural by-products / processed residues and fishery by-products	ktoe	175	210	
Biomass from waste	ktoe	360.7	493.7	
Others	ktoe	110	99	2 (p.28)
Total biomass for heating and electricity*	**ktoe**	**1297.7**	**1595.7**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	0	303	
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for transport*	**ktoe**	**0**	**303**	
Total biomass for all sectors*	**ktoe**	**1297.7**	**1898.7**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	0	0	
Indirect supply of wood biomass	ktoe	248	241	
Energy crops	ktoe	0.1	0.1	1 (p.28)
Agricultural by-products / processed residues and fishery by-products	ktoe	13.6	10	
Biomass from waste	ktoe	0	0	
Others	ktoe	0	0	2 (p.28)
Total biomass for heating and electricity*	**ktoe**	**261.7**	**251.1**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	190.6	303	
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for transport*	**ktoe**	**190.6**	**303**	
Total biomass for all sectors*	**ktoe**	**452.3**	**554.1**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	0	0	
Indirect supply of wood biomass	ktoe	238	161	
Energy crops	ktoe	40	20	1 (p.28)
Agricultural by-products / processed residues and fishery by-products	ktoe	6	4	
Biomass from waste	ktoe	0	0	
Others	ktoe	0	0	2 (p.28)
Total biomass for heating and electricity*	**ktoe**	**284**	**185**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	190.6	303	
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for transport*	**ktoe**	**190.6**	**303**	
Total biomass for all sectors*	**ktoe**	**474.6**	**488**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	18936	25921	3 (p.28)
Land used for short rotation trees	ha	77.9	139	4 (p.28)
Land used for other energy crops such as grasses	ha	81	82	5 (p.28)

Table 16: Belgian PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	n.a.	n.a.	
Consumption - Fuel type X	ktoe	n.a.	n.a.	
Total production Art.21.2.biofuels	ktoe	n.a.	n.a.	
Total consumption Art.21.2. biofuels	ktoe	n.a.	n.a.	
Share of 21(2) fuels from total RES-T	**%**	**n.a.**	**n.a.**	

Table 17: Belgian PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**6018891**	**7440702**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	3234185	3911810	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	2127645	2514273	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	657062	1014620	

Table 18: Belgian PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	
Origin/destination	n.a.	n.a.	
Unit	**ktoe**	**ktoe**	
2010	n.a.	-2807.7	
2011	n.a.	n.a.	
2012	n.a.	n.a.	
2013	n.a.	n.a.	
2014	n.a.	n.a.	
2015	n.a.	n.a.	
2016	n.a.	n.a.	
2017	n.a.	n.a.	
2018	n.a.	n.a.	
2019	n.a.	n.a.	
2020	n.a.	n.a.	

Table 19: Belgian PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Belgium (ktoe) (see Table 9 of the NREAP)

Comments for Belgium

1: Entry for 'Amount of raw material imported from the EU' (zero) does not correspond to equivalent entry in ktoe. Value in database is 'n.a.'.
2: This category regards for example alternative fuels in cement.
3: For 2009 main contributions from wheat (6605.6 ha) and beet (550.8), for 2010 no values specified.
4: Main contribution from willow (69.9 ha in 2009 and 111.0 ha for 2010).
5: Main contribution from miscanthus (80/0 ha in both 2009 and 2010).

4

Bulgaria

	Unit	2009	2010	Comment
Renewable heating and cooling	%	17.4	20.1	
Renewable electricity	%	11.4	12	
Renewable Transport	%	0.3	0.6	
Overall renewable energy share	**%**	**11**	**12.6**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 20: Bulgarian PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Bulgaria (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	772	923	
Gross final consumption of electricity from RES	ktoe	345	384	
Gross final consumption of energy from RES in transport	ktoe	8	17	
Gross total RES consumption	**ktoe**	**1125**	**1324**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**1125**	**1324**	

Table 21: Bulgarian PR Table 1a: Calculation table for the renewable energy contribution in Bulgaria of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 22: Bulgarian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Bulgaria for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**2156**	**3598**	**309**	***27.3%***	
Hydropower (non pumped)	1621	2957	254	*22.5%*	
Hydropower <1 MW (non pumped)	44	137	12	*1.0%*	
Hydropower 1 MW - 10 MW (non pumped)	204	614	53	*4.7%*	
Hydropower >10 MW (non pumped)	1373	2206	190	*16.8%*	
Hydropower pumped storage	788	852	73	*6.5%*	
Hydropower mixed (normalised)	**535**	**462**	**40**	***3.5%***	
Geothermal	0	0	0	*0.0%*	
Solar	**2**	**3**	**0**	***0.0%***	
Solar photovoltaic	2	3	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**333**	**412**	**35**	***3.1%***	**1 (p.34)**
Onshore wind	333	237	20	*1.8%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**3**	**4**	**0**	***0.0%***	
Solid biomass	0	0	0	*0.0%*	
Biogas	3	4	0	*0.0%*	
Bioliquids	0	0	0	*0.0%*	
Total	**2494**	**4017**	**345**	***30.5%***	
Total CHP	**0**	**0**	**0**	***0.0%***	

Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			33	*2.9%*	
Solar thermal			0	*0.0%*	
Biomass			**746**	***65.9%***	
Solid biomass			742	*65.6%*	
Biogas			0	*0.0%*	
Bioliquids			4	*0.4%*	
Renewable energy from heat pumps			**0**	***0.0%***	
Aerothermal heat pumps			0	*0.0%*	
Geothermal heat pumps			0	*0.0%*	
Hydrothermal heat pumps			0	*0.0%*	
Total			**779**	***68.9%***	
Total district heating			**1**	***0.1%***	
Total biomass in households			**672**	***59.4%***	

Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**0**	***0.0%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**4**	***0.4%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			0	*0.0%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**3**	***0.3%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			3	*0.3%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**7**	***0.6%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**2188**	**3709**	**319**	***28.2%***	
Hydropower (non pumped)	1653	4330	372	*32.9%*	
Hydropower <1 MW (non pumped)	47	187	16	*1.4%*	
Hydropower 1 MW - 10 MW (non pumped)	216	815	70	*6.2%*	
Hydropower >10 MW (non pumped)	1390	3328	286	*25.3%*	
Hydropower pumped storage	788	929	80	*7.1%*	
Hydropower mixed (normalised)	**535**	**769**	**66**	***5.8%***	
Geothermal	0	0	0	*0.0%*	
Solar	**25**	**15**	**1**	***0.1%***	
Solar photovoltaic	25	15	1	*0.1%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**488**	**722**	**62**	***5.5%***	**1 (p.34)**
Onshore wind	488	681	59	*5.2%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**3**	**16**	**1**	***0.1%***	
Solid biomass	0	0	0	*0.0%*	
Biogas	3	16	1	*0.1%*	
Bioliquids	0	0	0	*0.0%*	
Total	**2704**	**4461**	**384**	***33.9%***	
Total CHP	**0**	**0**	**0**	***0.0%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			33	*2.9%*	
Solar thermal			10	*0.9%*	
Biomass			**899**	***79.5%***	
Solid biomass			883	*78.0%*	
Biogas			3	*0.3%*	
Bioliquids			13	*1.1%*	
Renewable energy from heat pumps			**0**	***0.0%***	
Aerothermal heat pumps			0	*0.0%*	
Geothermal heat pumps			0	*0.0%*	
Hydrothermal heat pumps			0	*0.0%*	
Total			**942**	***83.3%***	
Total district heating			**2**	***0.2%***	
Total biomass in households			**710**	***62.8%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**0**	***0.0%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**11**	***1.0%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			0	*0.0%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**3**	***0.3%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			3	*0.3%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**14**	***1.2%***	

Table 23: Bulgarian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Bulgaria for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 24: Bulgarian PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	697	756	
Indirect supply of wood biomass	ktoe	60	160	
Energy crops	ktoe	0	0	2 (p.34)
Agricultural by-products / processed residues and fishery by-products	ktoe	0	0	
Biomass from waste	ktoe	0	0	
Others	ktoe	9	9	3 (p.34)
Total biomass for heating and electricity*	**ktoe**	**766**	**925**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	7	0	
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for transport*	**ktoe**	**7**	**0**	
Total biomass for all sectors*	**ktoe**	**773**	**925**	

Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	0	0	
Indirect supply of wood biomass	ktoe	0	0	
Energy crops	ktoe	0	0	2 (p.34)
Agricultural by-products / processed residues and fishery by-products	ktoe	0	0	
Biomass from waste	ktoe	0	0	
Others	ktoe	0	0	3 (p.34)
Total biomass for heating and electricity*	**ktoe**	**0**	**0**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	0	0	
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for transport*	**ktoe**	**0**	**0**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	0	0	
Indirect supply of wood biomass	ktoe	0	0	
Energy crops	ktoe	0	0	2 (p.34)
Agricultural by-products / processed residues and fishery by-products	ktoe	0	0	
Biomass from waste	ktoe	0	0	
Others	ktoe	0	0	3 (p.34)
Total biomass for heating and electricity*	**ktoe**	**0**	**0**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	0	0	
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for transport*	**ktoe**	**0**	**0**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	3122516	3162526	4 (p.34)
Land used for short rotation trees	ha	n.a.	15350	5 (p.34)
Land used for other energy crops such as grasses	ha	n.a.	n.a.	

Table 25: Bulgarian PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	0	0	6 (p.34)
Consumption - Fuel type X	ktoe	0	0	7 (p.34)
Total production Art.21.2.biofuels	ktoe	0	0	8 (p.34)
Total consumption Art.21.2. biofuels	ktoe	0	0	9 (p.34)
Share of 21(2) fuels from total RES-T	**%**	**0**	**0**	**10 (p.34)**

Table 26: Bulgarian PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**5124705**	**6167301**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	2333148	2819460	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	2779700	3323398	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	11857	24443	

Table 27: Bulgarian PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	11 (p.34)
Origin/destination	n.a.	n.a.	11 (p.34)
Unit	**ktoe**	**ktoe**	**11 (p.34)**
2010	n.a.	n.a.	11 (p.34)
2011	n.a.	n.a.	11 (p.34)
2012	n.a.	n.a.	11 (p.34)
2013	n.a.	n.a.	11 (p.34)
2014	n.a.	n.a.	11 (p.34)
2015	n.a.	n.a.	11 (p.34)
2016	n.a.	n.a.	11 (p.34)
2017	n.a.	n.a.	11 (p.34)
2018	n.a.	n.a.	11 (p.34)
2019	n.a.	n.a.	11 (p.34)
2020	n.a.	n.a.	11 (p.34)

Table 28: Bulgarian PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Bulgaria (ktoe) (see Table 9 of the NREAP)

Comments for Bulgaria

1: Total wind power energy does not match onshore energy.
2: Entry for 'Amount of raw material imported from the EU' (zero) does not correspond to equivalent entry in ktoe. Value in database is 'n.a.'.
3: No specifications have been given for this category.
4: Data include areas sown under cereals (wheat, barley, rye, triticale, oats, maize, rice, etc.), industrial crops (sunflower (most important contribution, see table on page 49 of the Bulgarian Progress Report), rapeseed, tobacco, etc.), vegetables (potatoes, beans, peas, lentils, fresh vegetables, etc.), crops (annual crops, perennial legumes and grasses, etc.) and fallow land.
5: Preliminary data from the census of agricultural holdings in 2010.
6: Approximate value.
7: Approximate value.
8: Approximate value.
9: Approximate value.
10: Approximate value.
11: Table 7 in Bulgarian Progress Report presents 'Total energy from renewable sources' without specifying excess or deficit.

5 Cyprus

	Unit	2009	2010	Comment
Renewable heating and cooling	%	15.6	17.7	
Renewable electricity	%	0.6	1.4	
Renewable Transport	%	2	2	
Overall renewable energy share	**%**	**5.4**	**5.8**	**1 (p.40)**
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 29: Cypriotic PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Cyprus (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	77.24	81.25	
Gross final consumption of electricity from RES	ktoe	2.61	6.27	
Gross final consumption of energy from RES in transport	ktoe	15.13	15.05	
Gross total RES consumption	**ktoe**	**94.98**	**102.57**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**94.98**	**102.57**	

Table 30: Cypriotic PR Table 1a: Calculation table for the renewable energy contribution in Cyprus of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 31: Cypriotic PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Cyprus for 2009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**0**	**0**	**0**	***0.0%***	
Hydropower (non pumped)	0	0	0	*0.0%*	
Hydropower <1 MW (non pumped)	0	0	0	*0.0%*	
Hydropower 1 MW - 10 MW (non pumped)	0	0	0	*0.0%*	
Hydropower >10 MW (non pumped)	0	0	0	*0.0%*	
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**3.35**	**3.83**	**0**	***0.3%***	
Solar photovoltaic	3.35	3.83	0	*0.3%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**0**	**0**	**0**	***0.0%***	
Onshore wind	0	0	0	*0.0%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**4.25**	**26.52**	**2**	***2.4%***	
Solid biomass	0	0	0	*0.0%*	
Biogas	4.25	26.52	2	*2.4%*	
Bioliquids	0	0	0	*0.0%*	
Total	**7.6**	**30.35**	**3**	***2.8%***	
Total CHP	**3.08**	**7.63**	**1**	***0.7%***	

Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			0	*0.0%*	
Solar thermal			58.2	*61.4%*	
Biomass			**18.69**	***19.7%***	
Solid biomass			17.73	*18.7%*	
Biogas			0.96	*1.0%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**0.35**	***0.4%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**77.24**	***81.5%***	
Total district heating			**0**	***0.0%***	
Total biomass in households			**7.19**	***7.6%***	

Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**0**	***0.0%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**14.87**	***15.7%***	
Biodiesel Article 21.2			0.18	*0.2%*	
Biodiesel imported			8.75	*9.2%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**0**	***0.0%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			0	*0.0%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**14.87**	***15.7%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**0**	**0**	**0**	***0.0%***	
Hydropower (non pumped)	0	0	0	*0.0%*	
Hydropower <1 MW (non pumped)	0	0	0	*0.0%*	
Hydropower 1 MW - 10 MW (non pumped)	0	0	0	*0.0%*	
Hydropower >10 MW (non pumped)	0	0	0	*0.0%*	
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**6.6**	**6.39**	**1**	***0.6%***	
Solar photovoltaic	6.6	6.39	1	*0.6%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**82**	**31.37**	**3**	***2.8%***	
Onshore wind	82	31.37	3	*2.8%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**7.9**	**35.13**	**3**	***3.2%***	
Solid biomass	0	0	0	*0.0%*	
Biogas	7.9	35.13	3	*3.2%*	
Bioliquids	0	0	0	*0.0%*	
Total	**96.5**	**72.89**	**6**	***6.6%***	
Total CHP	**3.58**	**11.63**	**1**	***1.1%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			0	*0.0%*	
Solar thermal			61.07	*64.5%*	
Biomass			**19.43**	***20.5%***	
Solid biomass			17.04	*18.0%*	
Biogas			2.39	*2.5%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**0.75**	***0.8%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**81.25**	***85.8%***	
Total district heating			**0**	***0.0%***	
Total biomass in households			**4.81**	***5.1%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**0**	***0.0%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**14.96**	***15.8%***	
Biodiesel Article 21.2			0.09	*0.1%*	
Biodiesel imported			10.22	*10.8%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**0**	***0.0%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			0	*0.0%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**14.96**	***15.8%***	

Table 32: Cypriotic PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Cyprus for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 33: Cypriotic PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	1.15	1.87	2 (p.40)
Indirect supply of wood biomass	ktoe	3.74	2.36	3 (p.40)
Energy crops	ktoe	0	0	4 (p.40)
Agricultural by-products / processed residues and fishery by-products	ktoe	1.68	1.33	5 (p.40)
Biomass from waste	ktoe	0.26	0.66	6 (p.40)
Others	ktoe	3.24	5.41	7 (p.40)
Total biomass for heating and electricity*	**ktoe**	**10.07**	**11.63**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	14.96	8 (p.40)
Energy crops and short rotation trees for biofuels	ktoe	0	0	9 (p.40)
Others	ktoe	0.19	0	10 (p.40)
Total biomass for transport*	**ktoe**	**0.19**	**14.96**	
Total biomass for all sectors*	**ktoe**	**10.26**	**26.59**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	0.16	0.08	2 (p.40)
Indirect supply of wood biomass	ktoe	3.54	3.44	3 (p.40)
Energy crops	ktoe	0	0	4 (p.40)
Agricultural by-products / processed residues and fishery by-products	ktoe	2.33	0	5 (p.40)
Biomass from waste	ktoe	4.85	7.3	6 (p.40)
Others	ktoe	0	0	7 (p.40)
Total biomass for heating and electricity*	**ktoe**	**10.88**	**10.82**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	14.87	14.96	8 (p.40)
Energy crops and short rotation trees for biofuels	ktoe	0	0	9 (p.40)
Others	ktoe	0	0	10 (p.40)
Total biomass for transport*	**ktoe**	**14.87**	**14.96**	
Total biomass for all sectors*	**ktoe**	**25.75**	**25.78**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	2 (p.40)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	3 (p.40)
Energy crops	ktoe	n.a.	n.a.	4 (p.40)
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	5 (p.40)
Biomass from waste	ktoe	n.a.	n.a.	6 (p.40)
Others	ktoe	n.a.	n.a.	7 (p.40)
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	14.87	14.96	8 (p.40)
Energy crops and short rotation trees for biofuels	ktoe	0	0	9 (p.40)
Others	ktoe	0	0	10 (p.40)
Total biomass for transport*	**ktoe**	**14.87**	**14.96**	
Total biomass for all sectors*	**ktoe**	**14.87**	**14.96**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	0	0	11 (p.40)
Land used for short rotation trees	ha	0	0	12 (p.40)
Land used for other energy crops such as grasses	ha	0	0	13 (p.40)

Table 34: Cypriotic PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	0.26	0.09	14 (p.40)
Consumption - Fuel type X	ktoe	0.26	0.09	15 (p.40)
Total production Art.21.2.biofuels	ktoe	0.26	0.09	
Total consumption Art.21.2. biofuels	ktoe	0.26	0.09	
Share of 21(2) fuels from total RES-T	**%**	**1.7**	**0.6**	

Table 35: Cypriotic PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**280795**	**309844**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	8521	20548	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	253898	268640	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	18376	20656	

Table 36: Cypriotic PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	
Origin/destination	n.a.	n.a.	
Unit	**ktoe**	**ktoe**	
2010	n.a.	-11.43	
2011	33	n.a.	
2012	39	n.a.	
2013	34	n.a.	
2014	46	n.a.	
2015	30	n.a.	
2016	42	n.a.	
2017	57	n.a.	
2018	34	n.a.	
2019	21	n.a.	
2020	0	n.a.	

Table 37: Cypriotic PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Cyprus (ktoe) (see Table 9 of the NREAP)

Comments for Cyprus

1: Table 1 in Progress Report also provides overall RES share without taking account of the civil aviation limit reduction.
2: Category 'Imported from EU' aggregates both EU and non-EU imports. See Table 4 in Cyprus' Progress Report for details on biomass products.
3: Category 'Imported from EU' aggregates both EU and non-EU imports. See Table 4 in Cyprus' Progress Report for details on biomass products.
4: Category 'Imported from EU' aggregates both EU and non-EU imports. See Table 4 in Cyprus' Progress Report for details on biomass products.
5: Category 'Imported from EU' aggregates both EU and non-EU imports. See Table 4 in Cyprus' Progress Report for details on biomass products.
6: Category 'Imported from EU' aggregates both EU and non-EU imports. See Table 4 in Cyprus' Progress Report for details on biomass products.
7: Category 'Imported from EU' aggregates both EU and non-EU imports. Category 'Others' in Table 4 of the Cyprus' Progress Report refers to Biogas from animal and urban waste.
8: Category 'Imported from EU' aggregates both EU and non-EU imports. See Table 4 in Cyprus' Progress Report for details on biomass products.
9: Category 'Imported from EU' aggregates both EU and non-EU imports. See Table 4 in Cyprus' Progress Report for details on biomass products.
10: Category 'Imported from EU' aggregates both EU and non-EU imports. See Table 4 in Cyprus' Progress Report for details on biomass products.
11: In Cyprus agricultural land was not used for dedicated energy production in 2009 and 2010.
12: In Cyprus agricultural land was not used for dedicated energy production in 2009 and 2010.
13: In Cyprus agricultural land was not used for dedicated energy production in 2009 and 2010.
14: This regards biofuels from waste vegetable oils
15: This regards biofuels from waste vegetable oils

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Czech Republic

	Unit	2009	2010	Comment
Renewable heating and cooling	%	n.a.	n.a.	
Renewable electricity	%	n.a.	n.a.	
Renewable Transport	%	n.a.	n.a.	
Overall renewable energy share	**%**	**7.4**	**n.a.**	
Renewables through cooperation mechanism	%	n.a.	n.a.	
Surplus for cooperation mechanism	%	n.a.	n.a.	

Table 38: Czech PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Czech Republic (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	n.a.	n.a.	
Gross final consumption of electricity from RES	ktoe	n.a.	n.a.	
Gross final consumption of energy from RES in transport	ktoe	n.a.	n.a.	
Gross total RES consumption	**ktoe**	**n.a.**	**n.a.**	
Transfer of RES to other Member States	ktoe	n.a.	n.a.	
Transfer of RES from other Member States and 3rd countries	ktoe	n.a.	n.a.	
RES consumption adjusted for target	**ktoe**	**n.a.**	**n.a.**	

Table 39: Czech PR Table 1a: Calculation table for the renewable energy contribution in Czech Republic of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 40: Czech PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Czech Republic for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Hydropower (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower <1 MW (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower 1 MW - 10 MW (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower >10 MW (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower pumped storage	n.a.	n.a.	n.a.	*n.a.*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	n.a.	n.a.	n.a.	*n.a.*	
Solar	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solar photovoltaic	n.a.	n.a.	n.a.	*n.a.*	
Concentrated solar power	n.a.	n.a.	n.a.	*n.a.*	
Tidal, wave and ocean energy	n.a.	n.a.	n.a.	*n.a.*	
Wind power	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Onshore wind	n.a.	n.a.	n.a.	*n.a.*	
Offshore wind	n.a.	n.a.	n.a.	*n.a.*	
Biomass	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solid biomass	n.a.	n.a.	n.a.	*n.a.*	
Biogas	n.a.	n.a.	n.a.	*n.a.*	
Bioliquids	n.a.	n.a.	n.a.	*n.a.*	
Total	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Total CHP	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			n.a.	*n.a.*	
Solar thermal			n.a.	*n.a.*	
Biomass			**n.a.**	***n.a.***	
Solid biomass			n.a.	*n.a.*	
Biogas			n.a.	*n.a.*	
Bioliquids			n.a.	*n.a.*	
Renewable energy from heat pumps			**n.a.**	***n.a.***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**n.a.**	***n.a.***	
Total district heating			**n.a.**	***n.a.***	
Total biomass in households			**n.a.**	***n.a.***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**n.a.**	***n.a.***	
Bioethanol / bio-ETBE Article 21.2			n.a.	*n.a.*	
Bioethanol / bio-ETBE imported			n.a.	*n.a.*	
Biodiesel			**n.a.**	***n.a.***	
Biodiesel Article 21.2			n.a.	*n.a.*	
Biodiesel imported			n.a.	*n.a.*	
Hydrogen from renewables			n.a.	*n.a.*	
Renewable electricity			**n.a.**	***n.a.***	
Renewable electricity road transport			n.a.	*n.a.*	
Renewable electricity non-road transport			n.a.	*n.a.*	
Other biofuels			n.a.	*n.a.*	
Other biofuels Article 21.2			n.a.	*n.a.*	
Total			**n.a.**	***n.a.***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Hydropower (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower <1 MW (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower 1 MW - 10 MW (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower >10 MW (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower pumped storage	n.a.	n.a.	n.a.	*n.a.*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	n.a.	n.a.	n.a.	*n.a.*	
Solar	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solar photovoltaic	n.a.	n.a.	n.a.	*n.a.*	
Concentrated solar power	n.a.	n.a.	n.a.	*n.a.*	
Tidal, wave and ocean energy	n.a.	n.a.	n.a.	*n.a.*	
Wind power	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Onshore wind	n.a.	n.a.	n.a.	*n.a.*	
Offshore wind	n.a.	n.a.	n.a.	*n.a.*	
Biomass	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solid biomass	n.a.	n.a.	n.a.	*n.a.*	
Biogas	n.a.	n.a.	n.a.	*n.a.*	
Bioliquids	n.a.	n.a.	n.a.	*n.a.*	
Total	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Total CHP	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			n.a.	*n.a.*	
Solar thermal			n.a.	*n.a.*	
Biomass			**n.a.**	***n.a.***	
Solid biomass			n.a.	*n.a.*	
Biogas			n.a.	*n.a.*	
Bioliquids			n.a.	*n.a.*	
Renewable energy from heat pumps			**n.a.**	***n.a.***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**n.a.**	***n.a.***	
Total district heating			**n.a.**	***n.a.***	
Total biomass in households			**n.a.**	***n.a.***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**n.a.**	***n.a.***	
Bioethanol / bio-ETBE Article 21.2			n.a.	*n.a.*	
Bioethanol / bio-ETBE imported			n.a.	*n.a.*	
Biodiesel			**n.a.**	***n.a.***	
Biodiesel Article 21.2			n.a.	*n.a.*	
Biodiesel imported			n.a.	*n.a.*	
Hydrogen from renewables			n.a.	*n.a.*	
Renewable electricity			**n.a.**	***n.a.***	
Renewable electricity road transport			n.a.	*n.a.*	
Renewable electricity non-road transport			n.a.	*n.a.*	
Other biofuels			n.a.	*n.a.*	
Other biofuels Article 21.2			n.a.	*n.a.*	
Total			**n.a.**	***n.a.***	

Table 41: Czech PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Czech Republic for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 42: Czech PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	n.a.	n.a.	
Land used for short rotation trees	ha	n.a.	n.a.	
Land used for other energy crops such as grasses	ha	n.a.	n.a.	

Table 43: Czech PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	n.a.	n.a.	
Consumption - Fuel type X	ktoe	n.a.	n.a.	
Total production Art.21.2.biofuels	ktoe	n.a.	n.a.	
Total consumption Art.21.2. biofuels	ktoe	n.a.	n.a.	
Share of 21(2) fuels from total RES-T	**%**	**n.a.**	**n.a.**	

Table 44: Czech PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**n.a.**	**n.a.**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	n.a.	n.a.	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	n.a.	n.a.	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	n.a.	n.a.	

Table 45: Czech PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	
Origin/destination	n.a.	n.a.	
Unit	**ktoe**	**ktoe**	
2010	n.a.	n.a.	
2011	n.a.	n.a.	
2012	n.a.	n.a.	
2013	n.a.	n.a.	
2014	n.a.	n.a.	
2015	n.a.	n.a.	
2016	n.a.	n.a.	
2017	n.a.	n.a.	
2018	n.a.	n.a.	
2019	n.a.	n.a.	
2020	n.a.	n.a.	

Table 46: Czech PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Czech Republic (ktoe) (see Table 9 of the NREAP)

7 Denmark

	Unit	2009	2010	Comment
Renewable heating and cooling	%	29.56	30.64	
Renewable electricity	%	28.87	31.04	
Renewable Transport	%	0.24	0.26	
Overall renewable energy share	**%**	**19.86**	**21.78**	
Renewables through cooperation mechanism	%	n.a.	n.a.	
Surplus for cooperation mechanism	%	n.a.	n.a.	

Table 47: Denish PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Denmark (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	2296	2262	
Gross final consumption of electricity from RES	ktoe	895	1065	
Gross final consumption of energy from RES in transport	ktoe	9.8	10.8	
Gross total RES consumption	**ktoe**	**3191**	**3692**	
Transfer of RES to other Member States	ktoe	n.a.	n.a.	
Transfer of RES from other Member States and 3rd countries	ktoe	n.a.	n.a.	
RES consumption adjusted for target	**ktoe**	**n.a.**	**n.a.**	

Table 48: Denish PR Table 1a: Calculation table for the renewable energy contribution in Denmark of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 49: Denish PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Denmark for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**9**	**22**	**2**	***0.1%***	
Hydropower (non pumped)	9	22	2	*0.1%*	
Hydropower <1 MW (non pumped)	5	13	1	*0.0%*	
Hydropower 1 MW - 10 MW (non pumped)	4	10	1	*0.0%*	
Hydropower >10 MW (non pumped)	0	0	0	*0.0%*	
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**5**	**4**	**0**	***0.0%***	
Solar photovoltaic	5	4	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**3322**	**7029**	**604**	***18.9%***	
Onshore wind	2780	5883	506	*15.8%*	
Offshore wind	542	1147	99	*3.1%*	
Biomass	**1094**	**3352**	**288**	***9.0%***	
Solid biomass	1017	3031	261	*8.1%*	
Biogas	77	320	28	*0.9%*	
Bioliquids	0	0	0	*0.0%*	
Total	**4430**	**10407**	**895**	***28.0%***	
Total CHP	**1094**	**3352**	**288**	***9.0%***	

Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			6	*0.2%*	
Solar thermal			14	*0.4%*	
Biomass			**2123**	***66.3%***	
Solid biomass			2075	*64.8%*	
Biogas			48	*1.5%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**153**	***4.8%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**2296**	***71.7%***	
Total district heating			**967**	***30.2%***	
Total biomass in households			**1625**	***50.8%***	

Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**0**	***0.0%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**0**	***0.0%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			0	*0.0%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**9.8**	***0.3%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			9.8	*0.3%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**9.8**	***0.3%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**9**	**22**	**2**	***0.1%***	
Hydropower (non pumped)	9	22	2	*0.1%*	
Hydropower <1 MW (non pumped)	5	13	1	*0.0%*	
Hydropower 1 MW - 10 MW (non pumped)	4	10	1	*0.0%*	
Hydropower >10 MW (non pumped)	0	0	0	*0.0%*	
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**7**	**6**	**1**	***0.0%***	
Solar photovoltaic	7	6	1	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**3642**	**7729**	**665**	***20.8%***	
Onshore wind	2877	6106	525	*16.4%*	
Offshore wind	765	1622	139	*4.4%*	
Biomass	**1248**	**4632**	**398**	***12.4%***	
Solid biomass	1168	4299	370	*11.5%*	
Biogas	80	333	29	*0.9%*	
Bioliquids	0	0	0	*0.0%*	
Total	**4906**	**12389**	**1065**	***33.3%***	
Total CHP	**1248**	**4632**	**398**	***12.4%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			5	*0.2%*	
Solar thermal			15	*0.5%*	
Biomass			**2436**	***76.1%***	
Solid biomass			2387	*74.6%*	
Biogas			49	*1.5%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**170**	***5.3%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**2626**	***82.0%***	
Total district heating			**1217**	***38.0%***	
Total biomass in households			**1867**	***58.3%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**0**	***0.0%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**0**	***0.0%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			0	*0.0%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**10.8**	***0.3%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			10.8	*0.3%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**10.8**	***0.3%***	

Table 50: Denish PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Denmark for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 51: Denish PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	785	854	
Indirect supply of wood biomass	ktoe	223	239	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	414	563	
Others	ktoe	552	534	
Total biomass for heating and electricity*	**ktoe**	**1974**	**2190**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**1974**	**2190**	

Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	372	510	
Indirect supply of wood biomass	ktoe	126	194	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**498**	**704**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**498**	**704**	

Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	51	78	
Indirect supply of wood biomass	ktoe	29	44	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**80**	**122**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**80**	**122**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	70000	70000	1 (p.52)
Land used for short rotation trees	ha	4000	4000	2 (p.52)
Land used for other energy crops such as grasses	ha	50	50	3 (p.52)

Table 52: Denish PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	0	0	
Consumption - Fuel type X	ktoe	0	0	
Total production Art.21.2.biofuels	ktoe	0	0	
Total consumption Art.21.2. biofuels	ktoe	0	0	
Share of 21(2) fuels from total RES-T	**%**	**0**	**0**	

Table 53: Denish PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**n.a.**	**n.a.**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	5800000	6700000	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	6200000	7100000	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	0	0	

Table 54: Denish PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	
Origin/destination	n.a.	n.a.	
Unit	**ktoe**	**ktoe**	
2010	n.a.	n.a.	
2011	n.a.	n.a.	
2012	n.a.	n.a.	
2013	n.a.	n.a.	
2014	n.a.	n.a.	
2015	n.a.	n.a.	
2016	n.a.	n.a.	
2017	n.a.	n.a.	
2018	n.a.	n.a.	
2019	n.a.	n.a.	
2020	n.a.	n.a.	

Table 55: Denish PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Denmark (ktoe) (see Table 9 of the NREAP)

Comments for Denmark

1: Approximate value
2: Approximate value
3: Maximum value

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Estonia

	Unit	2009	2010	Comment
Renewable heating and cooling	%	41.4	42.6	
Renewable electricity	%	6.1	10.4	
Renewable Transport	%	0.2	0.2	
Overall renewable energy share	**%**	**22.7**	**24**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 56: Estonian PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Estonia (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	643	682	
Gross final consumption of electricity from RES	ktoe	47	87	
Gross final consumption of energy from RES in transport	ktoe	1	1	
Gross total RES consumption	**ktoe**	**691**	**770**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**691**	**770**	**1 (p.58)**

Table 57: Estonian PR Table 1a: Calculation table for the renewable energy contribution in Estonia of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 58: Estonian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Estonia for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**7**	**25**	**2**	***0.3%***	
Hydropower (non pumped)	7	25	2	*0.3%*	
Hydropower <1 MW (non pumped)	7	25	2	*0.3%*	
Hydropower 1 MW - 10 MW (non pumped)	0	0	0	*0.0%*	
Hydropower >10 MW (non pumped)	0	0	0	*0.0%*	
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**0**	**0**	**0**	***0.0%***	
Solar photovoltaic	0	0	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**104**	**204**	**18**	***2.5%***	
Onshore wind	104	204	18	*2.5%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**37**	**313**	**27**	***3.9%***	
Solid biomass	35	306	26	*3.8%*	
Biogas	2	7	1	*0.1%*	
Bioliquids	0	0	0	*0.0%*	
Total	**148**	**542**	**47**	***6.7%***	
Total CHP	**n.a.**	**229**	**20**	***2.9%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			0	*0.0%*	
Solar thermal			0	*0.0%*	
Biomass			**643**	***93.1%***	
Solid biomass			643	*93.1%*	
Biogas			0	*0.0%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**29**	***4.2%***	**2 (p.58)**
Aerothermal heat pumps			0	*0.0%*	
Geothermal heat pumps			0	*0.0%*	
Hydrothermal heat pumps			0	*0.0%*	
Total			**643**	***93.1%***	
Total district heating			**127**	***18.4%***	
Total biomass in households			**411**	***59.5%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**0**	***0.0%***	**3 (p.58)**
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**0**	***0.0%***	**4 (p.58)**
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			0	*0.0%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**0.91**	***0.1%***	
Renewable electricity road transport			0.33	*0.0%*	
Renewable electricity non-road transport			0.57	*0.1%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**0.91**	***0.1%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**6**	**22**	**2**	***0.3%***	
Hydropower (non pumped)	6	22	2	*0.3%*	
Hydropower <1 MW (non pumped)	6	22	2	*0.3%*	
Hydropower 1 MW - 10 MW (non pumped)	0	0	0	*0.0%*	
Hydropower >10 MW (non pumped)	0	0	0	*0.0%*	
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**0**	**0**	**0**	***0.0%***	
Solar photovoltaic	0	0	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**108**	**247**	**21**	***3.1%***	
Onshore wind	108	247	21	*3.1%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**67**	**740**	**64**	***9.2%***	
Solid biomass	63	730	63	*9.1%*	
Biogas	4	10	1	*0.1%*	
Bioliquids	0	0	0	*0.0%*	
Total	**181**	**1009**	**87**	***12.6%***	
Total CHP	**n.a.**	**485**	**42**	***6.0%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			0	*0.0%*	
Solar thermal			0	*0.0%*	
Biomass			**682**	***98.8%***	
Solid biomass			680	*98.5%*	
Biogas			2	*0.3%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**37**	***5.4%***	**2 (p.58)**
Aerothermal heat pumps			0	*0.0%*	
Geothermal heat pumps			0	*0.0%*	
Hydrothermal heat pumps			0	*0.0%*	
Total			**682**	***98.8%***	
Total district heating			**142**	***20.6%***	
Total biomass in households			**423**	***61.3%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**0**	***0.0%***	**3 (p.58)**
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**0**	***0.0%***	**4 (p.58)**
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			0	*0.0%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**0.76**	***0.1%***	
Renewable electricity road transport			0.31	*0.0%*	
Renewable electricity non-road transport			0.45	*0.1%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**0.76**	***0.1%***	

Table 59: Estonian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Estonia for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 60: Estonian PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	314	330	
Indirect supply of wood biomass	ktoe	339	433	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**653**	**763**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	0	0	
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for transport*	**ktoe**	**0**	**0**	
Total biomass for all sectors*	**ktoe**	**653**	**763**	

Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	0	0	
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for transport*	**ktoe**	**0**	**0**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	0	0	
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for transport*	**ktoe**	**0**	**0**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	23827	50 to 70	5 (p.58)
Land used for short rotation trees	ha	2	2.4	6 (p.58)
Land used for other energy crops such as grasses	ha	135	135	7 (p.58)

Table 61: Estonian PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	0	0	
Consumption - Fuel type X	ktoe	0	0	
Total production Art.21.2.biofuels	ktoe	0	0	
Total consumption Art.21.2. biofuels	ktoe	0	0	
Share of 21(2) fuels from total RES-T	**%**	**0**	**0**	

Table 62: Estonian PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**2812**	**3281**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	525	1113	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	2287	2168	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	0	0	

Table 63: Estonian PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	
Origin/destination	n.a.	n.a.	
Unit	**ktoe**	**ktoe**	
2010	104	n.a.	
2011	n.a.	n.a.	
2012	n.a.	n.a.	
2013	n.a.	n.a.	
2014	n.a.	n.a.	
2015	n.a.	n.a.	
2016	n.a.	n.a.	
2017	n.a.	n.a.	
2018	n.a.	n.a.	
2019	n.a.	n.a.	
2020	n.a.	n.a.	

Table 64: Estonian PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Estonia (ktoe) (see Table 9 of the NREAP)

Comments for Estonia

1: Table 1a from the Estonian Progress Report also spcifies gross final energy consumption 3049 ktoe in 2009 and 3215 ktoe in 2010.
2: Note: data on heat pumps in Estonia are approximate and estimated. See page 7 of the Progress Report for additional information.
3: Compliance with the sustainability criteria has not been veriefied, therefore no contribution from bioethanol/bio-ETBE has been mentioned in the table. The Tax and Customs Board quantifies bioethanol/bio-ETBE contribution in Estonia at 0.10 ktoe for 2009 and 4.56 ktoe for 2010.
4: Compliance with the sustainability criteria has not been veriefied, therefore no contribution from biodiesel has been mentioned in the table. The Tax and Customs Board quantifies biodiesel contribution in Estonia at 1.63 ktoe for 2009 and 3.18 ktoe for 2010.
5: In 2009 common arable crops (oat and wheat) contribute with 77 ha and common oilseeds (rapeseed and turnip rapeseed) with 23750 ha. For 2010 only an estimate is available for oat and wheat: 50 to 70 ha (averaged as 60 ha in EU-27 total).
6: Willow.
7: Reed canary grass.

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Finland

	Unit	2009	2010	Comment
Renewable heating and cooling	%	45.2	46.4	
Renewable electricity	%	27.2	27.6	
Renewable Transport	%	4	3.8	
Overall renewable energy share	**%**	**32**	**33.1**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 65: Finnish PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Finland (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	5623	6480	
Gross final consumption of electricity from RES	ktoe	1969	2162	1 (p.64)
Gross final consumption of energy from RES in transport	ktoe	166	167	2 (p.64)
Gross total RES consumption	**ktoe**	**7741**	**8788**	**3 (p.64)**
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**7741**	**8788**	**4 (p.64)**

Table 66: Finnish PR Table 1a: Calculation table for the renewable energy contribution in Finland of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 67: Finnish PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Finland for 2009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Hydropower (non pumped)	3120	13898	1195	*15.4%*	
Hydropower <1 MW (non pumped)	31	138	12	*0.2%*	
Hydropower 1 MW - 10 MW (non pumped)	285	1269	109	*1.4%*	
Hydropower >10 MW (non pumped)	2804	12490	1074	*13.9%*	
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**6**	**4**	**0**	***0.0%***	
Solar photovoltaic	6	4	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**147**	**279**	**24**	***0.3%***	
Onshore wind	147	279	24	*0.3%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**1807**	**10718**	**922**	***11.9%***	
Solid biomass	1807	10686	919	*11.9%*	
Biogas	0	32	3	*0.0%*	
Bioliquids	0	n.a.	n.a.	*n.a.*	
Total	**5080**	**22899**	**1969**	***25.4%***	
Total CHP	**n.a.**	**7949**	**683**	***8.8%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			0	*0.0%*	
Solar thermal			0	*0.0%*	
Biomass			**5423**	***70.0%***	
Solid biomass			5387	*69.6%*	
Biogas			20	*0.3%*	
Bioliquids			25	*0.3%*	
Renewable energy from heat pumps			**200**	***2.6%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**5623**	***72.6%***	
Total district heating			**3574**	***46.2%***	
Total biomass in households			**1288**	***16.6%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**75.3**	***1.0%***	
Bioethanol / bio-ETBE Article 21.2			n.a.	*n.a.*	
Bioethanol / bio-ETBE imported			75.3	*1.0%*	
Biodiesel			**56.2**	***0.7%***	
Biodiesel Article 21.2			n.a.	*n.a.*	
Biodiesel imported			1.7	*0.0%*	
Hydrogen from renewables			n.a.	*n.a.*	
Renewable electricity			**n.a.**	***n.a.***	
Renewable electricity road transport			n.a.	*n.a.*	
Renewable electricity non-road transport			16	*0.2%*	
Other biofuels			n.a.	*n.a.*	
Other biofuels Article 21.2			n.a.	*n.a.*	
Total			**150**	***1.9%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Hydropower (non pumped)	3140	13877	1193	*15.4%*	
Hydropower <1 MW (non pumped)	31	137	12	*0.2%*	
Hydropower 1 MW - 10 MW (non pumped)	305	1354	116	*1.5%*	
Hydropower >10 MW (non pumped)	2804	12392	1066	*13.8%*	
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**7**	**5**	**0**	***0.0%***	
Solar photovoltaic	7	5	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**188**	**314**	**27**	***0.3%***	
Onshore wind	188	314	27	*0.3%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**1910**	**10948**	**941**	***12.2%***	
Solid biomass	1910	10859	934	*12.1%*	
Biogas	0	89	8	*0.1%*	
Bioliquids	0	n.a.	n.a.	*n.a.*	
Total	**5245**	**25144**	**2162**	***27.9%***	
Total CHP	**n.a.**	**9288**	**799**	***10.3%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			0	*0.0%*	
Solar thermal			0	*0.0%*	
Biomass			**6251**	***80.7%***	
Solid biomass			6203	*80.1%*	
Biogas			8	*0.1%*	
Bioliquids			40	*0.5%*	
Renewable energy from heat pumps			**229**	***3.0%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**6480**	***83.7%***	
Total district heating			**4348**	***56.2%***	
Total biomass in households			**1434**	***18.5%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**71.5**	***0.9%***	
Bioethanol / bio-ETBE Article 21.2			n.a.	*n.a.*	
Bioethanol / bio-ETBE imported			71.5	*0.9%*	
Biodiesel			**60**	***0.8%***	
Biodiesel Article 21.2			n.a.	*n.a.*	
Biodiesel imported			3.7	*0.0%*	
Hydrogen from renewables			n.a.	*n.a.*	
Renewable electricity			**n.a.**	***n.a.***	
Renewable electricity road transport			n.a.	*n.a.*	
Renewable electricity non-road transport			17.2	*0.2%*	
Other biofuels			n.a.	*n.a.*	
Other biofuels Article 21.2			n.a.	*n.a.*	
Total			**151.1**	***2.0%***	

Table 68: Finnish PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Finland for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 69: Finnish PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	2071.9	2271.4	5 (p.64)
Indirect supply of wood biomass	ktoe	1603.1	1869.5	6 (p.64)
Energy crops	ktoe	22	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**3697**	**4140.9**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	0.092	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**0.092**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**3697.09**	**4140.9**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	5 (p.64)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	6 (p.64)
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	5 (p.64)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	6 (p.64)
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	n.a.	332	7 (p.64)
Land used for short rotation trees	ha	30	18	8 (p.64)
Land used for other energy crops such as grasses	ha	16640	16894	9 (p.64)

Table 70: Finnish PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	n.a.	n.a.	
Consumption - Fuel type X	ktoe	n.a.	n.a.	
Total production Art.21.2.biofuels	ktoe	n.a.	n.a.	
Total consumption Art.21.2. biofuels	ktoe	n.a.	n.a.	10 (p.64)
Share of 21(2) fuels from total RES-T	**%**	**n.a.**	**n.a.**	

Table 71: Finnish PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**n.a.**	**n.a.**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	16500000	16000000	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	20400000	23500000	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	300000	300000	

Table 72: Finnish PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	
Origin/destination	n.a.	n.a.	
Unit	**ktoe**	**ktoe**	
2010	0	0	
2011	0	0	
2012	0	0	
2013	0	0	
2014	0	0	
2015	0	0	
2016	0	0	
2017	0	0	
2018	0	0	
2019	0	0	
2020	0	0	

Table 73: Finnish PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Finland (ktoe) (see Table 9 of the NREAP)

Comments for Finland

1: The figures contain the renewable electricity of trains (17 ktoe in 2009 and 18 ktoe in 2009).
2: The figures contain the renewable electricity of trains (17 ktoe in 2009 and 18 ktoe in 2009).
3: The figures only contain the renewable electricity of trains once.
4: The figures only contain the renewable electricity of trains once.
5: Covers woodchips used by heat and power plants and raw firewood for detached houses. Also includes imported wood.
6: Covers the forest industry coproduct wood used in heat and power plants (wood residue chips, sawdust, bark), wood pellets and briquettes and recycled wood, as well as waste firewood for detached houses. Also includes imported wood.
7: Main types: rapeseed and oat.
8: Main type: willow
9: Main type: reed canary grass.
10: The production and use of biofuels according to Article 21(2) of the RES Directive was not significant before 2011, and the biofuels in question had not been defined at a national level.

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France

	Unit	2009	2010	Comment
Renewable heating and cooling	%	16.4	17.1	
Renewable electricity	%	15	14.7	
Renewable Transport	%	5.9	5.9	
Overall renewable energy share	**%**	**12.4**	**12.8**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 74: French PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in France (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	10903	12356	
Gross final consumption of electricity from RES	ktoe	6748	6928	
Gross final consumption of energy from RES in transport	ktoe	2620	2635	
Gross total RES consumption	**ktoe**	**20114**	**21763**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**20114**	**21763**	

Table 75: French PR Table 1a: Calculation table for the renewable energy contribution in France of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 76: French PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in France for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**25449**	**69597**	**5984**	***29.0%***	**1 (p.70)**
Hydropower (non pumped)	18464	61135	5257	*25.5%*	
Hydropower <1 MW (non pumped)	446	1651	142	*0.7%*	
Hydropower 1 MW - 10 MW (non pumped)	1655	5754	495	*2.4%*	
Hydropower >10 MW (non pumped)	16363	53730	4620	*22.4%*	
Hydropower pumped storage	1808	4923	423	*2.0%*	
Hydropower mixed (normalised)	**5177**	**3539**	**304**	***1.5%***	**2 (p.70)**
Geothermal	15	50	4	*0.0%*	
Solar	**348**	**220**	**19**	***0.1%***	
Solar photovoltaic	348	220	19	*0.1%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	240	448	39	*0.2%*	
Wind power	**4621**	**8087**	**695**	***3.4%***	
Onshore wind	4621	8087	695	*3.4%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**914**	**4539**	**390**	***1.9%***	**3 (p.70)**
Solid biomass	753	3654	314	*1.5%*	
Biogas	161	885	76	*0.4%*	
Bioliquids	0	0	0	*0.0%*	
Total	**31587**	**82941**	**7132**	***34.5%***	**4 (p.70)**
Total CHP	**303**	**2283**	**196**	***1.0%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			88	*0.4%*	
Solar thermal			78	*0.4%*	
Biomass			**9722**	***47.1%***	
Solid biomass			9604	*46.5%*	
Biogas			118	*0.6%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**750**	***3.6%***	
Aerothermal heat pumps			639	*3.1%*	
Geothermal heat pumps			376	*1.8%*	
Hydrothermal heat pumps			0	*0.0%*	
Total			**10903**	***52.8%***	
Total district heating			**356**	***1.7%***	
Total biomass in households			**6650**	***32.2%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**406**	***2.0%***	**5 (p.70)**
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			119	*0.6%*	
Biodiesel			**2057**	***10.0%***	**6 (p.70)**
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			294	*1.4%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**157**	***0.8%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			157	*0.8%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**2620**	***12.7%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**25449**	**68643**	**5902**	***28.6%***	**1 (p.70)**
Hydropower (non pumped)	18464	60427	5196	*25.2%*	
Hydropower <1 MW (non pumped)	446	1601	138	*0.7%*	
Hydropower 1 MW - 10 MW (non pumped)	1655	5640	485	*2.3%*	
Hydropower >10 MW (non pumped)	16363	53186	4573	*22.1%*	
Hydropower pumped storage	1808	4759	409	*2.0%*	
Hydropower mixed (normalised)	**5177**	**3457**	**297**	***1.4%***	**2 (p.70)**
Geothermal	15	15	1	*0.0%*	
Solar	**1072**	**676**	**58**	***0.3%***	
Solar photovoltaic	1072	676	58	*0.3%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	240	476	41	*0.2%*	
Wind power	**5729**	**10499**	**903**	***4.4%***	
Onshore wind	5729	10499	903	*4.4%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**949**	**4876**	**419**	***2.0%***	**3 (p.70)**
Solid biomass	774	3863	332	*1.6%*	
Biogas	175	1013	87	*0.4%*	
Bioliquids	0	0	0	*0.0%*	
Total	**33454**	**85185**	**7325**	***35.5%***	**4 (p.70)**
Total CHP	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			90	*0.4%*	
Solar thermal			89	*0.4%*	
Biomass			**10840**	***52.5%***	
Solid biomass			10711	*51.9%*	
Biogas			129	*0.6%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**1008**	***4.9%***	
Aerothermal heat pumps			875	*4.2%*	
Geothermal heat pumps			462	*2.2%*	
Hydrothermal heat pumps			0	*0.0%*	
Total			**12356**	***59.8%***	
Total district heating			**n.a.**	***n.a.***	
Total biomass in households			**7581**	***36.7%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**394**	***1.9%***	**5 (p.70)**
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			109	*0.5%*	
Biodiesel			**2086**	***10.1%***	**6 (p.70)**
Biodiesel Article 21.2			63	*0.3%*	
Biodiesel imported			254	*1.2%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**155**	***0.8%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			155	*0.8%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**2635**	***12.8%***	

Table 77: French PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in France for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 78: French PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	6650	7581	
Indirect supply of wood biomass	ktoe	2348	2524	
Energy crops	ktoe	8.7	n.a.	7 (p.70)
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**9006.7**	**10105**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	2050	363	8 (p.70)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**2050**	**363**	
Total biomass for all sectors*	**ktoe**	**11056.7**	**10468**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	7 (p.70)
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	413	363	8 (p.70)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**413**	**363**	
Total biomass for all sectors*	**ktoe**	**413**	**363**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	7 (p.70)
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	413	363	8 (p.70)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**413**	**363**	
Total biomass for all sectors*	**ktoe**	**413**	**363**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	622227	1713000	9 (p.70)
Land used for short rotation trees	ha	1103	3362	10 (p.70)
Land used for other energy crops such as grasses	ha	744	n.a.	11 (p.70)

Table 79: French PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	n.a.	63	12 (p.70)
Consumption - Fuel type X	ktoe	n.a.	n.a.	
Total production Art.21.2.biofuels	ktoe	n.a.	63	
Total consumption Art.21.2. biofuels	ktoe	n.a.	63	
Share of 21(2) fuels from total RES-T	**%**	**0**	**2.4**	

Table 80: French PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**41770000**	**45420000**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	5900000	6000000	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	29600000	33500000	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	6270000	5920000	

Table 81: French PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	13 (p.70)
Origin/destination	n.a.	n.a.	13 (p.70)
Unit	**ktoe**	**ktoe**	**13 (p.70)**
2010	784.2	n.a.	13 (p.70)
2011	n.a.	n.a.	13 (p.70)
2012	n.a.	n.a.	13 (p.70)
2013	n.a.	n.a.	13 (p.70)
2014	n.a.	n.a.	13 (p.70)
2015	n.a.	n.a.	13 (p.70)
2016	n.a.	n.a.	13 (p.70)
2017	n.a.	n.a.	13 (p.70)
2018	n.a.	n.a.	13 (p.70)
2019	n.a.	n.a.	13 (p.70)
2020	n.a.	n.a.	13 (p.70)

Table 82: French PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in France (ktoe) (see Table 9 of the NREAP)

Comments for France

1: The figure indicated for total hydropower production is equal to the sum of renewable hydraulic production and nonrenewable hydraulic production.
2: The figure indicated corresponds to the share of renewable hydropower (i.e. without pumping) from mixed power plants.
3: Power outputs from biomass plants with mixed equipment have been calculated in proportion to the fuel used
4: To obtain the total renewable production, deduct hydroelectric production with pumping from this value.
5: Due to social trends in the last quarter of 2010, it has been necessary to temporarily lift the obligation to incorporate biofuel for a period of 30-days. This temporary suspension has led to a decrease in the consumption of biofuel for 2010, which does reflect the actual situation for the sector.
6: Due to social trends in the last quarter of 2010, it has been necessary to temporarily lift the obligation to incorporate biofuel for a period of 30-days. This temporary suspension has led to a decrease in the consumption of biofuel for 2010, which does reflect the actual situation for the sector.
7: 1103 ha of short rotation coppice (as a hypothesis for calculations, short rotation coppice from poplars) 744 ha of miscanthus
8: Origin of imported raw material has not been specified in French Progress Report, possibly the value refers to both import from EU and non-EU.
9: For 2009: wheat 84689 ha, sugar beets 6800 ha and rapeseed 530738 ha. For 2010: wheat/corn: 223000 ha, sugar beets 40000 ha and rapeseed/sunflowers1450000 ha. Up until 2009, industrial land in fallow and assisted surface areas with energy crops were also counted. These data allowed for an evaluation of surface areas dedicated to energy crops. Fallow obligations have ceased in 2009, for 2010 these data are not available.
10: Main types: Poplar, eucalyptus and willows logged before 20 years and rejecting stumps, pine excluded. Data have been drawn from the declarations of farmers; they do not integrate surface areas planted by industry or the forestry sector.
11: Main types: false canary reed, switchgrass, miscanthus, sorghum. Up until 2009, industrial land in fallow and supported surface areas with energy crops were also counted. These data allowed for an evaluation of surface areas dedicated to energy crops. Fallow obligations have ceased in 2009, for 2010 these data are not available.
12: Refers to animal oils and used oils.
13: Table 7 on pages 38-39 of the French Progress Report specifies in detail the excess production per technology.

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Germany

	Unit	2009	2010	Comment
Renewable heating and cooling	%	9.6	11	
Renewable electricity	%	17.4	18.4	
Renewable Transport	%	5.8	6.2	
Overall renewable energy share	**%**	**10.2**	**11.3**	
Renewables through cooperation mechanism	%	n.a.	n.a.	
Surplus for cooperation mechanism	%	n.a.	n.a.	

Table 83: German PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Germany (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	10222	12441	
Gross final consumption of electricity from RES	ktoe	8653	9642	
Gross final consumption of energy from RES in transport	ktoe	2964	3209	
Gross total RES consumption	**ktoe**	**21696**	**25130**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**21696**	**25130**	

Table 84: German PR Table 1a: Calculation table for the renewable energy contribution in Germany of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 85: German PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Germany for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**4150**	**22400**	**1926**	***8.8%***	
Hydropower (non pumped)	0	0	0	*0.0%*	
Hydropower <1 MW (non pumped)	680	2500	215	*1.0%*	
Hydropower 1 MW - 10 MW (non pumped)	1010	5400	464	*2.1%*	
Hydropower >10 MW (non pumped)	2460	14400	1238	*5.7%*	
Hydropower pumped storage	110	400	34	*0.2%*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	8	20	2	*0.0%*	
Solar	**9910**	**6600**	**567**	***2.6%***	
Solar photovoltaic	9910	6600	567	*2.6%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**25720**	**41300**	**3551**	***16.3%***	
Onshore wind	25640	41200	3543	*16.2%*	
Offshore wind	70	40	3	*0.0%*	
Biomass	**6070**	**30300**	**2605**	***11.9%***	
Solid biomass	3590	15700	1350	*6.2%*	
Biogas	2150	12600	1083	*5.0%*	
Bioliquids	330	2000	172	*0.8%*	
Total	**45860**	**100600**	**8650**	***39.6%***	
Total CHP	**n.a.**	**5700**	**490**	***2.2%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			25	*0.1%*	
Solar thermal			407	*1.9%*	
Biomass			**9392**	***43.0%***	
Solid biomass			8158	*37.4%*	
Biogas			863	*4.0%*	
Bioliquids			371	*1.7%*	
Renewable energy from heat pumps			**399**	***1.8%***	
Aerothermal heat pumps			133	*0.6%*	
Geothermal heat pumps			214	*1.0%*	
Hydrothermal heat pumps			52	*0.2%*	
Total			**10222**	***46.8%***	
Total district heating			**n.a.**	***n.a.***	
Total biomass in households			**5332**	***24.4%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**574**	***2.6%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			n.a.	*n.a.*	
Biodiesel			**2157**	***9.9%***	
Biodiesel Article 21.2			17	*0.1%*	
Biodiesel imported			n.a.	*n.a.*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**143**	***0.7%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			143	*0.7%*	
Other biofuels			90	*0.4%*	1 (p.76)
Other biofuels Article 21.2			0	*0.0%*	
Total			**2964**	***13.6%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**4390**	**23500**	**2021**	***9.3%***	
Hydropower (non pumped)	0	0	0	*0.0%*	
Hydropower <1 MW (non pumped)	700	2400	206	*0.9%*	
Hydropower 1 MW - 10 MW (non pumped)	1040	5500	473	*2.2%*	
Hydropower >10 MW (non pumped)	2660	15500	1333	*6.1%*	
Hydropower pumped storage	150	500	43	*0.2%*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	8	30	3	*0.0%*	
Solar	**17320**	**11700**	**1006**	***4.6%***	
Solar photovoltaic	17320	11700	1006	*4.6%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**27210**	**43100**	**3706**	***17.0%***	
Onshore wind	27030	42900	3689	*16.9%*	
Offshore wind	180	210	18	*0.1%*	
Biomass	**6650**	**33900**	**2915**	***13.3%***	
Solid biomass	3650	16000	1376	*6.3%*	
Biogas	2730	16200	1393	*6.4%*	
Bioliquids	280	1700	146	*0.7%*	
Total	**55580**	**112100**	**9639**	***44.1%***	
Total CHP	**n.a.**	**6200**	**533**	***2.4%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			25	*0.1%*	
Solar thermal			447	*2.0%*	
Biomass			**11513**	***52.7%***	
Solid biomass			9537	*43.7%*	
Biogas			1293	*5.9%*	
Bioliquids			683	*3.1%*	
Renewable energy from heat pumps			**456**	***2.1%***	
Aerothermal heat pumps			163	*0.7%*	
Geothermal heat pumps			237	*1.1%*	
Hydrothermal heat pumps			56	*0.3%*	
Total			**12441**	***57.0%***	
Total district heating			**n.a.**	***n.a.***	
Total biomass in households			**6251**	***28.6%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**749**	***3.4%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			n.a.	*n.a.*	
Biodiesel			**2244**	***10.3%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			n.a.	*n.a.*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**162**	***0.7%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			162	*0.7%*	
Other biofuels			55	*0.3%*	1 (p.76)
Other biofuels Article 21.2			0	*0.0%*	
Total			**3209**	***14.7%***	

Table 86: German PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Germany for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 87: German PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	2 (p.76)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	3 (p.76)
Energy crops	ktoe	n.a.	n.a.	4 (p.76)
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	2 (p.76)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	3 (p.76)
Energy crops	ktoe	n.a.	n.a.	4 (p.76)
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	2 (p.76)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	3 (p.76)
Energy crops	ktoe	n.a.	n.a.	4 (p.76)
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	1698000	1830000	
Land used for short rotation trees	ha	2300	3600	
Land used for other energy crops such as grasses	ha	1800	2100	

Table 88: German PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	43	86	
Consumption - Fuel type X	ktoe	17	0	
Total production Art.21.2.biofuels	ktoe	43	86	
Total consumption Art.21.2. biofuels	ktoe	17	0	
Share of 21(2) fuels from total RES-T	**%**	**0.6**	**0**	**5 (p.76)**

Table 89: German PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**106000000**	**1.2E+08**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	69000000	75000000	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	33000000	40000000	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	5000000	5000000	

Table 90: German PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	
Origin/destination	n.a.	n.a.	
Unit	**ktoe**	**ktoe**	
2010	n.a.	n.a.	
2011	5703	n.a.	
2012	7065	n.a.	
2013	5507	n.a.	
2014	7105	n.a.	
2015	4761	n.a.	
2016	6453	n.a.	
2017	4130	n.a.	
2018	5976	n.a.	
2019	0	n.a.	
2020	3065	n.a.	

Table 91: German PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Germany (ktoe) (see Table 9 of the NREAP)

Comments for Germany

1: Biogas, BtL, vegetable oil.
2: There has been no substantial change to the availability of biomass in Germany in 2009 and 2010 in comparison to the detailed information provided in the NREAP for 2006 and 2007. Wood biomass from forests and other areas for direct use for generating energy increased marginally in comparison to the reference year 2006 and totalled 29.75 million cubic metres in 2010. The amount of residual matter from timber logging has increased in accordance to the percentual increase in felling. The production of waste matter from landscape management has remained constant.
3: There has been no substantial change to the availability of biomass in Germany in 2009 and 2010 in comparison to the detailed information provided in the NREAP for 2006 and 2007.
4: The available agricultural crops used directly for electricity generation have increased due to the marked increase in land area. This is primarily the result of the increase in the area under cultivation for biogas substrates, in particular maize. There was no growth worth noting in the area under cultivation with oilseed. The total production quantities of arable crops to generate energy (cereals, oilseed, sugar beet, silage maize and others) reached roughly 32 million tonnes (FM) for 2010. Palm oil imports also increased significantly in comparison to 2006 to 2.5 million tonnes per year. However, due to the rising price, increasingly less palm oil is used for power and heat generation. The areas under cultivation with short-rotation trees and other energy crops have increased slightly since 2006, providing approximately 52000 t in 2010. Cultivation of short-rotation tree and grass species continues to serve research purposes primarily. The availability of agricultural by-products (straw and animal excrement) has also risen slightly and accounted for 162 million tonnes in 2010. The production of animal fats and other by-products can be seen as constant.
5: Denominator includes consumption of electricity from renewable sources in transport.

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Greece

	Unit	2009	2010	Comment
Renewable heating and cooling	%	16.38	17.17	
Renewable electricity	%	11.04	12.38	
Renewable Transport	%	1.13	1.97	
Overall renewable energy share	**%**	**8.43**	**9.73**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 92: Greek PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Greece (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	1098	1160	
Gross final consumption of electricity from RES	ktoe	703	909	
Gross final consumption of energy from RES in transport	ktoe	78	128	
Gross total RES consumption	**ktoe**	**1879**	**2197**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**1879**	**2197**	

Table 93: Greek PR Table 1a: Calculation table for the renewable energy contribution in Greece of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 94: Greek PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Greece for 2009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**3201**	**4287**	**369**	***19.6%***	**1 (p.82)**
Hydropower (non pumped)	2502	4714	405	*21.5%*	
Hydropower <1 MW (non pumped)	32	115	10	*0.5%*	
Hydropower 1 MW - 10 MW (non pumped)	151	543	47	*2.5%*	
Hydropower >10 MW (non pumped)	2319	4056	349	*18.5%*	
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**699**	**907**	**78**	***4.1%***	**2 (p.82)**
Geothermal	0	0	0	*0.0%*	
Solar	**53**	**54**	**5**	***0.2%***	
Solar photovoltaic	53	54	5	*0.2%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**1171**	**2671**	**230**	***12.2%***	**3 (p.82)**
Onshore wind	1171	2547	219	*11.6%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**41**	**218**	**19**	***1.0%***	
Solid biomass	0	0	0	*0.0%*	
Biogas	41	218	19	*1.0%*	
Bioliquids	0	0	0	*0.0%*	
Total	**4466**	**8172**	**703**	***37.3%***	
Total CHP	**0**	**0**	**0**	***0.0%***	

Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			16	*0.9%*	
Solar thermal			182	*9.7%*	
Biomass			**844**	***44.9%***	
Solid biomass			843	*44.8%*	
Biogas			1.3	*0.1%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**56**	***3.0%***	
Aerothermal heat pumps			51	*2.7%*	
Geothermal heat pumps			5	*0.3%*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**1098**	***58.4%***	
Total district heating			**0**	***0.0%***	
Total biomass in households			**554**	***29.4%***	

Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**0**	***0.0%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**78**	***4.1%***	
Biodiesel Article 21.2			5	*0.3%*	
Biodiesel imported			7	*0.4%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**3**	***0.2%***	
Renewable electricity road transport			2	*0.1%*	
Renewable electricity non-road transport			1	*0.1%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**81**	***4.3%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**3215**	**4525**	**389**	***20.7%***	**1 (p.82)**
Hydropower (non pumped)	2516	6597	567	*30.1%*	
Hydropower <1 MW (non pumped)	34	130	11	*0.6%*	
Hydropower 1 MW - 10 MW (non pumped)	163	624	54	*2.9%*	
Hydropower >10 MW (non pumped)	2319	5843	502	*26.7%*	
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**699**	**901**	**77**	***4.1%***	**2 (p.82)**
Geothermal	0	0	0	*0.0%*	
Solar	**203**	**167**	**14**	***0.8%***	
Solar photovoltaic	203	167	14	*0.8%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**1298**	**2905**	**250**	***13.3%***	**3 (p.82)**
Onshore wind	1298	2714	233	*12.4%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**43**	**216**	**19**	***1.0%***	
Solid biomass	0	0	0	*0.0%*	
Biogas	43	216	19	*1.0%*	
Bioliquids	0	0	0	*0.0%*	
Total	**4760**	**10572**	**909**	***48.3%***	
Total CHP	**0**	**0**	**0**	***0.0%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			16	*0.9%*	
Solar thermal			183	*9.7%*	
Biomass			**892**	***47.4%***	
Solid biomass			890	*47.3%*	
Biogas			2	*0.1%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**69**	***3.7%***	
Aerothermal heat pumps			63	*3.3%*	
Geothermal heat pumps			6	*0.3%*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**1160**	***61.6%***	
Total district heating			**0**	***0.0%***	
Total biomass in households			**597**	***31.7%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**0**	***0.0%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**128**	***6.8%***	
Biodiesel Article 21.2			12	*0.6%*	
Biodiesel imported			15	*0.8%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**3**	***0.2%***	
Renewable electricity road transport			2	*0.1%*	
Renewable electricity non-road transport			1	*0.1%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**131**	***7.0%***	

Table 95: Greek PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Greece for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 96: Greek PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	251	268	4 (p.82)
Indirect supply of wood biomass	ktoe	26	33	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	447	447	5 (p.82)
Biomass from waste	ktoe	56	49	
Others	ktoe	0.21	0.64	6 (p.82)
Total biomass for heating and electricity*	**ktoe**	**780.21**	**797.64**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	6.1	n.a.	
Total biomass for transport*	**ktoe**	**6.1**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**786.31**	**797.64**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	68	99	4 (p.82)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	5 (p.82)
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	6 (p.82)
Total biomass for heating and electricity*	**ktoe**	**68**	**99**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**68**	**99**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	0.6	0.8	4 (p.82)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	5 (p.82)
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	6 (p.82)
Total biomass for heating and electricity*	**ktoe**	**0.6**	**0.8**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0.6**	**0.8**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	41119	71841	7 (p.82)
Land used for short rotation trees	ha	0	0	
Land used for other energy crops such as grasses	ha	0	0	

Table 97: Greek PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	4.97	11.92	8 (p.82)
Consumption - Fuel type X	ktoe	4.97	11.92	9 (p.82)
Total production Art.21.2.biofuels	ktoe	4.97	11.92	
Total consumption Art.21.2. biofuels	ktoe	4.97	11.92	
Share of 21(2) fuels from total RES-T	**%**	**6.35**	**9.3**	

Table 98: Greek PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**11656000**	**14595000**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	8228000	10859000	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	3254000	346000	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	175000	276000	

Table 99: Greek PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	10 (p.82)
Origin/destination	n.a.	n.a.	10 (p.82)
Unit	**ktoe**	**ktoe**	**10 (p.82)**
2010	404	n.a.	10 (p.82)
2011	408	n.a.	10 (p.82)
2012	513	n.a.	10 (p.82)
2013	686	n.a.	10 (p.82)
2014	812	n.a.	10 (p.82)
2015	856	n.a.	10 (p.82)
2016	842	n.a.	10 (p.82)
2017	737	n.a.	10 (p.82)
2018	743	n.a.	10 (p.82)
2019	683	n.a.	10 (p.82)
2020	529	n.a.	10 (p.82)

Table 100: Greek PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Greece (ktoe) (see Table 9 of the NREAP)

Comments for Greece

1: Data values refer to normalised hydropower production. Actual production for 2009 was 5621 GWh and for 2010 it was 7498 GWh.
2: The electricity produced from water previously pumped uphill has been specified separately : for 2009 this amounted to 268 GWh and for 2010 to 23 GWh.
3: Data values refer to normalised wind power production. Actual production for 2009 was 2547 GWh and for 2010 it was 2714 GWh.
4: Figure for 'Amount of domestic raw material' excludes the exported quantity. Including exports the values are 636708 ton for 2009 and 664382 ton for 2010.
5: The 2010 quantity is very close to the 2009 quantity due to fluctuations (increases and reductions) of the quantities in the subcategories that constitute the agricultural by-products/processed residues and fishery by-products category (namely exhausted olive cake, kernels and agricultural firewood)
6: This regards the primary production of biogas from agricultural industry. The value for 2009 is an estimate.
7: Main types: sunflower seed, rape seed, soya seed.
8: Refers to biodiesel from waste oils.
9: Refers to biodiesel from waste oils.
10: From 2011 onwards the figures are the estimates presented in the Greek NREAP. The NREAP value for 2010 was 257 ktoe.

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Hungary

	Unit	2009	2010	Comment
Renewable heating and cooling	%	10.53	11.08	
Renewable electricity	%	6.96	7.09	
Renewable Transport	%	4.19	4.72	
Overall renewable energy share	**%**	**8.18**	**8.79**	
Renewables through cooperation mechanism	%	0	0	1 (p.88)
Surplus for cooperation mechanism	%	0	0	2 (p.88)

Table 101: Hungarian PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Hungary (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	945	1055	
Gross final consumption of electricity from RES	ktoe	248	259	
Gross final consumption of energy from RES in transport	ktoe	185	191	
Gross total RES consumption	**ktoe**	**1361**	**1491**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**1361**	**1491**	

Table 102: Hungarian PR Table 1a: Calculation table for the renewable energy contribution in Hungary of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 103: Hungarian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Hungary for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**53**	**212**	**18**	***1.3%***	
Hydropower (non pumped)	53	212	18	*1.3%*	
Hydropower <1 MW (non pumped)	4	21	2	*0.1%*	
Hydropower 1 MW - 10 MW (non pumped)	10	37	3	*0.2%*	
Hydropower >10 MW (non pumped)	39	154	13	*1.0%*	
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**1**	**1**	**0**	***0.0%***	
Solar photovoltaic	1	1	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**203**	**338**	**29**	***2.1%***	
Onshore wind	203	338	29	*2.1%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**509**	**2335**	**201**	***14.6%***	**3 (p.88)**
Solid biomass	485	2239	193	*14.0%*	4 (p.88)
Biogas	24	96	8	*0.6%*	
Bioliquids	0	0	0	*0.0%*	
Total	**766**	**2886**	**248**	***18.0%***	**5 (p.88)**
Total CHP	**111**	**295**	**25**	***1.8%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			96	*7.0%*	
Solar thermal			5	*0.4%*	
Biomass			**844**	***61.2%***	
Solid biomass			836	*60.7%*	
Biogas			8	*0.6%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**n.a.**	***n.a.***	**6 (p.88)**
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**945**	***68.6%***	
Total district heating			**58**	***4.2%***	
Total biomass in households			**581**	***42.2%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**46**	***3.3%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			7	*0.5%*	
Biodiesel			**123**	***8.9%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			21	*1.5%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**16**	***1.2%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			16	*1.2%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**185**	***13.4%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**53**	**211**	**18**	***1.3%***	
Hydropower (non pumped)	53	211	18	*1.3%*	
Hydropower <1 MW (non pumped)	4	20	2	*0.1%*	
Hydropower 1 MW - 10 MW (non pumped)	10	38	3	*0.2%*	
Hydropower >10 MW (non pumped)	39	153	13	*1.0%*	
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**2**	**1**	**0**	***0.0%***	
Solar photovoltaic	2	1	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**293**	**518**	**45**	***3.2%***	
Onshore wind	293	518	45	*3.2%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**513.5**	**2291**	**197**	***14.3%***	**3 (p.88)**
Solid biomass	489.5	2179	187	*13.6%*	4 (p.88)
Biogas	24	112	10	*0.7%*	
Bioliquids	0	0	0	*0.0%*	
Total	**861.5**	**3021**	**260**	***18.8%***	**5 (p.88)**
Total CHP	**136**	**320**	**28**	***2.0%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			99	*7.2%*	
Solar thermal			5	*0.4%*	
Biomass			**951**	***69.0%***	
Solid biomass			942	*68.4%*	
Biogas			9	*0.7%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**n.a.**	***n.a.***	**6 (p.88)**
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**1055**	***76.6%***	
Total district heating			**66**	***4.8%***	
Total biomass in households			**658**	***47.7%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**57**	***4.1%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			44	*3.2%*	
Biodiesel			**119**	***8.6%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			21	*1.5%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**15**	***1.1%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			15	*1.1%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**191**	***13.9%***	

Table 104: Hungarian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Hungary for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 105: Hungarian PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	635.2	660.1	7 (p.88)
Indirect supply of wood biomass	ktoe	14	25	8 (p.88)
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**649.2**	**685.1**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	9 (p.88)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**649.2**	**685.1**	

Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	22.4	63.9	7 (p.88)
Indirect supply of wood biomass	ktoe	8	26.2	8 (p.88)
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**30.4**	**90.1**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	9 (p.88)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**30.4**	**90.1**	

Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	13.2	44.3	7 (p.88)
Indirect supply of wood biomass	ktoe	2.3	3.9	8 (p.88)
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**15.5**	**48.2**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	9 (p.88)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**15.5**	**48.2**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	378681	337634	10 (p.88)
Land used for short rotation trees	ha	2562	4268	
Land used for other energy crops such as grasses	ha	4981	807669	

Table 106: Hungarian PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	0	0	
Consumption - Fuel type X	ktoe	0	0	
Total production Art.21.2.biofuels	ktoe	0	0	
Total consumption Art.21.2. biofuels	ktoe	0	0	
Share of 21(2) fuels from total RES-T	**%**	**0**	**0**	

Table 107: Hungarian PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**4053698**	**4348242**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	1323768	1272501	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	2458113	2792998	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	271817	282743	

Table 108: Hungarian PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	11 (p.88)
Origin/destination	n.a.	n.a.	11 (p.88)
Unit	**ktoe**	**ktoe**	**11 (p.88)**
2010	0	n.a.	11 (p.88)
2011	547	n.a.	11 (p.88)
2012	283	n.a.	11 (p.88)
2013	323	n.a.	11 (p.88)
2014	267	n.a.	11 (p.88)
2015	280	n.a.	11 (p.88)
2016	274	n.a.	11 (p.88)
2017	516	n.a.	11 (p.88)
2018	464	n.a.	11 (p.88)
2019	679	n.a.	11 (p.88)
2020	325	n.a.	11 (p.88)

Table 109: Hungarian PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Hungary (ktoe) (see Table 9 of the NREAP)

Comments for Hungary

1: Hungary has not entered into partnership agreements with other Member States yet, but is open to transferring the surplus under a partnership agreement.
2: Hungary has not entered into partnership agreements with other Member States yet, but is open to transferring the surplus under a partnership agreement.
3: Capacity for biomass in 2010: 513.5 MW (value has been rounded in table).
4: Capacity for solid biomass in 2010: 489.5 MW (value has been rounded in table).
5: Total capacity in 2010: 861.5 MW (value has been rounded in table).
6: Taking into account that in the interest of reducing administrative burden, the establishment of heat pumps is not always subject to a licence, reliable data is not yet available for the whole volume.
7: Table 4 on page 29 of the Hungarian Progress Report provides more detail on the amount of raw material: firewood [m3], pellets [tonnes] and wood briquettes [tonnes].
8: Refers to waste from wood industry for energy purposes.
9: For the year 2009 the amount of corn is 400000 tonnes and rapeseed is 550000 tonnes. For the year 2010 corn increased to 430000 tonnes and rapeseed remained stable at 550000 tonnes.
10: Data are estimates and represent the size of the land that may serve energy purposes within the total cultivation area of arable crops. Main types are wheat, sugar beet, rapeseed and sunflower.
11: In accordance with the values specified in Hungary's Renewable Energy Utilisation Action Plan; actual values may differ.

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Ireland

	Unit	2009	2010	Comment
Renewable heating and cooling	%	4.3	4.4	
Renewable electricity	%	13.7	14.8	
Renewable Transport	%	1.8	2.4	
Overall renewable energy share	**%**	**5**	**5.5**	
Renewables through cooperation mechanism	%	n.a.	n.a.	
Surplus for cooperation mechanism	%	n.a.	n.a.	

Table 110: Irish PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Ireland (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	212	229	
Gross final consumption of electricity from RES	ktoe	339	369	
Gross final consumption of energy from RES in transport	ktoe	78	93	
Gross total RES consumption	**ktoe**	**628**	**690**	
Transfer of RES to other Member States	ktoe	n.a.	n.a.	
Transfer of RES from other Member States and 3rd countries	ktoe	n.a.	n.a.	
RES consumption adjusted for target	**ktoe**	**628**	**690**	

Table 111: Irish PR Table 1a: Calculation table for the renewable energy contribution in Ireland of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 112: Irish PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Ireland for 2009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**526**	**1109**	**95**	***14.9%***	
Hydropower (non pumped)	234	754	65	*10.1%*	
Hydropower <1 MW (non pumped)	18	53	5	*0.7%*	
Hydropower 1 MW - 10 MW (non pumped)	20	64	6	*0.9%*	
Hydropower >10 MW (non pumped)	196	633	54	*8.5%*	
Hydropower pumped storage	292	355	31	*4.8%*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	n.a.	n.a.	n.a.	*n.a.*	
Solar	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solar photovoltaic	0.61	0.42	0	*0.0%*	
Concentrated solar power	n.a.	n.a.	n.a.	*n.a.*	
Tidal, wave and ocean energy	n.a.	n.a.	n.a.	*n.a.*	
Wind power	**1264**	**2936**	**252**	***39.5%***	
Onshore wind	1239	n.a.	n.a.	*n.a.*	
Offshore wind	25	n.a.	n.a.	*n.a.*	
Biomass	**n.a.**	**22**	**2**	***0.3%***	
Solid biomass	n.a.	6	1	*0.1%*	
Biogas	n.a.	16	1	*0.2%*	
Bioliquids	n.a.	n.a.	n.a.	*n.a.*	
Total	**0**	**4067.42**	**350**	***54.7%***	
Total CHP	**5.3**	**0.016**	**0**	***0.0%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			n.a.	*n.a.*	
Solar thermal			4.4	*0.7%*	
Biomass			**n.a.**	***n.a.***	
Solid biomass			178	*27.8%*	
Biogas			7	*1.1%*	
Bioliquids			n.a.	*n.a.*	
Renewable energy from heat pumps			**22**	***3.4%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			22	*3.4%*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**212**	***33.1%***	
Total district heating			**n.a.**	***n.a.***	
Total biomass in households			**28**	***4.4%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**23**	***3.6%***	
Bioethanol / bio-ETBE Article 21.2			23	*3.6%*	
Bioethanol / bio-ETBE imported			20	*3.1%*	
Biodiesel			**53**	***8.3%***	
Biodiesel Article 21.2			53	*8.3%*	
Biodiesel imported			29	*4.5%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**0.57**	***0.1%***	
Renewable electricity road transport			n.a.	*n.a.*	
Renewable electricity non-road transport			0.57	*0.1%*	
Other biofuels			1	*0.2%*	
Other biofuels Article 21.2			1	*0.2%*	
Total			**78**	***12.2%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**529**	**931**	**80**	***12.5%***	
Hydropower (non pumped)	237	754	65	*10.1%*	
Hydropower <1 MW (non pumped)	20	57	5	*0.8%*	
Hydropower 1 MW - 10 MW (non pumped)	21	67	6	*0.9%*	
Hydropower >10 MW (non pumped)	196	625	54	*8.4%*	
Hydropower pumped storage	292	177	15	*2.4%*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	n.a.	n.a.	n.a.	*n.a.*	
Solar	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solar photovoltaic	0.65	0.45	0	*0.0%*	
Concentrated solar power	n.a.	n.a.	n.a.	*n.a.*	
Tidal, wave and ocean energy	n.a.	n.a.	n.a.	*n.a.*	
Wind power	**1389**	**3228**	**278**	***43.4%***	
Onshore wind	1364	n.a.	n.a.	*n.a.*	
Offshore wind	25	n.a.	n.a.	*n.a.*	
Biomass	**n.a.**	**27**	**2**	***0.4%***	
Solid biomass	n.a.	9	1	*0.1%*	
Biogas	n.a.	18	2	*0.2%*	
Bioliquids	n.a.	n.a.	n.a.	*n.a.*	
Total	**0**	**4186.45**	**360**	***56.3%***	
Total CHP	**5.3**	**0.019**	**0**	***0.0%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			n.a.	*n.a.*	
Solar thermal			5.5	*0.9%*	
Biomass			**n.a.**	***n.a.***	
Solid biomass			193	*30.2%*	
Biogas			7.6	*1.2%*	
Bioliquids			n.a.	*n.a.*	
Renewable energy from heat pumps			**23**	***3.6%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			23	*3.6%*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**229**	***35.8%***	
Total district heating			**n.a.**	***n.a.***	
Total biomass in households			**32**	***5.0%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**30**	***4.7%***	
Bioethanol / bio-ETBE Article 21.2			30	*4.7%*	
Bioethanol / bio-ETBE imported			25	*3.9%*	
Biodiesel			**60**	***9.4%***	
Biodiesel Article 21.2			60	*9.4%*	
Biodiesel imported			10	*1.6%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**0.57**	***0.1%***	
Renewable electricity road transport			n.a.	*n.a.*	
Renewable electricity non-road transport			0.57	*0.1%*	
Other biofuels			2	*0.3%*	
Other biofuels Article 21.2			2	*0.3%*	
Total			**93**	***14.5%***	

Table 113: Irish PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Ireland for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 114: Irish PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	43	45	
Indirect supply of wood biomass	ktoe	106	114	
Energy crops	ktoe	0.7	0.2	
Agricultural by-products / processed residues and fishery by-products	ktoe	4.5	4.1	
Biomass from waste	ktoe	60	64	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**214.2**	**227.3**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**214.2**	**227.3**	

Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	0.33	0.66	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**0.33**	**0.66**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0.33**	**0.66**	

Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	0	0	
Indirect supply of wood biomass	ktoe	0	0	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**0**	**0**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	325000	300000	
Land used for short rotation trees	ha	360	548	
Land used for other energy crops such as grasses	ha	2101	2266	

Table 115: Irish PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	16.3	25.1	1 (p.94)
Consumption - Fuel type X	ktoe	16.4	25.1	2 (p.94)
Total production Art.21.2.biofuels	ktoe	n.a.	25.1	
Total consumption Art.21.2. biofuels	ktoe	n.a.	25.1	
Share of 21(2) fuels from total RES-T	**%**	**n.a.**	**27**	**3 (p.94)**

Table 116: Irish PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**n.a.**	**n.a.**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	2032700	1856870	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	767414	824780	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	216650	259020	

Table 117: Irish PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	4 (p.94)
Origin/destination	n.a.	n.a.	4 (p.94)
Unit	**ktoe**	**ktoe**	**4 (p.94)**
2010	n.a.	n.a.	4 (p.94)
2011	105	n.a.	4 (p.94)
2012	270	n.a.	4 (p.94)
2013	271	n.a.	4 (p.94)
2014	390	n.a.	4 (p.94)
2015	314	n.a.	4 (p.94)
2016	418	n.a.	4 (p.94)
2017	212	n.a.	4 (p.94)
2018	313	n.a.	4 (p.94)
2019	141	n.a.	4 (p.94)
2020	0	n.a.	4 (p.94)

Table 118: Irish PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Ireland (ktoe) (see Table 9 of the NREAP)

Comments for Ireland

1: For the year 2009 the data regard biodiesel only (16.3 ktoe). For 2010 the data refer to biodiesel (22.6 ktoe) and bioethanol (2.5 ktoe).
2: For the year 2009 the data regard biodiesel only (16.4 ktoe). For 2010 the data refer to biodiesel (22.6 ktoe) and bioethanol (2.5 ktoe).
3: Total biofuels consumed were 77 ktoe in 2009 and 92 ktoe in 2010.
4: Table 7 on page 25 in the Irish Progress Report provides the underlying calculation.

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Italy

	Unit	2009	2010	Comment
Renewable heating and cooling	%	8.2	9.46	
Renewable electricity	%	18.81	20.09	
Renewable Transport	%	3.83	4.81	
Overall renewable energy share	**%**	**8.86**	**10.11**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 119: Italian PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Italy (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	4500	5497	
Gross final consumption of electricity from RES	ktoe	5390	5924	
Gross final consumption of energy from RES in transport	ktoe	1180	1466	
Gross total RES consumption	**ktoe**	**11070**	**12887**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**11070**	**12887**	

Table 120: Italian PR Table 1a: Calculation table for the renewable energy contribution in Italy of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 121: Italian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Italy for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**16458**	**42279**	**3635**	***32.3%***	**1 (p.100)**
Hydropower (non pumped)	14079	40207	3457	*30.8%*	2 (p.100)
Hydropower <1 MW (non pumped)	466	1699	146	*1.3%*	3 (p.100)
Hydropower 1 MW - 10 MW (non pumped)	2187	7298	628	*5.6%*	4 (p.100)
Hydropower >10 MW (non pumped)	11427	31210	2684	*23.9%*	5 (p.100)
Hydropower pumped storage	2378	2072	178	*1.6%*	6 (p.100)
Hydropower mixed (normalised)	**2378**	**2072**	**178**	***1.6%***	**7 (p.100)**
Geothermal	737	5342	459	*4.1%*	
Solar	**1144**	**676**	**58**	***0.5%***	
Solar photovoltaic	1144	676	58	*0.5%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**4898**	**6830**	**587**	***5.2%***	
Onshore wind	4898	6830	587	*5.2%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**1728**	**7557**	**650**	***5.8%***	**8 (p.100)**
Solid biomass	964	4444	382	*3.4%*	9 (p.100)
Biogas	378	1665	143	*1.3%*	10 (p.100)
Bioliquids	385	1448	125	*1.1%*	11 (p.100)
Total	**24964**	**62684**	**5390**	***48.0%***	**12 (p.100)**
Total CHP	**581**	**2379**	**205**	***1.8%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			213	*1.9%*	
Solar thermal			85	*0.8%*	
Biomass			**3033**	***27.0%***	
Solid biomass			2763	*24.6%*	
Biogas			19	*0.2%*	
Bioliquids			250	*2.2%*	
Renewable energy from heat pumps			**1170**	***10.4%***	
Aerothermal heat pumps			1136	*10.1%*	
Geothermal heat pumps			31	*0.3%*	
Hydrothermal heat pumps			3	*0.0%*	
Total			**4500**	***40.0%***	
Total district heating			**137**	***1.2%***	
Total biomass in households			**2003**	***17.8%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**117**	***1.0%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**1063**	***9.5%***	
Biodiesel Article 21.2			38	*0.3%*	
Biodiesel imported			415	*3.7%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**170**	***1.5%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			170	*1.5%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**1350**	***12.0%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**16806**	**43393**	**3731**	***33.2%***	**1 (p.100)**
Hydropower (non pumped)	14234	41255	3547	*31.6%*	2 (p.100)
Hydropower <1 MW (non pumped)	523	1910	164	*1.5%*	3 (p.100)
Hydropower 1 MW - 10 MW (non pumped)	2208	7411	637	*5.7%*	4 (p.100)
Hydropower >10 MW (non pumped)	11503	31935	2746	*24.4%*	5 (p.100)
Hydropower pumped storage	2572	2138	184	*1.6%*	6 (p.100)
Hydropower mixed (normalised)	**2572**	**2138**	**184**	***1.6%***	**7 (p.100)**
Geothermal	772	5376	462	*4.1%*	
Solar	**3470**	**1906**	**164**	***1.5%***	
Solar photovoltaic	3470	1906	164	*1.5%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**5814**	**8787**	**756**	***6.7%***	
Onshore wind	5814	8787	756	*6.7%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**2053**	**9440**	**812**	***7.2%***	**8 (p.100)**
Solid biomass	944	4308	370	*3.3%*	9 (p.100)
Biogas	508	2054	177	*1.6%*	10 (p.100)
Bioliquids	601	3078	265	*2.4%*	11 (p.100)
Total	**28915**	**68902**	**5925**	***52.7%***	**12 (p.100)**
Total CHP	**745**	**3251**	**280**	***2.5%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			139	*1.2%*	
Solar thermal			134	*1.2%*	
Biomass			**4028**	***35.8%***	
Solid biomass			3721	*33.1%*	
Biogas			26	*0.2%*	
Bioliquids			281	*2.5%*	
Renewable energy from heat pumps			**1195**	***10.6%***	
Aerothermal heat pumps			1158	*10.3%*	
Geothermal heat pumps			33	*0.3%*	
Hydrothermal heat pumps			4	*0.0%*	
Total			**5497**	***48.9%***	
Total district heating			**144**	***1.3%***	
Total biomass in households			**3164**	***28.1%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**155**	***1.4%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**1311**	***11.7%***	
Biodiesel Article 21.2			38	*0.3%*	
Biodiesel imported			713	*6.3%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**184**	***1.6%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			184	*1.6%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**1650**	***14.7%***	

Table 122: Italian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Italy for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 123: Italian PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	1612	2225	13 (p.100)
Indirect supply of wood biomass	ktoe	513	486	14 (p.100)
Energy crops	ktoe	187	228	15 (p.100)
Agricultural by-products / processed residues and fishery by-products	ktoe	595	600	16 (p.100)
Biomass from waste	ktoe	1108	1207	17 (p.100)
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**4015**	**4746**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	77	113	18 (p.101)
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	111	77	19 (p.101)
Total biomass for transport*	**ktoe**	**188**	**190**	
Total biomass for all sectors*	**ktoe**	**4203**	**4936**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	259	306	13 (p.100)
Indirect supply of wood biomass	ktoe	353	515	14 (p.100)
Energy crops	ktoe	0	0	15 (p.100)
Agricultural by-products / processed residues and fishery by-products	ktoe	0	0	16 (p.100)
Biomass from waste	ktoe	0	0	17 (p.100)
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**612**	**821**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	196	113	18 (p.101)
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	32	77	19 (p.101)
Total biomass for transport*	**ktoe**	**228**	**190**	
Total biomass for all sectors*	**ktoe**	**840**	**1011**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	219	196	13 (p.100)
Indirect supply of wood biomass	ktoe	100	125	14 (p.100)
Energy crops	ktoe	0	0	15 (p.100)
Agricultural by-products / processed residues and fishery by-products	ktoe	0	0	16 (p.100)
Biomass from waste	ktoe	0	0	17 (p.100)
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**319**	**321**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	196	113	18 (p.101)
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	32	77	19 (p.101)
Total biomass for transport*	**ktoe**	**228**	**190**	
Total biomass for all sectors*	**ktoe**	**547**	**511**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	3122327	3139850	20 (p.101)
Land used for short rotation trees	ha	6000	10000	21 (p.101)
Land used for other energy crops such as grasses	ha	n.a.	n.a.	

Table 124: Italian PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	38	38	22 (p.101)
Consumption - Fuel type X	ktoe	38	38	23 (p.101)
Total production Art.21.2.biofuels	ktoe	38	38	24 (p.101)
Total consumption Art.21.2. biofuels	ktoe	38	38	25 (p.101)
Share of 21(2) fuels from total RES-T	**%**	**3.21**	**2.59**	

Table 125: Italian PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**55302118**	**61431068**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	42402274	46195825	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	11270901	13257410	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	1628944	1977833	

Table 126: Italian PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	
Origin/destination	n.a.	n.a.	
Unit	**ktoe**	**ktoe**	
2010	4234	n.a.	
2011	5320	n.a.	
2012	5797	n.a.	
2013	6128	n.a.	
2014	5853	n.a.	
2015	5654	n.a.	
2016	4733	n.a.	
2017	4236	n.a.	
2018	2837	n.a.	
2019	1582	n.a.	
2020	513	n.a.	

Table 127: Italian PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Italy (ktoe) (see Table 9 of the NREAP)

Comments for Italy

1: For hydroelectric sources, the power referred to is the actual power for plants which produce only from natural sources.
2: For hydroelectric sources, the power referred to is the actual power for plants which produce only from natural sources.
3: For hydroelectric sources, the power referred to is the actual power for plants which produce only from natural sources.
4: For hydroelectric sources, the power referred to is the actual power for plants which produce only from natural sources.
5: For hydroelectric sources, the power referred to is the actual power for plants which produce only from natural sources.
6: For hydroelectric sources, the power referred to is the actual power for plants which produce only from natural sources.
7: For mixed systems, the virtual power has been calculated as a fraction of the power of the pumping plants, virtually attributable to only natural components.
8: Production by solid biomass, biogas and bioliquid thermoelectric plants include renewable production of cofiring plants and production relative only to the biodegradable part for waste-fuelled plants.
9: Production by solid biomass, biogas and bioliquid thermoelectric plants include renewable production of cofiring plants and production relative only to the biodegradable part for waste-fuelled plants. The power from solid biomass plants includes the parts which are virtually attributable to renewable production from co-firing plants and production relative only to the biodegradable part for waste-fuelled plants.
10: Production by solid biomass, biogas and bioliquid thermoelectric plants include renewable production of cofiring plants and production relative only to the biodegradable part for waste-fuelled plants.
11: Production by solid biomass, biogas and bioliquid thermoelectric plants include renewable production of cofiring plants and production relative only to the biodegradable part for waste-fuelled plants.
12: General comment for Table 1b in the Italian Progress Report: the power indicated is gross power efficiency.
13: For the amounts data have been expressed in tonne/year tq (as is) or tonne/year sv. (volatile substance) for materials destined for anaerobic digestion. The data relative to liquid biofuels are expressed in tonne/year oil equivalent.
14: This item also relates to pellets, also including the quantity of pellets imported even if these are not strictly raw materials. For the amounts data have been expressed in tonne/year tq (as is) or tonne/year sv. (volatile substance) for materials destined for anaerobic digestion. The data relative to liquid biofuels are expressed in tonne/year oil equivalent.
15: For the amounts data have been expressed in tonne/year tq (as is) or tonne/year sv. (volatile substance) for materials destined for anaerobic digestion. The data relative to liquid biofuels are expressed in tonne/year oil equivalent.
16: For the amounts data have been expressed in tonne/year tq (as is) or tonne/year sv. (volatile substance) for materials destined for anaerobic digestion. The data relative to liquid biofuels are expressed in tonne/year oil equivalent.
17: For the amounts data have been expressed in tonne/year tq (as is) or tonne/year sv. (volatile substance) for materials destined for anaerobic digestion. The data relative to liquid biofuels are expressed in tonne/year oil equivalent.
18: For the amounts data have been expressed in tonne/year tq (as is) or tonne/year sv. (volatile substance) for materials destined for anaerobic digestion. The data relative to

liquid biofuels are expressed in tonne/year oil equivalent.
19: For the amounts data have been expressed in tonne/year tq (as is) or tonne/year sv. (volatile substance) for materials destined for anaerobic digestion. The data relative to liquid biofuels are expressed in tonne/year oil equivalent.
20: Table 4a on page 41 of the Italian Progress Report specifies the crops in more detail.
21: Poplar and short rotation forestry.
22: Refers to biodiesel.
23: Refers to biodiesel.
24: Refers to biodiesel.
25: Refers to biodiesel.

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Latvia

	Unit	2009	2010	Comment
Renewable heating and cooling	%	47.9	43.8	
Renewable electricity	%	4	42.1	
Renewable Transport	%	1.1	3.3	
Overall renewable energy share	**%**	**34.3**	**32.5**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	n.a.	n.a.	

Table 128: Latvian PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Latvia (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	1190	1158	
Gross final consumption of electricity from RES	ktoe	261	271	
Gross final consumption of energy from RES in transport	ktoe	12	35	
Gross total RES consumption	**ktoe**	**1454**	**1456**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**1454**	**1456**	

Table 129: Latvian PR Table 1a: Calculation table for the renewable energy contribution in Latvia of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 130: Latvian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Latvia for 2009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**1536**	**2927**	**252**	***17.3%***	**1 (p.108)**
Hydropower (non pumped)	1536	3457	297	*20.4%*	
Hydropower <1 MW (non pumped)	24	60	5	*0.4%*	
Hydropower 1 MW - 10 MW (non pumped)	1	6	1	*0.0%*	
Hydropower >10 MW (non pumped)	1511	3391	292	*20.0%*	
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**0**	**0**	**0**	***0.0%***	
Solar photovoltaic	0	0	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**29**	**54**	**5**	***0.3%***	**2 (p.108)**
Onshore wind	29	50	4	*0.3%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**10**	**49**	**4**	***0.3%***	
Solid biomass	2	4	0	*0.0%*	
Biogas	8	45	4	*0.3%*	
Bioliquids	0	0	0	*0.0%*	
Total	**1575**	**3030**	**261**	***17.9%***	
Total CHP	**7**	**46**	**4**	***0.3%***	

Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			0	*0.0%*	
Solar thermal			0	*0.0%*	
Biomass			**1190**	***81.6%***	
Solid biomass			1186	*81.3%*	
Biogas			3	*0.2%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**n.a.**	***n.a.***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**1190**	***81.6%***	
Total district heating			**96**	***6.6%***	
Total biomass in households			**805**	***55.2%***	

Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**3**	***0.2%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**2**	***0.1%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			0	*0.0%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**4**	***0.3%***	**3 (p.108)**
Renewable electricity road transport			2	*0.1%*	
Renewable electricity non-road transport			2	*0.1%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**8**	***0.5%***	**4 (p.108)**

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**1576**	**3033**	**261**	***17.9%***	**1 (p.108)**
Hydropower (non pumped)	1576	3520	303	*20.8%*	
Hydropower <1 MW (non pumped)	25	69	6	*0.4%*	
Hydropower 1 MW - 10 MW (non pumped)	1	6	1	*0.0%*	
Hydropower >10 MW (non pumped)	1550	3445	296	*20.3%*	
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**0**	**0**	**0**	***0.0%***	
Solar photovoltaic	0	0	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**30**	**55**	**5**	***0.3%***	**2 (p.108)**
Onshore wind	30	49	4	*0.3%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**16**	**66**	**6**	***0.4%***	
Solid biomass	5	9	1	*0.1%*	
Biogas	11	57	5	*0.3%*	
Bioliquids	0	0	0	*0.0%*	
Total	**1622**	**3154**	**271**	***18.6%***	
Total CHP	**13**	**58**	**5**	***0.3%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			0	*0.0%*	
Solar thermal			0	*0.0%*	
Biomass			**1158**	***79.4%***	
Solid biomass			1153	*79.1%*	
Biogas			4	*0.3%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**n.a.**	***n.a.***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**1158**	***79.4%***	
Total district heating			**103**	***7.1%***	
Total biomass in households			**735**	***50.4%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**8**	***0.5%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**19**	***1.3%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			0	*0.0%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**4**	***0.3%***	**3 (p.108)**
Renewable electricity road transport			2	*0.1%*	
Renewable electricity non-road transport			2	*0.1%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**31**	***2.1%***	**4 (p.108)**

Table 131: Latvian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Latvia for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 132: Latvian PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	880000	811000	5 (p.108)
Indirect supply of wood biomass	ktoe	422000	392000	6 (p.108)
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	700	1400	7 (p.108)
Biomass from waste	ktoe	10000	13000	8 (p.108)
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**1312700**	**1217400**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	9 (p.108)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**1312700**	**1217400**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	5 (p.108)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	6 (p.108)
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	7 (p.108)
Biomass from waste	ktoe	n.a.	n.a.	8 (p.108)
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	9 (p.108)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	5 (p.108)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	6 (p.108)
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	7 (p.108)
Biomass from waste	ktoe	n.a.	n.a.	8 (p.108)
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	9 (p.108)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	461.6	472	10 (p.108)
Land used for short rotation trees	ha	n.a.	5.3	11 (p.108)
Land used for other energy crops such as grasses	ha	n.a.	n.a.	

Table 133: Latvian PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	n.a.	n.a.	
Consumption - Fuel type X	ktoe	n.a.	n.a.	
Total production Art.21.2.biofuels	ktoe	0	0	
Total consumption Art.21.2. biofuels	ktoe	0	0	
Share of 21(2) fuels from total RES-T	**%**	**0**	**0**	

Table 134: Latvian PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**5047388**	**4989773**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	691682	720626	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	4329990	4214280	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	25716	54867	

Table 135: Latvian PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	12 (p.108)
Origin/destination	n.a.	n.a.	12 (p.108)
Unit	**ktoe**	**ktoe**	**12 (p.108)**
2010	136	n.a.	12 (p.108)
2011	n.a.	n.a.	12 (p.108)
2012	n.a.	n.a.	12 (p.108)
2013	n.a.	n.a.	12 (p.108)
2014	n.a.	n.a.	12 (p.108)
2015	n.a.	n.a.	12 (p.108)
2016	n.a.	n.a.	12 (p.108)
2017	n.a.	n.a.	12 (p.108)
2018	n.a.	n.a.	12 (p.108)
2019	n.a.	n.a.	12 (p.108)
2020	n.a.	n.a.	12 (p.108)

Table 136: Latvian PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Latvia (ktoe) (see Table 9 of the NREAP)

Comments for Latvia

1: Data values refer to normalised hydropower production. Actual production for 2009 was 3457 GWh and for 2010 it was 3520 GWh.
2: Data values refer to normalised wind power production. Actual production for 2009 was 50 GWh and for 2010 it was 49 GWh.
3: The amount of renewable electricity in accordance with Article 3(4)(c) of Directive 2009/28/EC is 7 ktoe for 2009 and 8 ktoe for 2010.
4: The total amount of energy for renewable transport in accordance with Article 3(4)(c) of Directive 2009/28/EC is 12 ktoe for 2009 and 35 ktoe for 2010.
5: The value for primary energy in domestic raw material refers to the amount including import and excluding export. Table 4 on page 36 of the Latvian Progress Report also reports on biomass exports.
6: The value for primary energy in domestic raw material refers to the amount including import and excluding export. Table 4 on page 36 of the Latvian Progress Report also reports on biomass exports. Moreover, the table provides a breakdown into wood briquettes, wood granules and wood residues.
7: Regards straw and other biomass.
8: Regards gas from waste deposit areas and other biogas (15 million m3 in 2009 and 21 million m3 in 2010) and sludge gas from sewage (5 million m3 in 2009 and 6 million m3 in 2010).
9: Data refer to the amount of raw materials purchased by Latvian biofuel producers for the production of biofuels. Main types are cereals (wheat, rye, triticale), rape and rapeseed oil. Data source: Latvian Biofuel and Bioenergy Association.
10: Contributions for 2009 were: wheat (285.7 ha), rye (59 ha), triticale (13.8 ha), rape (93.3 ha) and corn (9.8 ha). Contributions for 2010 were: wheat (307.6 ha), rye (34.6 ha), triticale (12.1 ha), rape (110.6 ha) and corn (7.1 ha).
11: Provisional results of agricultural census in 2010. Main types: willow, aspens, grey alders.
12: Table 7 on page 48 in the Latvian Progress Report provides a breakdown of the excess production in renewable electricity, renewable heating and cooling and renewable transport.

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	Unit	2009	2010	Comment
Renewable heating and cooling	%	34.46	33	
Renewable electricity	%	5.9	7.4	
Renewable Transport	%	4.22	3.59	
Overall renewable energy share	**%**	**19.96**	**19.72**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	n.a.	n.a.	

Table 137: Lithuanian PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Lithuania (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	876	881	
Gross final consumption of electricity from RES	ktoe	59	70	
Gross final consumption of energy from RES in transport	ktoe	52	45	
Gross total RES consumption	**ktoe**	**987**	**996**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**987**	**996**	

Table 138: Lithuanian PR Table 1a: Calculation table for the renewable energy contribution in Lithuania of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 139: Lithuanian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Lithuania for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**116**	**419**	**36**	***3.6%***	**1 (p.114)**
Hydropower (non pumped)	116	419	36	*3.6%*	
Hydropower <1 MW (non pumped)	17	61	5	*0.5%*	
Hydropower 1 MW - 10 MW (non pumped)	9	33	3	*0.3%*	
Hydropower >10 MW (non pumped)	90	325	28	*2.8%*	
Hydropower pumped storage	760	715	61	*6.2%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**0**	**0**	**0**	***0.0%***	
Solar photovoltaic	0	0	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**98**	**174**	**15**	***1.5%***	**2 (p.114)**
Onshore wind	98	174	15	*1.5%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**24**	**102**	**9**	***0.9%***	
Solid biomass	16	87	7	*0.8%*	
Biogas	8	15	1	*0.1%*	
Bioliquids	0	0	0	*0.0%*	
Total	**238**	**695**	**60**	***6.0%***	
Total CHP	**24**	**102**	**9**	***0.9%***	

Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			3	*0.3%*	
Solar thermal			0	*0.0%*	
Biomass			**873**	***88.3%***	
Solid biomass			870	*88.0%*	
Biogas			3	*0.3%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**0**	***0.0%***	
Aerothermal heat pumps			0	*0.0%*	
Geothermal heat pumps			0	*0.0%*	
Hydrothermal heat pumps			0	*0.0%*	
Total			**876**	***88.6%***	
Total district heating			**n.a.**	***n.a.***	**3 (p.114)**
Total biomass in households			**n.a.**	***n.a.***	**4 (p.114)**

Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**14**	***1.4%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			2	*0.2%*	
Biodiesel			**38**	***3.8%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			29	*2.9%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**1**	***0.1%***	
Renewable electricity road transport			1	*0.1%*	
Renewable electricity non-road transport			0	*0.0%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**53**	***5.4%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**116**	**419**	**36**	***3.6%***	**1 (p.114)**
Hydropower (non pumped)	116	419	36	*3.6%*	
Hydropower <1 MW (non pumped)	17	61	5	*0.5%*	
Hydropower 1 MW - 10 MW (non pumped)	9	33	3	*0.3%*	
Hydropower >10 MW (non pumped)	90	325	28	*2.8%*	
Hydropower pumped storage	760	755	65	*6.6%*	
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**0**	**0**	**0**	***0.0%***	
Solar photovoltaic	0	0	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**133**	**244**	**21**	***2.1%***	**2 (p.114)**
Onshore wind	133	244	21	*2.1%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**29**	**147**	**13**	***1.3%***	
Solid biomass	16	116	10	*1.0%*	
Biogas	13	31	3	*0.3%*	
Bioliquids	0	0	0	*0.0%*	
Total	**278**	**810**	**70**	***7.0%***	
Total CHP	**29**	**147**	**13**	***1.3%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			2	*0.2%*	
Solar thermal			0	*0.0%*	
Biomass			**879**	***88.9%***	
Solid biomass			874	*88.4%*	
Biogas			5	*0.5%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**0**	***0.0%***	
Aerothermal heat pumps			0	*0.0%*	
Geothermal heat pumps			0	*0.0%*	
Hydrothermal heat pumps			0	*0.0%*	
Total			**881**	***89.1%***	
Total district heating			**n.a.**	***n.a.***	**3 (p.114)**
Total biomass in households			**n.a.**	***n.a.***	**4 (p.114)**
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**10**	***1.0%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			2	*0.2%*	
Biodiesel			**35**	***3.5%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			13	*1.3%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**1**	***0.1%***	
Renewable electricity road transport			1	*0.1%*	
Renewable electricity non-road transport			0	*0.0%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**46**	***4.7%***	

Table 140: Lithuanian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Lithuania for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 141: Lithuanian PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	941	951	5 (p.114)
Indirect supply of wood biomass	ktoe	56.8	51	6 (p.114)
Energy crops	ktoe	4.2	6.3	7 (p.114)
Agricultural by-products / processed residues and fishery by-products	ktoe	4.2	5.7	8 (p.114)
Biomass from waste	ktoe	4.2	9.5	9 (p.114)
Others	ktoe	0.4	0.5	10 (p.114)
Total biomass for heating and electricity*	**ktoe**	**1010.8**	**1024**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	104.9	15.1	11 (p.114)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**104.9**	**15.1**	
Total biomass for all sectors*	**ktoe**	**1115.7**	**1039.1**	

Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	29	26	5 (p.114)
Indirect supply of wood biomass	ktoe	1	4.3	6 (p.114)
Energy crops	ktoe	n.a.	n.a.	7 (p.114)
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	8 (p.114)
Biomass from waste	ktoe	n.a.	n.a.	9 (p.114)
Others	ktoe	n.a.	n.a.	10 (p.114)
Total biomass for heating and electricity*	**ktoe**	**30**	**30.3**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	31.4	15.1	11 (p.114)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**31.4**	**15.1**	
Total biomass for all sectors*	**ktoe**	**61.4**	**45.4**	

Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	17	17	5 (p.114)
Indirect supply of wood biomass	ktoe	0.012	0.008	6 (p.114)
Energy crops	ktoe	n.a.	n.a.	7 (p.114)
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	8 (p.114)
Biomass from waste	ktoe	n.a.	n.a.	9 (p.114)
Others	ktoe	n.a.	n.a.	10 (p.114)
Total biomass for heating and electricity*	**ktoe**	**17.012**	**17.008**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	31.4	15.1	11 (p.114)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**31.4**	**15.1**	
Total biomass for all sectors*	**ktoe**	**48.412**	**32.108**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	190100	190000	12 (p.114)
Land used for short rotation trees	ha	600	900	13 (p.114)
Land used for other energy crops such as grasses	ha	n.a.	n.a.	

Table 142: Lithuanian PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	0	0	
Consumption - Fuel type X	ktoe	0	0	
Total production Art.21.2.biofuels	ktoe	0	0	
Total consumption Art.21.2. biofuels	ktoe	0	0	
Share of 21(2) fuels from total RES-T	**%**	**0**	**0**	

Table 143: Lithuanian PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**4283148**	**4273842**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	1092008	1101308	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	3153290	3138924	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	37850	33610	

Table 144: Lithuanian PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	14 (p.114)
Origin/destination	n.a.	n.a.	14 (p.114)
Unit	**ktoe**	**ktoe**	**14 (p.114)**
2010	n.a.	n.a.	14 (p.114)
2011	n.a.	n.a.	14 (p.114)
2012	n.a.	n.a.	14 (p.114)
2013	n.a.	n.a.	14 (p.114)
2014	n.a.	n.a.	14 (p.114)
2015	n.a.	n.a.	14 (p.114)
2016	n.a.	n.a.	14 (p.114)
2017	n.a.	n.a.	14 (p.114)
2018	n.a.	n.a.	14 (p.114)
2019	n.a.	n.a.	14 (p.114)
2020	n.a.	n.a.	14 (p.114)

Table 145: Lithuanian PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Lithuania (ktoe) (see Table 9 of the NREAP)

Comments for Lithuania

1: Normalised electricity generation.
2: Normalised electricity generation.
3: For 2009 and 2010 a share of 21% regards district heating.
4: For 2009 a share of 67% regards biomass in households. For 2010 this share is 65%.
5: Regards fellings.
6: Regards residues and coproducts from wood industry etc., sawdust briquettes, granules.
7: Regards short rotation trees.
8: Regards straw.
9: Regards biogas from manure, waste of vegetable and animal origin and treatment facility sludge.
10: Regards landfill gas.Unit for amount of raw material is unclear from the Lithuanian Progress Report.
11: Regards cerals and rape, breakdown provided in Table 5 (pages 32-33) of the Lithuanian Progress Report.
12: Regards rape and cereals. Breakdown is provided in Table 5a (page 34) of the Lithuanian Progress Report.
13: Regards willow
14: By 2020, a statistical excess of the amount of renewable energy sources is expected in Lithuania. The excess forecasts remain unchanged from those presented in the National Renewable Energy Action Plan. The survey 'Evaluation of international cooperation in promoting the use of energy from renewable sources' (2011), ordered by the Ministry of Energy of the Republic of Lithuania, found that the largest potential for the implementation of joint projects in Lithuania is in the systems of district heating, where the annual heat demand does not exceed 50 GWh. On 28 February 2011 Lithuania signed a memorandum of understanding with Luxembourg concerning cooperation in the sphere of energy from renewable sources, including the opportunities for statistical transfers and joint projects.

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Luxembourg

	Unit	2009	2010	Comment
Renewable heating and cooling	%	4.6	4.97	
Renewable electricity	%	4.1	3.8	
Renewable Transport	%	2.15	2.04	
Overall renewable energy share	**%**	**2.93**	**2.95**	
Renewables through cooperation mechanism	%	n.a.	n.a.	
Surplus for cooperation mechanism	%	n.a.	n.a.	

Table 146: Luxembourg PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Luxembourg (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	48	56	
Gross final consumption of electricity from RES	ktoe	23	24	
Gross final consumption of energy from RES in transport	ktoe	43	42	
Gross total RES consumption	**ktoe**	**114**	**122**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**114**	**122**	

Table 147: Luxembourg PR Table 1a: Calculation table for the renewable energy contribution in Luxembourg of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 148: Luxembourg PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Luxembourg for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**34**	**106**	**9**	***8.0%***	
Hydropower (non pumped)	34	106	9	*8.0%*	
Hydropower <1 MW (non pumped)	2	6	1	*0.5%*	
Hydropower 1 MW - 10 MW (non pumped)	32	100	9	*7.5%*	
Hydropower >10 MW (non pumped)	0	0	0	*0.0%*	
Hydropower pumped storage	1134	834	72	*62.6%*	1 (p.120)
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**26**	**20**	**2**	***1.5%***	
Solar photovoltaic	26	20	2	*1.5%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**43**	**63**	**5**	***4.7%***	
Onshore wind	43	63	5	*4.7%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**17**	**78**	**7**	***5.9%***	
Solid biomass	8	25	2	*1.9%*	
Biogas	9	53	5	*4.0%*	
Bioliquids	0	0	0	*0.0%*	
Total	**120**	**267**	**23**	***20.0%***	**2 (p.120)**
Total CHP	**9**	**53**	**5**	***4.0%***	

Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			0	*0.0%*	
Solar thermal			0.7	*0.6%*	
Biomass			**46.1**	***40.2%***	
Solid biomass			39.9	*34.8%*	
Biogas			6.2	*5.4%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**0.8**	***0.7%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**47.6**	***41.6%***	
Total district heating			**0.9**	***0.8%***	
Total biomass in households			**15.1**	***13.2%***	

Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**1**	***0.9%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			1	*0.9%*	
Biodiesel			**41**	***35.8%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			41	*35.8%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**2**	***1.7%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			2	*1.7%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**44**	***38.4%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**34**	**108**	**9**	***8.1%***	
Hydropower (non pumped)	34	108	9	*8.1%*	
Hydropower <1 MW (non pumped)	2	8	1	*0.6%*	
Hydropower 1 MW - 10 MW (non pumped)	32	100	9	*7.5%*	
Hydropower >10 MW (non pumped)	0	0	0	*0.0%*	
Hydropower pumped storage	1134	1468	126	*110.2%*	1 (p.120)
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**29**	**21**	**2**	***1.6%***	
Solar photovoltaic	29	21	2	*1.6%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**44**	**55**	**5**	***4.1%***	
Onshore wind	44	55	5	*4.1%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**17**	**84**	**7**	***6.3%***	
Solid biomass	8	28	2	*2.1%*	
Biogas	9	56	5	*4.2%*	
Bioliquids	0	0	0	*0.0%*	
Total	**124**	**269**	**23**	***20.2%***	**2 (p.120)**
Total CHP	**9**	**56**	**5**	***4.2%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			0	*0.0%*	
Solar thermal			0.9	*0.8%*	
Biomass			**54.4**	***47.5%***	
Solid biomass			47.9	*41.8%*	
Biogas			6.5	*5.7%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**1**	***0.9%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**56.3**	***49.1%***	
Total district heating			**0.9**	***0.8%***	
Total biomass in households			**18.9**	***16.5%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**1**	***0.9%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			1	*0.9%*	
Biodiesel			**41**	***35.8%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			41	*35.8%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**2**	***1.7%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			2	*1.7%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**44**	***38.4%***	

Table 149: Luxembourg PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Luxembourg for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 150: Luxembourg PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	2.9	0.3	3 (p.120)
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**2.9**	**0.3**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	4 (p.120)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**2.9**	**0.3**	

Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	0	0	3 (p.120)
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**0**	**0**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	4 (p.120)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	0	0	3 (p.120)
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**0**	**0**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	4 (p.120)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	n.a.	731	5 (p.120)
Land used for short rotation trees	ha	n.a.	n.a.	
Land used for other energy crops such as grasses	ha	50	0	6 (p.120)

Table 151: Luxembourg PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	0	0	
Consumption - Fuel type X	ktoe	n.a.	n.a.	
Total production Art.21.2.biofuels	ktoe	n.a.	n.a.	
Total consumption Art.21.2. biofuels	ktoe	n.a.	n.a.	
Share of 21(2) fuels from total RES-T	**%**	**n.a.**	**n.a.**	

Table 152: Luxembourg PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**n.a.**	**141900**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	n.a.	n.a.	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	n.a.	900	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	n.a.	141000	

Table 153: Luxembourg PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	7 (p.120)
Origin/destination	n.a.	n.a.	7 (p.120)
Unit	**ktoe**	**ktoe**	**7 (p.120)**
2010	n.a.	0	7 (p.120)
2011	n.a.	-44.8	7 (p.120)
2012	n.a.	-22.8	7 (p.120)
2013	n.a.	-37.8	7 (p.120)
2014	n.a.	-9.8	7 (p.120)
2015	n.a.	-45	7 (p.120)
2016	n.a.	-21.6	7 (p.120)
2017	n.a.	-74.5	7 (p.120)
2018	n.a.	-39.2	7 (p.120)
2019	n.a.	-66.1	7 (p.120)
2020	n.a.	-92.9	7 (p.120)

Table 154: Luxembourg PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Luxembourg (ktoe) (see Table 9 of the NREAP)

Comments for Luxembourg

1: Compared to the NREAP, these values also include the non-pumped capacity.
2: Without pumping electricity.
3: Main types for 2009: silage maize, miscanthus, sudan grass. No data for industrial rapeseed. Main types for 2010: miscanthus, sudan grass. No data for silage maize and industrial rapeseed. Unit not explicitly mentioned.
4: Main type: industrial rapeseed.
5: Main type: silage maize.
6: Main types: miscanthus, sudan grass.
7: The figures provided in Table 7 are identical to those of Table 9 of the NREAP. Luxembourg has made various efforts to engage in talks with countries willing to cooperate, as well as to explore and advance potential cooperation options.

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Malta

	Unit	2009	2010	Comment
Renewable heating and cooling	%	9.1	9.5	
Renewable electricity	%	0.02	0.08	
Renewable Transport	%	0.83	0.66	
Overall renewable energy share	**%**	**0.88**	**0.9**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 155: Maltese PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Malta (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	2.91	3.04	
Gross final consumption of electricity from RES	ktoe	0.05	0.15	
Gross final consumption of energy from RES in transport	ktoe	0.66	0.55	
Gross total RES consumption	**ktoe**	**3.61**	**3.73**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**3.61**	**3.73**	

Table 156: Maltese PR Table 1a: Calculation table for the renewable energy contribution in Malta of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 157: Maltese PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Malta for 2009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**0**	**0**	**0**	***n.a.***	
Hydropower (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower <1 MW (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower 1 MW - 10 MW (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower >10 MW (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower pumped storage	n.a.	n.a.	n.a.	*n.a.*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	0	0	0	*n.a.*	
Solar	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solar photovoltaic	1.53	0.53	0	*n.a.*	
Concentrated solar power	n.a.	n.a.	n.a.	*n.a.*	
Tidal, wave and ocean energy	0	0	0	*n.a.*	
Wind power	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Onshore wind	n.a.	0	0	*n.a.*	
Offshore wind	n.a.	0	0	*n.a.*	
Biomass	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solid biomass	n.a.	0	0	*n.a.*	
Biogas	n.a.	0	0	*n.a.*	
Bioliquids	n.a.	n.a.	n.a.	*n.a.*	
Total	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Total CHP	**n.a.**	**0.5318**	**0**	***n.a.***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			0	*n.a.*	
Solar thermal			2.3	*n.a.*	
Biomass			**n.a.**	***n.a.***	
Solid biomass			0.5	*n.a.*	
Biogas			0	*n.a.*	
Bioliquids			0.1	*n.a.*	
Renewable energy from heat pumps			**n.a.**	***n.a.***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**2.91**	***n.a.***	
Total district heating			**0**	***n.a.***	
Total biomass in households			**n.a.**	***n.a.***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**0**	***n.a.***	
Bioethanol / bio-ETBE Article 21.2			0	*n.a.*	
Bioethanol / bio-ETBE imported			0	*n.a.*	
Biodiesel			**0.657**	***n.a.***	
Biodiesel Article 21.2			0.657	*n.a.*	
Biodiesel imported			0	*n.a.*	
Hydrogen from renewables			0	*n.a.*	
Renewable electricity			**0**	***n.a.***	
Renewable electricity road transport			0	*n.a.*	
Renewable electricity non-road transport			0	*n.a.*	
Other biofuels			0	*n.a.*	
Other biofuels Article 21.2			0	*n.a.*	
Total			**0.66**	***n.a.***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**0**	**0**	**0**	***n.a.***	
Hydropower (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower <1 MW (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower 1 MW - 10 MW (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower >10 MW (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower pumped storage	n.a.	n.a.	n.a.	*n.a.*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	0	0	0	*n.a.*	
Solar	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solar photovoltaic	1.67	1.73	0	*n.a.*	
Concentrated solar power	n.a.	n.a.	n.a.	*n.a.*	
Tidal, wave and ocean energy	0	0	0	*n.a.*	
Wind power	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Onshore wind	n.a.	0	0	*n.a.*	
Offshore wind	n.a.	0	0	*n.a.*	
Biomass	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solid biomass	n.a.	0	0	*n.a.*	
Biogas	n.a.	0	0	*n.a.*	
Bioliquids	n.a.	n.a.	n.a.	*n.a.*	
Total	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Total CHP	**n.a.**	**1.731**	**0**	***n.a.***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			0	*n.a.*	
Solar thermal			2.47	*n.a.*	
Biomass			**n.a.**	***n.a.***	
Solid biomass			0.33	*n.a.*	
Biogas			0.15	*n.a.*	
Bioliquids			0.08	*n.a.*	
Renewable energy from heat pumps			**n.a.**	***n.a.***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**3.04**	***n.a.***	
Total district heating			**0**	***n.a.***	
Total biomass in households			**n.a.**	***n.a.***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**0**	***n.a.***	
Bioethanol / bio-ETBE Article 21.2			0	*n.a.*	
Bioethanol / bio-ETBE imported			0	*n.a.*	
Biodiesel			**0.546**	***n.a.***	
Biodiesel Article 21.2			0.546	*n.a.*	
Biodiesel imported			0	*n.a.*	
Hydrogen from renewables			0	*n.a.*	
Renewable electricity			**0**	***n.a.***	
Renewable electricity road transport			0	*n.a.*	
Renewable electricity non-road transport			0	*n.a.*	
Other biofuels			0	*n.a.*	
Other biofuels Article 21.2			0	*n.a.*	
Total			**0.55**	***n.a.***	

Table 158: Maltese PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Malta for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 159: Maltese PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	3.97	3.97	1 (p.126)
Biomass from waste	ktoe	24.33	23.67	2 (p.126)
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**28.3**	**27.64**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**28.3**	**27.64**	

Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	1 (p.126)
Biomass from waste	ktoe	n.a.	n.a.	2 (p.126)
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	1 (p.126)
Biomass from waste	ktoe	n.a.	n.a.	2 (p.126)
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	0	0	
Land used for short rotation trees	ha	0	0	
Land used for other energy crops such as grasses	ha	0	0	

Table 160: Maltese PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	0.76	0.63	
Consumption - Fuel type X	ktoe	0.76	0.63	
Total production Art.21.2.biofuels	ktoe	0.76	0.63	
Total consumption Art.21.2. biofuels	ktoe	0.76	0.63	
Share of 21(2) fuels from total RES-T	**%**	**100**	**100**	

Table 161: Maltese PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**11714.87**	**12747.85**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	508.93	1550.69	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	9531.83	9805.89	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	1674.11	1391.27	

Table 162: Maltese PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	3 (p.126)
Origin/destination	n.a.	n.a.	3 (p.126)
Unit	**ktoe**	**ktoe**	**3 (p.126)**
2010	n.a.	n.a.	3 (p.126)
2011	n.a.	n.a.	3 (p.126)
2012	2.05	n.a.	3 (p.126)
2013	n.a.	n.a.	3 (p.126)
2014	7.6	n.a.	3 (p.126)
2015	n.a.	n.a.	3 (p.126)
2016	8.34	n.a.	3 (p.126)
2017	n.a.	n.a.	3 (p.126)
2018	16.08	n.a.	3 (p.126)
2019	n.a.	n.a.	3 (p.126)
2020	1.07	n.a.	3 (p.126)

Table 163: Maltese PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Malta (ktoe) (see Table 9 of the NREAP)

Comments for Malta

1: Not utilised since no generation facilities available.
2: Not utilised since no generation facilities available.
3: The indicated trend suggests that Malta, though initially tight to the first interim target due to delayed measures implementation will still recover by 2020 and does not have any substantial sustainable excess which can be marketed in the long term.

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Netherlands

	Unit	2009	2010	Comment
Renewable heating and cooling	%	3	2.7	
Renewable electricity	%	9.1	9.7	
Renewable Transport	%	4.2	3	
Overall renewable energy share	**%**	**4.1**	**3.7**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 164: Dutch PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Netherlands (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	806	827	
Gross final consumption of electricity from RES	ktoe	925	1008	
Gross final consumption of energy from RES in transport	ktoe	472	339	
Gross total RES consumption	**ktoe**	**2103**	**2063**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**2103**	**2063**	

Table 165: Dutch PR Table 1a: Calculation table for the renewable energy contribution in Netherlands of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 166: Dutch PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Netherlands for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**37**	**100**	**9**	***0.4%***	
Hydropower (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower <1 MW (non pumped)	0	0	0	*0.0%*	1 (p.132)
Hydropower 1 MW - 10 MW (non pumped)	2	5	0	*0.0%*	2 (p.132)
Hydropower >10 MW (non pumped)	35	95	8	*0.4%*	3 (p.132)
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	0	0	0	*0.0%*	
Solar	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solar photovoltaic	68	46	4	*0.2%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**2222**	**4481**	**385**	***17.5%***	
Onshore wind	1994	3762	323	*14.7%*	
Offshore wind	228	719	62	*2.8%*	
Biomass	**1028**	**6129**	**527**	***23.9%***	
Solid biomass	825	5122	440	*20.0%*	
Biogas	186	934	80	*3.6%*	
Bioliquids	17	74	6	*0.3%*	
Total	**3355**	**10756**	**925**	***42.0%***	
Total CHP	**667**	**3742**	**322**	***14.6%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			3	*0.1%*	
Solar thermal			22	*1.0%*	
Biomass			**699**	***31.7%***	
Solid biomass			565	*25.6%*	
Biogas			103	*4.7%*	
Bioliquids			31	*1.4%*	
Renewable energy from heat pumps			**81**	***3.7%***	
Aerothermal heat pumps			38	*1.7%*	
Geothermal heat pumps			43	*2.0%*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**806**	***36.6%***	
Total district heating			**160**	***7.3%***	
Total biomass in households			**292**	***13.3%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**138**	***6.3%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			n.a.	*n.a.*	
Biodiesel			**235**	***10.7%***	
Biodiesel Article 21.2			77	*3.5%*	
Biodiesel imported			n.a.	*n.a.*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**23**	***1.0%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			23	*1.0%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**472**	***21.4%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**37**	**101**	**9**	***0.4%***	
Hydropower (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower <1 MW (non pumped)	0	0	0	*0.0%*	1 (p.132)
Hydropower 1 MW - 10 MW (non pumped)	2	5	0	*0.0%*	2 (p.132)
Hydropower >10 MW (non pumped)	35	96	8	*0.4%*	3 (p.132)
Hydropower pumped storage	0	0	0	*0.0%*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	0	0	0	*0.0%*	
Solar	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solar photovoltaic	88	60	5	*0.2%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**2237**	**4503**	**387**	***17.6%***	
Onshore wind	2009	3737	321	*14.6%*	
Offshore wind	228	765	66	*3.0%*	
Biomass	**1205**	**7059**	**607**	***27.6%***	
Solid biomass	992	5961	513	*23.3%*	
Biogas	196	1044	90	*4.1%*	
Bioliquids	17	54	5	*0.2%*	
Total	**3567**	**11722**	**1008**	***45.8%***	
Total CHP	**743**	**4075**	**350**	***15.9%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			8	*0.4%*	
Solar thermal			24	*1.1%*	
Biomass			**698**	***31.7%***	
Solid biomass			569	*25.8%*	
Biogas			116	*5.3%*	
Bioliquids			14	*0.6%*	
Renewable energy from heat pumps			**97**	***4.4%***	
Aerothermal heat pumps			46	*2.1%*	
Geothermal heat pumps			51	*2.3%*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**827**	***37.5%***	
Total district heating			**170**	***7.7%***	
Total biomass in households			**295**	***13.4%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**134**	***6.1%***	
Bioethanol / bio-ETBE Article 21.2			4	*0.2%*	
Bioethanol / bio-ETBE imported			n.a.	*n.a.*	
Biodiesel			**95**	***4.3%***	
Biodiesel Article 21.2			82	*3.7%*	
Biodiesel imported			n.a.	*n.a.*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**25**	***1.1%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			25	*1.1%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**339**	***15.4%***	

Table 167: Dutch PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Netherlands for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 168: Dutch PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	243	256	
Indirect supply of wood biomass	ktoe	585	552	4 (p.132)
Energy crops	ktoe	37	54	
Agricultural by-products / processed residues and fishery by-products	ktoe	192	358	
Biomass from waste	ktoe	1157	1168	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**2214**	**2388**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**2214**	**2388**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	0	19	4 (p.132)
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	16	0	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**16**	**19**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**16**	**19**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	4 (p.132)
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	8135	10632	5 (p.132)
Land used for short rotation trees	ha	12	8	
Land used for other energy crops such as grasses	ha	58	83	6 (p.132)

Table 169: Dutch PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	242	338	7 (p.132)
Consumption - Fuel type X	ktoe	373	229	8 (p.132)
Total production Art.21.2.biofuels	ktoe	n.a.	n.a.	
Total consumption Art.21.2. biofuels	ktoe	77	85	
Share of 21(2) fuels from total RES-T	**%**	**33**	**50**	

Table 170: Dutch PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**8547**	**8912**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	6359	6883	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	1458	1511	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	730	518	

Table 171: Dutch PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	0	n.a.	9 (p.132)
Origin/destination	0	n.a.	9 (p.132)
Unit	**ktoe**	**ktoe**	**9 (p.132)**
2010	0	n.a.	9 (p.132)
2011	0	n.a.	9 (p.132)
2012	0	n.a.	9 (p.132)
2013	0	n.a.	9 (p.132)
2014	0	n.a.	9 (p.132)
2015	0	n.a.	9 (p.132)
2016	0	n.a.	9 (p.132)
2017	0	n.a.	9 (p.132)
2018	0	n.a.	9 (p.132)
2019	0	n.a.	9 (p.132)
2020	0	n.a.	9 (p.132)

Table 172: Dutch PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Netherlands (ktoe) (see Table 9 of the NREAP)

Comments for the Netherlands

1: As a result of data confidentiality the breakdown provided here is based on data from the Dutch NREAP, not on estimates from Statistics Netherlands (CBS).
2: As a result of data confidentiality the breakdown provided here is based on data from the Dutch NREAP, not on estimates from Statistics Netherlands (CBS).
3: As a result of data confidentiality the breakdown provided here is based on data from the Dutch NREAP, not on estimates from Statistics Netherlands (CBS).
4: Additionally, the Dutch Progess report provides data on import of processed biomass. From EU countries this amounts to 155250 ton (65 ktoe) for 2009 and 229921 ton (96 ktoe) for 2010. Import of processed biomass from non-EU countries amounts to 953679 ton (399 ktoe) for 2009 and 1047417 ton (438 ktoe) for 2010.
5: Regards energy maize (5500 ha for 2009 and 8000 ha for 2010) and rape (2635 ha for 2009 and 2632 ha for 2010).
6: Regards miscanthus.
7: Regards biodiesel only, data on bioethanol are confidential.
8: Regards biodiesel (235 ktoe in 2009 and 95 ktoe in 2010) and bioethanol (138 ktoe in 2009 and 134 ktoe in 2010).
9: There are not yet any statistical transfers, joint projects or joint support scheme decision rules. The use of collaborative mechanisms may be considered during the evaluation of policy in 2014.

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Poland

	Unit	2009	2010	Comment
Renewable heating and cooling	%	11.9	12	
Renewable electricity	%	5.9	6.7	
Renewable Transport	%	4.8	5.9	
Overall renewable energy share	**%**	**8.9**	**9.5**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 173: Polish PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Poland (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	4199	4636	
Gross final consumption of electricity from RES	ktoe	752	894	
Gross final consumption of energy from RES in transport	ktoe	662	887	
Gross total RES consumption	**ktoe**	**5613**	**6417**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**5613**	**6417**	

Table 174: Polish PR Table 1a: Calculation table for the renewable energy contribution in Poland of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 175: Polish PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Poland for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**945.21**	**2355.574**	**203**	***3.6%***	
Hydropower (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower <1 MW (non pumped)	88.077	n.a.	n.a.	*n.a.*	1 (p.138)
Hydropower 1 MW - 10 MW (non pumped)	184.653	n.a.	n.a.	*n.a.*	2 (p.138)
Hydropower >10 MW (non pumped)	672.48	n.a.	n.a.	*n.a.*	3 (p.138)
Hydropower pumped storage	n.a.	n.a.	n.a.	*n.a.*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	0	0	0	*0.0%*	
Solar	**0.001**	**1.328**	**0**	***0.0%***	
Solar photovoltaic	0.001	1.328	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**724.657**	**1164.18**	**100**	***1.8%***	
Onshore wind	724.657	1164.18	100	*1.8%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**323.378**	**5223.353**	**449**	***8.0%***	
Solid biomass	252.49	4904.113	422	*7.5%*	4 (p.138)
Biogas	70.888	319.24	27	*0.5%*	
Bioliquids	0	2967	255	*4.5%*	5 (p.138)
Total	**1993.246**	**8747.402**	**752**	***13.4%***	
Total CHP	**n.a.**	**4663.807**	**401**	***7.1%***	

Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			14.3	*0.3%*	
Solar thermal			2	*0.0%*	
Biomass			**4164.6**	***74.0%***	
Solid biomass			4121.6	*73.2%*	
Biogas			42.9	*0.8%*	
Bioliquids			0.1	*0.0%*	
Renewable energy from heat pumps			**18.1**	***0.3%***	
Aerothermal heat pumps			0.3	*0.0%*	
Geothermal heat pumps			12.6	*0.2%*	
Hydrothermal heat pumps			5.2	*0.1%*	
Total			**4199**	***74.6%***	
Total district heating			**0**	***0.0%***	
Total biomass in households			**2488.2**	***44.2%***	

Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**195**	***3.5%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			103	*1.8%*	
Biodiesel			**468**	***8.3%***	**6 (p.138)**
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			139	*2.5%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**16**	***0.3%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			16	*0.3%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**679**	***12.1%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**937.042**	**2390.262**	**206**	***3.7%***	
Hydropower (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower <1 MW (non pumped)	90.119	n.a.	n.a.	*n.a.*	1 (p.138)
Hydropower 1 MW - 10 MW (non pumped)	174.443	n.a.	n.a.	*n.a.*	2 (p.138)
Hydropower >10 MW (non pumped)	672.48	n.a.	n.a.	*n.a.*	3 (p.138)
Hydropower pumped storage	n.a.	n.a.	n.a.	*n.a.*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	0	0	0	*0.0%*	
Solar	**0.033**	**1.672**	**0**	***0.0%***	
Solar photovoltaic	0.033	1.672	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**1180.272**	**1700.29**	**146**	***2.6%***	
Onshore wind	1180.272	1700.29	146	*2.6%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**439.074**	**6303.59**	**542**	***9.6%***	
Solid biomass	356.19	5905.21	508	*9.0%*	4 (p.138)
Biogas	82.884	398.38	34	*0.6%*	
Bioliquids	0	0.9	0	*0.0%*	5 (p.138)
Total	**2556.421**	**10396.71**	**894**	***15.9%***	
Total CHP	**n.a.**	**5592.5**	**481**	***8.5%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			13.4	*0.2%*	
Solar thermal			2.4	*0.0%*	
Biomass			**4599.5**	***81.7%***	
Solid biomass			4554.2	*80.9%*	
Biogas			45.3	*0.8%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**21.2**	***0.4%***	
Aerothermal heat pumps			0.8	*0.0%*	
Geothermal heat pumps			13.4	*0.2%*	
Hydrothermal heat pumps			7	*0.1%*	
Total			**4636.5**	***82.4%***	
Total district heating			**0**	***0.0%***	
Total biomass in households			**2692.9**	***47.8%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**189**	***3.4%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			84	*1.5%*	
Biodiesel			**698**	***12.4%***	**6 (p.138)**
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			365	*6.5%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**19**	***0.3%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			19	*0.3%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**906**	***16.1%***	

Table 176: Polish PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Poland for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 177: Polish PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	3994	4304	7 (p.138)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	8 (p.138)
Energy crops	ktoe	30	24	
Agricultural by-products / processed residues and fishery by-products	ktoe	307	440	
Biomass from waste	ktoe	859	1096	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**5190**	**5864**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	411	n.a.	9 (p.138)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**411**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**5601**	**5864**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	7 (p.138)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	8 (p.138)
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	9 (p.138)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	7 (p.138)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	8 (p.138)
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	9 (p.138)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	36061.82	n.a.	10 (p.138)
Land used for short rotation trees	ha	5650.81	n.a.	11 (p.138)
Land used for other energy crops such as grasses	ha	2997.23	n.a.	12 (p.138)

Table 178: Polish PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	0	0	
Consumption - Fuel type X	ktoe	0	0	
Total production Art.21.2.biofuels	ktoe	0	0	
Total consumption Art.21.2. biofuels	ktoe	0	0	
Share of 21(2) fuels from total RES-T	**%**	**0**	**0**	

Table 179: Polish PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**23856054**	**27415076**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	6235178	7412565	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	15297839	16889922	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	2323037	3112589	

Table 180: Polish PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	13 (p.139)
Origin/destination	n.a.	n.a.	13 (p.139)
Unit	**ktoe**	**ktoe**	**13 (p.139)**
2010	543	n.a.	13 (p.139)
2011	n.a.	n.a.	13 (p.139)
2012	1050	n.a.	13 (p.139)
2013	n.a.	n.a.	13 (p.139)
2014	1182	n.a.	13 (p.139)
2015	n.a.	n.a.	13 (p.139)
2016	1074	n.a.	13 (p.139)
2017	n.a.	n.a.	13 (p.139)
2018	968	n.a.	13 (p.139)
2019	n.a.	n.a.	13 (p.139)
2020	587	n.a.	13 (p.139)

Table 181: Polish PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Poland (ktoe) (see Table 9 of the NREAP)

Comments for Poland

1: Given standardisation calculations, it is currently not possible to provide more detailed data concerning hydropower.
2: Given standardisation calculations, it is currently not possible to provide more detailed data concerning hydropower.
3: Given standardisation calculations, it is currently not possible to provide more detailed data concerning hydropower.
4: Installed capacity for solid biomass concern only units generating electricity using exclusively biomass as fuel. Such cases enable to determine the installed capacity of a given source. In Poland, apart from electricity generation in units dedicated exclusively to incineration of biomass, there are large systemic installations generating electricity in the process of co-firing of biomass with other fossil fuels, e.g. coal. In this case, in accordance with applicable regulation of the Minister of Economy of 14 August 2008 on the detailed scope of obligations in respect to obtaining certificates of origin and submitting them for redemption, payment of a substitute fee, purchase of electricity and heat from renewable energy sources, as well as the obligation to confirm the data on the amount of electricity produced from a renewable energy source (Journal of Laws No 156, item 969 and 2010 No 34, item 182), energy produced from renewable energy sources includes a portion of electricity or heat corresponding to the share of chemical energy of biomass or biogas in chemical energy of the fuel used to generate energy, calculated on the basis of real calorific values of these fuels. Since the composition of the mixture of biomass and another fuel differs in individual installations and can vary in different periods, it is impossible to calculate and provide the rated installed capacity for such units.
5: No dedicated bioliquid installations (0 MW and 0 GWh for both 2009 and 2010). For the year 2009 an amount of 2.967 GWh was generated using bioliquids in co-firing. For the year 2010 this amount was 0.9 GWh.
6: In the year 2009 an amount of 80 ktoe consisted of B100 and in the year 2010 the amount of B100 was 212 ktoe.
7: It is not possible to specify whether the supply of this biomass type is direct or indirect: the value mentioned under 'direct supply' includes 'indirect supply'.
8: It is not possible to specify whether the supply of this biomass type is direct or indirect: the value mentioned under 'direct supply' includes 'indirect supply'.
9: Data originate from quarterly reports only (DPE - 4.1 form) submitted by producers to the Agricultural Market Agency in 2009-2010. Producers do not differentiate in the reports between raw materials in terms of their origin (domestic, intra-Community acquisition, import), and therefore the data refer to all raw materials used by the producers for the production of biocomponents. Included are: maize, rye, wheat, triticale, barley, cereals, molasses, ethyl alcohol, distillate of agricultural origin, residual fractions from alcohol rectification, fusel oils, alcohol slops, distillation forerunnings, rapeseed, rapeseed oil, vegetable fats, animal fats, esters for processing, biocomponents, free fatty acids and REM. See Polish Progress Report Table 4 on pages 20-21 for all detail.
10: Regards rapeseed, maize, rye, triticale, oats, Wheat, cereal blends and barley. All detail for 2009 available in Table 4a of the Polish Progress Report (page 22).
11: Regards willow, birch, alder, black locust, poplar and multiflora rose. All detail for 2009 available in Table 4a of the Polish Progress Report (page 22).
12: Regards perennial and annual grasses, miscanthus sinensis, sida hermaphrodita rusby, reed canary grass, cordgrass and jerusalem artichoke. All detail for 2009 available in Table 4a of the Polish Progress Report (page 22).
13: For the year 2010 a breakdown is mentioned in the Polish Progress Report into renewable heating and cooling (+656 ktoe), renewable electricity (-19 ktoe) and renewable

transport (-94 ktoe). The data value for 2012 refers to the period 2011 - 2012 in the Polish Progress Report. The value for 2014 refers to the period 2013 - 2014, the value for 2016 refers to the period 2015 - 2016 and the value for 2018 refers to the period 2017 - 2018.

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Portugal

	Unit	2009	2010	Comment
Renewable heating and cooling	%	37.86	34.45	
Renewable electricity	%	38.4	41.2	
Renewable Transport	%	3.87	5.59	
Overall renewable energy share	**%**	**24.63**	**24.57**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 182: Portugese PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Portugal (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	2590	2241	
Gross final consumption of electricity from RES	ktoe	1789	1994	1 (p.146)
Gross final consumption of energy from RES in transport	ktoe	246	349	
Gross total RES consumption	**ktoe**	**4604**	**4561**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**4604**	**4561**	

Table 183: Portugese PR Table 1a: Calculation table for the renewable energy contribution in Portugal of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 184: Portugese PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Portugal for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**5080**	**11270**	**969**	***21.0%***	
Hydropower (non pumped)	3991	10127	871	*18.9%*	
Hydropower <1 MW (non pumped)	35	89	8	*0.2%*	
Hydropower 1 MW - 10 MW (non pumped)	351	891	77	*1.7%*	
Hydropower >10 MW (non pumped)	3605	9147	787	*17.1%*	
Hydropower pumped storage	1089	1143	98	*2.1%*	
Hydropower mixed (normalised)	**1089**	**1143**	**98**	***2.1%***	
Geothermal	25	184	16	*0.3%*	
Solar	**115**	**160**	**14**	***0.3%***	
Solar photovoltaic	115	160	14	*0.3%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**3326**	**7000**	**602**	***13.1%***	
Onshore wind	3326	7000	602	*13.1%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**442**	**2384**	**205**	***4.5%***	
Solid biomass	422	2301	198	*4.3%*	
Biogas	20	83	7	*0.2%*	
Bioliquids	0	0	0	*0.0%*	
Total	**8988**	**20998**	**1806**	***39.2%***	
Total CHP	**272**	**1370**	**118**	***2.6%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			10	*0.2%*	
Solar thermal			35	*0.8%*	
Biomass			**2508**	***54.5%***	
Solid biomass			1658	*36.0%*	
Biogas			25	*0.5%*	
Bioliquids			825	*17.9%*	
Renewable energy from heat pumps			**n.a.**	***n.a.***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**2553**	***55.4%***	
Total district heating			**1206**	***26.2%***	
Total biomass in households			**1161**	***25.2%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**0**	***0.0%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**226**	***4.9%***	
Biodiesel Article 21.2			1.3	*0.0%*	
Biodiesel imported			12.3	*0.3%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**15**	***0.3%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			15	*0.3%*	
Other biofuels			4.5	*0.1%*	
Other biofuels Article 21.2			4.5	*0.1%*	
Total			**246**	***5.3%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**5102**	**11775**	**1012**	***22.0%***	
Hydropower (non pumped)	4013	10584	910	*19.8%*	
Hydropower <1 MW (non pumped)	35	92	8	*0.2%*	
Hydropower 1 MW - 10 MW (non pumped)	343	905	78	*1.7%*	
Hydropower >10 MW (non pumped)	3635	9587	824	*17.9%*	
Hydropower pumped storage	1089	1192	102	*2.2%*	
Hydropower mixed (normalised)	**1089**	**1192**	**102**	***2.2%***	
Geothermal	25	197	17	*0.4%*	
Solar	**132**	**201**	**17**	***0.4%***	
Solar photovoltaic	132	201	17	*0.4%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**3796**	**8395**	**722**	***15.7%***	
Onshore wind	3796	8395	722	*15.7%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**587**	**2904**	**250**	***5.4%***	
Solid biomass	562	2804	241	*5.2%*	
Biogas	25	100	9	*0.2%*	
Bioliquids	0	0	0	*0.0%*	
Total	**9642**	**23472**	**2018**	***43.8%***	
Total CHP	**456**	**1604**	**138**	***3.0%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			10	*0.2%*	
Solar thermal			48	*1.0%*	
Biomass			**2609**	***56.7%***	
Solid biomass			1699	*36.9%*	
Biogas			32	*0.7%*	
Bioliquids			878	*19.1%*	
Renewable energy from heat pumps			**n.a.**	***n.a.***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**2667**	***57.9%***	
Total district heating			**764**	***16.6%***	
Total biomass in households			**706**	***15.3%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**0**	***0.0%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**326**	***7.1%***	
Biodiesel Article 21.2			0.3	*0.0%*	
Biodiesel imported			16.8	*0.4%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**19**	***0.4%***	
Renewable electricity road transport			1	*0.0%*	
Renewable electricity non-road transport			18	*0.4%*	
Other biofuels			3.6	*0.1%*	
Other biofuels Article 21.2			3.6	*0.1%*	
Total			**349**	***7.6%***	

Table 185: Portugese PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Portugal for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 186: Portugese PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	89	208	
Indirect supply of wood biomass	ktoe	205	207	
Energy crops	ktoe	0	0	
Agricultural by-products / processed residues and fishery by-products	ktoe	18	18	
Biomass from waste	ktoe	198	192	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**510**	**625**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	2 (p.146)
Energy crops and short rotation trees for biofuels	ktoe	4.6	n.a.	3 (p.146)
Others	ktoe	4.4	n.a.	4 (p.146)
Total biomass for transport*	**ktoe**	**9**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**519**	**625**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	2 (p.146)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	3 (p.146)
Others	ktoe	1.4	n.a.	4 (p.146)
Total biomass for transport*	**ktoe**	**1.4**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**1.4**	**0**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	2 (p.146)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	3 (p.146)
Others	ktoe	1.4	n.a.	4 (p.146)
Total biomass for transport*	**ktoe**	**1.4**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**1.4**	**0**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	426	4357	
Land used for short rotation trees	ha	n.a.	n.a.	
Land used for other energy crops such as grasses	ha	n.a.	n.a.	

Table 187: Portugese PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	5.8	3.9	5 (p.146)
Consumption - Fuel type X	ktoe	5.8	3.9	6 (p.146)
Total production Art.21.2.biofuels	ktoe	5.8	3.9	
Total consumption Art.21.2. biofuels	ktoe	5.8	3.9	
Share of 21(2) fuels from total RES-T	**%**	**2.38**	**1.16**	

Table 188: Portugese PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**8094**	**8877**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	2390	2744	7 (p.146)
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	5288	5525	8 (p.146)
Estimated net GHG saving from the use of RES-T	t CO_2-eq	416	609	9 (p.146)

Table 189: Portugese PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	10 (p.146)
Origin/destination	n.a.	n.a.	10 (p.146)
Unit	**ktoe**	**ktoe**	**10 (p.146)**
2010	n.a.	n.a.	10 (p.146)
2011	n.a.	n.a.	10 (p.146)
2012	n.a.	n.a.	10 (p.146)
2013	n.a.	n.a.	10 (p.146)
2014	n.a.	n.a.	10 (p.146)
2015	n.a.	n.a.	10 (p.146)
2016	n.a.	n.a.	10 (p.146)
2017	n.a.	n.a.	10 (p.146)
2018	n.a.	n.a.	10 (p.146)
2019	n.a.	n.a.	10 (p.146)
2020	n.a.	n.a.	10 (p.146)

Table 190: Portugese PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Portugal (ktoe) (see Table 9 of the NREAP)

Comments for Portugal

1: Electricity production from RES harmonising hydro and wind power in accordance with Directive 2009/28/EC.
2: It should be noted that oilseeds grown on agricultural land in Portugal, as set out in table 4, is not intended exclusively for the production of biofuels. The main purpose of agriculture on this land is the production of protein meal for the animal feed industry, or oils (such as sunflower oil) for the food industry, which commonly ends up being used for biofuel production. (Comment may also refer to Table 4a on domestic agricultural land use.)
3: Unit for 'imported raw material from non-EU' not explicitly mentioned.
4: Refers to used oils.
5: For 2009 this refers to 1.3 ktoe biodiesel and 4.5 ktoe biodiesel pour point depressant (PPD, which corresponds to the sterification of cooking oil and animal fat). For 2010 this refers to 0.3 ktoe biodiesel and 3.6 ktoe biodiesel PPD.
6: For 2009 this refers to 1.3 ktoe biodiesel and 4.5 ktoe biodiesel pour point depressant (PPD, which corresponds to the sterification of cooking oil and animal fat). For 2010 this refers to 0.3 ktoe biodiesel and 3.6 ktoe biodiesel PPD.
7: The GN conversion factor was used rather than that recommended by the Commission (56.1 g CO_2-eq/MJ)
8: The conversion factor recommended by the Commission was used (87 g CO_2-eq/MJ)
9: The diesel conversion factor was used (74.1 g CO_2-eq/MJ)
10: Portugal thus argues that flexibility mechanisms should be backed up by the physical transfer of the energy involved in these mechanisms. The necessary investments are therefore required to remove the bottleneck in the Pyrenees and so create an effective and workable connection between the Iberian Peninsula and the French electricity grid. In the absence of these investments it is unlikely that Portugal will make use of these mechanisms in the near future.

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Romania

	Unit	2009	2010	Comment
Renewable heating and cooling	%	23.46	24.22	
Renewable electricity	%	33.46	32.06	
Renewable Transport	%	0.67	0.68	
Overall renewable energy share	**%**	**21.75**	**22.36**	**1 (p.152)**
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 191: Romanian PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Romania (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	3789.123	3975.4	
Gross final consumption of electricity from RES	ktoe	1469.445	1522.595	
Gross final consumption of energy from RES in transport	ktoe	33.54	33.13	
Gross total RES consumption	**ktoe**	**5258.05**	**5498.34**	**2 (p.152)**
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**5258.05**	**5498.34**	

Table 192: Romanian PR Table 1a: Calculation table for the renewable energy contribution in Romania of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 193: Romanian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Romania for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**6450**	**17360**	**1493**	***27.0%***	
Hydropower (non pumped)	6358	17060	1467	*26.6%*	
Hydropower <1 MW (non pumped)	70	115	10	*0.2%*	
Hydropower 1 MW - 10 MW (non pumped)	297	711	61	*1.1%*	
Hydropower >10 MW (non pumped)	5991	16235	1396	*25.3%*	
Hydropower pumped storage	92	300	26	*0.5%*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	0	0	0	*0.0%*	
Solar	**0.05**	**0.003**	**0**	***0.0%***	
Solar photovoltaic	0.05	0.003	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**14.548**	**9.753**	**1**	***0.0%***	
Onshore wind	14.548	9.753	1	*0.0%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**n.a.**	**5.206**	**0**	***0.0%***	
Solid biomass	n.a.	4.959	0	*0.0%*	
Biogas	0	0.247	0	*0.0%*	
Bioliquids	0	0	0	*0.0%*	
Total	**n.a.**	**17074.96**	**1468**	***26.6%***	**3 (p.152)**
Total CHP	**n.a.**	**5.206**	**0**	***0.0%***	

Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			25.485	*0.5%*	
Solar thermal			0	*0.0%*	
Biomass			**3763.637**	***68.2%***	
Solid biomass			3762.996	*68.1%*	
Biogas			0.641	*0.0%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**0**	***0.0%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**3789.122**	***68.6%***	**4 (p.152)**
Total district heating			**28.929**	***0.5%***	
Total biomass in households			**3394.425**	***61.5%***	

Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**82.61**	***1.5%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	5 (p.152)
Bioethanol / bio-ETBE imported			73.58	*1.3%*	
Biodiesel			**148.6**	***2.7%***	
Biodiesel Article 21.2			0	*0.0%*	6 (p.152)
Biodiesel imported			79.43	*1.4%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**33.54**	***0.6%***	
Renewable electricity road transport			n.a.	*n.a.*	
Renewable electricity non-road transport			n.a.	*n.a.*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**264.76**	***4.8%***	**7 (p.152)**

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**6474**	**17573**	**1511**	***27.4%***	
Hydropower (non pumped)	6382	17324	1490	*27.0%*	
Hydropower <1 MW (non pumped)	76	126	11	*0.2%*	
Hydropower 1 MW - 10 MW (non pumped)	315	754	65	*1.2%*	
Hydropower >10 MW (non pumped)	5991	16444	1414	*25.6%*	
Hydropower pumped storage	92	250	21	*0.4%*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	0	0	0	*0.0%*	
Solar	**0.2**	**0.02**	**0**	***0.0%***	
Solar photovoltaic	0.2	0.02	0	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**388.608**	**299.061**	**26**	***0.5%***	
Onshore wind	388.608	299.061	26	*0.5%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**n.a.**	**69.472**	**6**	***0.1%***	
Solid biomass	n.a.	69.227	6	*0.1%*	
Biogas	0	0.245	0	*0.0%*	
Bioliquids	0	0	0	*0.0%*	
Total	**n.a.**	**17692.55**	**1521**	***27.5%***	**3 (p.152)**
Total CHP	**n.a.**	**69.472**	**6**	***0.1%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			24.351	*0.4%*	
Solar thermal			0	*0.0%*	
Biomass			**3951.021**	***71.5%***	
Solid biomass			3950.162	*71.5%*	
Biogas			0.859	*0.0%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**0**	***0.0%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**3975.372**	***72.0%***	**4 (p.152)**
Total district heating			**44.577**	***0.8%***	
Total biomass in households			**3526.063**	***63.9%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**110.9**	***2.0%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	5 (p.152)
Bioethanol / bio-ETBE imported			57.6	*1.0%*	
Biodiesel			**142.43**	***2.6%***	
Biodiesel Article 21.2			0	*0.0%*	6 (p.152)
Biodiesel imported			58.87	*1.1%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**33.13**	***0.6%***	
Renewable electricity road transport			n.a.	*n.a.*	
Renewable electricity non-road transport			n.a.	*n.a.*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**286.46**	***5.2%***	**7 (p.152)**

Table 194: Romanian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Romania for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 195: Romanian PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	3742.255	3900	8 (p.152)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	9 (p.152)
Energy crops	ktoe	0	0	
Agricultural by-products / processed residues and fishery by-products	ktoe	0	0	
Biomass from waste	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for heating and electricity*	**ktoe**	**3742.25**	**3900**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for transport*	**ktoe**	**0**	**0**	
Total biomass for all sectors*	**ktoe**	**3742.25**	**3900**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	0	82	8 (p.152)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	9 (p.152)
Energy crops	ktoe	0	0	
Agricultural by-products / processed residues and fishery by-products	ktoe	0	0	
Biomass from waste	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for heating and electricity*	**ktoe**	**0**	**82**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for transport*	**ktoe**	**0**	**0**	
Total biomass for all sectors*	**ktoe**	**0**	**82**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	0	0	8 (p.152)
Indirect supply of wood biomass	ktoe	0	0	9 (p.152)
Energy crops	ktoe	0	0	
Agricultural by-products / processed residues and fishery by-products	ktoe	0	0	
Biomass from waste	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for heating and electricity*	**ktoe**	**0**	**0**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for transport*	**ktoe**	**0**	**0**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	5929	3660.9	10 (p.152)
Land used for short rotation trees	ha	n.a.	n.a.	
Land used for other energy crops such as grasses	ha	n.a.	n.a.	

Table 196: Romanian PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	0	0	
Consumption - Fuel type X	ktoe	0	0	
Total production Art.21.2.biofuels	ktoe	0	0	
Total consumption Art.21.2. biofuels	ktoe	0	0	
Share of 21(2) fuels from total RES-T	**%**	**0**	**0**	

Table 197: Romanian PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**26156**	**27345**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	15392	15891	11 (p.152)
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	10764	11454	12 (p.152)
Estimated net GHG saving from the use of RES-T	t CO_2-eq	0	0	

Table 198: Romanian PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	13 (p.152)
Origin/destination	n.a.	n.a.	13 (p.152)
Unit	**ktoe**	**ktoe**	**13 (p.152)**
2010	982.097	n.a.	13 (p.152)
2011	812.9	n.a.	13 (p.152)
2012	700	n.a.	13 (p.152)
2013	731	n.a.	13 (p.152)
2014	775	n.a.	13 (p.152)
2015	700	n.a.	13 (p.152)
2016	642	n.a.	13 (p.152)
2017	480	n.a.	13 (p.152)
2018	310	n.a.	13 (p.152)
2019	0	n.a.	13 (p.152)
2020	0	n.a.	13 (p.152)

Table 199: Romanian PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Romania (ktoe) (see Table 9 of the NREAP)

Comments for Romania

1: Calculation details are shown in Annex 4 on page 48 of the Romanian Progress Report.
2: The gross final consumption of energy from RES in transport (row C) comes exclusively from the consumption of electricity from RES in transport, included in row B. Therefore, row D = row A + row B.
3: Excluding pumped. Calculation details are shown in Annex 1 on page 37 of the Romanian Progress Report.
4: Calculation details are shown in Annex 3 on page 44 of the Romanian Progress Report.
5: In the period under examination, biofuels were actually used in transport, in accordance with the national reports sent to the Commission, but no legislative framework was available with respect to the compliance with the sustainability criteria and the verification of such compliance.
6: In the period under examination, biofuels were actually used in transport, in accordance with the national reports sent to the Commission, but no legislative framework was available with respect to the compliance with the sustainability criteria and the verification of such compliance.
7: Calculation details are shown in Annex 2 on page 41 of the Romanian Progress Report.
8: Units not clearly mentioned, differs from report text. The values mentioned under 'direct supply' possibly include 'indirect supply'.
9: The values mentioned under 'direct supply' possibly include 'indirect supply'.
10: Refers to corn grains, wheat, potatoes, sunflower and rapeseed. See Table 4a on page 28 of he Romanian Progress Report for more detailed information.
11: Excludes GHG emission savings from biomass-based electricity generation.
12: Refers to GHG emission savings from both electricity generation from biomass and biomass-based heating.
13: A breakdown into renewable electricity, heating and cooling and renewable transport has been presented in Table 7 on page 33 of the Romanian Progress Report.

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Slovakia

	Unit	2009	2010	Comment
Renewable heating and cooling	%	9.1	9.2	
Renewable electricity	%	18.9	18.6	
Renewable Transport	%	4	4	
Overall renewable energy share	**%**	**10.3**	**10.2**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 200: Slovakian PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Slovakia (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	530	548	
Gross final consumption of electricity from RES	ktoe	442	455	
Gross final consumption of energy from RES in transport	ktoe	77	89	
Gross total RES consumption	**ktoe**	**1048**	**1092**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**1048**	**1092**	

Table 201: Slovakian PR Table 1a: Calculation table for the renewable energy contribution in Slovakia of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 202: Slovakian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Slovakia for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Hydropower (non pumped)	1597	4600	396	*37.7%*	
Hydropower <1 MW (non pumped)	26	75	6	*0.6%*	
Hydropower 1 MW - 10 MW (non pumped)	63	181	16	*1.5%*	
Hydropower >10 MW (non pumped)	1508	4344	374	*35.6%*	
Hydropower pumped storage	916	236	20	*1.9%*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	0	0	0	*0.0%*	
Solar	**0**	**0**	**0**	***0.0%***	
Solar photovoltaic	0	0	0	*0.0%*	1 (p.158)
Concentrated solar power	0	n.a.	n.a.	*n.a.*	
Tidal, wave and ocean energy	0	n.a.	n.a.	*n.a.*	
Wind power	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Onshore wind	3	6	1	*0.0%*	
Offshore wind	0	n.a.	n.a.	*n.a.*	
Biomass	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solid biomass	160	515	44	*4.2%*	
Biogas	4	22	2	*0.2%*	
Bioliquids	0	0	0	*0.0%*	
Total	**2680**	**5143**	**442**	***42.2%***	
Total CHP	**164**	**537**	**46**	***4.4%***	

Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			9	*0.9%*	
Solar thermal			0	*0.0%*	
Biomass			**0**	***0.0%***	**2 (p.158)**
Solid biomass			511	*48.7%*	
Biogas			10	*1.0%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**0**	***0.0%***	
Aerothermal heat pumps			0	*0.0%*	
Geothermal heat pumps			0	*0.0%*	
Hydrothermal heat pumps			0	*0.0%*	
Total			**530**	***50.5%***	
Total district heating			**68**	***6.5%***	
Total biomass in households			**39**	***3.7%***	

Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**14.5**	***1.4%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**54.9**	***5.2%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			0	*0.0%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**7.4**	***0.7%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			7.4	*0.7%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**76.8**	***7.3%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Hydropower (non pumped)	1600	4612	397	*37.8%*	
Hydropower <1 MW (non pumped)	26	75	6	*0.6%*	
Hydropower 1 MW - 10 MW (non pumped)	66	190	16	*1.6%*	
Hydropower >10 MW (non pumped)	1508	4347	374	*35.6%*	
Hydropower pumped storage	916	394	34	*3.2%*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	0	0	0	*0.0%*	
Solar	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solar photovoltaic	186	11	1	*0.1%*	1 (p.158)
Concentrated solar power	0	n.a.	n.a.	*n.a.*	
Tidal, wave and ocean energy	0	n.a.	n.a.	*n.a.*	
Wind power	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Onshore wind	3	6	1	*0.0%*	
Offshore wind	0	n.a.	n.a.	*n.a.*	
Biomass	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solid biomass	169	636	55	*5.2%*	
Biogas	9	32	3	*0.3%*	
Bioliquids	0	0	0	*0.0%*	
Total	**2883**	**5297**	**455**	***43.4%***	
Total CHP	**178**	**668**	**57**	***5.5%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			8	*0.8%*	
Solar thermal			0	*0.0%*	
Biomass			**0**	***0.0%***	**2 (p.158)**
Solid biomass			533	*50.8%*	
Biogas			7	*0.7%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**0**	***0.0%***	
Aerothermal heat pumps			0	*0.0%*	
Geothermal heat pumps			0	*0.0%*	
Hydrothermal heat pumps			0	*0.0%*	
Total			**548**	***52.2%***	
Total district heating			**103**	***9.8%***	
Total biomass in households			**43**	***4.1%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**15.1**	***1.4%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**66**	***6.3%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			0	*0.0%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**7.9**	***0.8%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			7.9	*0.8%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**89**	***8.5%***	

Table 203: Slovakian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Slovakia for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 204: Slovakian PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	218.5	228.1	
Indirect supply of wood biomass	ktoe	417	510	
Energy crops	ktoe	6.1	7.2	
Agricultural by-products / processed residues and fishery by-products	ktoe	0	0	
Biomass from waste	ktoe	8.2	9	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**649.8**	**754.3**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	84.8	n.a.	3 (p.158)
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**84.8**	**0**	
Total biomass for all sectors*	**ktoe**	**734.6**	**754.3**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	0	0	
Indirect supply of wood biomass	ktoe	0	0	
Energy crops	ktoe	0	0	
Agricultural by-products / processed residues and fishery by-products	ktoe	0	0	
Biomass from waste	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for heating and electricity*	**ktoe**	**0**	**0**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	3 (p.158)
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**0**	**0**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	4.8	6	
Indirect supply of wood biomass	ktoe	n.a.	n.a.	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**4.8**	**6**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	3 (p.158)
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**0**	**0**	
Total biomass for all sectors*	**ktoe**	**4.8**	**6**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	653000	714000	4 (p.158)
Land used for short rotation trees	ha	100	120	
Land used for other energy crops such as grasses	ha	20	n.a.	5 (p.158)

Table 205: Slovakian PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	0	0	
Consumption - Fuel type X	ktoe	0	0	
Total production Art.21.2.biofuels	ktoe	0	0	
Total consumption Art.21.2. biofuels	ktoe	0	0	
Share of 21(2) fuels from total RES-T	**%**	**0**	**0**	

Table 206: Slovakian PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**5715000**	**5951000**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	3663000	3772000	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	1863000	1927000	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	189000	252000	

Table 207: Slovakian PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	6 (p.158)
Origin/destination	n.a.	n.a.	6 (p.158)
Unit	**ktoe**	**ktoe**	**6 (p.158)**
2010	80	n.a.	6 (p.158)
2011	181	n.a.	6 (p.158)
2012	240	n.a.	6 (p.158)
2013	228	n.a.	6 (p.158)
2014	313	n.a.	6 (p.158)
2015	305	n.a.	6 (p.158)
2016	364	n.a.	6 (p.158)
2017	269	n.a.	6 (p.158)
2018	349	n.a.	6 (p.158)
2019	190	n.a.	6 (p.158)
2020	143	n.a.	6 (p.158)

Table 208: Slovakian PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Slovakia (ktoe) (see Table 9 of the NREAP)

Comments for Slovakia

1: Electricity generation by photovoltaics in 2010 is extremely low. This might be an error in the Slovak Progress Report.
2: A value of zero ktoe is reported here while the breakdown is non-zero. Possibly this is because the fuel does not comply with applicable sustainability criteria.
3: For the year 2009 the amount of rapeseed was 180000 ton (56 ktoe) and the amount of maize was 300000 ton (28.8 ktoe). For the year 2010 the amount of rapeseed was 170652 ton (53 ktoe) and the amount of maize was 300000 ton (28.8 ktoe). The tables on pages 10-11 in the Slovak Progress report detail the balance sheet for rapeseed and maize for a series of years.
4: For 2009 the total amount of dedicated energy crops amounted to 122000 ha (total surface 653000 ha for rapeseed, maize and wheat). The amount of rapeseed for energy purpose in that year amounted to 78000 ha (total surface 167000 ha), the amount of maize for energy purpose to 44000 ha (total surface 144000 ha) and the amount of wheat for energy purpose to 0 ha (total surface 342000 ha). For 2010 the total amount of dedicated energy crops amounted to 141000 ha (total surface 714000 ha for rapeseed, maize and wheat). The amount of rapeseed for energy purpose amounted to 87000 ha (total surface 168000 ha), the amount of maize for energy purpose to 54000 ha (total surface 167000 ha) and the amount of wheat for energy purpose amounted to 0 ha (total surface 379000 ha).
5: Regards miscanthus.
6: The Ministry of the Economy is holding talks with other Member States on statistical transfers of energy from renewable sources. The rules, conditions and instructions relating to statistical transfers and planned participation in joint projects will be published on the Ministry's website. Slovakia is not currently anticipating any joint projects within its territory. Slovakia does not favour joint support schemes.

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Slovenia

	Unit	2009	2010	Comment
Renewable heating and cooling	%	24.9	26.62	
Renewable electricity	%	33.8	32.2	
Renewable Transport	%	2.01	2.87	
Overall renewable energy share	**%**	**18.99**	**19.9**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 209: Slovenian PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Slovenia (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	524	586	
Gross final consumption of electricity from RES	ktoe	387	391	
Gross final consumption of energy from RES in transport	ktoe	34.94	50.52	
Gross total RES consumption	**ktoe**	**942**	**1023**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**942**	**1023**	

Table 210: Slovenian PR Table 1a: Calculation table for the renewable energy contribution in Slovenia of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 211: Slovenian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Slovenia for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**1070**	**4315**	**371**	***n.a.***	
Hydropower (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower <1 MW (non pumped)	118	160	14	*n.a.*	
Hydropower 1 MW - 10 MW (non pumped)	40	218	19	*n.a.*	
Hydropower >10 MW (non pumped)	912	4335	373	*n.a.*	
Hydropower pumped storage	n.a.	0	0	*n.a.*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	n.a.	n.a.	n.a.	*n.a.*	
Solar	**4**	**4**	**0**	***n.a.***	
Solar photovoltaic	4	4	0	*n.a.*	
Concentrated solar power	n.a.	n.a.	n.a.	*n.a.*	
Tidal, wave and ocean energy	n.a.	n.a.	n.a.	*n.a.*	
Wind power	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Onshore wind	n.a.	n.a.	n.a.	*n.a.*	
Offshore wind	n.a.	n.a.	n.a.	*n.a.*	
Biomass	**52**	**193**	**17**	***n.a.***	
Solid biomass	40	124	11	*n.a.*	
Biogas	12	69	6	*n.a.*	
Bioliquids	n.a.	n.a.	n.a.	*n.a.*	
Total	**1126**	**4909**	**422**	***n.a.***	
Total CHP	**n.a.**	**176**	**15**	***n.a.***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			6	*n.a.*	
Solar thermal			4	*n.a.*	
Biomass			**547**	***n.a.***	
Solid biomass			512	*n.a.*	
Biogas			4	*n.a.*	
Bioliquids			30	*n.a.*	
Renewable energy from heat pumps			**n.a.**	***n.a.***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**557**	***n.a.***	
Total district heating			**n.a.**	***n.a.***	
Total biomass in households			**432**	***n.a.***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**n.a.**	***n.a.***	
Bioethanol / bio-ETBE Article 21.2			n.a.	*n.a.*	
Bioethanol / bio-ETBE imported			n.a.	*n.a.*	
Biodiesel			**n.a.**	***n.a.***	
Biodiesel Article 21.2			n.a.	*n.a.*	
Biodiesel imported			n.a.	*n.a.*	
Hydrogen from renewables			n.a.	*n.a.*	
Renewable electricity			**n.a.**	***n.a.***	
Renewable electricity road transport			n.a.	*n.a.*	
Renewable electricity non-road transport			n.a.	*n.a.*	
Other biofuels			n.a.	*n.a.*	
Other biofuels Article 21.2			n.a.	*n.a.*	
Total			**n.a.**	***n.a.***	**1 (p.164)**

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**1254**	**4326**	**372**	***n.a.***	
Hydropower (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower <1 MW (non pumped)	118	175	15	*n.a.*	
Hydropower 1 MW - 10 MW (non pumped)	42	214	18	*n.a.*	
Hydropower >10 MW (non pumped)	914	4122	354	*n.a.*	
Hydropower pumped storage	180	185	16	*n.a.*	
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	n.a.	n.a.	n.a.	*n.a.*	
Solar	**12**	**13**	**1**	***n.a.***	
Solar photovoltaic	12	13	1	*n.a.*	
Concentrated solar power	n.a.	n.a.	n.a.	*n.a.*	
Tidal, wave and ocean energy	n.a.	n.a.	n.a.	*n.a.*	
Wind power	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Onshore wind	n.a.	n.a.	n.a.	*n.a.*	
Offshore wind	n.a.	n.a.	n.a.	*n.a.*	
Biomass	**49**	**222**	**19**	***n.a.***	
Solid biomass	35	125	11	*n.a.*	
Biogas	14	97	8	*n.a.*	
Bioliquids	n.a.	n.a.	n.a.	*n.a.*	
Total	**1315**	**4930**	**424**	***n.a.***	
Total CHP	**n.a.**	**214**	**18**	***n.a.***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			26	*n.a.*	
Solar thermal			5	*n.a.*	
Biomass			**603**	***n.a.***	
Solid biomass			552	*n.a.*	
Biogas			5	*n.a.*	
Bioliquids			46	*n.a.*	
Renewable energy from heat pumps			**n.a.**	***n.a.***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**643**	***n.a.***	
Total district heating			**n.a.**	***n.a.***	
Total biomass in households			**461**	***n.a.***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**n.a.**	***n.a.***	
Bioethanol / bio-ETBE Article 21.2			n.a.	*n.a.*	
Bioethanol / bio-ETBE imported			n.a.	*n.a.*	
Biodiesel			**n.a.**	***n.a.***	
Biodiesel Article 21.2			n.a.	*n.a.*	
Biodiesel imported			n.a.	*n.a.*	
Hydrogen from renewables			n.a.	*n.a.*	
Renewable electricity			**n.a.**	***n.a.***	
Renewable electricity road transport			n.a.	*n.a.*	
Renewable electricity non-road transport			n.a.	*n.a.*	
Other biofuels			n.a.	*n.a.*	
Other biofuels Article 21.2			n.a.	*n.a.*	
Total			**n.a.**	***n.a.***	**1 (p.164)**

Table 212: Slovenian PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Slovenia for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 213: Slovenian PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	2 (p.164)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	3 (p.164)
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	4 (p.164)
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	2 (p.164)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	3 (p.164)
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	4 (p.164)
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	2 (p.164)
Indirect supply of wood biomass	ktoe	n.a.	n.a.	3 (p.164)
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	4 (p.164)
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**n.a.**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**0**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	4424	6464	5 (p.164)
Land used for short rotation trees	ha	4	4	6 (p.164)
Land used for other energy crops such as grasses	ha	n.a.	n.a.	

Table 214: Slovenian PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	n.a.	n.a.	
Consumption - Fuel type X	ktoe	n.a.	n.a.	
Total production Art.21.2.biofuels	ktoe	n.a.	n.a.	
Total consumption Art.21.2. biofuels	ktoe	n.a.	n.a.	
Share of 21(2) fuels from total RES-T	**%**	**n.a.**	**n.a.**	

Table 215: Slovenian PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**1308000**	**1505000**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	1560	1580	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	1200000	1350000	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	107000	154100	

Table 216: Slovenian PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	7 (p.164)
Origin/destination	n.a.	n.a.	7 (p.164)
Unit	**ktoe**	**ktoe**	**7 (p.164)**
2010	149	n.a.	7 (p.164)
2011	0	n.a.	7 (p.164)
2012	0	n.a.	7 (p.164)
2013	0	n.a.	7 (p.164)
2014	0	n.a.	7 (p.164)
2015	0	n.a.	7 (p.164)
2016	0	n.a.	7 (p.164)
2017	0	n.a.	7 (p.164)
2018	0	n.a.	7 (p.164)
2019	0	n.a.	7 (p.164)
2020	0	n.a.	7 (p.164)

Table 217: Slovenian PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Slovenia (ktoe) (see Table 9 of the NREAP)

Comments for Slovenia

1: Slovenia has no oil refineries. We import all liquid fuels, for transport as well as for heating. The liquid fuels for transport which we import frequently contain a small proportion of biofuel.
2: For the amount of domestic raw material the values include the quantity of forest wood produced for heating.
3: The quantities of wood waste from the wood industry are included under the category of biomass from waste (municipal, industrial, etc.). We refer to waste and not to residues and by-products.
4: We have taken the biodegradable waste referred to in Annex 1 of the Decree on the Treatment of Biodegradable Waste (OGRS, No 62/2008) as waste from biomass. Directive 2009/28/EC lays down that biomass also includes biodegradable waste. [Footnote e (unclear what value it refers to) to Table 4 on page 16 of the Slovenian Progress Report mentions:] The value includes quantities of biomass from municipal and industrial waste processed in 2009 and 2010 using the R1 process (use principally as fuel or for obtaining energy, Annex 5 of the Decree on Waste Management (OGRS, No 34/2008)). The values also include the quantities of waste imported (from EU and non-EU countries); however, the Statistical Office of the Republic of Slovenia does not handle precise data on the share of imported biomass in the share of waste processed using the R1 process.
5: Data for rapeseed.
6: Test plantation of willow clones.
7: Statistical transfers were not performed.

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Spain

	Unit	2009	2010	Comment
Renewable heating and cooling	%	12	11.9	
Renewable electricity	%	27.2	29.2	
Renewable Transport	%	3.5	4.8	
Overall renewable energy share	**%**	**12.5**	**13.5**	
Renewables through cooperation mechanism	%	n.a.	n.a.	
Surplus for cooperation mechanism	%	n.a.	n.a.	

Table 218: Spanish PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Spain (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	3957	4258	
Gross final consumption of electricity from RES	ktoe	6729	7334	
Gross final consumption of energy from RES in transport	ktoe	1105	1466	
Gross total RES consumption	**ktoe**	**11741**	**13005**	
Transfer of RES to other Member States	ktoe	n.a.	n.a.	
Transfer of RES from other Member States and 3rd countries	ktoe	n.a.	n.a.	
RES consumption adjusted for target	**ktoe**	**11741**	**13005**	

Table 219: Spanish PR Table 1a: Calculation table for the renewable energy contribution in Spain of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 220: Spanish PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Spain for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Hydropower (non pumped)	13158	30395	2613	*22.2%*	
Hydropower <1 MW (non pumped)	269	1181	102	*0.9%*	
Hydropower 1 MW - 10 MW (non pumped)	1640	3171	273	*2.3%*	
Hydropower >10 MW (non pumped)	11249	26043	2239	*19.0%*	
Hydropower pumped storage	5347	2831	243	*2.1%*	1 (p.170)
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	0	0	0	*0.0%*	
Solar	**3770**	**6064**	**521**	***4.4%***	
Solar photovoltaic	3488	5961	513	*4.3%*	
Concentrated solar power	282	103	9	*0.1%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**19176**	**38295**	**3293**	***27.9%***	
Onshore wind	19176	38295	3293	*27.9%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**774**	**3488**	**300**	***2.5%***	
Solid biomass	597	2958	254	*2.2%*	
Biogas	177	530	46	*0.4%*	
Bioliquids	0	0	0	*0.0%*	
Total	**36878**	**78242**	**6728**	***57.1%***	
Total CHP	**0**	**0**	**0**	***0.0%***	

Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			4	*0.0%*	
Solar thermal			156	*1.3%*	
Biomass			**3782**	***32.1%***	
Solid biomass			3750	*31.8%*	
Biogas			32	*0.3%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**15**	***0.1%***	
Aerothermal heat pumps			5	*0.0%*	
Geothermal heat pumps			10	*0.1%*	
Hydrothermal heat pumps			0	*0.0%*	
Total			**3957**	***33.6%***	
Total district heating			**0**	***0.0%***	
Total biomass in households			**0**	***0.0%***	

Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**151**	***1.3%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			0	*0.0%*	
Biodiesel			**905**	***7.7%***	
Biodiesel Article 21.2			0	*0.0%*	
Biodiesel imported			0	*0.0%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**50**	***0.4%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			50	*0.4%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**1105**	***9.4%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Hydropower (non pumped)	13188	31545	2712	*23.0%*	
Hydropower <1 MW (non pumped)	273	371	32	*0.3%*	
Hydropower 1 MW - 10 MW (non pumped)	1653	2944	253	*2.1%*	
Hydropower >10 MW (non pumped)	11262	28230	2427	*20.6%*	
Hydropower pumped storage	5347	3210	276	*2.3%*	1 (p.170)
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	0	0	0	*0.0%*	
Solar	**4598**	**7105**	**611**	***5.2%***	
Solar photovoltaic	3916	6413	551	*4.7%*	
Concentrated solar power	682	692	60	*0.5%*	
Tidal, wave and ocean energy	0	0	0	*0.0%*	
Wind power	**20759**	**42732**	**3674**	***31.2%***	
Onshore wind	20759	42732	3674	*31.2%*	
Offshore wind	0	0	0	*0.0%*	
Biomass	**846**	**3894**	**335**	***2.8%***	
Solid biomass	657	3241	279	*2.4%*	
Biogas	189	653	56	*0.5%*	
Bioliquids	0	0	0	*0.0%*	
Total	**39391**	**85275**	**7332**	***62.2%***	
Total CHP	**246**	**1462**	**126**	***1.1%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			4	*0.0%*	
Solar thermal			183	*1.6%*	
Biomass			**4054**	***34.4%***	
Solid biomass			4015	*34.1%*	
Biogas			39	*0.3%*	
Bioliquids			0	*0.0%*	
Renewable energy from heat pumps			**17**	***0.1%***	
Aerothermal heat pumps			5	*0.0%*	
Geothermal heat pumps			12	*0.1%*	
Hydrothermal heat pumps			0	*0.0%*	
Total			**4258**	***36.1%***	
Total district heating			**3**	***0.0%***	
Total biomass in households			**2055**	***17.4%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**231**	***2.0%***	
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	
Bioethanol / bio-ETBE imported			25	*0.2%*	
Biodiesel			**1183**	***10.0%***	
Biodiesel Article 21.2			5	*0.0%*	
Biodiesel imported			748	*6.3%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**53**	***0.4%***	
Renewable electricity road transport			0	*0.0%*	
Renewable electricity non-road transport			53	*0.4%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**1466**	***12.4%***	

Table 221: Spanish PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Spain for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 222: Spanish PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	1238	1264	
Indirect supply of wood biomass	ktoe	1571	1632	
Energy crops	ktoe	102	144	
Agricultural by-products / processed residues and fishery by-products	ktoe	1561	1659	
Biomass from waste	ktoe	416	447	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**4888**	**5146**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	107	112	2 (p.170)
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**107**	**112**	
Total biomass for all sectors*	**ktoe**	**4995**	**5258**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	0	0	
Indirect supply of wood biomass	ktoe	0	0	
Energy crops	ktoe	0	0	
Agricultural by-products / processed residues and fishery by-products	ktoe	0	0	
Biomass from waste	ktoe	0	0	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**0**	**0**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	129	112	2 (p.170)
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**129**	**112**	
Total biomass for all sectors*	**ktoe**	**129**	**112**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	0	0	
Indirect supply of wood biomass	ktoe	0	0	
Energy crops	ktoe	0	0	
Agricultural by-products / processed residues and fishery by-products	ktoe	0	0	
Biomass from waste	ktoe	0	0	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**0**	**0**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	129	112	2 (p.170)
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**129**	**112**	
Total biomass for all sectors*	**ktoe**	**129**	**112**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	2696600	2697000	3 (p.170)
Land used for short rotation trees	ha	n.a.	n.a.	4 (p.170)
Land used for other energy crops such as grasses	ha	7500	7300	5 (p.170)

Table 223: Spanish PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	117304	189472	6 (p.170)
Consumption - Fuel type X	ktoe	131232	153706	7 (p.170)
Total production Art.21.2.biofuels	ktoe	117304	189472	
Total consumption Art.21.2. biofuels	ktoe	131232	153706	
Share of 21(2) fuels from total RES-T	**%**	**n.a.**	**n.a.**	

Table 224: Spanish PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**46470021**	**59774399**	**8 (p.170)**
Estimated net GHG saving from the use of RES-E	t CO_2-eq	29565872	39004622	9 (p.170)
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	13324365	15984022	10 (p.170)
Estimated net GHG saving from the use of RES-T	t CO_2-eq	3579784	4785755	11 (p.170)

Table 225: Spanish PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	12 (p.170)
Origin/destination	n.a.	n.a.	12 (p.170)
Unit	**ktoe**	**ktoe**	**12 (p.170)**
2010	n.a.	n.a.	12 (p.170)
2011	3337	n.a.	12 (p.170)
2012	3956	n.a.	12 (p.170)
2013	3388	n.a.	12 (p.170)
2014	3878	n.a.	12 (p.170)
2015	2804	n.a.	12 (p.170)
2016	3469	n.a.	12 (p.170)
2017	2049	n.a.	12 (p.170)
2018	2793	n.a.	12 (p.170)
2019	n.a.	n.a.	12 (p.170)
2020	839	n.a.	12 (p.170)

Table 226: Spanish PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Spain (ktoe) (see Table 9 of the NREAP)

Comments for Spain

1: Refers to both pure pumped hydropower and mixed plants.
2: The considered crops are: wheat, barley, corn, soy, rape-seed, sunflower, palm and olive. Unit not explicitly mentioned.
3: Regards wheat (soft and hard), sugar Beet, sunflower, rapeseed and soy. Detauiled surface areas per crop are available from Table 4a on page 51 (PDF page 55) of the Spanish Progress Report). Data for 2010 are provisional.
4: Regards willow, poplar and black poplar.
5: Regards sorghum. Data for 2010 are provisional.
6: Regards biodiesel. On production of bioethanol according to Article 21(2) no data are available.
7: Regards biodiesel. On consumption of bioethanol according to Article 21(2) no data are available.
8: Estimate.
9: Estimate. Calculated from actual renewable productions without adjustment, in relation to the emissions from a combined cycle natural gas plant.
10: Estimate.
11: Estimate.
12: No procedure has been established as of yet.

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Sweden

	Unit	2009	2010	Comment
Renewable heating and cooling	%	64.8	65.3	
Renewable electricity	%	58.2	56	
Renewable Transport	%	7.4	8	1 (p.176)
Overall renewable energy share	**%**	**47.3**	**47.8**	
Renewables through cooperation mechanism	%	n.a.	n.a.	
Surplus for cooperation mechanism	%	6.3	6.4	2 (p.176)

Table 227: Swedish PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in Sweden (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	8583	9752	
Gross final consumption of electricity from RES	ktoe	7075	7248	
Gross final consumption of energy from RES in transport	ktoe	396	429	3 (p.176)
Gross total RES consumption	**ktoe**	**16054**	**17429**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**16054**	**17429**	

Table 228: Swedish PR Table 1a: Calculation table for the renewable energy contribution in Sweden of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 229: Swedish PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Sweden for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**16544**	**68326**	**5875**	***36.4%***	**4 (p.176)**
Hydropower (non pumped)	16544	65852	5662	*35.0%*	5 (p.176)
Hydropower <1 MW (non pumped)	135	496	43	*0.3%*	6 (p.176)
Hydropower 1 MW - 10 MW (non pumped)	788	3114	268	*1.7%*	7 (p.176)
Hydropower >10 MW (non pumped)	15621	62242	5352	*33.1%*	8 (p.176)
Hydropower pumped storage	108	125	11	*0.1%*	9 (p.176)
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	n.a.	n.a.	n.a.	*n.a.*	
Solar	**9**	**7**	**1**	***0.0%***	
Solar photovoltaic	9	7	1	*0.0%*	
Concentrated solar power	n.a.	n.a.	n.a.	*n.a.*	
Tidal, wave and ocean energy	n.a.	n.a.	n.a.	*n.a.*	
Wind power	**1448**	**2485**	**214**	***1.3%***	**10 (p.176)**
Onshore wind	1285	2219	191	*1.2%*	
Offshore wind	163	266	23	*0.1%*	
Biomass	**3813**	**11411**	**981**	***6.1%***	**11 (p.176)**
Solid biomass	3796	11105	955	*5.9%*	12 (p.176)
Biogas	17	34	3	*0.0%*	
Bioliquids	n.a.	272	23	*0.1%*	
Total	**21814**	**82229**	**7070**	***43.8%***	**13 (p.176)**
Total CHP	**3813**	**11411**	**981**	***6.1%***	**14 (p.176)**

Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			n.a.	*n.a.*	
Solar thermal			10	*0.1%*	
Biomass			**7780**	***48.1%***	
Solid biomass			7557	*46.8%*	
Biogas			82	*0.5%*	
Bioliquids			142	*0.9%*	
Renewable energy from heat pumps			**793**	***4.9%***	**15 (p.176)**
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**8583**	***53.1%***	
Total district heating			**2567**	***15.9%***	
Total biomass in households			**1046**	***6.5%***	

Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**198**	***1.2%***	
Bioethanol / bio-ETBE Article 21.2			1	*0.0%*	16 (p.176)
Bioethanol / bio-ETBE imported			138.6	*0.9%*	17 (p.177)
Biodiesel			**162**	***1.0%***	
Biodiesel Article 21.2			0	*0.0%*	18 (p.177)
Biodiesel imported			72.9	*0.5%*	19 (p.177)
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**110**	***0.7%***	
Renewable electricity road transport			0	*0.0%*	20 (p.177)
Renewable electricity non-road transport			110	*0.7%*	
Other biofuels			36	*0.2%*	21 (p.177)
Other biofuels Article 21.2			36	*0.2%*	22 (p.177)
Total			**506**	***3.1%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**16624**	**68294**	**5872**	***36.3%***	**4 (p.176)**
Hydropower (non pumped)	16624	66398	5709	*35.3%*	5 (p.176)
Hydropower <1 MW (non pumped)	143	545	47	*0.3%*	6 (p.176)
Hydropower 1 MW - 10 MW (non pumped)	798	3253	280	*1.7%*	7 (p.176)
Hydropower >10 MW (non pumped)	15683	62600	5383	*33.3%*	8 (p.176)
Hydropower pumped storage	108	103	9	*0.1%*	9 (p.176)
Hydropower mixed (normalised)	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Geothermal	n.a.	n.a.	n.a.	*n.a.*	
Solar	**9**	**9**	**1**	***0.0%***	
Solar photovoltaic	9	9	1	*0.0%*	
Concentrated solar power	n.a.	n.a.	n.a.	*n.a.*	
Tidal, wave and ocean energy	n.a.	n.a.	n.a.	*n.a.*	
Wind power	**2018**	**3502**	**301**	***1.9%***	**10 (p.176)**
Onshore wind	1855	3052	262	*1.6%*	
Offshore wind	163	450	39	*0.2%*	
Biomass	**3854**	**12191**	**1048**	***6.5%***	**11 (p.176)**
Solid biomass	3832	11976	1030	*6.4%*	12 (p.176)
Biogas	22	36	3	*0.0%*	
Bioliquids	n.a.	17	1	*0.0%*	
Total	**22506**	**83996**	**7222**	***44.7%***	**13 (p.176)**
Total CHP	**3854**	**12191**	**1048**	***6.5%***	**14 (p.176)**
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			n.a.	*n.a.*	
Solar thermal			10	*0.1%*	
Biomass			**8949**	***55.4%***	
Solid biomass			8713	*53.9%*	
Biogas			83	*0.5%*	
Bioliquids			153	*0.9%*	
Renewable energy from heat pumps			**793**	***4.9%***	**15 (p.176)**
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**9752**	***60.3%***	
Total district heating			**3261**	***20.2%***	
Total biomass in households			**1046**	***6.5%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**203**	***1.3%***	
Bioethanol / bio-ETBE Article 21.2			2	*0.0%*	16 (p.176)
Bioethanol / bio-ETBE imported			152.25	*0.9%*	17 (p.177)
Biodiesel			**178**	***1.1%***	
Biodiesel Article 21.2			4	*0.0%*	18 (p.177)
Biodiesel imported			80.1	*0.5%*	19 (p.177)
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**140**	***0.9%***	
Renewable electricity road transport			0	*0.0%*	20 (p.177)
Renewable electricity non-road transport			140	*0.9%*	
Other biofuels			49	*0.3%*	21 (p.177)
Other biofuels Article 21.2			49	*0.3%*	22 (p.177)
Total			**569**	***3.5%***	

Table 230: Swedish PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in Sweden for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 231: Swedish PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	2790	3780	23 (p.177)
Indirect supply of wood biomass	ktoe	6030	6230	24 (p.177)
Energy crops	ktoe	20	20	25 (p.178)
Agricultural by-products / processed residues and fishery by-products	ktoe	130	140	26 (p.178)
Biomass from waste	ktoe	820	1000	27 (p.178)
Others	ktoe	70	60	
Total biomass for heating and electricity*	**ktoe**	**9860**	**11230**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	140	530	28 (p.178)
Energy crops and short rotation trees for biofuels	ktoe	0	0	29 (p.178)
Others	ktoe	41	n.a.	30 (p.178)
Total biomass for transport*	**ktoe**	**181**	**530**	
Total biomass for all sectors*	**ktoe**	**10041**	**11760**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	130	130	23 (p.177)
Indirect supply of wood biomass	ktoe	130	150	24 (p.177)
Energy crops	ktoe	n.a.	n.a.	25 (p.178)
Agricultural by-products / processed residues and fishery by-products	ktoe	70	70	26 (p.178)
Biomass from waste	ktoe	n.a.	n.a.	27 (p.178)
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**330**	**350**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	390	530	28 (p.178)
Energy crops and short rotation trees for biofuels	ktoe	0	0	29 (p.178)
Others	ktoe	n.a.	n.a.	30 (p.178)
Total biomass for transport*	**ktoe**	**390**	**530**	
Total biomass for all sectors*	**ktoe**	**720**	**880**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	85	95	23 (p.177)
Indirect supply of wood biomass	ktoe	115	130	24 (p.177)
Energy crops	ktoe	n.a.	n.a.	25 (p.178)
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	26 (p.178)
Biomass from waste	ktoe	n.a.	n.a.	27 (p.178)
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**200**	**225**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	390	530	28 (p.178)
Energy crops and short rotation trees for biofuels	ktoe	0	0	29 (p.178)
Others	ktoe	n.a.	n.a.	30 (p.178)
Total biomass for transport*	**ktoe**	**390**	**530**	
Total biomass for all sectors*	**ktoe**	**590**	**755**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	77000	85000	31 (p.178)
Land used for short rotation trees	ha	13000	12000	32 (p.178)
Land used for other energy crops such as grasses	ha	800	800	33 (p.178)

Table 232: Swedish PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	37	55	34 (p.178)
Consumption - Fuel type X	ktoe	37	55	35 (p.178)
Total production Art.21.2.biofuels	ktoe	37	55	
Total consumption Art.21.2. biofuels	ktoe	37	55	36 (p.178)
Share of 21(2) fuels from total RES-T	**%**	**7**	**10**	**37 (p.178)**

Table 233: Swedish PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**84000000**	**89000000**	**38 (p.179)**
Estimated net GHG saving from the use of RES-E	t CO_2-eq	54000000	57000000	39 (p.179)
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	29000000	31000000	40 (p.179)
Estimated net GHG saving from the use of RES-T	t CO_2-eq	800000	900000	41 (p.179)

Table 234: Swedish PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	42 (p.179)
Origin/destination	n.a.	n.a.	42 (p.179)
Unit	**ktoe**	**ktoe**	**42 (p.179)**
2010	2450	n.a.	42 (p.179)
2011	2430	n.a.	42 (p.179)
2012	2530	n.a.	42 (p.179)
2013	2280	n.a.	42 (p.179)
2014	2380	n.a.	42 (p.179)
2015	1940	n.a.	42 (p.179)
2016	2040	n.a.	42 (p.179)
2017	1430	n.a.	42 (p.179)
2018	1530	n.a.	42 (p.179)
2019	1000	n.a.	42 (p.179)
2020	470	n.a.	42 (p.179)

Table 235: Swedish PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Sweden (ktoe) (see Table 9 of the NREAP)

Comments for Sweden

1: Values include double-counting of biofuels made from wastes, residues, non-food cellulosic material and lignocellulosic material. Note however that only biofuels produced in Sweden from the listed raw materials have been double-counted here (which includes biogas, HVO (hydrogenated vegetable oils) from crude tall oil and ethanol from residues from sulphite pulp production (see Table 1d with footnotes on page 8 of the Swedish Progress Report). It is therefore possible that this is an underestimation. Actual values, without multiplication factors: for 2009 the actual value is 6.9%, for 2010 it is 7.3%.
2: For the indicative trajectory, there are values in the Directive for the base year (2005) and then only for 2011-2012. In reality there are no values to compare with for 2009 and 2010. The figures for 2005 and 2011 have been interpolated to determine the values in the table (these have been used to calculate the values in Table 7 on page 53 of the Swedish Progress Report).
3: Note that this is the actual contribution, not double-counting, and that renewable electricity for forms of transport (see Table 1d on page 8 of the Swedish Progress Report) is not included here but under 'B', 'Gross final consumption of electricity from RES').
4: Values for electricity generation have been normalised and exclude pumped storage.
5: Values for electricity generation have not been normalised.
6: Values for electricity generation have not been normalised.
7: Values for electricity generation have not been normalised.
8: Values for electricity generation have not been normalised.
9: Values for electricity generation have not been normalised.
10: Normalised in accordance with Directive 2009/28/EG and Eurostat methodology this corresponds to 2544 GWh for 2009 and 3800 GWh for 2010.
11: Includes renewable waste. The capacity figure [MW] reported here includes the total capacity for household refuse (municipal waste), even though only half is assumed to be comprised of renewables, which is the share reported as the contribution to electricity production.
12: Includes renewable waste. The capacity figure [MW] reported here includes the total capacity for household refuse (municipal waste), even though only half is assumed to be comprised of renewables, which is the share reported as the contribution to electricity production.
13: The capacity figure [MW] includes the total capacity for household refuse (municipal waste), even though only half is assumed to be comprised of renewables, which is the share reported as the contribution to electricity production. For hydropower the values for electricity generation have been normalised and for wind power they have not been normalised.
14: The capacity figure [MW] includes the total capacity for household refuse (municipal waste), even though only half is assumed to be comprised of renewables, which is the share reported as the contribution to electricity production.
15: As a result of lacking data, for the year 2010 the same value has been used as for 2009, which is probably a conservative estimate as the trend has been a rising one.
16: Note that the information ('at least 1' for 2009 and 'at least 2' for 2010) refers only to ethanol from sugar-rich liquor sourced from sulphite pulp production. (source: SEKAB, 2011). Ethanol produced from residues from wine production is also used in Sweden, but its total contribution is unknown, as is the origin of the raw materials (SEKAB however reports a figure for 2010 corresponding to 7 ktoe).
17: Calcutated data, based on relative data in the Swedish Progress Report: 'around 70%' for 2009 and 'around 75%' for 2010. Source: Swedish Energy Agency, 2010. Surveillance report on tax exemption for biofuels for 2009, Swedish Energy Agency, 2011. Surveillance

report on tax exemption for biofuels for 2010, Swedish Energy Agency, 2011.
18: Diesel from crude tall oil (termed HVO, hydrogenated vegetable oil). Source: PREEM, 2011.
19: Calcutated data, based on relative data in the Swedish Progress Report: 'around 45%' for both 2009 and 2010. Source: Swedish Energy Agency, 2010. Surveillance report on tax exemption for biofuels for 2009, Swedish Energy Agency, 2011. Surveillance report on tax exemption for biofuels for 2010, Swedish Energy Agency, 2011.
20: Note that there is a small number of electric vehicles for road transport in Sweden. At the turn of the year 2010/2011 there were barely 200 electric vehicles, a small number of electric buses and approximately 130 electric lorries.
21: Refers to biogas, see comment below,
22: All biogas for transport is assumed to be produced from waste. The biogas used for transport comes from sewage treatment plants and co-digestion plants that use catering waste, food waste, slaughterhouse waste, manure, slurry and to a lesser extent energy crops. For 2009, there is no reliable information on the amount of crops used for biogas production. The estimate that exists is approximately 3000 tonnes wet weight of energy crops, which comprises 0.2% of the total amount of substrate used in biogas production in sewage treatment plants and co-digestion plants (Swedish Energy Agency 2010, Production and use of biogas in 2009 [Produktion och användning av biogas år 2009], ES2010:05). For 2010, the corresponding figures are around 39000 tonnes wet weight and 0.6% (Swedish Energy Agency 2010, Production and use of biogas in 2010 [Produktion och användning av biogas år], ES2011:07), and the same assumptions were made for that year.
23: The following forest fuels are included in the reporting: round timber and fuel wood, residues from tree felling such as branches, tops and stumps, forestry industry's solid residues such as shavings and bark, etc., forestry industry's liquid residues such as black liquors, crude tall oil, and tall oil pitch, recovered (recycled) wood such as packing material, old furniture and demolition timber and processed fuel wood such as pellets, briquettes and wood powder. A variety of forest biofuel raw materials are sometimes imported (including pellets, wood waste and shavings/sawdust). In such cases, the quantities are reported separately. Indirect imports also occur, that is, that the forest industry imports round timber for forestry purposes. When processing round timber, whether this is done mechanically in a sawmill or processed into pulp, residues are generated that can be used for energy purposes. Reliable statistics on this are lacking. Domestic and imported biofuel and biofuel raw materials are specified uniformly in thousands of tonnes of total solids (1000 tonnes TS). In Tables 7 and 7a in Sweden's Action Plan, tonnes of TS (or dry matter) and ktoe are also used as units of measurement.
24: The following forest fuels are included in the reporting: round timber and fuel wood, residues from tree felling such as branches, tops and stumps, forestry industry's solid residues such as shavings and bark, etc., forestry industry's liquid residues such as black liquors, crude tall oil, and tall oil pitch, recovered (recycled) wood such as packing material, old furniture and demolition timber and processed fuel wood such as pellets, briquettes and wood powder. A variety of forest biofuel raw materials are sometimes imported (including pellets, wood waste and shavings/sawdust). In such cases, the quantities are reported separately. Indirect imports also occur, that is, that the forest industry imports round timber for forestry purposes. When processing round timber, whether this is done mechanically in a sawmill or processed into pulp, residues are generated that can be used for energy purposes. Reliable statistics on this are lacking.
25: The biofuels and biofuel raw materials included are: cereals, straw, short rotation trees (salix), bio-oils (animal and/or vegetable oils and fats) and olive pits, sunflower pel-

lets, bean pods/husks, etc.
26: The biofuels and biofuel raw materials included are: cereals, straw, short rotation trees (salix), bio-oils (animal and/or vegetable oils and fats) and olive pits, sunflower pellets, bean pods/husks, etc.
27: The information about refuse derived fuel (RDF) and biogas comes from the following sources: Swedish Energy Agency and Avfall Sverige AB. The renewable fraction of the waste has been consistently assumed to be 50% (for reference and reasoning, see information provided under 'point 12' according to the Progress Report template, page 55 of the Swedish Progress Report). This proportion may be corrected once the basic data has been analysed more thoroughly and statistics in the area have been improved. The renewable fraction of solid municipal waste, including bio-waste and the biodegradable fraction of industrial waste is specified in tonnes of total solids.
28: The quantities specified are an estimate of the amounts of raw material used for the production of various biofuels. The following raw materials are included in the reporting: cereals, maize, sugar cane, oil plants, catering waste sorted at source, waste from foodstuffs, slaughterhouse waste, sewage sludge, industrial waste, tall oil and sulphite liquor.
29: Neither energy crops nor short rotation trees are used for the production of biofuel in Sweden
30: Amount of domestic raw material: for the year 2009 this refers to 130 kton dry matter of biomass-based waste for biogas and 20 kton dry matter of residues/byproducts from the pulp and paper industry (sulphite liquor and tall oil), totalling 150 kton dry matter. For the year 2010 this refers to 180 kton dry matter of biomass-based waste for biogas and 50 kton dry matter of residues/byproducts from the pulp and paper industry (sulphite liquor and tall oil), totalling 230 kton dry matter. Primary energy in domestic raw material: for the year 2009 this refers to 40 ktoe of biomass-based waste for biogas and 1 ktoe of residues/byproducts from the pulp and paper industry (sulphite liquor and tall oil), totalling 41 ktoe. For the year 2010 this refers to 50 ktoe of biomass-based waste for biogas and 6 ktoe of residues/byproducts from the pulp and paper industry (sulphite liquor and tall oil), totalling 56 ktoe.
31: For 2009 at least around 77000 ha (of which 72000 is wheat, triticale, barley and rye, and at least 5000 is rape seed). For 2010 at least around 85000 ha (of which 83000 is wheat, triticale, barley and rye, and at least 2000 is rape seed).
32: For 2009 around 13000 ha (of which salix 12000, poplars 400, hybrid aspen 200). For 2010 around 12000 ha (of which salix 11500, poplars 500, hybrid aspen 200).
33: Both for 2009 and 2010 around 800 ha (Reed canary grass).
34: For the year 2009 this refers to 36 ktoe of biogas and 1 ktoe of ethanol, totalling 37 ktoe. For the year 2010 this refers to 49 ktoe of biogas, 2 ktoe of ethanol and 4 ktoe of HVO (hydrogenated vegetable oils), totalling 55 ktoe. The ethanol originates from sugar-rich liquor sourced from sulphite pulp production (source: SEKAB, 2011). HVO has been based on crude tall oil (source: PREEM, 2011).
35: For a breakdown into fuel types see information on production. Ethanol produced from residues from wine production is also used in Sweden, but complete information about the origins of imported biofuels is lacking and its total contribution is unknown (SEKAB however reports a figure for 2010 corresponding to 7 ktoe). In the next progress report, there will be information about the quantities of fuel produced from residues, etc., via the system for sustainability criteria.
36: For 2009 at least 37, for 2010 at least 55, see comment on consumption.
37: For 2009 at least 7%, for 2010 at least 10%, see comment on consumption.
38: The Swedish Progress Report provides two estimates for the theoretical net reduction of greenhouse gases. According to the method using the Commission's recommended

fossil comparators the value for 2009 is 84 Mt CO2-eq and for 2010 it is 89 Mt CO2-eq. Based on fossil comparators represented by the emission factors for the Swedish electricity and district heating mix the value for 2009 is 13 Mt CO2-eq and for 2010 it is 14 Mt CO2-eq.

39: According to the method using the Commission's recommended fossil comparators the value for 2009 is 54 Mt CO2-eq and for 2010 it is 57 Mt CO2-eq. Based on fossil comparators represented by the emission factors for the Swedish electricity and district heating mix the value for 2009 is 1.5 Mt CO2- eq and for 2010 it is 1.3 Mt CO2-eq.

40: According to the method using the Commission's recommended fossil comparators the value for 2009 is 29 Mt CO2-eq and for 2010 it is 31 Mt CO2-eq. Based on fossil comparators represented by the emission factors for the Swedish electricity and district heating mix the value for 2009 is 11 Mt CO2- eq and for 2010 it is 12 Mt CO2-eq.

41: Renewable electricity for transport is not included in this item but is instead included in the estimation of the net greenhouse gas emissions savings from the use of renewable electricity.

42: The Commission has asked for this information to be 'distinguished per type of renewable energy and per origin/destination of import/export', which we have disregarded in this report because the data on which this report is based does not present the excess production per type of renewable energy. For the year 2009 a value of 2130 ktoe has been specified.

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United Kingdom

	Unit	2009	2010	Comment
Renewable heating and cooling	%	1.7	1.8	
Renewable electricity	%	6.6	7.4	
Renewable Transport	%	2.5	2.9	
Overall renewable energy share	**%**	**3**	**3.3**	
Renewables through cooperation mechanism	%	0	0	
Surplus for cooperation mechanism	%	0	0	

Table 236: UK's PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in United Kingdom (see Table 3 and Table 4a of the NREAP)

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	961	1115	
Gross final consumption of electricity from RES	ktoe	2138	2406	
Gross final consumption of energy from RES in transport	ktoe	1041	1203	
Gross total RES consumption	**ktoe**	**4087**	**4668**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**4087**	**4668**	

Table 237: UK's PR Table 1a: Calculation table for the renewable energy contribution in United Kingdom of each sector to final energy consumption (ktoe) (see Table 4a of the NREAP)

Table 238: UK's PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in United Kingdom for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**1645**	**4910**	**422**	***10.2%***	**1 (p.186)**
Hydropower (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower <1 MW (non pumped)	72	223	19	*0.5%*	
Hydropower 1 MW - 10 MW (non pumped)	187	546	47	*1.1%*	
Hydropower >10 MW (non pumped)	1386	4142	356	*8.6%*	
Hydropower pumped storage	0	0	0	*0.0%*	2 (p.186)
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solar photovoltaic	27	20	2	*0.0%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	2.5	0.6	0	*0.0%*	
Wind power	**4424**	**9333**	**802**	***19.4%***	
Onshore wind	3483	7497	645	*15.6%*	
Offshore wind	941	1836	158	*3.8%*	
Biomass	**1932**	**10596**	**911**	***22.0%***	**3 (p.186)**
Solid biomass	1932	10596	911	*22.0%*	4 (p.186)
Biogas	0	0	0	*0.0%*	
Bioliquids	0	0	0	*0.0%*	
Total	**8030**	**24861**	**2138**	***51.6%***	**5 (p.186)**
Total CHP	**n.a.**	**n.a.**	**n.a.**	***n.a.***	

Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			0.8	*0.0%*	
Solar thermal			70	*1.7%*	
Biomass			**863**	***20.8%***	
Solid biomass			n.a.	*n.a.*	
Biogas			n.a.	*n.a.*	
Bioliquids			n.a.	*n.a.*	
Renewable energy from heat pumps			**29**	***0.7%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**962**	***23.2%***	
Total district heating			**n.a.**	***n.a.***	
Total biomass in households			**322**	***7.8%***	

Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**163**	***3.9%***	**6 (p.186)**
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	7 (p.186)
Bioethanol / bio-ETBE imported			124	*3.0%*	
Biodiesel			**826**	***19.9%***	**8 (p.186)**
Biodiesel Article 21.2			0	*0.0%*	9 (p.186)
Biodiesel imported			649	*15.7%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**52**	***1.3%***	
Renewable electricity road transport			0.2	*0.0%*	
Renewable electricity non-road transport			52	*1.3%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**1041**	***25.1%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**1648**	**4790**	**412**	***9.9%***	**1 (p.186)**
Hydropower (non pumped)	n.a.	n.a.	n.a.	*n.a.*	
Hydropower <1 MW (non pumped)	70	229	20	*0.5%*	
Hydropower 1 MW - 10 MW (non pumped)	193	580	50	*1.2%*	
Hydropower >10 MW (non pumped)	1386	3981	342	*8.3%*	
Hydropower pumped storage	0	0	0	*0.0%*	2 (p.186)
Hydropower mixed (normalised)	**0**	**0**	**0**	***0.0%***	
Geothermal	0	0	0	*0.0%*	
Solar	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Solar photovoltaic	77	33	3	*0.1%*	
Concentrated solar power	0	0	0	*0.0%*	
Tidal, wave and ocean energy	2.6	1.8	0	*0.0%*	
Wind power	**5378**	**11239**	**966**	***23.3%***	
Onshore wind	4037	8392	722	*17.4%*	
Offshore wind	1341	2847	245	*5.9%*	
Biomass	**2097**	**11914**	**1024**	***24.7%***	**3 (p.186)**
Solid biomass	2097	11914	1024	*24.7%*	4 (p.186)
Biogas	0	0	0	*0.0%*	
Bioliquids	0	0	0	*0.0%*	
Total	**9202**	**27977**	**2406**	***58.1%***	**5 (p.186)**
Total CHP	**n.a.**	**n.a.**	**n.a.**	***n.a.***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			0.8	*0.0%*	
Solar thermal			87	*2.1%*	
Biomass			**967**	***23.4%***	
Solid biomass			n.a.	*n.a.*	
Biogas			n.a.	*n.a.*	
Bioliquids			n.a.	*n.a.*	
Renewable energy from heat pumps			**61**	***1.5%***	
Aerothermal heat pumps			n.a.	*n.a.*	
Geothermal heat pumps			n.a.	*n.a.*	
Hydrothermal heat pumps			n.a.	*n.a.*	
Total			**1115**	***26.9%***	
Total district heating			**n.a.**	***n.a.***	
Total biomass in households			**335**	***8.1%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**321**	***7.8%***	**6 (p.186)**
Bioethanol / bio-ETBE Article 21.2			0	*0.0%*	7 (p.186)
Bioethanol / bio-ETBE imported			248	*6.0%*	
Biodiesel			**827**	***20.0%***	**8 (p.186)**
Biodiesel Article 21.2			0	*0.0%*	9 (p.186)
Biodiesel imported			689	*16.6%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**56**	***1.4%***	
Renewable electricity road transport			0.3	*0.0%*	
Renewable electricity non-road transport			56	*1.4%*	
Other biofuels			0	*0.0%*	
Other biofuels Article 21.2			0	*0.0%*	
Total			**1203**	***29.1%***	

Table 239: UK's PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in United Kingdom for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 240: UK's PR Table 4: Biomass supply for heating and electricity (see Table 7 of the NREAP)

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	485.5	500.7	
Indirect supply of wood biomass	ktoe	601.9	723.5	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	476.7	438.7	
Biomass from waste	ktoe	4029	4138.7	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**5593.1**	**5801.6**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	10 (p.186)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**5593.1**	**5801.6**	

Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	309.1	244	
Energy crops	ktoe	6.3	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	99.2	69.2	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**414.6**	**313.2**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	10 (p.186)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**414.6**	**313.2**	

Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	n.a.	n.a.	
Indirect supply of wood biomass	ktoe	n.a.	203	
Energy crops	ktoe	n.a.	n.a.	
Agricultural by-products / processed residues and fishery by-products	ktoe	n.a.	n.a.	
Biomass from waste	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for heating and electricity*	**ktoe**	**n.a.**	**203**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	n.a.	n.a.	10 (p.186)
Energy crops and short rotation trees for biofuels	ktoe	n.a.	n.a.	
Others	ktoe	n.a.	n.a.	
Total biomass for transport*	**ktoe**	**n.a.**	**n.a.**	
Total biomass for all sectors*	**ktoe**	**0**	**203**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	29560	72918	11 (p.186)
Land used for short rotation trees	ha	n.a.	n.a.	
Land used for other energy crops such as grasses	ha	n.a.	n.a.	

Table 241: UK's PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (see Table 8 of the NREAP)

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	n.a.	n.a.	
Consumption - Fuel type X	ktoe	165	298	12 (p.186)
Total production Art.21.2.biofuels	ktoe	n.a.	n.a.	
Total consumption Art.21.2. biofuels	ktoe	n.a.	n.a.	
Share of 21(2) fuels from total RES-T	**%**	**17**	**26**	**13 (p.186)**

Table 242: UK's PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**n.a.**	**n.a.**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	9300535	10449675	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	n.a.	n.a.	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	1823690	1917385	

Table 243: UK's PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	14 (p.187)
Origin/destination	n.a.	n.a.	14 (p.187)
Unit	**ktoe**	**ktoe**	**14 (p.187)**
2010	n.a.	n.a.	14 (p.187)
2011	n.a.	n.a.	14 (p.187)
2012	0	n.a.	14 (p.187)
2013	n.a.	n.a.	14 (p.187)
2014	946	n.a.	14 (p.187)
2015	n.a.	n.a.	14 (p.187)
2016	1290	n.a.	14 (p.187)
2017	n.a.	n.a.	14 (p.187)
2018	1118	n.a.	14 (p.187)
2019	n.a.	n.a.	14 (p.187)
2020	946	n.a.	14 (p.187)

Table 244: UK's PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in United Kingdom (ktoe) (see Table 9 of the NREAP)

Comments for the United Kingdom

1: Pumped storage hydropower has been included in the table but is not included in the hydropower or overall totals, as it is not a renewable resource.
2: Pumped storage hydropower has been included in the table but is not included in the hydropower or overall totals, as it is not a renewable resource.
3: The biofuel sustainability criteria (as set out in Article 17(2) to (6) of the Directive were not established at the time that biofuel reported in this table were supplied. As such, we have reported all amounts of biofuel supplied in 2009 and 2010. During these years, the UK did have voluntary sustain ability criteria in place – known as the 'qualifying standard', which was broadly similar to the directive's sustainability criteria.
4: The biofuel sustainability criteria (as set out in Article 17(2) to (6) of the Directive were not established at the time that biofuel reported in this table were supplied. As such, we have reported all amounts of biofuel supplied in 2009 and 2010. During these years, the UK did have voluntary sustain ability criteria in place – known as the 'qualifying standard', which was broadly similar to the directive's sustainability criteria.
5: Pumped storage hydropower has been included in the table but is not included in the hydropower or overall totals, as it is not a renewable resource.
6: The biofuel sustainability criteria (as set out in Article 17(2) to (6) of the Directive were not established at the time that biofuel reported in this table were supplied. As such, we have reported all amounts of biofuel supplied in 2009 and 2010. During these years, the UK did have voluntary sustainability criteria in place, known as the 'qualifying standard', which was broadly similar to the directive's sustainability criteria.
7: Double counting measures were not implemented in the UK in 2009 or 2010.
8: The biofuel sustainability criteria (as set out in Article 17(2) to (6) of the Directive were not established at the time that biofuel reported in this table were supplied. As such, we have reported all amounts of biofuel supplied in 2009 and 2010. During these years, the UK did have voluntary sustain ability criteria in place, known as the 'qualifying standard', which was broadly similar to the directive's sustainability criteria.
9: Double counting measures were not implemented in the UK in 2009 or 2010.
10: Refers to barley, cassava, corn, oilseed rape, palm, rye, soy, sugar beet, sugar cane, sunflower, triticale, wheat, corn oil, molasses, municipal solid waste, sulphite, tallow, used cooking oil and other types. Detailed data have been provided in Table 4 on pages 25-26 of the United Kingdom Progress Report.
11: For the year 2009 this refers to 21536 ha of oilseed rape and 8024 ha of sugar beet, totalling 29560 ha. For the year 2010 this refers to 23020 ha of oilseed rape, 11332 ha of sugar beet and 38566 ha of wheat, totalling 72918 ha. These figures represent estimated domestic agriculture for biofuels supplied in the UK and do not include any agriculture relating to fuels which were exported.
12: Refers to biofuels from by-products. Article 21(2) of the Renewable Energy Directive did not have an equivalent in UK law during 2009 and 2010. However, there were measures in place to distinguish a similar class of materials – 'by-products'. By-products are defined as feedstocks that represent less than 10% of the farm or factory gate value.
13: Refers to by-products, defined as feedstocks that represent less than 10% of the farm or factory gate value
14: The data value for 2012 (0 ktoe) refers to the period 2011 - 2012 in the United Kingdom Progress Report. The value for 2014 (11 TWh or 946 ktoe) refers to the period 2013 - 2014, the value for 2016 (15 TWh or 1290 ktoe) refers to the period 2015 - 2016 and the value for 2018 (13 TWh or 1118 ktoe) refers to the period 2017 - 2018. For the year 2020 the excess in the United Kingdom has been estimated at 11 TWh or 946 ktoe. No procedures have yet been established for statistical transfers, joint projects and joint support

scheme decision rules.

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All 27 Member States

	Unit	2009	2010	Comment
Renewable heating and cooling	%	n.a.	n.a.	
Renewable electricity	%	n.a.	n.a.	
Renewable Transport	%	n.a.	n.a.	
Overall renewable energy share	**%**	**n.a.**	**n.a.**	
Renewables through cooperation mechanism	%	n.a.	n.a.	
Surplus for cooperation mechanism	%	n.a.	n.a.	

Table 245: All 27 Member States PR Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in all 27 Member States

	Unit	2009	2010	Comment
Gross final consumption of RES for heating and cooling	ktoe	69865	78260	
Gross final consumption of electricity from RES	ktoe	51769	55897	
Gross final consumption of energy from RES in transport	ktoe	12437	13963	
Gross total RES consumption	**ktoe**	**133262**	**147637**	
Transfer of RES to other Member States	ktoe	0	0	
Transfer of RES from other Member States and 3rd countries	ktoe	0	0	
RES consumption adjusted for target	**ktoe**	**128509**	**142016**	

Table 246: All 27 Member States PR Table 1a: Calculation table for the renewable energy contribution in all 27 Member States of each sector to final energy consumption (ktoe)

Table 247: All 27 Member States PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in All 27 Member States for **2**009 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

	2009				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**97546**	**296176**	**25467**	***18.8%***	
Hydropower (non pumped)	91370	290965	25018	*18.5%*	
Hydropower <1 MW (non pumped)	2820	10453	899	*0.7%*	
Hydropower 1 MW - 10 MW (non pumped)	9805	33414	2873	*2.1%*	
Hydropower >10 MW (non pumped)	86593	279120	24000	*17.8%*	
Hydropower pumped storage	18955	20319	1747	*1.3%*	
Hydropower mixed (normalised)	**20529**	**46880**	**4031**	***3.0%***	
Geothermal	786	5598	481	*0.4%*	
Solar	**15666**	**14041**	**1207**	***0.9%***	
Solar photovoltaic	15481	14005	1204	*0.9%*	
Concentrated solar power	282	103	9	*0.0%*	
Tidal, wave and ocean energy	243	449	39	*0.0%*	
Wind power	**74869**	**136262**	**11716**	***8.7%***	
Onshore wind	72861	128880	11082	*8.2%*	
Offshore wind	2001	4090	352	*0.3%*	
Biomass	**22673**	**107517**	**9245**	***6.8%***	
Solid biomass	18023	83679	7195	*5.3%*	
Biogas	3625	19047	1638	*1.2%*	
Bioliquids	1188	8295	713	*0.5%*	
Total	**224443**	**608566**	**52327**	***38.7%***	
Total CHP	**7797**	**47414**	**4077**	***3.0%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			573	*0.4%*	
Solar thermal			1270	*0.9%*	
Biomass			**63240**	***46.8%***	
Solid biomass			59924	*44.4%*	
Biogas			1448	*1.1%*	
Bioliquids			1721	*1.3%*	
Renewable energy from heat pumps			**3843**	***2.8%***	
Aerothermal heat pumps			2002	*1.5%*	
Geothermal heat pumps			725	*0.5%*	
Hydrothermal heat pumps			60	*0.0%*	
Total			**69868**	***51.7%***	
Total district heating			**9979**	***7.4%***	
Total biomass in households			**30870**	***22.8%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**2295**	***1.7%***	
Bioethanol / bio-ETBE Article 21.2			24	*0.0%*	
Bioethanol / bio-ETBE imported			713	*0.5%*	
Biodiesel			**9264**	***6.9%***	
Biodiesel Article 21.2			192	*0.1%*	
Biodiesel imported			2260	*1.7%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**1012**	***0.7%***	
Renewable electricity road transport			6	*0.0%*	
Renewable electricity non-road transport			989	*0.7%*	
Other biofuels			246	*0.2%*	
Other biofuels Article 21.2			42	*0.0%*	
Total			**12913**	***9.6%***	

	2010				
	Capacity	Energy			Comment
Renewable Electricity	MW	GWh	ktoe	%	
Hydropower	**98476**	**298723**	**25686**	***19.0%***	
Hydropower (non pumped)	91807	297024	25540	*18.9%*	
Hydropower <1 MW (non pumped)	2834	9931	854	*0.6%*	
Hydropower 1 MW - 10 MW (non pumped)	10067	33981	2922	*2.2%*	
Hydropower >10 MW (non pumped)	87003	285918	24585	*18.2%*	
Hydropower pumped storage	19303	21999	1892	*1.4%*	
Hydropower mixed (normalised)	**20672**	**47694**	**4101**	***3.0%***	
Geothermal	821	5619	483	*0.4%*	
Solar	**27647**	**22480**	**1933**	***1.4%***	
Solar photovoltaic	27318	21894	1883	*1.4%*	
Concentrated solar power	682	692	60	*0.0%*	
Tidal, wave and ocean energy	243	478	41	*0.0%*	
Wind power	**84101**	**154429**	**13279**	***9.8%***	
Onshore wind	81223	144893	12459	*9.2%*	
Offshore wind	2899	6084	523	*0.4%*	
Biomass	**24792**	**120943**	**10399**	***7.7%***	
Solid biomass	19158	91281	7849	*5.8%*	
Biogas	4440	23818	2048	*1.5%*	
Bioliquids	1382	6352	546	*0.4%*	
Total	**248780**	**656231**	**56426**	***41.8%***	
Total CHP	**8553**	**54177**	**4658**	***3.4%***	
Renewable Heating and Cooling			ktoe	%	Comment
Geothermal			525	*0.4%*	
Solar thermal			1488	*1.1%*	
Biomass			**71758**	***53.1%***	
Solid biomass			67449	*49.9%*	
Biogas			1929	*1.4%*	
Bioliquids			2154	*1.6%*	
Renewable energy from heat pumps			**4310**	***3.2%***	
Aerothermal heat pumps			2337	*1.7%*	
Geothermal heat pumps			866	*0.6%*	
Hydrothermal heat pumps			72	*0.1%*	
Total			**79124**	***58.6%***	
Total district heating			**11115**	***8.2%***	
Total biomass in households			**36566**	***27.1%***	
Renewable Transport			ktoe	%	Comment
Bioethanol / bio-ETBE			**2786**	***2.1%***	
Bioethanol / bio-ETBE Article 21.2			36	*0.0%*	
Bioethanol / bio-ETBE imported			877	*0.6%*	
Biodiesel			**10324**	***7.6%***	
Biodiesel Article 21.2			265	*0.2%*	
Biodiesel imported			3653	*2.7%*	
Hydrogen from renewables			0	*0.0%*	
Renewable electricity			**1091**	***0.8%***	
Renewable electricity road transport			7	*0.0%*	
Renewable electricity non-road transport			1068	*0.8%*	
Other biofuels			187	*0.1%*	
Other biofuels Article 21.2			55	*0.0%*	
Total			**14495**	***10.7%***	

Table 248: All 27 Member States PR Table 1b, Table 1c and Table 1d: Total actual contribution (installed capacity, gross electricity generation, final energy consumption) from each renewable energy technology in All 27 Member States for **2**010 to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity (see Table 10a of the NREAP), heating and cooling (see Table 11 of the NREAP) and in the transport sector (see Table 12 of the NREAP)

Table 249: All 27 Member States PR Table 4: Biomass supply for heating and electricity

Biomass supply for heating and electricity	Domestic raw material			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	908729	841628	
Indirect supply of wood biomass	ktoe	438404	408336	
Energy crops	ktoe	430	488	
Agricultural by-products / processed residues and fishery by-products	ktoe	4616	5726	
Biomass from waste	ktoe	19515	23461	
Others	ktoe	745	709	
Total biomass for heating and electricity*	**ktoe**	**1372437**	**1280348**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	2982	1451	
Energy crops and short rotation trees for biofuels	ktoe	5	0	
Others	ktoe	163	77	
Total biomass for transport*	**ktoe**	**3149**	**1528**	
Total biomass for all sectors*	**ktoe**	**1375586**	**1281876**	
Biomass supply for heating and electricity	Raw material imported from EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	1081	1218	
Indirect supply of wood biomass	ktoe	2059	1397	
Energy crops	ktoe	6	0	
Agricultural by-products / processed residues and fishery by-products	ktoe	201	149	
Biomass from waste	ktoe	5	7	
Others	ktoe	0	0	
Total biomass for heating and electricity*	**ktoe**	**3352**	**2771**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	1365	1451	
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	33	77	
Total biomass for transport*	**ktoe**	**1398**	**1528**	
Total biomass for all sectors*	**ktoe**	**4750**	**4299**	
Biomass supply for heating and electricity	Raw material imported from non-EU			
	Unit	2009	2010	Comment
Direct supply of wood biomass from forests and other wooded land energy generation	ktoe	391	437	
Indirect supply of wood biomass	ktoe	554	667	
Energy crops	ktoe	40	20	
Agricultural by-products / processed residues and fishery by-products	ktoe	6	4	
Biomass from waste	ktoe	0	0	
Others	ktoe	0	0	
Total biomass for heating and electricity*	**ktoe**	**991**	**1128**	
Biomass supply for transport	Unit	2009	2010	Comment
Common arable crops for biofuels	ktoe	1365	1451	
Energy crops and short rotation trees for biofuels	ktoe	0	0	
Others	ktoe	33	77	
Total biomass for transport*	**ktoe**	**1398**	**1528**	
Total biomass for all sectors*	**ktoe**	**2389**	**2656**	

* The values indicated with '*' are calculated values and have not been mentioned in the Progress Reports as such.

	Unit	2009	2010	Comment
Land used for common arable crops and oil seeds	ha	1317433	1448639	9 1 (p.194)
Land used for short rotation trees	ha	36702	55425	
Land used for other energy crops such as grasses	ha	39407	838699	

Table 250: All 27 Member States PR Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production

	Unit	2009	2010	Comment
Production - Fuel type X	ktoe	117692	190094	
Consumption - Fuel type X	ktoe	131890	154368	
Total production Art.21.2.biofuels	ktoe	117434	189756	
Total consumption Art.21.2. biofuels	ktoe	131413	153989	
Share of 21(2) fuels from total RES-T	**%**	**n.a.**	**n.a.**	

Table 251: All 27 Member States PR Table 5: Production and consumption of Article 21(2) biofuels (ktoe)

	Unit	2009	2010	Comment
Total estimated net GHG emission saving from RES	**t CO_2-eq**	**400943171**	**452824340**	
Estimated net GHG saving from the use of RES-E	t CO_2-eq	261337624	290126590	
Estimated net GHG saving from the use of RES-H/C	t CO_2-eq	180309495	201963023	
Estimated net GHG saving from the use of RES-T	t CO_2-eq	23438603	26429139	

Table 252: All 27 Member States PR Table 6: Estimated GHG emission savings from the use of renewable energy

	Actual/estimated excess production	Actual/estimated deficit production	Comment
Renewable energy	n.a.	n.a.	
Origin/destination	n.a.	n.a.	
Unit	**ktoe**	**ktoe**	
2010	9866	-2819	
2011	18877	-45	
2012	22445	-23	
2013	19576	-38	
2014	23955	-10	
2015	17644	-45	
2016	21649	-22	
2017	14116	-75	
2018	17451	-39	
2019	4296	-66	
2020	7418	-93	

Table 253: All 27 Member States PR Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in all 27 Member States (ktoe)

Comments for all 27 Member States

1: For Estonia in 2010 an average value of 60 ha has been assumed.

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Table 1: the sectoral and overall RES shares

	Unit	2009	2010	Comment
Austria	%	32.3	32.2	
Belgium	%	4.35	4.51	
Bulgaria	%	17.4	20.1	
Cyprus	%	15.6	17.7	
Czech Republic	%	n.a.	n.a.	
Denmark	%	29.56	30.64	
Estonia	%	41.4	42.6	
Finland	%	45.2	46.4	
France	%	16.4	17.1	
Germany	%	9.6	11	
Greece	%	16.38	17.17	
Hungary	%	10.53	11.08	
Ireland	%	4.3	4.4	
Italy	%	8.2	9.46	
Latvia	%	47.9	43.8	
Lithuania	%	34.46	33	
Luxembourg	%	4.6	4.97	
Malta	%	9.1	9.5	
Netherlands	%	3	2.7	
Poland	%	11.9	12	
Portugal	%	37.86	34.45	
Romania	%	23.46	24.22	
Slovakia	%	9.1	9.2	
Slovenia	%	24.9	26.62	
Spain	%	12	11.9	
Sweden	%	64.8	65.3	
United Kingdom	%	1.7	1.8	
All 27 Member States	%	n.a.	n.a.	

Table 254: PR Table 1: Renewable heating and cooling (%)

Table 255: PR Table 1: Renewable electricity (%)

	Unit	2009	2010	Comment
Austria	%	67.4	65.3	
Belgium	%	6.33	6.97	
Bulgaria	%	11.4	12	
Cyprus	%	0.6	1.4	
Czech Republic	%	n.a.	n.a.	
Denmark	%	28.87	31.04	
Estonia	%	6.1	10.4	
Finland	%	27.2	27.6	
France	%	15	14.7	
Germany	%	17.4	18.4	
Greece	%	11.04	12.38	
Hungary	%	6.96	7.09	
Ireland	%	13.7	14.8	
Italy	%	18.81	20.09	
Latvia	%	4	42.1	
Lithuania	%	5.9	7.4	
Luxembourg	%	4.1	3.8	
Malta	%	0.02	0.08	
Netherlands	%	9.1	9.7	
Poland	%	5.9	6.7	
Portugal	%	38.4	41.2	
Romania	%	33.46	32.06	
Slovakia	%	18.9	18.6	
Slovenia	%	33.8	32.2	
Spain	%	27.2	29.2	
Sweden	%	58.2	56	
United Kingdom	%	6.6	7.4	
All 27 Member States	%	n.a.	n.a.	

Table 256: PR Table 1: Renewable Transport (%)

	Unit	2009	2010	Comment
Austria	%	8	7.9	
Belgium	%	3.03	4.46	
Bulgaria	%	0.3	0.6	
Cyprus	%	2	2	
Czech Republic	%	n.a.	n.a.	
Denmark	%	0.24	0.26	
Estonia	%	0.2	0.2	
Finland	%	4	3.8	
France	%	5.9	5.9	
Germany	%	5.8	6.2	
Greece	%	1.13	1.97	
Hungary	%	4.19	4.72	
Ireland	%	1.8	2.4	
Italy	%	3.83	4.81	
Latvia	%	1.1	3.3	
Lithuania	%	4.22	3.59	
Luxembourg	%	2.15	2.04	
Malta	%	0.83	0.66	
Netherlands	%	4.2	3	
Poland	%	4.8	5.9	
Portugal	%	3.87	5.59	
Romania	%	0.67	0.68	
Slovakia	%	4	4	
Slovenia	%	2.01	2.87	
Spain	%	3.5	4.8	
Sweden	%	7.4	8	1 (p.176)
United Kingdom	%	2.5	2.9	
All 27 Member States	%	n.a.	n.a.	

	Unit	2009	2010	Comment
Austria	%	30.9	30.8	
Belgium	%	4.51	5.05	
Bulgaria	%	11	12.6	
Cyprus	%	5.4	5.8	1 (p.40)
Czech Republic	%	7.4	n.a.	
Denmark	%	19.86	21.78	
Estonia	%	22.7	24	
Finland	%	32	33.1	
France	%	12.4	12.8	
Germany	%	10.2	11.3	
Greece	%	8.43	9.73	
Hungary	%	8.18	8.79	
Ireland	%	5	5.5	
Italy	%	8.86	10.11	
Latvia	%	34.3	32.5	
Lithuania	%	19.96	19.72	
Luxembourg	%	2.93	2.95	
Malta	%	0.88	0.9	
Netherlands	%	4.1	3.7	
Poland	%	8.9	9.5	
Portugal	%	24.63	24.57	
Romania	%	21.75	22.36	1 (p.152)
Slovakia	%	10.3	10.2	
Slovenia	%	18.99	19.9	
Spain	%	12.5	13.5	
Sweden	%	47.3	47.8	
United Kingdom	%	3	3.3	
All 27 Member States	%	n.a.	n.a.	

Table 257: PR Table 1: Overall renewable energy share (%)

	Unit	2009	2010	Comment
Austria	%	0	0	
Belgium	%	0	0	
Bulgaria	%	0	0	
Cyprus	%	0	0	
Czech Republic	%	n.a.	n.a.	
Denmark	%	n.a.	n.a.	
Estonia	%	0	0	
Finland	%	0	0	
France	%	0	0	
Germany	%	n.a.	n.a.	
Greece	%	0	0	
Hungary	%	0	0	1 (p.88)
Ireland	%	n.a.	n.a.	
Italy	%	0	0	
Latvia	%	0	0	
Lithuania	%	0	0	
Luxembourg	%	n.a.	n.a.	
Malta	%	0	0	
Netherlands	%	0	0	
Poland	%	0	0	
Portugal	%	0	0	
Romania	%	0	0	
Slovakia	%	0	0	
Slovenia	%	0	0	
Spain	%	n.a.	n.a.	
Sweden	%	n.a.	n.a.	
United Kingdom	%	0	0	
All 27 Member States	%	n.a.	n.a.	

Table 258: PR Table 1: Renewables through cooperation mechanism (%)

Table 259: PR Table 1: Surplus for cooperation mechanism (%)

	Unit	2009	2010	Comment
Austria	%	0	0	
Belgium	%	0	0	
Bulgaria	%	0	0	
Cyprus	%	0	0	
Czech Republic	%	n.a.	n.a.	
Denmark	%	n.a.	n.a.	
Estonia	%	0	0	
Finland	%	0	0	
France	%	0	0	
Germany	%	n.a.	n.a.	
Greece	%	0	0	
Hungary	%	0	0	2 (p.88)
Ireland	%	n.a.	n.a.	
Italy	%	0	0	
Latvia	%	n.a.	n.a.	
Lithuania	%	n.a.	n.a.	
Luxembourg	%	n.a.	n.a.	
Malta	%	0	0	
Netherlands	%	0	0	
Poland	%	0	0	
Portugal	%	0	0	
Romania	%	0	0	
Slovakia	%	0	0	
Slovenia	%	0	0	
Spain	%	n.a.	n.a.	
Sweden	%	6.3	6.4	2 (p.176)
United Kingdom	%	0	0	
All 27 Member States	%	n.a.	n.a.	

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Table 1a: RES consumption in all sectors

	Unit	2009	2010	Comment
Austria	ktoe	3678	4070	
Belgium	ktoe	839.48	987.48	
Bulgaria	ktoe	772	923	
Cyprus	ktoe	77.24	81.25	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	2296	2262	
Estonia	ktoe	643	682	
Finland	ktoe	5623	6480	
France	ktoe	10903	12356	
Germany	ktoe	10222	12441	
Greece	ktoe	1098	1160	
Hungary	ktoe	945	1055	
Ireland	ktoe	212	229	
Italy	ktoe	4500	5497	
Latvia	ktoe	1190	1158	
Lithuania	ktoe	876	881	
Luxembourg	ktoe	48	56	
Malta	ktoe	2.91	3.04	
Netherlands	ktoe	806	827	
Poland	ktoe	4199	4636	
Portugal	ktoe	2590	2241	
Romania	ktoe	3789.123	3975.4	
Slovakia	ktoe	530	548	
Slovenia	ktoe	524	586	
Spain	ktoe	3957	4258	
Sweden	ktoe	8583	9752	
United Kingdom	ktoe	961	1115	
All 27 Member States	ktoe	69864.753	78260.17	

Table 260: PR Table 1a: Gross final consumption of RES for heating and cooling (ktoe)

Table 261: PR Table 1a: Gross final consumption of electricity from RES (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	3886	3948	
Belgium	ktoe	493.98	596.23	
Bulgaria	ktoe	345	384	
Cyprus	ktoe	2.61	6.27	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	895	1065	
Estonia	ktoe	47	87	
Finland	ktoe	1969	2162	1 (p.64)
France	ktoe	6748	6928	
Germany	ktoe	8653	9642	
Greece	ktoe	703	909	
Hungary	ktoe	248	259	
Ireland	ktoe	339	369	
Italy	ktoe	5390	5924	
Latvia	ktoe	261	271	
Lithuania	ktoe	59	70	
Luxembourg	ktoe	23	24	
Malta	ktoe	0.05	0.15	
Netherlands	ktoe	925	1008	
Poland	ktoe	752	894	
Portugal	ktoe	1789	1994	1 (p.146)
Romania	ktoe	1469.446	1522.595	
Slovakia	ktoe	442	455	
Slovenia	ktoe	387	391	
Spain	ktoe	6729	7334	
Sweden	ktoe	7075	7248	
United Kingdom	ktoe	2138	2406	
All 27 Member States	ktoe	51769.086	55897.245	

Table 262: PR Table 1a: Gross final consumption of energy from RES in transport (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	728	716	
Belgium	ktoe	228.49	345.49	
Bulgaria	ktoe	8	17	
Cyprus	ktoe	15.13	15.05	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	9.8	10.8	
Estonia	ktoe	1	1	
Finland	ktoe	166	167	2 (p.64)
France	ktoe	2620	2635	
Germany	ktoe	2964	3209	
Greece	ktoe	78	128	
Hungary	ktoe	185	191	
Ireland	ktoe	78	93	
Italy	ktoe	1180	1466	
Latvia	ktoe	12	35	
Lithuania	ktoe	52	45	
Luxembourg	ktoe	43	42	
Malta	ktoe	0.66	0.55	
Netherlands	ktoe	472	339	
Poland	ktoe	662	887	
Portugal	ktoe	246	349	
Romania	ktoe	33.54	33.13	
Slovakia	ktoe	77	89	
Slovenia	ktoe	34.94	50.52	
Spain	ktoe	1105	1466	
Sweden	ktoe	396	429	3 (p.176)
United Kingdom	ktoe	1041	1203	
All 27 Member States	ktoe	12436.56	13962.54	

	Unit	2009	2010	Comment
Austria	ktoe	8100	8539	
Belgium	ktoe	1561.95	1929.21	
Bulgaria	ktoe	1125	1324	
Cyprus	ktoe	94.98	102.57	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	3191	3692	
Estonia	ktoe	691	770	
Finland	ktoe	7741	8788	3 (p.64)
France	ktoe	20114	21763	
Germany	ktoe	21696	25130	
Greece	ktoe	1879	2197	
Hungary	ktoe	1361	1491	
Ireland	ktoe	628	690	
Italy	ktoe	11070	12887	
Latvia	ktoe	1454	1456	
Lithuania	ktoe	987	996	
Luxembourg	ktoe	114	122	
Malta	ktoe	3.61	3.73	
Netherlands	ktoe	2103	2063	
Poland	ktoe	5613	6417	
Portugal	ktoe	4604	4561	
Romania	ktoe	5258.051	5498.349	2 (p.152)
Slovakia	ktoe	1048	1092	
Slovenia	ktoe	942	1023	
Spain	ktoe	11741	13005	
Sweden	ktoe	16054	17429	
United Kingdom	ktoe	4087	4668	
All 27 Member States	ktoe	133261.591	147636.859	

Table 263: PR Table 1a: Gross total RES consumption (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	0	0	
Belgium	ktoe	n.a.	n.a.	
Bulgaria	ktoe	0	0	
Cyprus	ktoe	0	0	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	n.a.	n.a.	
Estonia	ktoe	0	0	
Finland	ktoe	0	0	
France	ktoe	0	0	
Germany	ktoe	0	0	
Greece	ktoe	0	0	
Hungary	ktoe	0	0	
Ireland	ktoe	n.a.	n.a.	
Italy	ktoe	0	0	
Latvia	ktoe	0	0	
Lithuania	ktoe	0	0	
Luxembourg	ktoe	0	0	
Malta	ktoe	0	0	
Netherlands	ktoe	0	0	
Poland	ktoe	0	0	
Portugal	ktoe	0	0	
Romania	ktoe	0	0	
Slovakia	ktoe	0	0	
Slovenia	ktoe	0	0	
Spain	ktoe	n.a.	n.a.	
Sweden	ktoe	0	0	
United Kingdom	ktoe	0	0	
All 27 Member States	ktoe	0	0	

Table 264: PR Table 1a: Transfer of RES to other Member States (ktoe)

Table 265: PR Table 1a: Transfer of RES from other Member States and 3rd countries (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	0	0	
Belgium	ktoe	n.a.	n.a.	
Bulgaria	ktoe	0	0	
Cyprus	ktoe	0	0	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	n.a.	n.a.	
Estonia	ktoe	0	0	
Finland	ktoe	0	0	
France	ktoe	0	0	
Germany	ktoe	0	0	
Greece	ktoe	0	0	
Hungary	ktoe	0	0	
Ireland	ktoe	n.a.	n.a.	
Italy	ktoe	0	0	
Latvia	ktoe	0	0	
Lithuania	ktoe	0	0	
Luxembourg	ktoe	0	0	
Malta	ktoe	0	0	
Netherlands	ktoe	0	0	
Poland	ktoe	0	0	
Portugal	ktoe	0	0	
Romania	ktoe	0	0	
Slovakia	ktoe	0	0	
Slovenia	ktoe	0	0	
Spain	ktoe	n.a.	n.a.	
Sweden	ktoe	0	0	
United Kingdom	ktoe	0	0	
All 27 Member States	ktoe	0	0	

Table 266: PR Table 1a: RES consumption adjusted for target (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	8100	8539	
Belgium	ktoe	n.a.	n.a.	
Bulgaria	ktoe	1125	1324	
Cyprus	ktoe	94.98	102.57	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	n.a.	n.a.	
Estonia	ktoe	691	770	1 (p.58)
Finland	ktoe	7741	8788	4 (p.64)
France	ktoe	20114	21763	
Germany	ktoe	21696	25130	
Greece	ktoe	1879	2197	
Hungary	ktoe	1361	1491	
Ireland	ktoe	628	690	
Italy	ktoe	11070	12887	
Latvia	ktoe	1454	1456	
Lithuania	ktoe	987	996	
Luxembourg	ktoe	114	122	
Malta	ktoe	3.61	3.73	
Netherlands	ktoe	2103	2063	
Poland	ktoe	5613	6417	
Portugal	ktoe	4604	4561	
Romania	ktoe	5258.051	5498.349	
Slovakia	ktoe	1048	1092	
Slovenia	ktoe	942	1023	
Spain	ktoe	11741	13005	
Sweden	ktoe	16054	17429	
United Kingdom	ktoe	4087	4668	
All 27 Member States	ktoe	128508.641	142015.649	

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Table 1b: Actual RES-E contributions

Table 267: PR Table 1b: Hydropower (MW, GWh)

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	10651	38757	10600	39237	
Belgium	1428.9	1801.3	1428.6	1720.9	
Bulgaria	2156	3598	2188	3709	
Cyprus	0	0	0	0	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	9	22	9	22	
Estonia	7	25	6	22	
Finland	n.a.	n.a.	n.a.	n.a.	
France	25449	69597	25449	68643	1 (p.70)
Germany	4150	22400	4390	23500	
Greece	3201	4287	3215	4525	1 (p.82)
Hungary	53	212	53	211	
Ireland	526	1109	529	931	
Italy	16458	42279	16806	43393	1 (p.100)
Latvia	1536	2927	1576	3033	1 (p.108)
Lithuania	116	419	116	419	1 (p.114)
Luxembourg	34	106	34	108	
Malta	0	0	0	0	
Netherlands	37	100	37	101	
Poland	945.21	2355.574	937.042	2390.262	
Portugal	5080	11270	5102	11775	
Romania	6450	17360	6474	17573	
Slovakia	n.a.	n.a.	n.a.	n.a.	
Slovenia	1070	4315	1254	4326	
Spain	n.a.	n.a.	n.a.	n.a.	
Sweden	16544	68326	16624	68294	4 (p.176)
United Kingdom	1645	4910	1648	4790	1 (p.186)
All 27 Member States	97546.11	296175.874	98475.642	298723.162	

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	7828	34653	7843	34647	
Belgium	118.9	372.1	118.6	372.4	
Bulgaria	1621	2957	1653	4330	
Cyprus	0	0	0	0	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	9	22	9	22	
Estonia	7	25	6	22	
Finland	3120	13898	3140	13877	
France	18464	61135	18464	60427	
Germany	0	0	0	0	
Greece	2502	4714	2516	6597	
Hungary	53	212	53	211	
Ireland	234	754	237	754	
Italy	14079	40207	14234	41255	2 (p.100)
Latvia	1536	3457	1576	3520	
Lithuania	116	419	116	419	
Luxembourg	34	106	34	108	
Malta	n.a.	n.a.	n.a.	n.a.	
Netherlands	n.a.	n.a.	n.a.	n.a.	
Poland	n.a.	n.a.	n.a.	n.a.	
Portugal	3991	10127	4013	10584	
Romania	6358	17060	6382	17324	
Slovakia	1597	4600	1600	4612	
Slovenia	n.a.	n.a.	n.a.	n.a.	
Spain	13158	30395	13188	31545	
Sweden	16544	65852	16624	66398	5 (p.176)
United Kingdom	n.a.	n.a.	n.a.	n.a.	
All 27 Member States	91369.9	290965.1	91806.6	297024.4	

Table 268: PR Table 1b: Hydropower (non pumped) (MW, GWh)

Table 269: PR Table 1b: Hydropower <1 MW (non pumped) (MW, GWh)

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	222	1610	134	1677	
Belgium	8.8	24.7	8.7	26.1	
Bulgaria	44	137	47	187	
Cyprus	0	0	0	0	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	5	13	5	13	
Estonia	7	25	6	22	
Finland	31	138	31	137	
France	446	1651	446	1601	
Germany	680	2500	700	2400	
Greece	32	115	34	130	
Hungary	4	21	4	20	
Ireland	18	53	20	57	
Italy	466	1699	523	1910	3 (p.100)
Latvia	24	60	25	69	
Lithuania	17	61	17	61	
Luxembourg	2	6	2	8	
Malta	n.a.	n.a.	n.a.	n.a.	
Netherlands	0	0	0	0	1 (p.132)
Poland	88.077	n.a.	90.119	n.a.	1 (p.138)
Portugal	35	89	35	92	
Romania	70	115	76	126	
Slovakia	26	75	26	75	
Slovenia	118	160	118	175	
Spain	269	1181	273	371	
Sweden	135	496	143	545	6 (p.176)
United Kingdom	72	223	70	229	
All 27 Member States	2819.877	10452.7	2833.819	9931.1	

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	630	3251	762	3343	
Belgium	54.7	198.2	54.6	194.5	
Bulgaria	204	614	216	815	
Cyprus	0	0	0	0	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	4	10	4	10	
Estonia	0	0	0	0	
Finland	285	1269	305	1354	
France	1655	5754	1655	5640	
Germany	1010	5400	1040	5500	
Greece	151	543	163	624	
Hungary	10	37	10	38	
Ireland	20	64	21	67	
Italy	2187	7298	2208	7411	4 (p.100)
Latvia	1	6	1	6	
Lithuania	9	33	9	33	
Luxembourg	32	100	32	100	
Malta	n.a.	n.a.	n.a.	n.a.	
Netherlands	2	5	2	5	2 (p.132)
Poland	184.653	n.a.	174.443	n.a.	2 (p.138)
Portugal	351	891	343	905	
Romania	297	711	315	754	
Slovakia	63	181	66	190	
Slovenia	40	218	42	214	
Spain	1640	3171	1653	2944	
Sweden	788	3114	798	3253	7 (p.176)
United Kingdom	187	546	193	580	
All 27 Member States	9805.353	33414.2	10067.043	33980.5	

Table 270: PR Table 1b: Hydropower 1 MW - 10 MW (non pumped) (MW, GWh)

Table 271: PR Table 1b: Hydropower >10 MW (non pumped) (MW, GWh)

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	6976	29793	6947	29627	
Belgium	55.3	149.1	55.4	151.8	
Bulgaria	1373	2206	1390	3328	
Cyprus	0	0	0	0	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	0	0	0	0	
Estonia	0	0	0	0	
Finland	2804	12490	2804	12392	
France	16363	53730	16363	53186	
Germany	2460	14400	2660	15500	
Greece	2319	4056	2319	5843	
Hungary	39	154	39	153	
Ireland	196	633	196	625	
Italy	11427	31210	11503	31935	5 (p.100)
Latvia	1511	3391	1550	3445	
Lithuania	90	325	90	325	
Luxembourg	0	0	0	0	
Malta	n.a.	n.a.	n.a.	n.a.	
Netherlands	35	95	35	96	3 (p.132)
Poland	672.48	n.a.	672.48	n.a.	3 (p.138)
Portugal	3605	9147	3635	9587	
Romania	5991	16235	5991	16444	
Slovakia	1508	4344	1508	4347	
Slovenia	912	4335	914	4122	
Spain	11249	26043	11262	28230	
Sweden	15621	62242	15683	62600	8 (p.176)
United Kingdom	1386	4142	1386	3981	
All 27 Member States	86592.78	279120.1	87002.88	285917.8	

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	2823	4104	2757	4590	
Belgium	1310	1429.3	1310	1348.5	
Bulgaria	788	852	788	929	
Cyprus	0	0	0	0	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	0	0	0	0	
Estonia	0	0	0	0	
Finland	0	0	0	0	
France	1808	4923	1808	4759	
Germany	110	400	150	500	
Greece	0	0	0	0	
Hungary	0	0	0	0	
Ireland	292	355	292	177	
Italy	2378	2072	2572	2138	6 (p.100)
Latvia	0	0	0	0	
Lithuania	760	715	760	755	
Luxembourg	1134	834	1134	1468	1 (p.120)
Malta	n.a.	n.a.	n.a.	n.a.	
Netherlands	0	0	0	0	
Poland	n.a.	n.a.	n.a.	n.a.	
Portugal	1089	1143	1089	1192	
Romania	92	300	92	250	
Slovakia	916	236	916	394	
Slovenia	n.a.	0	180	185	
Spain	5347	2831	5347	3210	1 (p.170)
Sweden	108	125	108	103	9 (p.176)
United Kingdom	0	0	0	0	2 (p.186)
All 27 Member States	18955	20319.3	19303	21998.5	

Table 272: PR Table 1b: Hydropower pumped storage (MW, GWh)

Table 273: PR Table 1b: Hydropower mixed (normalised) (MW, GWh)

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	10651	38757	10600	39237	
Belgium	0	0	0	0	
Bulgaria	535	462	535	769	
Cyprus	0	0	0	0	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	0	0	0	0	
Estonia	0	0	0	0	
Finland	0	0	0	0	
France	5177	3539	5177	3457	2 (p.70)
Germany	n.a.	n.a.	n.a.	n.a.	
Greece	699	907	699	901	2 (p.82)
Hungary	0	0	0	0	
Ireland	n.a.	n.a.	n.a.	n.a.	
Italy	2378	2072	2572	2138	7 (p.100)
Latvia	0	0	0	0	
Lithuania	0	0	0	0	
Luxembourg	0	0	0	0	
Malta	n.a.	n.a.	n.a.	n.a.	
Netherlands	n.a.	n.a.	n.a.	n.a.	
Poland	n.a.	n.a.	n.a.	n.a.	
Portugal	1089	1143	1089	1192	
Romania	n.a.	n.a.	n.a.	n.a.	
Slovakia	n.a.	n.a.	n.a.	n.a.	
Slovenia	n.a.	n.a.	n.a.	n.a.	
Spain	n.a.	n.a.	n.a.	n.a.	
Sweden	n.a.	n.a.	n.a.	n.a.	
United Kingdom	0	0	0	0	
All 27 Member States	20529	46880	20672	47694	

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	1	2	1	1	
Belgium	0	0	0	0	
Bulgaria	0	0	0	0	
Cyprus	0	0	0	0	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	0	0	0	0	
Estonia	0	0	0	0	
Finland	0	0	0	0	
France	15	50	15	15	
Germany	8	20	8	30	
Greece	0	0	0	0	
Hungary	0	0	0	0	
Ireland	n.a.	n.a.	n.a.	n.a.	
Italy	737	5342	772	5376	
Latvia	0	0	0	0	
Lithuania	0	0	0	0	
Luxembourg	0	0	0	0	
Malta	0	0	0	0	
Netherlands	0	0	0	0	
Poland	0	0	0	0	
Portugal	25	184	25	197	
Romania	0	0	0	0	
Slovakia	0	0	0	0	
Slovenia	n.a.	n.a.	n.a.	n.a.	
Spain	0	0	0	0	
Sweden	n.a.	n.a.	n.a.	n.a.	
United Kingdom	0	0	0	0	
All 27 Member States	786	5598	821	5619	

Table 274: PR Table 1b: Geothermal electricity (MW, GWh)

Table 275: PR Table 1b: Solar electricity (PV and CSP) (MW, GWh)

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	51	49	93	89	
Belgium	218.4	169.4	660.7	557.5	
Bulgaria	2	3	25	15	
Cyprus	3.35	3.83	6.6	6.39	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	5	4	7	6	
Estonia	0	0	0	0	
Finland	6	4	7	5	
France	348	220	1072	676	
Germany	9910	6600	17320	11700	
Greece	53	54	203	167	
Hungary	1	1	2	1	
Ireland	n.a.	n.a.	n.a.	n.a.	
Italy	1144	676	3470	1906	
Latvia	0	0	0	0	
Lithuania	0	0	0	0	
Luxembourg	26	20	29	21	
Malta	n.a.	n.a.	n.a.	n.a.	
Netherlands	n.a.	n.a.	n.a.	n.a.	
Poland	0.001	1.328	0.033	1.672	
Portugal	115	160	132	201	
Romania	0.05	0.003	0.2	0.02	
Slovakia	0	0	n.a.	n.a.	
Slovenia	4	4	12	13	
Spain	3770	6064	4598	7105	
Sweden	9	7	9	9	
United Kingdom	n.a.	n.a.	n.a.	n.a.	
All 27 Member States	15665.801	14040.561	27646.533	22479.582	

Table 276: PR Table 1b: Solar photovoltaic (PV) (MW, GWh)

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	51	49	93	89	
Belgium	218.4	169.4	660.7	557.5	
Bulgaria	2	3	25	15	
Cyprus	3.35	3.83	6.6	6.39	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	5	4	7	6	
Estonia	0	0	0	0	
Finland	6	4	7	5	
France	348	220	1072	676	
Germany	9910	6600	17320	11700	
Greece	53	54	203	167	
Hungary	1	1	2	1	
Ireland	0.61	0.42	0.65	0.45	
Italy	1144	676	3470	1906	
Latvia	0	0	0	0	
Lithuania	0	0	0	0	
Luxembourg	26	20	29	21	
Malta	1.53	0.53	1.67	1.73	
Netherlands	68	46	88	60	
Poland	0.001	1.328	0.033	1.672	
Portugal	115	160	132	201	
Romania	0.05	0.003	0.2	0.02	
Slovakia	0	0	186	11	1 (p.158)
Slovenia	4	4	12	13	
Spain	3488	5961	3916	6413	
Sweden	9	7	9	9	
United Kingdom	27	20	77	33	
All 27 Member States	15480.941	14004.511	27317.853	21893.762	

Table 277: PR Table 1b: Concentrated solar power (CSP) (MW, GWh)

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	0	0	0	0	
Belgium	0	0	0	0	
Bulgaria	0	0	0	0	
Cyprus	0	0	0	0	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	0	0	0	0	
Estonia	0	0	0	0	
Finland	0	0	0	0	
France	0	0	0	0	
Germany	0	0	0	0	
Greece	0	0	0	0	
Hungary	0	0	0	0	
Ireland	n.a.	n.a.	n.a.	n.a.	
Italy	0	0	0	0	
Latvia	0	0	0	0	
Lithuania	0	0	0	0	
Luxembourg	0	0	0	0	
Malta	n.a.	n.a.	n.a.	n.a.	
Netherlands	0	0	0	0	
Poland	0	0	0	0	
Portugal	0	0	0	0	
Romania	0	0	0	0	
Slovakia	0	n.a.	0	n.a.	
Slovenia	n.a.	n.a.	n.a.	n.a.	
Spain	282	103	682	692	
Sweden	n.a.	n.a.	n.a.	n.a.	
United Kingdom	0	0	0	0	
All 27 Member States	282	103	682	692	

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	0	0	0	0	
Belgium	0	0	0	0	
Bulgaria	0	0	0	0	
Cyprus	0	0	0	0	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	0	0	0	0	
Estonia	0	0	0	0	
Finland	0	0	0	0	
France	240	448	240	476	
Germany	0	0	0	0	
Greece	0	0	0	0	
Hungary	0	0	0	0	
Ireland	n.a.	n.a.	n.a.	n.a.	
Italy	0	0	0	0	
Latvia	0	0	0	0	
Lithuania	0	0	0	0	
Luxembourg	0	0	0	0	
Malta	0	0	0	0	
Netherlands	0	0	0	0	
Poland	0	0	0	0	
Portugal	0	0	0	0	
Romania	0	0	0	0	
Slovakia	0	n.a.	0	n.a.	
Slovenia	n.a.	n.a.	n.a.	n.a.	
Spain	0	0	0	0	
Sweden	n.a.	n.a.	n.a.	n.a.	
United Kingdom	2.5	0.6	2.6	1.8	
All 27 Member States	242.5	448.6	242.6	477.8	

Table 278: PR Table 1b: Tidal, wave and ocean energy (electricity) (MW, GWh)

Table 279: PR Table 1b: Wind power (onshore and offshore) (MW, GWh)

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	994	2024	977	2035	
Belgium	586.4	1092.7	919.5	1589.3	
Bulgaria	333	412	488	722	1 (p.34)
Cyprus	0	0	82	31.37	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	3322	7029	3642	7729	
Estonia	104	204	108	247	
Finland	147	279	188	314	
France	4621	8087	5729	10499	
Germany	25720	41300	27210	43100	
Greece	1171	2671	1298	2905	3 (p.82)
Hungary	203	338	293	518	
Ireland	1264	2936	1389	3228	
Italy	4898	6830	5814	8787	
Latvia	29	54	30	55	2 (p.108)
Lithuania	98	174	133	244	2 (p.114)
Luxembourg	43	63	44	55	
Malta	n.a.	n.a.	n.a.	n.a.	
Netherlands	2222	4481	2237	4503	
Poland	724.657	1164.18	1180.272	1700.29	
Portugal	3326	7000	3796	8395	
Romania	14.548	9.753	388.608	299.061	
Slovakia	n.a.	n.a.	n.a.	n.a.	
Slovenia	n.a.	n.a.	n.a.	n.a.	
Spain	19176	38295	20759	42732	
Sweden	1448	2485	2018	3502	10 (p.176)
United Kingdom	4424	9333	5378	11239	
All 27 Member States	74868.605	136261.633	84101.38	154429.021	

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	994	2024	994	2035	
Belgium	554.9	1010.8	723	1399.7	
Bulgaria	333	237	488	681	
Cyprus	0	0	82	31.37	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	2780	5883	2877	6106	
Estonia	104	204	108	247	
Finland	147	279	188	314	
France	4621	8087	5729	10499	
Germany	25640	41200	27030	42900	
Greece	1171	2547	1298	2714	
Hungary	203	338	293	518	
Ireland	1239	n.a.	1364	n.a.	
Italy	4898	6830	5814	8787	
Latvia	29	50	30	49	
Lithuania	98	174	133	244	
Luxembourg	43	63	44	55	
Malta	n.a.	0	n.a.	0	
Netherlands	1994	3762	2009	3737	
Poland	724.657	1164.18	1180.272	1700.29	
Portugal	3326	7000	3796	8395	
Romania	14.548	9.753	388.608	299.061	
Slovakia	3	6	3	6	
Slovenia	n.a.	n.a.	n.a.	n.a.	
Spain	19176	38295	20759	42732	
Sweden	1285	2219	1855	3052	
United Kingdom	3483	7497	4037	8392	
All 27 Member States	72861.105	128879.733	81222.88	144893.421	

Table 280: PR Table 1b: Onshore wind (MW, GWh)

Table 281: PR Table 1b: Offshore wind (MW, GWh)

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	0	0	0	0	
Belgium	31.5	82	196.5	189.6	
Bulgaria	0	0	0	0	
Cyprus	0	0	0	0	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	542	1147	765	1622	
Estonia	0	0	0	0	
Finland	0	0	0	0	
France	0	0	0	0	
Germany	70	40	180	210	
Greece	0	0	0	0	
Hungary	0	0	0	0	
Ireland	25	n.a.	25	n.a.	
Italy	0	0	0	0	
Latvia	0	0	0	0	
Lithuania	0	0	0	0	
Luxembourg	0	0	0	0	
Malta	n.a.	0	n.a.	0	
Netherlands	228	719	228	765	
Poland	0	0	0	0	
Portugal	0	0	0	0	
Romania	0	0	0	0	
Slovakia	0	n.a.	0	n.a.	
Slovenia	n.a.	n.a.	n.a.	n.a.	
Spain	0	0	0	0	
Sweden	163	266	163	450	
United Kingdom	941	1836	1341	2847	
All 27 Member States	2000.5	4090	2898.5	6083.6	

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	1150	4370	1198	4554	
Belgium	900.7	4103.8	1010.7	4413.8	
Bulgaria	3	4	3	16	
Cyprus	4.25	26.52	7.9	35.13	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	1094	3352	1248	4632	
Estonia	37	313	67	740	
Finland	1807	10718	1910	10948	
France	914	4539	949	4876	3 (p.70)
Germany	6070	30300	6650	33900	
Greece	41	218	43	216	
Hungary	509	2335	513.5	2291	3 (p.88)
Ireland	n.a.	22	n.a.	27	
Italy	1728	7557	2053	9440	8 (p.100)
Latvia	10	49	16	66	
Lithuania	24	102	29	147	
Luxembourg	17	78	17	84	
Malta	n.a.	n.a.	n.a.	n.a.	
Netherlands	1028	6129	1205	7059	
Poland	323.378	5223.353	439.074	6303.59	
Portugal	442	2384	587	2904	
Romania	n.a.	5.206	n.a.	69.472	
Slovakia	n.a.	n.a.	n.a.	n.a.	
Slovenia	52	193	49	222	
Spain	774	3488	846	3894	
Sweden	3813	11411	3854	12191	11 (p.176)
United Kingdom	1932	10596	2097	11914	3 (p.186)
All 27 Member States	22673.328	107516.879	24792.174	120942.992	

Table 282: PR Table 1b: Biomass for electricity (MW, GWh)

Table 283: PR Table 1b: Solid biomass for electricity (MW, GWh)

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	684	2599	704	2674	
Belgium	638	3268.1	726.8	3575.9	
Bulgaria	0	0	0	0	
Cyprus	0	0	0	0	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	1017	3031	1168	4299	
Estonia	35	306	63	730	
Finland	1807	10686	1910	10859	
France	753	3654	774	3863	
Germany	3590	15700	3650	16000	
Greece	0	0	0	0	
Hungary	485	2239	489.5	2179	4 (p.88)
Ireland	n.a.	6	n.a.	9	
Italy	964	4444	944	4308	9 (p.100)
Latvia	2	4	5	9	
Lithuania	16	87	16	116	
Luxembourg	8	25	8	28	
Malta	n.a.	0	n.a.	0	
Netherlands	825	5122	992	5961	
Poland	252.49	4904.113	356.19	5905.21	4 (p.138)
Portugal	422	2301	562	2804	
Romania	n.a.	4.959	n.a.	69.227	
Slovakia	160	515	169	636	
Slovenia	40	124	35	125	
Spain	597	2958	657	3241	
Sweden	3796	11105	3832	11976	12 (p.176)
United Kingdom	1932	10596	2097	11914	4 (p.186)
All 27 Member States	18023.49	83679.172	19158.49	91281.337	

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	161	611	171	649	
Belgium	111.8	462.2	123.6	568.2	
Bulgaria	3	4	3	16	
Cyprus	4.25	26.52	7.9	35.13	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	77	320	80	333	
Estonia	2	7	4	10	
Finland	0	32	0	89	
France	161	885	175	1013	
Germany	2150	12600	2730	16200	
Greece	41	218	43	216	
Hungary	24	96	24	112	
Ireland	n.a.	16	n.a.	18	
Italy	378	1665	508	2054	10 (p.100)
Latvia	8	45	11	57	
Lithuania	8	15	13	31	
Luxembourg	9	53	9	56	
Malta	n.a.	0	n.a.	0	
Netherlands	186	934	196	1044	
Poland	70.888	319.24	82.884	398.38	
Portugal	20	83	25	100	
Romania	0	0.247	0	0.245	
Slovakia	4	22	9	32	
Slovenia	12	69	14	97	
Spain	177	530	189	653	
Sweden	17	34	22	36	
United Kingdom	0	0	0	0	
All 27 Member States	3624.938	19047.207	4440.384	23817.955	

Table 284: PR Table 1b: Biogas for electricity (MW, GWh)

Table 285: PR Table 1b: Bioliquids for electricity (MW, GWh)

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	305	1160	324	1232	
Belgium	150.9	373.5	160.2	269.6	
Bulgaria	0	0	0	0	
Cyprus	0	0	0	0	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	0	0	0	0	
Estonia	0	0	0	0	
Finland	0	n.a.	0	n.a.	
France	0	0	0	0	
Germany	330	2000	280	1700	
Greece	0	0	0	0	
Hungary	0	0	0	0	
Ireland	n.a.	n.a.	n.a.	n.a.	
Italy	385	1448	601	3078	11 (p.100)
Latvia	0	0	0	0	
Lithuania	0	0	0	0	
Luxembourg	0	0	0	0	
Malta	n.a.	n.a.	n.a.	n.a.	
Netherlands	17	74	17	54	
Poland	0	2967	0	0.9	5 (p.138)
Portugal	0	0	0	0	
Romania	0	0	0	0	
Slovakia	0	0	0	0	
Slovenia	n.a.	n.a.	n.a.	n.a.	
Spain	0	0	0	0	
Sweden	n.a.	272	n.a.	17	
United Kingdom	0	0	0	0	
All 27 Member States	1187.9	8294.5	1382.2	6351.5	

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	14709	45201	14971	45916	
Belgium	3134.3	7167.3	4019.5	8281.4	
Bulgaria	2494	4017	2704	4461	
Cyprus	7.6	30.35	96.5	72.89	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	4430	10407	4906	12389	
Estonia	148	542	181	1009	
Finland	5080	22899	5245	25144	
France	31587	82941	33454	85185	4 (p.70)
Germany	45860	100600	55580	112100	
Greece	4466	8172	4760	10572	
Hungary	766	2886	861.5	3021	5 (p.88)
Ireland	0	4067.42	0	4186.45	
Italy	24964	62684	28915	68902	12 (p.100)
Latvia	1575	3030	1622	3154	
Lithuania	238	695	278	810	
Luxembourg	120	267	124	269	2 (p.120)
Malta	n.a.	n.a.	n.a.	n.a.	
Netherlands	3355	10756	3567	11722	
Poland	1993.246	8747.402	2556.421	10396.71	
Portugal	8988	20998	9642	23472	
Romania	n.a.	17074.962	n.a.	17692.553	3 (p.152)
Slovakia	2680	5143	2883	5297	
Slovenia	1126	4909	1315	4930	
Spain	36878	78242	39391	85275	
Sweden	21814	82229	22506	83996	13 (p.176)
United Kingdom	8030	24861	9202	27977	5 (p.186)
All 27 Member States	224443.146	608566.434	248779.921	656231.003	

Table 286: PR Table 1b: Total for electricity (MW, GWh)

Table 287: PR Table 1b: Total CHP (electric) (MW, GWh)

	2009		2010		
	Capacity	Energy	Capacity	Energy	Comment
	MW	GWh	MW	GWh	
Austria	563	2141	616	2339	
Belgium	181	971.5	271.4	1511.6	
Bulgaria	0	0	0	0	
Cyprus	3.08	7.63	3.58	11.63	
Czech Republic	n.a.	n.a.	n.a.	n.a.	
Denmark	1094	3352	1248	4632	
Estonia	n.a.	229	n.a.	485	
Finland	n.a.	7949	n.a.	9288	
France	303	2283	n.a.	n.a.	
Germany	n.a.	5700	n.a.	6200	
Greece	0	0	0	0	
Hungary	111	295	136	320	
Ireland	5.3	0.016	5.3	0.019	
Italy	581	2379	745	3251	
Latvia	7	46	13	58	
Lithuania	24	102	29	147	
Luxembourg	9	53	9	56	
Malta	n.a.	0.5318	n.a.	1.731	
Netherlands	667	3742	743	4075	
Poland	n.a.	4663.807	n.a.	5592.5	
Portugal	272	1370	456	1604	
Romania	n.a.	5.206	n.a.	69.472	
Slovakia	164	537	178	668	
Slovenia	n.a.	176	n.a.	214	
Spain	0	0	246	1462	
Sweden	3813	11411	3854	12191	14 (p.176)
United Kingdom	n.a.	n.a.	n.a.	n.a.	
All 27 Member States	7797.38	47413.6908	8553.28	54176.952	

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Table 1c: Actual RES-H/C contributions

	Unit	2009	2010	Comment
Austria	ktoe	19	20	
Belgium	ktoe	1.9	1.9	
Bulgaria	ktoe	33	33	
Cyprus	ktoe	0	0	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	6	5	
Estonia	ktoe	0	0	
Finland	ktoe	0	0	
France	ktoe	88	90	
Germany	ktoe	25	25	
Greece	ktoe	16	16	
Hungary	ktoe	96	99	
Ireland	ktoe	n.a.	n.a.	
Italy	ktoe	213	139	
Latvia	ktoe	0	0	
Lithuania	ktoe	3	2	
Luxembourg	ktoe	0	0	
Malta	ktoe	0	0	
Netherlands	ktoe	3	8	
Poland	ktoe	14.3	13.4	
Portugal	ktoe	10	10	
Romania	ktoe	25.485	24.351	
Slovakia	ktoe	9	8	
Slovenia	ktoe	6	26	
Spain	ktoe	4	4	
Sweden	ktoe	n.a.	n.a.	
United Kingdom	ktoe	0.8	0.8	
All 27 Member States	ktoe	573.485	525.451	

Table 288: PR Table 1c: Geothermal heat (ktoe)

Table 289: PR Table 1c: Solar thermal heat (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	123	164	
Belgium	ktoe	11.1	12	
Bulgaria	ktoe	0	10	
Cyprus	ktoe	58.2	61.07	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	14	15	
Estonia	ktoe	0	0	
Finland	ktoe	0	0	
France	ktoe	78	89	
Germany	ktoe	407	447	
Greece	ktoe	182	183	
Hungary	ktoe	5	5	
Ireland	ktoe	4.4	5.5	
Italy	ktoe	85	134	
Latvia	ktoe	0	0	
Lithuania	ktoe	0	0	
Luxembourg	ktoe	0.7	0.9	
Malta	ktoe	2.3	2.47	
Netherlands	ktoe	22	24	
Poland	ktoe	2	2.4	
Portugal	ktoe	35	48	
Romania	ktoe	0	0	
Slovakia	ktoe	0	0	
Slovenia	ktoe	4	5	
Spain	ktoe	156	183	
Sweden	ktoe	10	10	
United Kingdom	ktoe	70	87	
All 27 Member States	ktoe	1269.7	1488.34	

	Unit	2009	2010	Comment
Austria	ktoe	3421	3767	
Belgium	ktoe	814.4	957.5	
Bulgaria	ktoe	746	899	
Cyprus	ktoe	18.69	19.43	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	2123	2436	
Estonia	ktoe	643	682	
Finland	ktoe	5423	6251	
France	ktoe	9722	10840	
Germany	ktoe	9392	11513	
Greece	ktoe	844	892	
Hungary	ktoe	844	951	
Ireland	ktoe	n.a.	n.a.	
Italy	ktoe	3033	4028	
Latvia	ktoe	1190	1158	
Lithuania	ktoe	873	879	
Luxembourg	ktoe	46.1	54.4	
Malta	ktoe	n.a.	n.a.	
Netherlands	ktoe	699	698	
Poland	ktoe	4164.6	4599.5	
Portugal	ktoe	2508	2609	
Romania	ktoe	3763.637	3951.021	
Slovakia	ktoe	0	0	2 (p.158)
Slovenia	ktoe	547	603	
Spain	ktoe	3782	4054	
Sweden	ktoe	7780	8949	
United Kingdom	ktoe	863	967	
All 27 Member States	ktoe	63240.427	71757.851	

Table 290: PR Table 1c: Biomass heat (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	3388	3734	
Belgium	ktoe	755.1	890.4	
Bulgaria	ktoe	742	883	
Cyprus	ktoe	17.73	17.04	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	2075	2387	
Estonia	ktoe	643	680	
Finland	ktoe	5387	6203	
France	ktoe	9604	10711	
Germany	ktoe	8158	9537	
Greece	ktoe	843	890	
Hungary	ktoe	836	942	
Ireland	ktoe	178	193	
Italy	ktoe	2763	3721	
Latvia	ktoe	1186	1153	
Lithuania	ktoe	870	874	
Luxembourg	ktoe	39.9	47.9	
Malta	ktoe	0.5	0.33	
Netherlands	ktoe	565	569	
Poland	ktoe	4121.6	4554.2	
Portugal	ktoe	1658	1699	
Romania	ktoe	3762.996	3950.162	
Slovakia	ktoe	511	533	
Slovenia	ktoe	512	552	
Spain	ktoe	3750	4015	
Sweden	ktoe	7557	8713	
United Kingdom	ktoe	n.a.	n.a.	
All 27 Member States	ktoe	59923.826	67449.032	

Table 291: PR Table 1c: Solid biomass heat (ktoe)

Table 292: PR Table 1c: Biogas heat (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	27	28	
Belgium	ktoe	23.5	26.2	
Bulgaria	ktoe	0	3	
Cyprus	ktoe	0.96	2.39	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	48	49	
Estonia	ktoe	0	2	
Finland	ktoe	20	8	
France	ktoe	118	129	
Germany	ktoe	863	1293	
Greece	ktoe	1.3	2	
Hungary	ktoe	8	9	
Ireland	ktoe	7	7.6	
Italy	ktoe	19	26	
Latvia	ktoe	3	4	
Lithuania	ktoe	3	5	
Luxembourg	ktoe	6.2	6.5	
Malta	ktoe	0	0.15	
Netherlands	ktoe	103	116	
Poland	ktoe	42.9	45.3	
Portugal	ktoe	25	32	
Romania	ktoe	0.641	0.859	
Slovakia	ktoe	10	7	
Slovenia	ktoe	4	5	
Spain	ktoe	32	39	
Sweden	ktoe	82	83	
United Kingdom	ktoe	n.a.	n.a.	
All 27 Member States	ktoe	1447.501	1928.999	

Table 293: PR Table 1c: Bioliquids heat (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	6	4	
Belgium	ktoe	36.4	41.6	
Bulgaria	ktoe	4	13	
Cyprus	ktoe	0	0	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	0	0	
Estonia	ktoe	0	0	
Finland	ktoe	25	40	
France	ktoe	0	0	
Germany	ktoe	371	683	
Greece	ktoe	0	0	
Hungary	ktoe	0	0	
Ireland	ktoe	n.a.	n.a.	
Italy	ktoe	250	281	
Latvia	ktoe	0	0	
Lithuania	ktoe	0	0	
Luxembourg	ktoe	0	0	
Malta	ktoe	0.1	0.08	
Netherlands	ktoe	31	14	
Poland	ktoe	0.1	0	
Portugal	ktoe	825	878	
Romania	ktoe	0	0	
Slovakia	ktoe	0	0	
Slovenia	ktoe	30	46	
Spain	ktoe	0	0	
Sweden	ktoe	142	153	
United Kingdom	ktoe	n.a.	n.a.	
All 27 Member States	ktoe	1720.6	2153.68	

	ktoe	6	4	0
Austria	ktoe	115	119	
Belgium	ktoe	11.4	13.4	
Bulgaria	ktoe	0	0	
Cyprus	ktoe	0.35	0.75	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	153	170	
Estonia	ktoe	29	37	2 (p.58)
Finland	ktoe	200	229	
France	ktoe	750	1008	
Germany	ktoe	399	456	
Greece	ktoe	56	69	
Hungary	ktoe	n.a.	n.a.	6 (p.88)
Ireland	ktoe	22	23	
Italy	ktoe	1170	1195	
Latvia	ktoe	n.a.	n.a.	
Lithuania	ktoe	0	0	
Luxembourg	ktoe	0.8	1	
Malta	ktoe	n.a.	n.a.	
Netherlands	ktoe	81	97	
Poland	ktoe	18.1	21.2	
Portugal	ktoe	n.a.	n.a.	
Romania	ktoe	0	0	
Slovakia	ktoe	0	0	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	15	17	
Sweden	ktoe	793	793	15 (p.176)
United Kingdom	ktoe	29	61	
All 27 Member States	ktoe	3842.65	4310.35	

Table 294: PR Table 1c: Renewable energy from heat pumps (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	n.a.	n.a.	
Belgium	ktoe	0	26.1	
Bulgaria	ktoe	0	0	
Cyprus	ktoe	n.a.	n.a.	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	n.a.	n.a.	
Estonia	ktoe	0	0	
Finland	ktoe	n.a.	n.a.	
France	ktoe	639	875	
Germany	ktoe	133	163	
Greece	ktoe	51	63	
Hungary	ktoe	n.a.	n.a.	
Ireland	ktoe	n.a.	n.a.	
Italy	ktoe	1136	1158	
Latvia	ktoe	n.a.	n.a.	
Lithuania	ktoe	0	0	
Luxembourg	ktoe	n.a.	n.a.	
Malta	ktoe	n.a.	n.a.	
Netherlands	ktoe	38	46	
Poland	ktoe	0.3	0.8	
Portugal	ktoe	n.a.	n.a.	
Romania	ktoe	n.a.	n.a.	
Slovakia	ktoe	0	0	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	5	5	
Sweden	ktoe	n.a.	n.a.	
United Kingdom	ktoe	n.a.	n.a.	
All 27 Member States	ktoe	2002.3	2336.9	

Table 295: PR Table 1c: Aerothermal heat pumps (ktoe)

Table 296: PR Table 1c: Geothermal heat pumps (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	n.a.	n.a.	
Belgium	ktoe	11.4	29	
Bulgaria	ktoe	0	0	
Cyprus	ktoe	n.a.	n.a.	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	n.a.	n.a.	
Estonia	ktoe	0	0	
Finland	ktoe	n.a.	n.a.	
France	ktoe	376	462	
Germany	ktoe	214	237	
Greece	ktoe	5	6	
Hungary	ktoe	n.a.	n.a.	
Ireland	ktoe	22	23	
Italy	ktoe	31	33	
Latvia	ktoe	n.a.	n.a.	
Lithuania	ktoe	0	0	
Luxembourg	ktoe	n.a.	n.a.	
Malta	ktoe	n.a.	n.a.	
Netherlands	ktoe	43	51	
Poland	ktoe	12.6	13.4	
Portugal	ktoe	n.a.	n.a.	
Romania	ktoe	n.a.	n.a.	
Slovakia	ktoe	0	0	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	10	12	
Sweden	ktoe	n.a.	n.a.	
United Kingdom	ktoe	n.a.	n.a.	
All 27 Member States	ktoe	725	866.4	

Table 297: PR Table 1c: Hydrothermal heat pumps (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	n.a.	n.a.	
Belgium	ktoe	0	5.2	
Bulgaria	ktoe	0	0	
Cyprus	ktoe	n.a.	n.a.	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	n.a.	n.a.	
Estonia	ktoe	0	0	
Finland	ktoe	n.a.	n.a.	
France	ktoe	0	0	
Germany	ktoe	52	56	
Greece	ktoe	n.a.	n.a.	
Hungary	ktoe	n.a.	n.a.	
Ireland	ktoe	n.a.	n.a.	
Italy	ktoe	3	4	
Latvia	ktoe	n.a.	n.a.	
Lithuania	ktoe	0	0	
Luxembourg	ktoe	n.a.	n.a.	
Malta	ktoe	n.a.	n.a.	
Netherlands	ktoe	n.a.	n.a.	
Poland	ktoe	5.2	7	
Portugal	ktoe	n.a.	n.a.	
Romania	ktoe	n.a.	n.a.	
Slovakia	ktoe	0	0	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	0	0	
Sweden	ktoe	n.a.	n.a.	
United Kingdom	ktoe	n.a.	n.a.	
All 27 Member States	ktoe	60.2	72.2	

	Unit	2009	2010	Comment
Austria	ktoe	3678	4070	
Belgium	ktoe	838.8	984.8	
Bulgaria	ktoe	779	942	
Cyprus	ktoe	77.24	81.25	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	2296	2626	
Estonia	ktoe	643	682	
Finland	ktoe	5623	6480	
France	ktoe	10903	12356	
Germany	ktoe	10222	12441	
Greece	ktoe	1098	1160	
Hungary	ktoe	945	1055	
Ireland	ktoe	212	229	
Italy	ktoe	4500	5497	
Latvia	ktoe	1190	1158	
Lithuania	ktoe	876	881	
Luxembourg	ktoe	47.6	56.3	
Malta	ktoe	2.91	3.04	
Netherlands	ktoe	806	827	
Poland	ktoe	4199	4636.5	
Portugal	ktoe	2553	2667	
Romania	ktoe	3789.122	3975.372	4 (p.152)
Slovakia	ktoe	530	548	
Slovenia	ktoe	557	643	
Spain	ktoe	3957	4258	
Sweden	ktoe	8583	9752	
United Kingdom	ktoe	962	1115	
All 27 Member States	ktoe	69867.672	79124.262	

Table 298: PR Table 1c: Total heat (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	614	727	
Belgium	ktoe	18.3	19.8	
Bulgaria	ktoe	1	2	
Cyprus	ktoe	0	0	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	967	1217	
Estonia	ktoe	127	142	
Finland	ktoe	3574	4348	
France	ktoe	356	n.a.	
Germany	ktoe	n.a.	n.a.	
Greece	ktoe	0	0	
Hungary	ktoe	58	66	
Ireland	ktoe	n.a.	n.a.	
Italy	ktoe	137	144	
Latvia	ktoe	96	103	
Lithuania	ktoe	n.a.	n.a.	3 (p.114)
Luxembourg	ktoe	0.9	0.9	
Malta	ktoe	0	0	
Netherlands	ktoe	160	170	
Poland	ktoe	0	0	
Portugal	ktoe	1206	764	
Romania	ktoe	28.929	44.577	
Slovakia	ktoe	68	103	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	0	3	
Sweden	ktoe	2567	3261	
United Kingdom	ktoe	n.a.	n.a.	
All 27 Member States	ktoe	9979.129	11115.277	

Table 299: PR Table 1c: Total district heating (heat) (ktoe)

Table 300: PR Table 1c: Total biomass in households (heat) (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	1504	1681	
Belgium	ktoe	220.4	248.9	
Bulgaria	ktoe	672	710	
Cyprus	ktoe	7.19	4.81	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	1625	1867	
Estonia	ktoe	411	423	
Finland	ktoe	1288	1434	
France	ktoe	6650	7581	
Germany	ktoe	5332	6251	
Greece	ktoe	554	597	
Hungary	ktoe	581	658	
Ireland	ktoe	28	32	
Italy	ktoe	2003	3164	
Latvia	ktoe	805	735	
Lithuania	ktoe	n.a.	n.a.	4 (p.114)
Luxembourg	ktoe	15.1	18.9	
Malta	ktoe	n.a.	n.a.	
Netherlands	ktoe	292	295	
Poland	ktoe	2488.2	2692.9	
Portugal	ktoe	1161	706	
Romania	ktoe	3394.425	3526.063	
Slovakia	ktoe	39	43	
Slovenia	ktoe	432	461	
Spain	ktoe	0	2055	
Sweden	ktoe	1046	1046	
United Kingdom	ktoe	322	335	
All 27 Member States	ktoe	30870.315	36565.573	

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Table 1d: Actual RES-T contributions

	Unit	2009	2010	Comment
Austria	ktoe	63	68	
Belgium	ktoe	30.8	38.2	
Bulgaria	ktoe	0	0	
Cyprus	ktoe	0	0	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	0	0	
Estonia	ktoe	0	0	3 (p.58)
Finland	ktoe	75.3	71.5	
France	ktoe	406	394	5 (p.70)
Germany	ktoe	574	749	
Greece	ktoe	0	0	
Hungary	ktoe	46	57	
Ireland	ktoe	23	30	
Italy	ktoe	117	155	
Latvia	ktoe	3	8	
Lithuania	ktoe	14	10	
Luxembourg	ktoe	1	1	
Malta	ktoe	0	0	
Netherlands	ktoe	138	134	
Poland	ktoe	195	189	
Portugal	ktoe	0	0	
Romania	ktoe	82.61	110.9	
Slovakia	ktoe	14.5	15.1	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	151	231	
Sweden	ktoe	198	203	
United Kingdom	ktoe	163	321	6 (p.186)
All 27 Member States	ktoe	2295.21	2785.7	

Table 301: PR Table 1d: Bioethanol / bio-ETBE (ktoe)

Table 302: PR Table 1d: Bioethanol / bio-ETBE Article 21.2 (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	n.a.	n.a.	
Belgium	ktoe	0	0	
Bulgaria	ktoe	0	0	
Cyprus	ktoe	0	0	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	0	0	
Estonia	ktoe	0	0	
Finland	ktoe	n.a.	n.a.	
France	ktoe	0	0	
Germany	ktoe	0	0	
Greece	ktoe	0	0	
Hungary	ktoe	0	0	
Ireland	ktoe	23	30	
Italy	ktoe	0	0	
Latvia	ktoe	0	0	
Lithuania	ktoe	0	0	
Luxembourg	ktoe	0	0	
Malta	ktoe	0	0	
Netherlands	ktoe	0	4	
Poland	ktoe	0	0	
Portugal	ktoe	0	0	
Romania	ktoe	0	0	5 (p.152)
Slovakia	ktoe	0	0	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	0	0	
Sweden	ktoe	1	2	16 (p.176)
United Kingdom	ktoe	0	0	7 (p.186)
All 27 Member States	ktoe	24	36	

	Unit	2009	2010	Comment
Austria	ktoe	34	39	
Belgium	ktoe	15.4	19.1	
Bulgaria	ktoe	0	0	
Cyprus	ktoe	0	0	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	0	0	
Estonia	ktoe	0	0	
Finland	ktoe	75.3	71.5	
France	ktoe	119	109	
Germany	ktoe	n.a.	n.a.	
Greece	ktoe	0	0	
Hungary	ktoe	7	44	
Ireland	ktoe	20	25	
Italy	ktoe	0	0	
Latvia	ktoe	0	0	
Lithuania	ktoe	2	2	
Luxembourg	ktoe	1	1	
Malta	ktoe	0	0	
Netherlands	ktoe	n.a.	n.a.	
Poland	ktoe	103	84	
Portugal	ktoe	0	0	
Romania	ktoe	73.58	57.6	
Slovakia	ktoe	0	0	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	0	25	
Sweden	ktoe	138.6	152.25	17 (p.177)
United Kingdom	ktoe	124	248	
All 27 Member States	ktoe	712.88	877.45	

Table 303: PR Table 1d: Bioethanol / bio-ETBE imported (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	355	374	
Belgium	ktoe	195.5	304.6	
Bulgaria	ktoe	4	11	
Cyprus	ktoe	14.87	14.96	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	0	0	
Estonia	ktoe	0	0	4 (p.58)
Finland	ktoe	56.2	60	
France	ktoe	2057	2086	6 (p.70)
Germany	ktoe	2157	2244	
Greece	ktoe	78	128	
Hungary	ktoe	123	119	
Ireland	ktoe	53	60	
Italy	ktoe	1063	1311	
Latvia	ktoe	2	19	
Lithuania	ktoe	38	35	
Luxembourg	ktoe	41	41	
Malta	ktoe	0.657	0.546	
Netherlands	ktoe	235	95	
Poland	ktoe	468	698	6 (p.138)
Portugal	ktoe	226	326	
Romania	ktoe	148.6	142.43	
Slovakia	ktoe	54.9	66	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	905	1183	
Sweden	ktoe	162	178	
United Kingdom	ktoe	826	827	8 (p.186)
All 27 Member States	ktoe	9263.727	10323.536	

Table 304: PR Table 1d: Biodiesel (ktoe)

Table 305: PR Table 1d: Biodiesel Article 21.2 (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	n.a.	n.a.	
Belgium	ktoe	0	0	
Bulgaria	ktoe	0	0	
Cyprus	ktoe	0.18	0.09	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	0	0	
Estonia	ktoe	0	0	
Finland	ktoe	n.a.	n.a.	
France	ktoe	0	63	
Germany	ktoe	17	0	
Greece	ktoe	5	12	
Hungary	ktoe	0	0	
Ireland	ktoe	53	60	
Italy	ktoe	38	38	
Latvia	ktoe	0	0	
Lithuania	ktoe	0	0	
Luxembourg	ktoe	0	0	
Malta	ktoe	0.657	0.546	
Netherlands	ktoe	77	82	
Poland	ktoe	0	0	
Portugal	ktoe	1.3	0.3	
Romania	ktoe	0	0	6 (p.152)
Slovakia	ktoe	0	0	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	0	5	
Sweden	ktoe	0	4	18 (p.177)
United Kingdom	ktoe	0	0	9 (p.186)
All 27 Member States	ktoe	192.137	264.936	

Table 306: PR Table 1d: Biodiesel imported (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	278	322	
Belgium	ktoe	183.3	292.4	
Bulgaria	ktoe	0	0	
Cyprus	ktoe	8.75	10.22	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	0	0	
Estonia	ktoe	0	0	
Finland	ktoe	1.7	3.7	
France	ktoe	294	254	
Germany	ktoe	n.a.	n.a.	
Greece	ktoe	7	15	
Hungary	ktoe	21	21	
Ireland	ktoe	29	10	
Italy	ktoe	415	713	
Latvia	ktoe	0	0	
Lithuania	ktoe	29	13	
Luxembourg	ktoe	41	41	
Malta	ktoe	0	0	
Netherlands	ktoe	n.a.	n.a.	
Poland	ktoe	139	365	
Portugal	ktoe	12.3	16.8	
Romania	ktoe	79.43	58.87	
Slovakia	ktoe	0	0	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	0	748	
Sweden	ktoe	72.9	80.1	19 (p.177)
United Kingdom	ktoe	649	689	
All 27 Member States	ktoe	2260.38	3653.09	

	ktoe	278	322	0
Austria	ktoe	0	0	
Belgium	ktoe	0	0	
Bulgaria	ktoe	0	0	
Cyprus	ktoe	0	0	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	0	0	
Estonia	ktoe	0	0	
Finland	ktoe	n.a.	n.a.	
France	ktoe	0	0	
Germany	ktoe	0	0	
Greece	ktoe	0	0	
Hungary	ktoe	0	0	
Ireland	ktoe	0	0	
Italy	ktoe	0	0	
Latvia	ktoe	0	0	
Lithuania	ktoe	0	0	
Luxembourg	ktoe	0	0	
Malta	ktoe	0	0	
Netherlands	ktoe	0	0	
Poland	ktoe	0	0	
Portugal	ktoe	0	0	
Romania	ktoe	0	0	
Slovakia	ktoe	0	0	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	0	0	
Sweden	ktoe	0	0	
United Kingdom	ktoe	0	0	
All 27 Member States	ktoe	0	0	

Table 307: PR Table 1d: Hydrogen from renewables (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	193	194	
Belgium	ktoe	1.9	2.4	
Bulgaria	ktoe	3	3	
Cyprus	ktoe	0	0	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	9.8	10.8	
Estonia	ktoe	0.91	0.76	
Finland	ktoe	n.a.	n.a.	
France	ktoe	157	155	
Germany	ktoe	143	162	
Greece	ktoe	3	3	
Hungary	ktoe	16	15	
Ireland	ktoe	0.57	0.57	
Italy	ktoe	170	184	
Latvia	ktoe	4	4	3 (p.108)
Lithuania	ktoe	1	1	
Luxembourg	ktoe	2	2	
Malta	ktoe	0	0	
Netherlands	ktoe	23	25	
Poland	ktoe	16	19	
Portugal	ktoe	15	19	
Romania	ktoe	33.54	33.13	
Slovakia	ktoe	7.4	7.9	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	50	53	
Sweden	ktoe	110	140	
United Kingdom	ktoe	52	56	
All 27 Member States	ktoe	1012.12	1090.56	

Table 308: PR Table 1d: Renewable electricity in (road and non-road) transport (ktoe)

Table 309: PR Table 1d: Renewable electricity road transport (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	0	0	
Belgium	ktoe	0	0	
Bulgaria	ktoe	0	0	
Cyprus	ktoe	0	0	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	0	0	
Estonia	ktoe	0.33	0.31	
Finland	ktoe	n.a.	n.a.	
France	ktoe	0	0	
Germany	ktoe	0	0	
Greece	ktoe	2	2	
Hungary	ktoe	0	0	
Ireland	ktoe	n.a.	n.a.	
Italy	ktoe	0	0	
Latvia	ktoe	2	2	
Lithuania	ktoe	1	1	
Luxembourg	ktoe	0	0	
Malta	ktoe	0	0	
Netherlands	ktoe	0	0	
Poland	ktoe	0	0	
Portugal	ktoe	0	1	
Romania	ktoe	n.a.	n.a.	
Slovakia	ktoe	0	0	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	0	0	
Sweden	ktoe	0	0	20 (p.177)
United Kingdom	ktoe	0.2	0.3	
All 27 Member States	ktoe	5.53	6.61	

Table 310: PR Table 1d: Renewable electricity non-road transport (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	193	194	
Belgium	ktoe	1.9	2.4	
Bulgaria	ktoe	3	3	
Cyprus	ktoe	0	0	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	9.8	10.8	
Estonia	ktoe	0.57	0.45	
Finland	ktoe	16	17.2	
France	ktoe	157	155	
Germany	ktoe	143	162	
Greece	ktoe	1	1	
Hungary	ktoe	16	15	
Ireland	ktoe	0.57	0.57	
Italy	ktoe	170	184	
Latvia	ktoe	2	2	
Lithuania	ktoe	0	0	
Luxembourg	ktoe	2	2	
Malta	ktoe	0	0	
Netherlands	ktoe	23	25	
Poland	ktoe	16	19	
Portugal	ktoe	15	18	
Romania	ktoe	n.a.	n.a.	
Slovakia	ktoe	7.4	7.9	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	50	53	
Sweden	ktoe	110	140	
United Kingdom	ktoe	52	56	
All 27 Member States	ktoe	989.24	1068.32	

	Unit	2009	2010	Comment
Austria	ktoe	114	77	
Belgium	ktoe	0	0	
Bulgaria	ktoe	0	0	
Cyprus	ktoe	0	0	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	0	0	
Estonia	ktoe	0	0	
Finland	ktoe	n.a.	n.a.	
France	ktoe	0	0	
Germany	ktoe	90	55	1 (p.76)
Greece	ktoe	0	0	
Hungary	ktoe	0	0	
Ireland	ktoe	1	2	
Italy	ktoe	0	0	
Latvia	ktoe	0	0	
Lithuania	ktoe	0	0	
Luxembourg	ktoe	0	0	
Malta	ktoe	0	0	
Netherlands	ktoe	0	0	
Poland	ktoe	0	0	
Portugal	ktoe	4.5	3.6	
Romania	ktoe	0	0	
Slovakia	ktoe	0	0	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	0	0	
Sweden	ktoe	36	49	21 (p.177)
United Kingdom	ktoe	0	0	
All 27 Member States	ktoe	245.5	186.6	

Table 311: PR Table 1d: Other biofuels (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	n.a.	n.a.	
Belgium	ktoe	0	0	
Bulgaria	ktoe	0	0	
Cyprus	ktoe	0	0	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	0	0	
Estonia	ktoe	0	0	
Finland	ktoe	n.a.	n.a.	
France	ktoe	0	0	
Germany	ktoe	0	0	
Greece	ktoe	0	0	
Hungary	ktoe	0	0	
Ireland	ktoe	1	2	
Italy	ktoe	0	0	
Latvia	ktoe	0	0	
Lithuania	ktoe	0	0	
Luxembourg	ktoe	0	0	
Malta	ktoe	0	0	
Netherlands	ktoe	0	0	
Poland	ktoe	0	0	
Portugal	ktoe	4.5	3.6	
Romania	ktoe	0	0	
Slovakia	ktoe	0	0	
Slovenia	ktoe	n.a.	n.a.	
Spain	ktoe	0	0	
Sweden	ktoe	36	49	22 (p.177)
United Kingdom	ktoe	0	0	
All 27 Member States	ktoe	41.5	54.6	

Table 312: PR Table 1d: Other biofuels Article 21.2 (ktoe)

Table 313: PR Table 1d: Total (transport) (ktoe)

	Unit	2009	2010	Comment
Austria	ktoe	728	720	
Belgium	ktoe	228.2	345.3	
Bulgaria	ktoe	7	14	
Cyprus	ktoe	14.87	14.96	
Czech Republic	ktoe	n.a.	n.a.	
Denmark	ktoe	9.8	10.8	
Estonia	ktoe	0.91	0.76	
Finland	ktoe	150	151.1	
France	ktoe	2620	2635	
Germany	ktoe	2964	3209	
Greece	ktoe	81	131	
Hungary	ktoe	185	191	
Ireland	ktoe	78	93	
Italy	ktoe	1350	1650	
Latvia	ktoe	8	31	4 (p.108)
Lithuania	ktoe	53	46	
Luxembourg	ktoe	44	44	
Malta	ktoe	0.66	0.55	
Netherlands	ktoe	472	339	
Poland	ktoe	679	906	
Portugal	ktoe	246	349	
Romania	ktoe	264.76	286.46	7 (p.152)
Slovakia	ktoe	76.8	89	
Slovenia	ktoe	n.a.	n.a.	1 (p.164)
Spain	ktoe	1105	1466	
Sweden	ktoe	506	569	
United Kingdom	ktoe	1041	1203	
All 27 Member States	ktoe	12913	14494.93	

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