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Status Review of Renewable Support Schemes in Europe

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INFORMATION PAGE

Abstract

This document C16-SDE-56-03 forms the latest update to the regular CEER Status Review of Renewable Energy Support Schemes in Europe and builds on the previous CEER reports C10-SDE-19-04a, C12-SDE-33-03 and C14-SDE-44-03.

The purpose of CEER Status Review publications is to collect comparable data on RES support in Europe in order to provide policy-makers, regulators and industry participants with information on support schemes for electricity from renewable energy sources, by technology and type of instrument (e.g. Feed-in tariffs, Feed-in premium and Green Certificates). This includes information on the coverage and cost of the support schemes in Member States and on a weighted average basis across Europe. To collect this data, a survey was conducted among CEER members, to explore the renewable electricity support schemes currently in place across Europe. The report covers the years 2014 and 2015.

Target Audience

European Commission, energy suppliers, traders, gas/electricity customers, gas/electricity industry, consumer representative groups, network operators, Member States, academics and other interested parties.

Keywords

Electricity; prices, contracts, tariffs, affordability; renewables.

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Related Documents

CEER documents

- Position Paper on Renewable Energy self-generation, September 2016, Ref: C16-SDE-55-03

- Key support elements of RES in Europe: moving towards market integration, January 2016, Ref: C15-SDE-49-03

- Status Review of Renewables and Energy Efficiency Support Schemes in Europe 2012 and 2013, January 2015, Ref. C14-SDE-44-03

External documents

- Proposal for a Directive of the European Parliament and of the Council on the promotion of the use of energy from renewable sources (recast). European Commission, COM(2016)767 final
  http://ec.europa.eu/energy/sites/ener/files/documents/1_en_act_part1_v7_1.pdf

- Proposal for a Regulation of the European Parliament and of the Council on the internal market for electricity (recast). European Commission, COM (2016) 861 final
  http://ec.europa.eu/energy/sites/ener/files/documents/1_en_act_part1_v9.pdf

- Proposal for a Directive of the European Parliament and of the Council on common rules for the internal market in electricity (recast). European Commission, COM (2016)864 final
  http://ec.europa.eu/energy/sites/ener/files/documents/1_en_act_part1_v7_864.pdf

- A policy framework for climate and energy in the period from 2020 to 2030, European Commission, 22.01.2014, COM (2014) 15 final.
  http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014DC0015&from=EN

- Directive on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, European Parliament and the Council, 23.04.2009, 2009/28/EC.
  http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009L0028&from=en

- Guidelines on State aid for environmental protection and energy 2014-2020, European Commission (EEAG), 28.06.2014, 2014/C 200/01.
  http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XC0628%2801%29&from=EN

- Renewable energy progress report, European Commission, 15.06.2015, COM (2015) 293 final.
  http://eur-lex.europa.eu/resource.html?uri=cellar:4f8722ce-1347-11e5-8817-01aa75ed71a1.0001.02/DOC_1&format=PDF

- Best practices on Renewable Energy Self-generation, European Commission, July 2015, COM(2015) 339 final
  http://ec.europa.eu/energy/sites/ener/files/documents/1_EN_autre_document_travail_service_part1_v6.pdf

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EXECUTIVE SUMMARY

Background

Support schemes for RES are a key policy mechanism for achieving national and European renewables targets. The purpose of the CEER Status Review publications is to collect comparable data on RES support in Europe in order to provide policy-makers, regulators and industry participants with information on support schemes for electricity from renewable energy sources, by technology and type of instrument, e.g. Feed-in tariffs (FITs), Feed-in premium (FIPs) and Green Certificates (GCs). This includes information on the coverage and cost of the support schemes in Member States and on a weighted average basis across Europe.

Objectives and Contents of the Document

The purpose of CEER Status Reviews is to collect comparable data on RES support in Europe in order to provide policy-makers, regulators and industry participants with information on support schemes for RES electricity, by technology and type of instrument e.g. FITs, FIPs and GCs. This document forms the latest update to the regular CEER Status Review of Renewable Support Schemes in Europe and builds on the previous CEER reports[1] (C10-SDE-19-04a and C12-SDE-33-03).

CEER members were asked to provide details on the type of support, the amount of supported RES and the related expenditure by technology. Information and analysis provided are based on the responses received from 28 CEER member countries, which enabled analysis of data on MWh (Megawatt hour) receiving support and the expenditure to promote the schemes. Members were also asked for separate details on new installations receiving support (those installed in 2014 or 2015), although not all countries were able to provide this data.

In addition to questions about direct financial support given to RES, members countries were asked about the indirect support, such as the level of priority granted for RES-sourced electricity plants when connecting and using the grid, as well as the charges these plants face when connecting and using the grid. Further, the questionnaire explored aspects of RES market integration, self-consumption, as well as the occurrence of RES curtailment. Since most MS are still in the process of adapting their support schemes to the new rules set out by the state aid guidelines, the questionnaire also enquired about the recent and planned changes to the schemes.

The contents of the report are as follows:
Section 1: Introduction
Section 2: National RES targets and key elements of national support schemes
Section 3: Renewable electricity volumes receiving financial support
Section 4: Expenditure on RES support schemes
Section 5: Market integration of renewables
Section 6: Arrangements for grid connection and for the dispatch of RES plants
Section 7: Other forms of support for RES electricity
Section 8: Conclusions and way forward

[1] Previous reports also presented data on support schemes for energy efficiency measures. Since energy efficiency falls in the scope of responsibility of only a few National Regulatory Authorities, it has been convened to concentrate in this status review on the support for RES.

Brief summary of the conclusions

A wide range of instruments is used to promote RES, such as investment grants, FITs, FIPs and GCs. This report shows that throughout Europe, support schemes are being adapted to allow for more market integration of RES. The major changes are related to the introduction of FIP schemes, where RES producers receive a defined support in addition to their market income and the introduction of tendering procedures, as a mean to determine levels of support.

This report shows the unit support levels (direct cost per MWh of supported electricity) by the main renewable technologies in 2014 and 2015. There are wide differences across technologies and across countries. For 2015, the weighted average support ranged from a minimum of 16,20 €/MWh (in Norway) to 183,82 €/MWh (in the Czech Republic), with a weighted average across 26 countries of 110,22 €/MWh. This is largely unchanged from the weighted average cost for 2014.

The proportion of gross electricity produced receiving RES support differs widely from one country to another, ranging from 1% in Norway to 62% in Denmark, with an average across countries of 16% in 2014.

The report also brings forward that almost no changes have been made to central features such as the nature of funding (mostly non-tax levies) or aspects of connection and access to the grid (RES plants are mostly given priority in terms of network connection and dispatching).

In terms of market integration, RES plants increasingly have the same financial responsibility as conventional plants for electricity balancing, at least above a certain threshold of capacity installed. Self-consumption and curtailment measures in case of congestion in the network are becoming increasingly important in many CEER member countries.

1 Introduction

The 2030 framework for climate and energy[2] defines new policy objectives and EU- wide targets for achieving a more competitive, secure and sustainable energy system and to meet Europe's long-term objective of a low carbon economy. Along the targets for cutting greenhouse gas emissions and increasing energy savings, one aim of the new policy framework is to reach at least a 27% share of renewable energy in Europe's final energy consumption by 2030. In the context of the current policy framework, notably the implementation of the Renewable Energy Directive (RED)[3], EU Member States (MS) have already put energy and climate policies in place to reach their individual RES targets for 2020 and are now in the process of setting additional national objectives for the 2030 perspective (see Annex 3).

Support schemes for renewable energy sources (RES) are a key mechanism to help achieve national and European renewables objectives. In order to address market distortions that may result from public support granted to renewable energy sources, the European Commission has issued new Guidelines on State aid for environmental protection and energy 2014-2020[4], which define common rules for a market-based support for renewable energy. Against this background, MS are under pressure to adapt their schemes to the new guidelines, rousing a high level of interest in relation to the different implementation approaches and the overall costs for RES deployment throughout Europe.

RES policies, including support for renewables, can affect consumers in a number of ways. The costs of achieving the agreed objectives will ultimately be borne by end-users, to the extent that support is either passed on through higher electricity prices or directly added to electricity bills. It is therefore also in the interest of consumers to achieve RES deployment in the most cost-effective manner. RES charges in 2014 and 2015 composed 11% and 13% respectively of the electricity household bill.[5]

This report is considered timely given the upcoming negotiations in the European Parliament and in the Council on the European Commission's legislative proposals for a revised Renewables Energy Directive, a revised Directive on common rules for the internal market in electricity, and a revised regulation on the internal market for electricity. All relevant issues such as RES targets, the type of support and the procedures to set levels of support, access to the network, compensation levels in case of curtailments, level of balancing responsibilities, and consumer empowerment notably through self-consumption, will be in the focus of the political debate in the coming years.

This document forms the latest update to the regular CEER Status Review of Renewable Energy Support Schemes in Europe and builds on the previous CEER reports.[6] The purpose of CEER Status Reviews is to collect comparable data on RES support in Europe in order to provide policy-makers, regulators and industry participants with information on support schemes for RES electricity, by technology and type of instrument, e.g. FITs, FIPs and GCs. It includes information on the coverage and cost of support schemes in Member States and on a weighted average basis across Europe.

CEER members (national regulatory authorities for energy (NRAs)) were asked questions about national RES support schemes. Members were asked to provide a short description of their support scheme (type of support granted, type of financing scheme, level of market integration of

[2] COM/2014/015 final
[3] Directive 2009/28/EC
[4] 2014/C 200/01
[5] ACER-CEER Annual Report on the Results of Monitoring the Internal Electricity and Gas Market in 2015
[6] C10-SDE-19-04a, C12-SDE-33-03, C14-SDE-44-03, see footnote 4

RES producers and treatment of self-consumption) and about any recent or upcoming changes since the last review. Members were further asked to provide quantitative details on the amount of supported RES and the related expenditure by technology and support type. Members were also asked for separate details on new installations receiving support (those installed in either 2014 or 2015), although not all countries were able to provide this data. In addition to questions about direct financial support given to RES, members were asked about the indirect support, such as the level of priority granted for RES-sourced electricity plants when connecting and using the grid, as well as the charges these plants face when connecting and using the grid. New questions in this edition, compared to previous editions, explored the phenomenon of RES curtailment in the case of congestion in the grid.

A total of 28 European countries and members of the wider European Economic Area (EEA) responded to our questionnaire (providing complete and partial responses)**.**

2 National RES targets and key elements of national support schemes

2.1 RES targets

A European target and binding national RES targets for 2020 were central elements of the Renewable Energy Directive. As stated in the European Commission's Renewable Progress Report, the RES legislative framework turned out to be the "key driver for European-led global investments in renewable technologies and supportive renewable energy policies far beyond Europe's frontiers"[7] and the prospects for reaching the 20% target for the EU as a whole are good.[8] The legislative proposal for a recast RED sets an overall EU target of 27% of energy from renewable sources in the EU's gross final consumption of energy by 2030. This target shall collectively be achieved by all MS. Although no binding national targets have been proposed, MS shall define their respective contributions to the EU's target and notify them to the European Commission as part of their Integrated National Energy and Climate Plans.[9] By the end of 2016, it appeared that only a third of our respondents (9 out of 28) have already defined national RES targets for the period beyond 2020 and of these mostly up to 2025-2030. Only two respondents, Germany and the Netherlands, have defined long-term objectives up to 2050 (see Annex 3 for further details).

2.2 Support instruments for promoting RES deployment

For the review period 2014-2015, mainly four types of support schemes[10] were in place in Europe, namely:

- Feed-in Tariff (FIT),
- Feed-in Premium (FIP),
- Green certificates (GC), and
- Investment grants.

Table 1 provides an overview of the support schemes which are in place by CEER member country and technology. Only the instruments which were detailed by CEER members are included here. For further details regarding the respective national schemes see Annex 4 of this report.

[7] COM(2015) 293 final, p.15
[8] Ebenda, p.16
[9] COM (2016)767 final, Article 3
[10] The characteristics of the main support schemes implemented in Europe have been described in more details in CEER report C15-SDE-49-03

		RES TECHNOLOGIES							
CEER MEMBER	Support scheme	Solar-PV	Solar - CSP	Wind Offshore	Wind Onshore	Bioenergy	Hydropower	Geothermal	Other*
Austria	Feed-in-tariffs	√			√	√	√	√	
	Investment grants	√					√		
Belgium	Green Certificates	√		√	√	√	√		√
Bulgaria	Feed-in-tariffs	√							
Croatia	Feed-in-tariffs	√			√	√	√		
Cyprus	Feed-in-tariffs	√			√	√			
Czech Republic	Feed-in-tariffs	√			√	√	√		
	Feed-in-Premium	√			√	√	√		
Denmark	Feed-in-tariffs	√		√	√				
Estonia	Feed-in-tariffs	√			√	√	√		
Finland	Investment grants**	√	√	√	√	√	√	√	
	Feed-in-Premium				√	√			
France	Feed-in-tariffs	√			√	√	√		√
	Other (call for tender/ PPA)***	√			√	√			
Germany	Feed-in-tariffs	√		√	√	√	√	√	
	Feed-in-Premium	√		√	√	√	√	√	
Greece	Feed-in-tariffs	√			√	√	√		
Hungary	Feed-in-tariffs	√	√****		√	√	√	√	√
Ireland	Feed-in-tariffs				√	√	√		√
Italy	Feed-in-tariffs	√			√	√	√		
	Green Certificates	√			√	√	√	√	
	Feed-in-Premium	√			√	√	√	√	
Latvia	Feed-in-tariffs				√	√	√		
Lithuania	Feed-in-tariffs	√			√	√	√		
Luxemburg	Feed-in-tariffs	√			√	√	√		
	Investment grants	√			√	√	√		
Malta	Feed-in-tariffs	√							
	Investment grants	√							
Netherlands	Feed-in-Premium	√		√	√	√	√	√	
Norway	Green Certificates				√		√		
Poland	Green Certificates	√			√	√	√	√	√
Portugal	Feed-in-tariffs	√		√	√	√	√		√
Romania	Green Certificates	√			√	√	√		
Slovenia	Feed-in-tariffs	√			√	√	√		
Spain	Other*****	√	√		√	√	√		
Sweden	Green Certificates	√		√	√	√	√		
	Investment grants	√							
UK	Feed-in-tariffs	√			√	√	√		
	Green Certificates	√		√	√	√	√		√
	Feed-in-Premium (Contract for Difference)	√	√		√	√	√		

*e.g. ocean energy, RES CHP, waste.

**Based on case specific evaluations.

*** Calls for tender are used to determine the level of support, which is conceived as FIT up to 2016.

****FIT are set for Solar CSP though no such plants have started operation yet.

*****Investment return + operation return for existing plants, calculated in accordance to a reasonable Internal Rate of Return.

Table 1: Overview of national support scheme in place by RES technologies in 2014 and 2015

In the review period 2014-2015, FIT schemes are still the most prevalent form of RES support throughout Europe (21 out of 28 Member countries) and throughout RES technologies. Almost half of the respondents (13 out of 28) even rely exclusively on FIT schemes to support their RES deployment (Bulgaria, Croatia, Cyprus, Denmark, Estonia, France[11], Greece, Hungary, Ireland, Latvia, Lithuania, Portugal, Slovenia). Green certificates schemes are implemented in seven countries although they are being phased out in Italy, Poland and in the UK. Investment grants are used as support type in Austria (for hydropower and PV), Finland (all supported RES), Luxemburg (for all supported RES), Malta (for PV) and in Sweden (for PV).

FIP schemes are yet not commonly in place and only implemented in different forms in six CEER member countries (Czech Republic, Finland, Germany, Italy, Netherlands, and the UK). It can further be observed that in many CEER member countries, two or more support systems cohabit, often combining FIT schemes with more market oriented support elements such as investments grants (Austria, Malta), FIP (Czech Republic, Germany, Italy, UK) or green certificates (UK, Italy).

[11] For some RES technologies, RES support is determined through competitive bidding procedures. However, the support determined is in practice conceived as a FIT in the review period.

The existence of different support schemes in parallel is a common approach, notably to ensure security of investments (no retroactive changes). In such situations new support instruments are being introduced for new RES installations while the former ones remain in place for already commissioned ones. In addition, FIT schemes often remain in place for smaller installations (e.g. RES plants < 30 kW in Croatia, < 100 kW in Germany or < 500 kW in Italy) while FIP are becoming mandatory for new larger installations (see recent changes in Annex 4).

In terms of technology supported, it appears that PV, wind onshore, hydropower and bioenergy[12] are the most widely supported RES. The support of renewable energies such as wind offshore (9 out of 28), geothermal (9 out of 28) and Concentrated Solar Power[13] (4 out of 28) are less widespread.

Table 2 provides an overview of the nature of the changes made to the national support schemes since the last Status Review. Most respondents (17 out of 28) have indicated that no adaptations to their schemes had been made since 2014. However, major changes can be observed in Croatia, France[14], Greece, and Poland with the introduction of FIP schemes including additional responsibilities for RES producers to sell their electricity on a market place. Hungary has adapted the FIT scheme to integrate RES generation falling under the scheme to be integrated in the market by the TSO and is about to introduce FIP schemes.[15]

CEER Member country	No changes since last review (2014)	Changes in the financing of the RES support scheme (e.g. surcharges, taxes, etc.)	Changes in the way RES support levels are being determined (e.g. introduction of tendering procedures)	Changes related to the market integration of RES (e.g. balancing responsibilities)
Austria	X			
Belgium	X			
Bulgaria	X			
Croatia			X	X
Cyprus		X	X	
Czech republic	X			
Denmark	X			
Estonia	X			
Finland	X			
France		X	X	X
Germany			X	
Greece		X	X	X
Hungary				X
Ireland	X			
Italy	X			
Latvia	X			
Lithuania	X			
Luxembourg	X			
Malta	X			
Netherlands	X			
Norway	X			
Poland		X	X	
Portugal	X			
Romania			X	
Slovenia		X		
Spain			X	
Sweden	X			
United Kingdom	X			

Table 2: Nature of support scheme changes since last review

[12] Bioenergy is encompassing biogases and solid biomass.
[13] In Finland and in Hungary the renewable technology Concentrated Solar Power (CSP) is entitled for support although no CSP installation has been commissioned there in the review period 2014-2015.
[14] Since 2016
[15] As of January 1, 2017

New support instruments such as tendering procedures for the determination of support levels (basis for FIT and/or market premium) have been introduced in Croatia (all new plants under FIT & FIP scheme), in Germany (ground mounted PV Pilot tender in 2015, and from 2017 onwards for all PV and wind onshore installations > 750 kW, and biomass > 150 kW), in Italy (for larger RES power plants > 5 MW), in Poland (2016), Slovenia (end of 2016) and in Spain (all new plants since 2016). Hungary is also about to introduce tendering procedures in the course of 2017.

Further details on the key national support scheme elements as well as on recent and expected changes are provided in Annex 4.

3 Renewable Electricity volumes receiving financial support

3.1 Financial support by type of RES technology

Tables 3 and 4 below show the supported renewable electricity production in 2014 and 2015, respectively, by country and categorised by type of renewable technology.[16] Results are shown in MWh (Megawatt hour). In these, and subsequent tables, bioenergy is a cluster category that includes biomass, biogas and bioliquids.[17] A full set of definitions used in the survey can be found in Annex 2.

Country	Bioenergy	Geothermal energy	Hydropower	Solar	Wind energy - Onshore	Wind energy - Offshore	Others	Total [MWh]
Austria	2.504.233	384	1.767.079	37.219	3.639.875	-	-	**7.948.790**
Belgium	3.639.114	-	271.289	2.830.705	2.330.567	2.221.311	1.223	**11.294.209**
Bulgaria	-	-	-	-	-	-	-	**-**
Croatia	149.093	-	9.005	35.174	729.970	-	-	**923.242**
Cyprus	37.461	-	-	90.854	182.418	-	-	**310.733**
Czech Republic	4.150.226	-	1.042.700	2.094.953	469.699	-	-	**7.757.579**
Denmark	3.355.416	-	-	112.302	4.775.227	7.792.560	3.850.000	**19.885.505**
Estonia	600.700	-	22.400	538	489.100	-	-	**1.112.738**
Finland	6.724.407	-	-	-	757.733	-	-	**7.482.140**
France	2.978.303	-	5.427.690	5.395.154	16.255.814	-	2.421.294	**32.478.255**
Germany	39.917.871	98.132	5.158.229	32.991.921	55.279.202	1.449.429	-	**134.894.784**
Greece	207.000	-	701.000	3.829.000	3.689.000	-	-	**8.426.000**
Hungary	1.471.861	-	289.926	6.810	623.638	-	-	**2.392.236**
Ireland	263.476	-	6.649	-	3.781.095	-	-	**4.051.220**
Italy	16.767.794	1.857.028	14.863.986	21.152.455	14.636.749	-	-	**69.278.011**
Latvia	530.830	-	66.640	-	87.785	-	-	**685.255**
Lithuania	333.258	-	71.357	72.817	628.162	-	-	**1.105.594**
Luxembourg	80.049	-	2.202	93.631	71.332	-	-	**247.215**
Malta	-	-	-	57.596	-	-	-	**57.596**
Netherlands	-	-	-	-	-	-	-	**-**
Norway	-	-	1.306.203	-	217.638	-	-	**1.523.841**
Poland	5.418.203	-	2.181.136	4.515	7.640.802	-	4.462.168	**19.706.823**
Portugal	1.358.769	-	1.507.710	361.679	11.809.805	3.610	1.846.995	**16.888.567**
Romania	685.541	-	1.298.680	1.319.028	4.556.231	-	-	**7.859.481**
Slovakia	-	-	-	-	-	-	-	**-**
Slovenia	229.412	-	156.737	244.645	4.209	-	-	**635.003**
Spain	4.511.171	-	3.016.406	13.091.392	37.544.434	-	-	**58.163.403**
Sweden	4.812.324	-	1.376.114	10.771	11.023.759	-	-	**17.222.968**
United Kingdom	18.832.030	-	2.878.813	3.867.003	18.190.938	13.286.680	1.422	**57.056.886**
Total	**119.558.541**	**1.955.545**	**43.421.952**	**87.700.161**	**199.415.182**	**24.753.590**	**12.583.102**	**489.388.074**

Table 3: Total renewable electricity produced that received support in 2014, by MS and technology, in [MWh]

[16] The figures for Ireland are based on estimates (i.e. forecasts) and do not include production from AER ('Alternative Energy Requirement') schemes.
[17] The creation of the category "bioenergy" was necessary to ensure comparability across countries as the categories "biomass" and "biogas" are defined differently. Only BE, IT and UK report the use of bioenergy other than biomass or biogas, namely "bioliquids" used for power generation.

Country	Bioenergy	Geothermal energy	Hydropower	Solar	Wind energy - Onshore	Wind energy - Offshore	Others	Total [MWh]
Austria	2.620.835	61	1.582.950	470.213	4.591.775	-	-	**9.265.835**
Belgium	4.127.942	-	270.590	2.896.328	2.573.522	2.611.751	1.223	**12.481.356**
Croatia	240.291	-	10.323	53.161	782.212	-	-	**1.085.987**
Cyprus	37.211	-	-	273.145	221.398	-	-	**531.754**
Czech Republic	4.266.083	-	1.041.329	2.230.922	563.279	-	-	**8.101.613**
Denmark	3.045.650	-	-	128.053	4.911.959	9.138.155	3.084.000	**20.307.817**
Estonia	633.039	-	18.420	1.595	600.195	-	-	**1.253.249**
Finland	5.202.433	-	-	-	1.543.886	-	-	**6.746.319**
France	3.568.124	-	4.746.922	6.716.045	20.090.210	-	2.164.958	**37.286.258**
Germany	42.051.331	133.140	5.305.532	35.210.487	70.827.232	8.162.014	-	**161.689.736**
Greece	222.000	-	708.000	3.900.000	4.621.000	-	-	**9.451.000**
Hungary	1.504.555	-	223.615	10.523	663.612	-	-	**2.402.305**
Ireland	326.657	-	6.320	-	4.974.427	-	-	**5.307.404**
Italy	17.007.306	1.738.451	9.798.715	21.659.520	14.704.228	-	-	**64.908.220**
Latvia	644.586	-	63.338	-	90.193	-	-	**798.117**
Lithuania	377.205	-	69.276	73.144	725.486	-	-	**1.245.111**
Luxembourg	81.240	-	1.904	102.461	82.443	-	-	**268.048**
Malta	-	-	-	78.209	-	-	-	**78.209**
Norway	-	-	2.488.017	-	343.592	-	-	**2.831.609**
Poland	5.363.395	-	1.828.417	40.898	10.536.564	-	4.120.826	**21.890.100**
Portugal	1.482.588	-	810.948	484.491	11.331.616	4.415	1.664.904	**15.778.963**
Romania	723.712	-	853.583	1.597.068	4.944.578	-	-	**8.118.942**
Slovenia	249.212	-	119.837	266.045	5.509	-	-	**640.603**
Spain	4.539.101	-	2.234.633	13.237.706	34.702.719	-	-	**54.714.159**
Sweden	4.416.473	-	1.703.192	24.539	-	15.612.210	-	**21.756.414**
United Kingdom	23.352.028	-	3.107.637	7.181.126	22.286.773	17.388.273	96	**73.315.933**
Total	**126.082.998**	**1.871.652**	**36.993.499**	**96.635.680**	**216.718.408**	**52.916.818**	**11.036.006**	**542.255.061**

Table 4: Total renewable electricity produced that received support in 2015, by MS and technology, in [MWh]

Charts 1 and 2 (below) show the above results graphically. Due to the large range of total renewable electricity receiving support, Chart 1 shows the total energy produced from renewables receiving support for those countries where the total is above 10 TWh and Chart 2 shows those countries where the total is below said threshold. The '%' figures show the percentage change in renewables receiving support between 2014 and 2015.

The total RES-originated energy receiving support is showing important variation from one year to the other, in all directions. In France for example, the increase in total RES production between 2014 and 2015 (+15%) is mainly driven by the development of onshore wind, with over 1 GW of new installed capacity over the same period. In Germany, the increase (+20%) has been mainly driven by additional PV (+1,4 GW) and wind onshore (+3,6 GW). In Portugal (-7%), Spain (-6%) and in Italy (-6%), an opposite picture can be observed, where energy receiving support has dropped, however for different reasons. In Spain, due to a reform of the support scheme in 2014, where for existing and future plants calculations of support have been extended throughout plants' useful life. In Italy, the decrease is mainly due to the reduction of hydro production because of the depletion of primary sources, which also explains the drop of total gross RES production as well. In Portugal, the reduction of the supported RES follows the trend of the total RES production, where both hydro and wind production reduced.

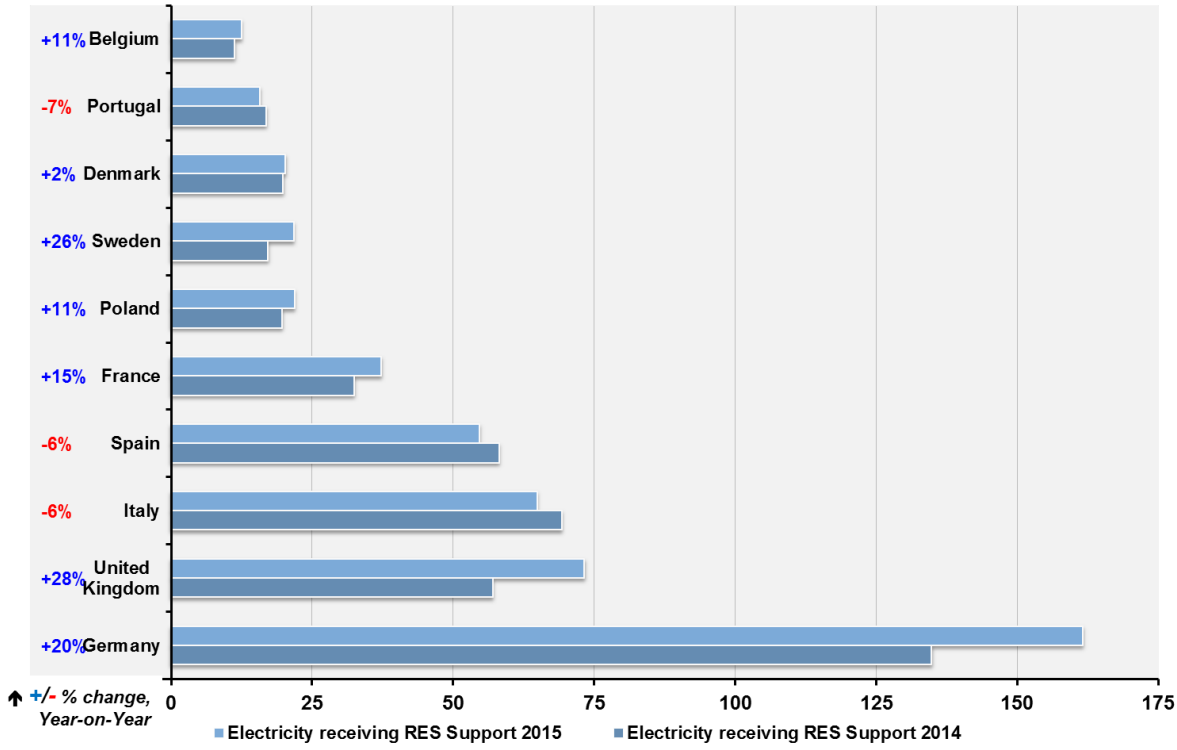

Chart 1: Total RES-originated energy receiving support by MS, 2014 & 2015 (in [TWh] and variation YoY [%], MS above 10 TWh)

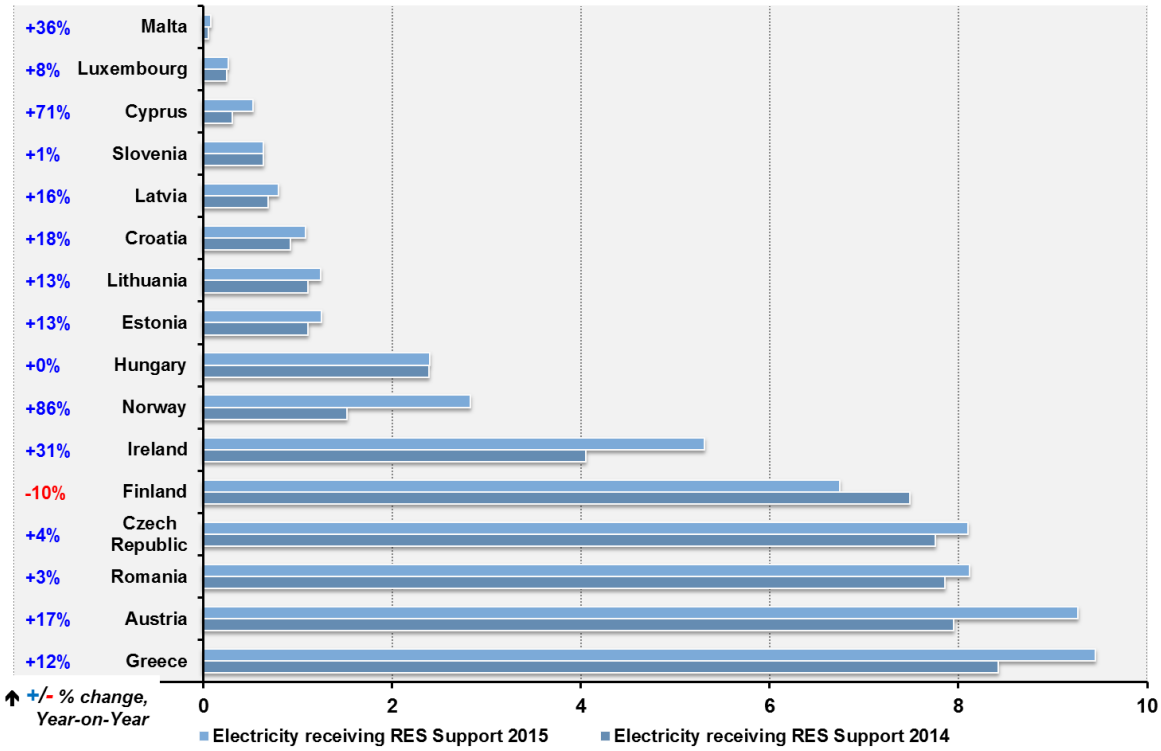

Chart 2: Total RES-originated energy receiving support by MS, 2014 & 2015 in [TWh] and variation YoY [%], MS below 10 TWh)

3.2 Share of supported renewable electricity in 2014

Table 5 shows the proportion of total gross electricity produced[18] that received renewables support in 2014. For the countries analysed, the share of RES electricity receiving support accounts for 15,5% of the total overall electricity production. Norway had the smallest proportion at approximately 1%. Slovenia and Malta also provided RES support to less than 5% of total electricity produced. Denmark had the highest share of electricity produced receiving RES support at 61,8%, followed by Portugal at 32,0%. Chart 3 shows these results graphically.

It is important to note that the share of supported RES electricity is not an indicator for the overall share of RES electricity in a country. Indeed, countries such as Austria and Norway have a large share of RES electricity coming from hydropower, which is not financially supported. There are different reasons for that, notably when support time expires (e.g. after 15-20 years) or when the RES technology is mature enough to finance itself through the market.

Country	Electricity receiving RES Support 2014	Gross elec. produced 2014	Elec. receiving support over gross 2014
Austria	7,949	65,421	+12,2%
Belgium	11,294	72,687	+15,5%
Bulgaria	-	47,485	-
Croatia	0,923	13,554	+6,8%
Cyprus	0,311	4,35	+7,1%
Czech Republic	7,758	86,024	+9,0%
Denmark	19,886	32,183	+61,8%
Estonia	1,113	12,446	+8,9%
Finland	7,482	68,093	+11,0%
France	32,478	562,776	+5,8%
Germany	134,895	627,795	+21,5%
Greece	8,426	50,474	+16,7%
Hungary	2,392	29,371	+8,1%
Ireland	4,051	26,087	+15,5%
Italy	69,278	279,827	+24,8%
Latvia	0,685	5,141	+13,3%
Lithuania	1,106	4,397	+25,1%
Luxembourg	0,247	2,967	+8,3%
Malta	0,058	2,245	+2,6%
Netherlands	-	103,418	-
Norway	1,524	142,327	+1,1%
Poland	19,707	159,059	+12,4%
Portugal	16,889	52,802	+32,0%
Romania	7,859	65,676	+12,0%
Slovakia	-	27,401	-
Slovenia	0,635	17,437	+3,6%
Spain	58,163	278,749	+20,9%
Sweden	17,223	153,662	+11,2%
United Kingdom	57,057	338,927	+16,8%
Total	**489,388**	**3.332,781**	**+15,5%**

Table 5: Share of total electricity produced receiving RES support (GWh) (2014)[19]

[18] Total gross electricity generated using figures from Eurostat:
http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=ten00087
[19].Gross energy production for Luxembourg includes Pumped Hydro Storage

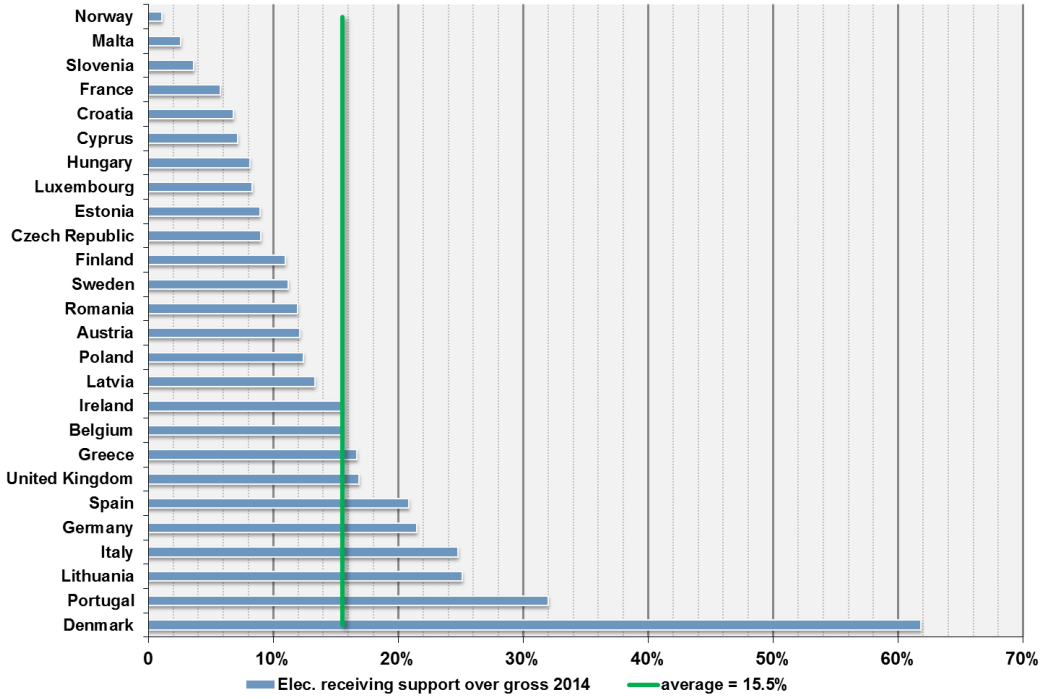

Chart 3: Share of total electricity produced receiving RES support (2014)

4 Expenditure on RES support schemes

4.1 Financing of RES support schemes 2014-2015

There are in principle two main approaches to the funding of RES support schemes, either through general taxation or through non-tax levies paid through the electricity bill by some or all electricity consumers. Most countries fund their RES support schemes through non-tax levies (20 out of 28). France is planning to stabilise the level of taxation of electricity and to additionally finance the increased cost of support by taxation of fossil fuels.

In those countries with a non-tax levy, there are a number of different mechanisms for determining the levy: in Austria, Belgium, Croatia and Spain, the government sets the non-tax levy; in the Czech Republic, Greece, Ireland, Italy and Luxemburg, it is set by the NRA; in Denmark (PSO tariff set by governmentally owned TSO), Estonia and Germany (set by the four TSOs based on studies and under the scrutiny of the NRA) it is set by the system operator. In none of the countries listed above, have changes been made to the mechanism for determining the levy (see Annex 5 for more details).

Whilst in general RES electricity support schemes are funded in the abovementioned ways, often there are exemptions (partial or full) to the financing contributions, which may increase the financial burden for non-exempted consumers. This information about the exemption has been asked for the first time in the 2014 Status Review and has been looked at again in the current 2016 Status Review. Most countries do apply one or more types of exemptions, e.g. for energy intensive industries as a means of preserving their international competitiveness (8 out of 28) or for self-generated electricity from RES or conventional power plants consumed on site (6 out of 28). In some cases where the costs for RES support are socialised through the state budget (e.g. Finland, Malta and partly Latvia), no explicit exemptions scheme for different categories of electricity consumers are in place. These exemptions are further described in Annex 6.

CEER Member	A - No changes since 2014*	B - General taxation paid by all citizens	C- Non-tax levies paid by some or all customers via electricity bill	D – Other, specify	
Austria	X		X		
Belgium	X		X		
Bulgaria	X		X		
Croatia	X		X	X	Two sources of financing: (1) Fee paid by all electricity consumers via their electricity bill and (2) electricity suppliers that are obliged to purchase electricity from producers under the FIT scheme in proportion to their market share & through a regulated price (currently around 55 EUR/MWh).
Cyprus	X		X		All electricity consumers are paying a RES fee for every kWh consumed on their electricity bill.
Czech Republic	X		X	X	Two sources of financing: (1) Fee paid by all electricity consumers via their electricity bill & (2) State budget funds for providing subsidies to cover operating support for electricity
Denmark	X		X		
Estonia	X		X		
Finland	X			X	Support is financed through the state budget.
France				X	The government has announced its intention to stabilize the level of taxation of electricity, and to finance the increase of the cost of support by the taxation of fossil fuels.
Germany	X		X		In principle, all electricity consumers are paying a RES surcharge on each kWh consumed. Some exemptions apply for energy intensive industries and self-consumption.
Greece	X		X	X	The RES cost is covered by (a) the cost of supply of RES-E from DAM imposed to suppliers, e.g. at SMP or average production cost whichever is higher fro IS and average production cost for NII, (b) the cost of imbalances imposed to suppliers, (c) special levy on lignite consumption in €/MWh (d) part of the income from Co2 permits' auctioning (e) RES levy imposed to consumers. As of August 2016 a new charge on suppliers is imposed.
Hungary	X				
Ireland	X		X		
Italy	X		X		
Latvia	X	X			
Lithuania	X		X		RES support is financed through the Public Service Obligations, paid through the electricity bills by all electricity consumers.
Luxembourg	X	X	X		The scheme is mainly funded by a levy, but the government adds a certain amount from the general budget.
Malta	X	X			RES being financed by all tax payers.
Netherlands	X		X		
Norway	X	X			
Poland			X		
Portugal	X			X	Support is funded through passing costs to end users, which are incorporated in the access tariffs according to ERSE Tariff Code.
Romania	X		X		
Slovenia			X		All final consumers of electricity & other fossil energy sources (natural gas, crude oil derivatives) pay a levy for funding the support scheme. The NRA determines the levy on the basis of the total amount money needed for the support scheme.
Spain	X		X		
Sweden	X		X		
UK			X	X	Electricity consumers pay for RES support through a surcharge imposed on their electricity bills. As part of the UK Electricity Market Reform (EMR), a Government owned counterparty – the Low Carbon Contracts Company (LCCC) was established to manage the financing of RES support for the Contract for Difference (CfD) scheme, on behalf of consumers.

*The last Status review covered all changes up to 2014. In this review participants were asked to identify any changes since then.

Table 6: Overview of ways of financing RES electricity support schemes

4.2 Costs for RES support by type of technologies

In order to try to compare the costs of RES support across countries, Table 7 and Chart 4 highlight the support for RES schemes per unit of total gross electricity produced (i.e. both conventional and renewable electricity). The overall expenditure on RES electricity support was divided by the gross electricity produced to get an estimate of RES electricity support per unit of gross electricity produced in €/MWh and therefore show the scale of renewables support compared to the overall size of the electricity market. Table 7 does *not* show support levels for renewables; these are shown in the Tables 8 and 9.

Generally, those countries with higher penetration of supported renewables (as shown in Table 5) have higher RES electricity support per unit of gross electricity produced. RES electricity support expenditure per unit of gross electricity produced ranged from 0,21 for Norway to 44,09 €/MWh for Italy, with a weighted average support of 17,13 €/MWh produced (2014).

Country	RES elec. support expenditure 2014 [M€]	Gross elec. produced 2014 [TWh]	RES support per unit of gross elec. 2014 [€/MW
Austria	477	65,421	7,29
Belgium	1.285	72,687	17,68
Bulgaria	-	47,485	-
Croatia	69	13,554	5,06
Cyprus	48	4,35	11,03
Czech Republic	1.379	86,024	16,03
Denmark	915	32,183	28,44
Estonia	18	12,446	1,44
Finland	80	68,093	1,17
France	3.495	562,776	6,21
Germany	19.747	627,795	31,45
Greece	1.162	50,474	23,02
Hungary	157	29,371	5,34
Ireland	56	26,087	2,13
Italy	12.336	279,827	44,09
Latvia	82	5,141	16,02
Lithuania	44	4,397	9,97
Luxembourg	37	2,967	12,59
Malta	4	2,245	1,91
Netherlands	-	103,418	-
Norway	30	142,327	0,21
Poland	1.413	159,059	8,88
Portugal	1.046	52,802	19,80
Romania	394	65,676	6,00
Slovakia	-	27,401	-
Slovenia	69	17,437	3,98
Spain	5.307	278,749	19,04
Sweden	370	153,662	2,41
United Kingdom	4.024	338,927	11,87
Total	**54.043**	**3.332,781**	**17,13**

Table 7: RES electricity support per unit of gross electricity produced in 2014, in [€/MWh]

Tables 8 and 9 on the following pages present overall unit support levels (cost per MWh of supported electricity) and unit support levels, received by the main technologies (Tables 8 and 9). For FITs, the level of subsidy was estimated by subtracting the average wholesale electricity price from the overall tariff and therefore is not the same as the full FIT granted to producers.

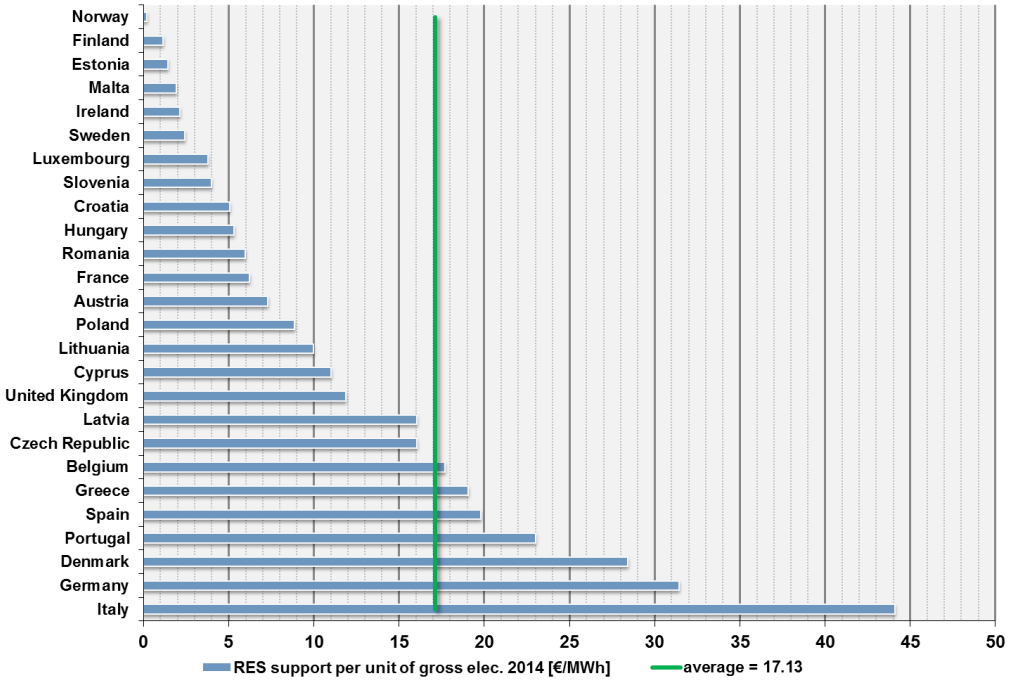

Chart 4: RES electricity support per unit of gross electricity produced in 2014, in [€/MWh]

Country	Bioenergy	Geothermal energy	Hydropower	Solar	Wind energy - Onshore	Wind energy - Offshore	Others	Total [€/MWh]
Austria	106,72	-0,59	12,68	19,67	51,33	-	-	**60,04**
Belgium	93,40	-	25,21	182,90	81,04	104,24	106,30	**113,78**
Croatia	134,93	-	83,83	267,21	52,39	-	-	**74,21**
Cyprus	125,00	-	-	141,91	166,60	-	-	**154,37**
Czech Republic	92,41	-	64,35	425,60	77,65	-	-	**177,72**
Denmark	34,36	-	-	138,65	41,57	41,39	68,37	**46,02**
Estonia	16,09	-	16,09	16,09	16,09	-	-	**16,09**
Finland	4,16	-	-	-	68,19	-	-	**10,64**
France	87,74	-	33,62	408,24	50,12	-	14,02	**107,61**
Germany	151,38	214,81	62,38	282,88	69,11	143,56	-	**146,38**
Greece	42,27	-	26,38	268,16	29,18	-	-	**137,87**
Hungary	70,21	-	30,79	64,58	70,64	-	-	**65,53**
Ireland	32,30	-	25,50	-	12,40	-	-	**13,72**
Italy	165,86	82,23	103,44	307,43	93,05	-	-	**178,07**
Latvia	129,42	-	130,03	-	57,17	-	-	**120,22**
Lithuania	41,76	-	24,67	119,21	31,00	-	-	**39,64**
Luxembourg	101,72	-	56,99	278,62	41,90	-	-	**151,06**
Malta	-	-	-	74,60	-	-	-	**74,60**
Norway	-	-	19,63	-	19,63	-	-	**19,63**
Poland	71,70	-	71,70	71,70	71,70	-	71,70	**71,70**
Portugal	68,92	-	56,91	270,57	55,48	132,24	60,94	**61,91**
Romania	50,11	-	50,11	50,11	50,11	-	-	**50,11**
Slovenia	82,85	-	6,57	201,57	20,57	-	-	**109,35**
Spain	64,83	-	26,06	281,28	33,39	-	-	**91,24**
Sweden	21,49	-	21,49	21,49	21,49	-	-	**21,49**
United Kingdom	56,43	-	64,95	231,88	63,31	54,67	54,67	**70,53**
Max. support	**165,86**	**214,81**	**130,03**	**425,60**	**166,60**	**143,56**	**106,30**	**178,07**
Min. support	**4,16**	**82,23**	**6,57**	**16,09**	**12,40**	**41,39**	**14,02**	**10,64**
Weighted average across 26 Member States								**110,43**
Arithmetic average across 26 Member States								**83,98**

Table 8: Weighted average support level in 2014, by technology, in [€/MWh][20]

[20] Data from Luxembourg for solar PV (and hence, corresponding total) include expenditure from the RE levy-funded compensation fund only (i.e. exclude other sources of support).

Country	Bioenergy	Geothermal energy	Hydropower	Solar	Wind energy - Onshore	Wind energy - Offshore	Others	Total [€/MWh]
Austria	108,75	-0,96	16,86	203,91	55,82	-	-	**71,65**
Belgium	92,72	-	25,06	180,33	81,76	104,45	106,30	**111,78**
Croatia	124,17	-	81,21	239,70	61,56	-	-	**84,32**
Cyprus	125,00	-	-	178,12	166,60	-	-	**169,61**
Czech Republic	93,20	-	67,71	437,96	78,22	-	-	**183,82**
Denmark	42,75	-	-	77,57	47,60	40,12	101,06	**51,81**
Estonia	22,62	-	22,62	22,62	22,62	-	-	**22,62**
Finland	5,90	-	-	-	72,34	-	-	**21,11**
France	94,85	-	35,21	354,07	50,98	-	16,77	**105,78**
Germany	153,68	198,59	62,30	276,80	68,82	154,58	-	**140,40**
Greece	49,59	-	31,71	250,07	34,11	-	-	**123,41**
Hungary	69,87	-	29,58	63,77	71,06	-	-	**66,42**
Ireland	45,10	-	36,20	-	23,40	-	-	**24,75**
Italy	166,84	76,10	107,73	287,83	95,41	-	-	**179,68**
Latvia	122,61	-	138,42	-	67,28	-	-	**117,61**
Lithuania	24,58	-	21,10	116,68	22,60	-	-	**28,64**
Luxembourg	100,23	-	54,72	269,39	42,94	-	-	**146,95**
Malta	-	-	-	82,09	-	-	-	**82,09**
Norway	-	-	16,20	-	16,20	-	-	**16,20**
Poland	71,71	-	71,71	71,71	71,71	-	71,71	**71,71**
Portugal	58,32	-	45,78	249,35	45,86	122,91	51,03	**53,84**
Romania	47,95	-	47,95	47,95	47,95	-	-	**47,95**
Slovenia	82,74	-	5,59	200,59	19,59	-	-	**116,71**
Spain	65,24	-	32,94	280,21	36,12	-	-	**97,46**
Sweden	18,52	-	18,52	18,52	-	18,52	-	**18,52**
United Kingdom	63,13	-	73,27	155,19	72,26	61,53	61,53	**74,97**
Max. support	**166,84**	**198,59**	**138,42**	**437,96**	**166,60**	**154,58**	**106,30**	**183,82**
Min. support	**5,90**	**76,10**	**5,59**	**18,52**	**16,20**	**18,52**	**16,77**	**16,20**
Weighted average across 26 Member States								**110,22**
Arithmetic average across 26 Member States								**85,76**

Table 9: Weighted average support level in 2015, by technology, in [€/MWh]

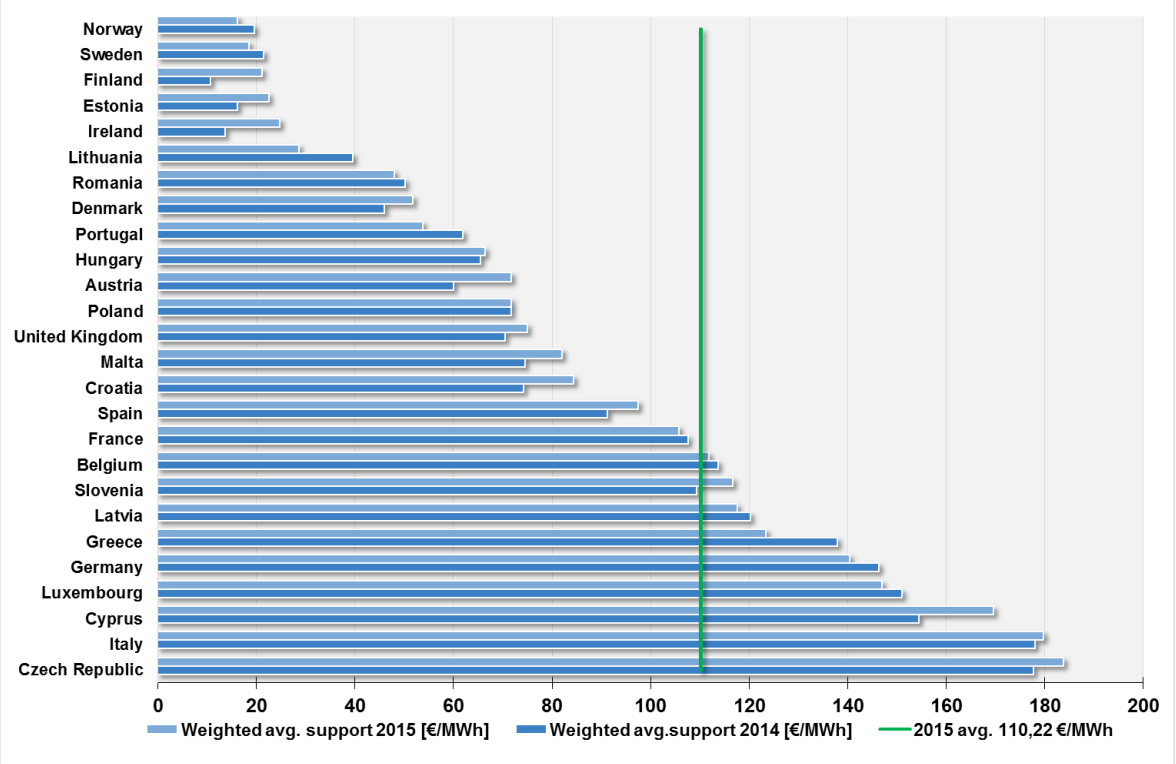

Chart 5: Weighted average support level in 2014 and 2015, by country, in [€/MWh]

In the case of investment grants for Austria, the effect of the grant was calculated over the volume of electricity that would be generated by the installation over the lifetime of the grant. For other countries that use investment grants to support renewables (e.g. Finland) it was not possible to spread the costs across the relevant MWh in this way and therefore the effect of investment grants in these countries is not shown within the following tables.

Where different support schemes are in place for the same technology in the same country and separate cost data was available, a weighted average incentive was calculated using the energy supported for each instrument as the weighting. A breakdown by both technology and scheme type can be found in Annex 17.

It should be noted that there are also administration costs associated with RES support schemes but these costs are not reflected in the data provided in this report. Therefore total expenditures for RES support schemes are in general slightly higher.

As can be seen in the below tables, support levels vary widely across countries and across different technologies, with values ranging from e.g. approximately 5 €/MWh for 'bioenergy' in Finland or on-shore wind power in Greece, to somewhere between 300 and 400 €/MWh for the strongest supported (and typically oldest) solar PV in France or the Czech Republic.

4.3 Support costs for new installations

Member countries were asked to provide data on support costs for new installations, i.e. those that had been installed in either 2014 or 2015. Only 15 countries were able to provide this data and the methodologies used by different countries varied. Support costs in €/MWh for new installations are shown in Annex 16.

5 Market integration of renewables

Major adjustments made to national RES support schemes in the last two years have been linked to enhancing the market integration of RES, in the wake of the publication of the EEAG. Numerous countries have introduced FIP and certificates schemes or are planning to do so in the near future (see Annexes 4 and 7). This evolution is not necessarily reflected in the cost data for 2014 and 2015, given the time necessary for such evolutions to come into force for running installations.

As shown in Chart 6 below, in the majority of the CEER member countries participating in the survey (14 out of 28), RES producers have no balancing responsibility. These results are in line with the still prevailing FIT schemes as the major form of RES support. In these cases, it is usually another institution who is then balancing responsible. This institution can be a network operator (e.g. in Germany, Greece, Malta), a supplier of last resort (e.g. in Portugal), a public trader (e.g. Latvia) or a specific company in charge for the operational handling of RES electricity (e.g. Austria). Among those countries, some have introduced arrangements to ensure that the third party in charge of balancing has specific incentives to perform as cost-efficient as possible (e.g. Austria, France, Germany, Ireland, Malta and Poland).

In a third of the participating CEER member countries (9 out of 28) all RES producers are balancing responsible in exactly the same manner as any other conventional plant, i.e. a full level playing is achieved for this specific aspect of market integration. This can be explained with the nature of the support scheme, i.e. where certificates schemes are in place like in Sweden, Norway, Romania and Poland, there is a level playing field between RES and conventional producers when it comes to their delivery commitments for the market.

Also, in countries with FIP schemes in place such as Finland and the Netherlands, a level playing field is given. However, in most countries with FIP schemes, a minimum threshold has been defined for falling under these support arrangements, which is at the same time the minimum threshold for bearing balancing responsibilities, e.g. in Croatia (>30 kW), Germany (> 100 kW), and in the UK (> 30 kW). Italy further differentiates between programmable and non-programmable RES, where only the first mentioned category of RES producers is balancing responsible in the same manner as conventional producers.

This development goes in line with the requirements of the EEAG, where MS are requested to introduce standard balancing responsibilities for RES installations with an installed capacity above 500 kW.[21]

The survey further shows that most MS, having introduced FIP schemes, have already introduced a lower threshold as requested by the European Commission. This is an indication that balancing responsibility is a market feature which can be borne by RES producers with installations far smaller than 500 kW.

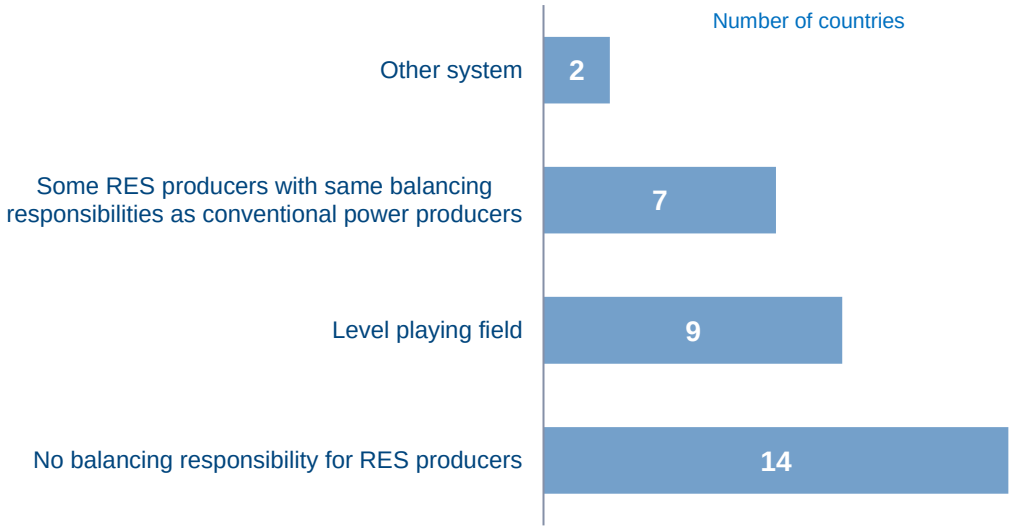

Chart 6: Level of balancing responsibilities of RES producers

6 Arrangements for grid connection and for the dispatch of RES plants

6.1 Charges for connection and usage/access to the grid for RES plants

The grid connection charges regime that applies when power plants connect to the transmission or distribution networks might differ for RES plants, i.e. they may benefit from specific connection arrangements. This is however not the case in most CEER member countries participating in this year's review. Indeed 18 out of 28 participants do apply the same connection charge regime for conventional and RES installations. In these countries deep (where the generator pays) and semi-deep (where generators and system operators share the costs) are the most common types of connection charge regimes (10 out of 18).

[21] See EEAG, recital 124, p.25.

When it comes to usage/access network charges Denmark and Portugal have a different access charge regime to RES plants; in Portugal plants connected at low voltage are exempted from access charges, while in Denmark all plants receive a grant to cover the access tariff. In comparison to the last review, no changes have been observed in the charging regimes of CEER member countries.

The answers provided by the participating countries can be consulted in more detail in Annex 8.

6.2 Priority for connection and for the dispatch of RES

In order to enhance the deployment of RES and the achievement of the 2020 target, special arrangements regarding the order of connection of RES installations and the dispatch of RES electricity have been put in place in some MS. Since the last review, no changes can be observed in this respect.

Out of 28 respondents, only 10 have concrete arrangements in place providing for priority connection for RES installations, i.e. the connection of RES installations need to be handled prior to those of conventional installations and connection in general is ensured, while 12 countries have indicated that they provide for a non-discriminatory connection, i.e. RES installations are treated the same way as any other plant and connections are realised in the order of entry of the connection requests.

In addition to the preferential treatment for RES plants in terms of grid connection, MS had the possibility to introduce a similar logic regarding the access of RES electricity to the grid, i.e. apply a priority dispatch or a priority access. In this case, network operators have to ensure that RES producers will be able to sell and transmit their electricity at all times, whenever they are producing. This ensures that a maximum amount of RES electricity is used in the system. In practical terms priority dispatch would mean, that whenever the grid operator has to decide on the order of dispatch, e.g. in case of bottlenecks, he will first dispatch RES electricity before conventional electricity. In other terms, RES electricity will be curtailed as a last option. In some member countries (e.g. in Spain), priority dispatch is understood as a market priority dispatch, i.e. when price offers between two producers are equal, the offer from the RES installations is taken first.

The issue of priority dispatch is currently discussed in the context of the RED review, with the aim of clarifying its meaning and limiting priority dispatch to a purely grid related dispatch.[22] Wherever market based support schemes such as FIP or green certificates are in place, a market priority dispatch becomes redundant as RES producers sell their electricity on the market in accordance with the same markets rules as all other market players.

However, priority dispatch in the meaning of priority access remains of relevance at the grid level, especially in case of congestions. For the reviewed period 2014-2015, the majority of member countries had grid related priority dispatch arrangements in place (19 out 28).

[22] The issue of priority dispatch is addressed in Art. 11 and 12 of European Commission's proposal for a regulation of the European Parliament and of the Council on the internal market for electricity recast.

For this Status Review, CEER member countries were asked to provide some further information about the responsibilities of grid operators in case of congestions and whether RES producers would be compensated when their installation had to be curtailed in case of a congestion in the grid. The full answers are displayed in Annexes 10 and 11. Based on the answers provided, it can be observed that some CEER member countries established specific rules defining the preference of RES in case of congestions and reimbursement of RES operators in case of curtailments. Especially MS, which have network congestion problems, do have rules in place that ensure that RES plants are curtailed subordinately to conventional plants. Most of them (10 MS) also regulate the reimbursement of RES operators in the case of curtailment. Further, the responses provided show that network congestions are not an issue for many CEER member countries (e.g. Bulgaria, Estonia, Finland, Latvia, Luxemburg, and Malta), which can explain why specific arrangements for priority dispatch or congestion management have not been established. A number of MS (Estonia, Finland, Latvia, Netherlands, Norway, Poland, and Sweden) do not discriminate (i.e. no priority) between RES and conventional power plants in case of congestions.

Among the member countries facing challenges linked to congestions, four provided data on the amount of RES electricity curtailed and the level of compensation paid to RES producers:

Country	2014		2015	
	Curtailed RES in GWh	Compensation payments in EUR	Curtailed RES in GWh	Compensation payments in EUR
Germany*	1,581	82,691,505	4,722	314,836,916
Italy**	171	2,900,000	217	5,300,000
Spain	740	807,963	135,8	697,081

Table 10: Overview of curtailed RES electricity [GWh] and compensation payments [€] in 2014 & 2015

* The actual compensation value is the compensation paid by network operators to installation operators in that very year. Actual compensation paid includes the costs from previous years since RES operators can claim a compensation within three years of the curtailment measure. Hence, the compensation values displayed in the table cannot be directly allocated to the curtailment values in the same year.

** Not all RES curtailment is being compensated: only for wind power plants if curtailments exceed 80 hours/year. The compensation payments displayed in the table are only covering 97 GWh (2014) and 128 GWh (2015) of wind curtailments.

Compensation schemes as well as the order of curtailment in case of redispatching and curtailment measures are issues explicitly addressed by the European Commission's proposal for a regulation of the internal market for electricity. It can be expected that this topic will gain in importance in the coming years and should be covered in more detail in an upcoming Status Review.

7 Other forms of RES support

7.1 Overview of other forms of RES support

In the survey, CEER members were asked about any other forms of support for RES electricity that had not been covered elsewhere in the report. This aspect is of relevance to illustrate that RES are not only supported through explicit support schemes (chapter 2), including preferential treatments in terms of grid connection and priority dispatch (chapter 6), but also indirectly, e.g. through full or partial exemptions from specific financial contributions like taxes or levies, or though dedicated financing programmes. Most participants (13 out 26) have indicated that there are no additional forms of support in place in their countries.

Where other forms of support were in place, these were mostly linked to self-consumption of RES electricity (see chapter 7.2), to preferential tax treatments or to dedicated credit lines for investments in RES installations.

France: RES installations can benefit from local, state or EU level subsidies, which are not accounted for in the cost of support.

Germany:

- Indirect support of RES installations used for self-consumption purposes: RES producers which are self-consuming all or parts of their production are exempted from network charges, electricity tax and other electricity price components such as the RES surcharge paid by consumers for the electricity delivered through the grid. Since 2014, self-consumers with new RES installations have to pay a reduced RES surcharge on their self-consumed electricity.
- For RES installations which are not supported through the RES support scheme, they are entitled to a compensation from the grid operator, an "avoided network charge", when connected to a lower grid level.
- A range of dedicated financing programmes are in place for investors in RES installations from the state owned credit bank (KfW).

Greece:

- Guarantees of origin for RES not supported through FiT/FiP.
- A net metering scheme is in place since 2015.
- For some technologies tax exemptions or grants are foreseen. Since April 2014 these are taken into account by reducing the remuneration of the FiT/FiP scheme.

Ireland: Guarantees of Origins for unsupported RES plants.

Italy: Only for PV plants, Italian Government defined a fiscal subtraction (equal to 50% of the investment costs, up to a maximum cost of € 96,000). This support is provided only if PV plants are installed on buildings during renovation works.

Latvia: Combined heat and power plants producing RES electricity with an installed capacity > 4 MW are subject to a monthly capacity payment.

Luxembourg: Investment grants from the Ministry of Environment are available to residential consumers wishing to install a PV system. Companies developing RES projects can apply for investment grants from the Ministry of Economy.

Malta: Grant schemes.

Poland: Investment grants, exemption from stamp duties, annual license fees, etc.

Portugal: Credit lines, i.e. some banks have credit lines available for micro- and mini-generation systems acquisition.

Sweden: Investment support for PV installations, tax reductions, special VAT conditions. An extra support for offshore wind is examined at the moment.

For more information see Annex 12.

7.2 Indirect support for self-consumption of RES electricity

Self-consumption is defined as the use of power generated on-site by an energy consumer in order to reduce, at least in part, the purchase of electricity from the grid. Self-consumption is highly relevant in the context of the drive towards greater consumer empowerment and engagement, and the realisation of Europe's renewable energy targets. With increasing amounts of small-scale electricity generation connected at distribution level, particularly rooftop solar and wind, self-consumption has the potential to have a significant impact on Europe's future energy system, creating an opportunity for more consumer empowerment.[23]

In the last Status Review, CEER tried to assess the magnitude of self-consumption, however a lack of data did not allow for any substantial analysis. For this edition of the Status Review MS were asked to provide more details about the way self-consumption of self-generated RES and conventional electricity is addressed at the national level (see Annexes 13 and 14). The following aspects can be derived from the answers provided:

- Self-consumption is allowed in all countries.
- In most cases, no specific schemes for self-consumption are in place, i.e. the volume of self-produced RES electricity is not being measured nor being subject to any financial contribution to the overall system costs (e.g. Austria, Bulgaria, Croatia, Estonia, Finland, Greece, Hungary, Latvia, Lithuania, Netherlands, and Poland).
- Most countries do not have figures about the share of self-consumed electricity (both RES and conventional electricity). Where available, the estimates range between less than 1% (e.g. Sweden) up to 11% (Germany). Malta indicated a share of 23% of self-consumed PV electricity (see Annex 14).[24] When specific arrangements are in place, those are in most cases taking the form of reduced contributions to the regular taxes, levies or network charges usually applied to electricity taken from the grid (e.g. Cyprus, Denmark, Germany, Hungary, Italy, Lithuania, and Spain).
- France has introduced a scheme where prosumers connected and using the grid can self-consume and inject excess self-generated electricity into the network, which they can either sell to a third party, or give away freely (which would result in less power losses for the DSO). A specific call for tender was organised during the second half of 2016, one of the goals was to promote self-consumption for RES installations by supporting both injected and self-consumed electricity. Spontaneous self-consumption remains allowed, i.e. where consumers self-consume for their own need and do not inject excess electricity.

[23]For more information, notably on the impact of SC on individuals (consumers and prosumers), society, on system operation and costs, and the market, please see CEER position paper on Renewable Energy self-generation (Ref: C16-SDE-55-03)
[24] Share expressed in total electricity generated by PV installations.

Further, in order to implement specific self-consumption schemes, it is necessary to measure the share of self-consumed electricity. In those cases, MS have indicated having two meters in place to measure the share of self-consumed electricity. Further information about key aspects of net metering approaches in CEER member countries is provided in Annex 15.[25]

The issue of consumer empowerment, notably through the right of final customers to generate, store, consume and sell self-generated electricity in all organised markets, is a central element of the recently tabled European Commission's proposal for a Directive on common rules for the internal market in electricity.[26] CEER will closely follow the developments in this area and report in more details in the next Status Review.

8 Conclusions and way forward

The aim of this report was to provide a wide range of information about RES support schemes at aggregate level for each CEER member country. One central piece of information of this status review relates to the level of expenditures dedicated to promote different renewable technologies such as on- and offshore wind, PV, biomass, biogas, geothermal, and hydropower. Information and analyses provided are based on the responses received from 28 CEER member countries who were asked a series of questions about different aspects of their national schemes.

There are a wide range of instruments used to promote RES including investment grants, feed-in tariffs, feed-in premium, and green certificates. The review shows that throughout Europe, support schemes are being adapted to allow for more market integration of RES. The major changes are related to the introduction of FIP schemes, where RES producers receive support in addition to their market income and the introduction of tendering procedures, as a mean to determine levels of support.

This report shows the unit support levels (direct cost per MWh of supported electricity) by the main renewable technologies in 2014 and 2015. There are wide differences across technologies and across countries. For 2015, the weighted average support ranged from a minimum of 16,20 €/MWh (in Norway) to 183,82 €/MWh (in the Czech Republic) with a weighted average across 26 countries of 110,22 €/MWh. The differences in unit costs can usually be explained by the type support scheme in place, the type of RES technology predominantly supported, as well as the share of "older generation" RES installations versus newer ones.

The proportion of gross electricity produced receiving RES support differs widely from one country to another ranging from 1% in Norway to 62% in Denmark, with an average across countries of 16% in 2014.

The report also brings forward that almost no changes have been made to central features such as the nature of funding (mostly non-tax levies) or aspects of connection and access to the grid (RES plants are mostly given priority in terms of network connection and dispatching).

In terms of market integration, RES plants increasingly have the same financial responsibility as conventional plants for electricity balancing, at least above a certain threshold of capacity installed. Self-consumption and curtailments measures in case of congestions in the network are becoming increasingly important in many CEER member countries.

[25]Net metering is a regulatory framework under which the excess electricity injected into the grid can be used at a later time to offset consumption during times when their onsite renewable generation is absent or not sufficient. In other words, under this scheme, consumers use the grid as a backup system for their excess power production. See Best practices on Renewable Energy Self-generation, European Commission, July 2015, COM(2015) 339 final.
[26]COM(2016)864 final, Article 15.

Finally, this Status Review is considered timely given the upcoming negotiations in the European Parliament and the Council on the European Commission's legislative proposals for a revised Renewables Energy Directive, a revised Directive on common rules for the internal market in electricity, and a revised regulation on the internal market for electricity. All relevant issues such as RES targets, the type of support and the procedures to set levels of support, access to the network, compensation levels in case of curtailments, level of balancing responsibilities, and consumer empowerment notably through self-consumption, will be in the focus of the political debate in the coming years.

Annex 1 – List of abbreviations

Term	Definition
ACER	The Agency for the Cooperation of Energy Regulators
EEAG	Guidelines on State aid for environmental protection and energy 2014-2020, European Commission
AER	Alternative Energy Requirement Scheme
CEER	Council of European Energy Regulators
CSP	Concentrated Solar Power
DNO	Distribution Network Operator
DSO	Distribution System Operator
EC	European Commission
EE	Energy efficiency
EEA	European Economic Area
EU	European Union
FIP	Feed-In-Premium
FIT	Feed-In Tariff
GGP	Guidelines of Good Practice
GCs	Green Certificates
GWh	Gigawatt hour is a unit of energy equal to 1,000 MWh or 1,000,000 kWh
kWp	Watts-peak and kilowatts-peak is a measure of the nominal power of photovoltaic device under laboratory conditions. Kilowatts-peak (kWp) is the most common unit in the domestic context.
kWh	The kilowatt is a unit of energy equal to 1,000 Watt hours or 3.6 megajoules. The kilowatt hour is the most common billing unit for energy delivered to consumers.
MS	Member State
MWh	MegaWatt hour is a unit of energy equal to 1,000 kWh or 1,000,000 Watthours
NRA	National Regulatory Authority (for energy)
PSO	Public Service Obligation
PV	Photovoltaic
REFIT	Renewable Energy Feed-In-Tariff
RES	Renewable Energy Sources (also used in this report to mean renewable generation)
RED / RES Directive	The Renewable Energy Directive (2009/28/EC)
RES-E	Electricity from Renewable Energy Sources
SDE+	The ‘SDE+’ (‘Stimuleringsregeling duurzame energieproductie’) is the Dutch support mechanism for renewable energy, introduced in 2007.
TSO	Transmission System Operator
TWh	The terawatt hour is a measure of energy large enough to express annual electricity generation for whole countries

Annex 2 – Definitions

Term	Definition
Support for RES generation	The annual cost of incentives paid to RES generation as the result of national support schemes.
Technologies	
Energy from renewable sources	Energy from renewable non-fossil sources, namely aerothermal, bioenergy (including biogas and solid biomass), geothermal, hydropower, hydrothermal, ocean, solar and wind energy
Aerothermal energy	Energy stored in the form of heat in the ambient air
Biogas	A gas composed principally of methane and carbon dioxide produced by anaerobic digestion of biomass. The total biomass figures comprise: - landfill gas, formed by the digestion of landfilled wastes - sewage sludge gas, produced from the anaerobic fermentation of sewage sludge - other biogas such as biogas produced from the anaerobic fermentation of animal slurries and of wastes in abattoirs, breweries and other agro-food industries
Bioenergy	This is a summary definition used to aggregate data for solid biomass and biogas
Geothermal energy	Energy stored in the form of heat beneath the surface of solid earth
Hydropower	Electricity generated from the potential and kinetic energy of water in hydroelectric plants
Hydrothermal energy	Energy stored in the form of heat in the surface water
Ocean energy	Forms of renewable energy derived from the sea including wave energy, tidal energy, river current, ocean current energy, salinity gradient energy and ocean thermal gradient energy. For the purposes of this survey, this excludes offshore wind
Other	As specified
Solar electricity	Solar radiation exploited for electricity production. Where possible, the following sub-categories are used: PV (photovoltaic) and CSP (concentrated solar power)
Solid biomass	The biodegradable fraction of products, waste and residues from biological origin from agriculture (including vegetal and animal substances), forestry and related industries including fisheries and aquaculture, as well as the biodegradable fraction of industrial and municipal waste. Where possible, data for solid biomass is presented using the following sub-categories: biodegradable waste and other solid biomass
Wind energy	The kinetic energy of wind converted into electricity in wind turbines. This is comprised of off-shore and on-shore wind energy
Categories of support	
Call for tenders	A type of quantity based policy instrument whereby a tender is announced by the Government for the supply of electricity from renewable energy sources, which is then supplied on a contractual basis at the price resulting from the tender. Where tenders are coupled with other forms of support e.g. feed-in-tariff, feed-in-premium or green certificates, these other forms of support will be considered the primary supporting policy
Excise tax return	A taxation policy where renewable energy generators pay lower excise tax rates than conventional energy generators.
Feed-in-premium and contracts for differences	A type of price-based policy instrument whereby eligible renewable energy generators are paid a premium price which is a payment in addition to the wholesale price. This premium can be fixed of floating; a floating premium would be calculated as the difference between an average wholesale price and a previously defined guaranteed price. In addition, under contracts for difference, if the wholesale price rises above the guaranteed price, generators are required to pay back the difference between the guaranteed price and the wholesale price.

Term	Definition
Feed-in-tariff	A type of price-based policy instrument whereby eligible renewable energy generators are paid a fixed price at a guaranteed level (irrespective of the wholesale price) for the RES electricity produced and fed into the grid.
Green certificates	A tradable commodity proving that certain electricity is generated using renewable energy sources. May have guaranteed minimum prices. The certificates can be traded separately from the energy produced
Investment grants	Public money paid to provide direct support to investment that increases the generation of renewable energy
Other	Other policy support mechanisms as specified by individual countries
Other definitions	
Accrual basis accounting	Under the accrual basis accounting, costs are recognised with respect to the period when revenues are earned in contrast to the cash basis accounting, where costs are recognised when cash is actually paid.
Auto-consumption	Consumption of self-generated electricity
Balancing responsibility	Producers of electricity are bearing the financial responsibility for imbalances between their forecasts and the actual electricity feed-in (financial settlement)
Deep connection charge regime	The generator pays for all the costs related to the required connection
Guaranteed access	There is the guarantee that all electricity sold and supported obtains access to the grid, allowing the use of a maximum amount of electricity from renewable energy sources from installations connected to the grid.
Lifetime of the grant	The expected lifetime of the capital that the investment grant has been used for. This could be estimated either by the expected lifetime over which the capital is being depreciated or the payment period for any related FIT support.
Priority access	The assurance given to connected generators of electricity from renewable energy sources that they will be able to transmit electricity in accordance with connection rules at all times, whenever the source becomes available.
Priority connection	That the physical connection (link) to the transmission and/or distribution networks of generators of electricity from renewable energy sources is considered a priority over connection to generators of electricity from other sources.
Priority dispatching	When transmission system operators give the priority to generating installations using renewable energy sources in so far as the secure operation of the national electricity system permits and based on transparent and non-discriminatory criteria. Member States shall ensure that appropriate grid and market-related operational measures are taken into account in order to minimise the curtailment of electricity produced from renewable energy sources.
Public Service Obligation	In this context, a Public Service Obligation (PSO) is a levy imposed by the Government on some or all final electricity customers to recover the additional costs associated with electricity from specified sources of generation- including sustainable, renewable and indigenous sources.
Semi-deep connection charge regime	The generators and system operators share the costs of connection
Semi-shallow connection charge regime	RES generators pay less for connection than other conventional generators
Shallow connection charge regime	The system operator pays for connection

Annex 3 – NATIONAL RENEWABLE ENERGY TARGETS BY COUNTRY

Country	RED RES target 2020 (% of GFEC*)	National RES target beyond 2020
Austria	34%	Not defined/ adopted yet
Belgium	13%	Not defined/ adopted yet
Bulgaria	16%	Not defined/ adopted yet
Croatia	-	Not defined/ adopted yet
Cyprus	13%	Not defined/ adopted yet
Czech Republic	13%	Not defined/ adopted yet
Denmark	30%	50% of all electricity and heat production from RES in 2035.
Estonia	25%	Not defined/ adopted yet
Finland	38%	According to government´s program the target is to raise the share of renewables up to 50% in the 2020s.
France	23%	32% by 2030 in final energy consumption; 40% by 2030 in electricity production Objectives detailed by RES technology in terms of installed capacity by 2018 and 2023
Germany	18%	2025: 40 - 45% (gross electricity consumed); 2035: 55 - 60%. 2050: 80%
Greece	18%	For 2020: % in GFEC, 40% in Gross Electricity Consumption (Law 3851/2010)
Hungary	13%	No national targets beyond 2020 have been defined.
Ireland	16%	No published national targets beyond 2020
Italy	17%	2030: 35-38% RES electricity (defined as gross electricity production by RES on the total gross electricity production).
Latvia	40%	2030: 50% of final energy consumption; This is an indicative and non-binding value.
Lithuania	23%	No defined targets for 2030
Luxembourg	11%	Not defined/ adopted yet
Malta	10%	Malta has commissioned a study to identify RES potential beyond the 2020 targets. Preliminary results of the study show that by 2020 Malta would be close to reaching its maximum technical potential for RES.
Netherlands	14%	2023: 16% 2050: 100%
Norway	67,5%	Not defined/ adopted yet
Poland	15%	Not defined/ adopted yet
Portugal	31%	2030: 40%
Romania	24%	Not defined/ adopted yet
Slovenia	25%	Not defined/ adopted yet
Spain	20%	Not defined/ adopted yet
Sweden	39,8%	2025: +28.4 TWh RES electricity compared to 2012
UK	15%	Not defined/ adopted yet

*Gross final Energy Consumption

Annex 4 – OVERVIEW OF KEY NATIONAL SUPPORT SCHEME ELEMENTS, THEIR RECENT AND EXPECTED CHANGES

Country	Major support scheme elements	Recent changes	EEAG related adjustments/ Expected adaptation
Austria	• **FIT and investment grants** • **Latest change July 2012**: Support system is financed through network usage charges, metering point charges, network losses charges, costs for guarantees of origins and revenue from the allocation of green electricity at the day -Ahead hourly spot market price. • In the previous system, the renewable electricity bought by OeMAG (clearing house for green electricity) at the FIT and allocated to electricity suppliers was financed by two price components; settlement prices and flat -rate metering point charges.	No changes	
Belgium	• **Green certificates and investments grants (for wind offshore)** • **Latest adaptation 2014:** Green certificates (GCs) are issued in the three Belgian regions (Flanders, Brussels, Wallonia) and for offshore wind generation. At regional level the support system of GCs is a market mechanism (with quotas and fines for suppliers) with minimum guaranteed prices for GCs. At the Federal level there are guaranteed minimum prices for GCs for offshore generation. As long as there is no market for these offshore GCs, it remains a kind of feed-in premium (FIP). For federal offshore electricity generation, there also exists financial support for the connection cost (max €25 million per wind farm).	No changes	
Bulgaria	• **FIT**: Producers of electricity from renewable sources are contractually entitled against the grid operator to the purchase and payment of electricity at a guaranteed price. The feed-in tariff may not be received on top of other incentives.		Awaiting for evaluation from Word Bank in 2017
Croatia	• FITs and FIPs • **Since 1 January 2016**: New Law on Renewable Energy Sources and High Efficient Cogeneration where feed-in tariffs as support form is no longer obtainable for all new installations > 30 kW. • **Premium scheme**, where RES producers are obliged to sell electricity on the market. RES producers are responsible for their imbalances like any other conventional power plant. • **For power plants ≤ 30 kW** of installed capacity there is still a similar system of feed-in tariffs present where our market operator purchases all of their produced electricity. Both mentioned support types are obtained through a **tendering procedure**. For more information see http://www.hrote.hr/incentive-fee	• Changes in the way RES support levels are being determined: Introduction of tendering procedures • Changes related to the market integration of RES: Introduction of FIP scheme, where RES producers are obliged to sell electricity on a market place and are a balance responsible party.	

Cyprus	**FIT**	• Changes in the financing of the RES support scheme • Changes in the way RES support levels are being determined (e.g. introduction of tendering procedures).	
Czech Republic	• FIP and FIT scheme. • As of January 1st 2014: Suspension of support of electricity produced from new photovoltaic and biogas plants. • From 2014 are not entitled to support electricity production from renewable energy sources (excluding small hydro power plants), which prior to 2014 did not receive authorisation or building permit.	No recent changes	
Denmark	• **FITs and FIPs** • Scheme financed through a PSO	No recent changes	Implementation of a cross-border PV tendering process with Germany in 2016
Estonia	• **FIPs** • New installations producing from RES receive a fix value of 53,7 €/MWh on top of the market price for electricity. • High efficient CHP-s get 32 €/MWh. • The premium is received for a maximum of 12 years.	No recent changes	• Future changes expected regarding the mechanism for cooperation not yet adopted • The envisaged support scheme will be a tender based system with a market price based capped feed-in premium.
Finland	• **FIPs, investment grants** • FIP for new wind, biogas and wood fuel power plants. FIP is paid for produced electricity as difference between target and market price. (see *https://www.energiavirasto.fi/en/web/energy-authority/feed-in-tariff*) • FIP for power plants using timber chips to produce electricity. Feed-in tariff changes according to the price of the emission allowance ant the peat tax. • **Investment grants** can be granted to investments that promote production or use of renewable energy. Granting of support is based on case-specific assessment (*http://tem.fi/en/energy-support*).	No recent changes	Planning of new support schemes is on its way but there is still work to do.
France	• **FITs and new introduction of FIPs early 2016** • Calls for tenders are more and more used for medium & large scale installations.	• Changes in the financing of the RES support scheme • Changes in the way RES support levels are being determined (e.g. introduction of tendering procedures). • Changes related to the market integration of RES	Most major legislative adaptations required by the EEAG in terms of RES support have been introduced in the French law. Therefore no further major legislative changes are expected in the near future.

Germany	• **FITs and FIPs** • FIT scheme for small installations below 100 kW. Above, mandatory FIP scheme for all new installations **(since 08/2014)**. • **Main elements of FIP scheme** RES producers sell their electricity on a market and are financially liable for any deviation from their forecasts (balancing responsibility). They earn 2 income streams: One income stream from the market and one through a market premium. The market premium is the difference between a fixed technology specific reference value and a monthly average market price. As such, the market premium is a fixed value for a month, paid out for each kWh produced and sold on the market. • Support levels are technology specific and expressed in ct/kWh, guaranteed for 20 years, covering total costs over the lifetime of the installation. • RES support scheme is financed through a RES surcharge paid in principle by all electricity consumers. • Support levels are in principal set administratively until 31/12/2016. In 2015, a pilot tendering procedure has been introduced for setting support levels for ground mounted PV installations. • Concrete quantity targets ("deployment corridors") for the annual increases in capacity have been defined for each type of RES technology: A flexible "breathing" cap will be used in future to control the actual amounts of energy generated using photovoltaics, onshore wind installations and biomass. This means that when more installations are built to generate renewable energy than are provided for by the deployment corridor, the assistance rates automatically decline for the extra installations. A fixed cap applies to the amount of offshore wind energy.	• Latest changes with revision of RES legislation in August 2014 (mandatory FIP scheme - EEG 2014) and January 2017 (tendering procedures - EEG 2017). • Pilot tendering in 2015/2016 for PV ground-mounted installations.	Additional changes with entering into force of new RES legislation as of **January 2017**: Introduction of tendering procedures for all new wind and PV installations > 750 kW and biomass installations >150 kW

Greece	**FITs for RES technologies** • Lower Fits for projects that received additional support were foreseen. • New FiT levels for existing installations were determined based on the date of commissioning. • The weighted average reductions according to the Market Operator are: 4% for wind in the Interconnected System (IS) and 6% on the Non Interconnected Islands (NII), 25% for PVs in the IS and 19% on the NII, 21% for rooftop PVs, 3% for SHPP and 5% for biomass. As a counterbalance the possibility for an extension of the duration of the PPAs by 7 years. The remuneration for this extra period is either fixed at 90€/MWh and up to a fixed annual amount differentiated by technology or based on a methodology that will be developed in the future. • New reduced FiT levels for new installations • Net-metering scheme is in place since Jan 2015.	**Latest changes introduced in April 2014**: • Retroactive changes for FITs for all RES technologies • FIT reductions for all RES for new and operating projects (~25% w.a.) • Enforced a discount from RES producers' 2013 remuneration (10-37.5%) • Set capacity caps for FIT eligible installations of PV, CSP, biomass and biogas • Removed annual inflation adjustment of FITs	• **As of August 2016** a new support scheme based on **FiP for installations larger than 500kW** (3MW for wind) is set (L.4414/2016). Level of premium to be defined through tenders. • A **pilot tender** for **PV is scheduled for December 2016.** • A temporary mechanism to improve forecasting was set in place until full balancing responsibilities will be undertaken by RES producers when the balancing market is established (2018). Implementation details are pending.
Hungary	**FITs**	**Recent changes related to the market integration of RES:** • Feed-in electricity is sold on the electricity exchange (HUPX) by the TSO since 01.04.2016. • Between 2014.01.01 and 2016.04.01 the baseload part of FIT electricity was allocated directly on traders and the non-baseload part was sold on HUPX. • Before 2014.01.01 all FIT electricity was allocated directly on traders.	• Introduction of feed-in premium and tendering in line with the EEAG. • Tendering will be introduced from 01.01.2017 but the first tenders are expected only in the second half of 2017.
Ireland	**FITs** - Renewable Energy Feed In Tariff (REFIT) support scheme • REFIT 2 scheme is intended to cover small and large-scale onshore wind, biomass landfill gas and small hydro. • REFIT 3 is a scheme to cover 310MW of certain biomass related REFIT categories as follows: - 15MW of AD sub technologies (AD CHP ≤500 kW; AD CHP >500 kW; AD (non CHP) ≤500kW; AD (non CHP) >500kW); - 170MW of Biomass CHP (non AD) sub technologies (biomass CHP ≤1500kW; Biomass CHP >1500kW); - 125MW of biomass combustion and co-firing. The REFIT is a fixed price per MWh that the RES generator receives as a top up to the market price when the market price is lower than the reference price. When the market price rises about the reference price, the generator receives the market price only. The fixed tariff is adjusted annually in line with inflation.		

Italy	• **PV power plants**: – New plants up 26 August 2012: FIP on electricity produced; – New plants from 27 August 2012 to 6 July 2013 (up to 1 MW): FIT for electricity injected in the grid and FIP for electricity consumed on-site; – New plants from 27 August 2012 to 6 July 2013 (> 1 MW): FIP for electricity injected into the grid and for electricity consumed on-site; – No more FIT and FIP incentives for new plants; • **Other RES power plants**: – New plants up to 31 December 2012 (with some exceptions defined by law, up to 30 April 2013), GCs. From 2016 GCs have been substituted by FIP on electricity produced; – New plants up to 1 MW before 29 June 2016 (500 kW from 30 June 2016): FIT on electricity injected into the grid; – New plants > 1 MW before 29 June 2016 (500 kW from 30 June 2016): FIP on electricity injected into the grid.	Decree 23 June 2016 has modified the FIT/FIP support scheme. It is very similar to the previous one: • FIT (different for each source) up to 500 kW. • FIP > 500 kW. Premium is calculated on hourly basis, as the difference between a total tariff different for each source and the hourly zonal price. • The value of feed in premium is defined through auctions in the case of largest power plants (more than 5 MW).	Guidelines on State Aid for environmental protection and energy (2014/C 200/01) have already been taken into account in the course of the enacting the law on RES. Probably new decrees will be defined in order to improve the usage of auctions.
Latvia	**FITs** • Hydropower plants with capacity < 5MW • Biogas plants • Biomass plants with capacity till 4MW • Wind plants Biomass plants with a capacity greater 4MW are entitled to capacity payments	No recent changes	The revision of RES support scheme is not planed, no allowance for new RES, only the RES producers that got support till 22.07.2016 can receive FIT. From year 2020 the government plans to introduce new support scheme for RES-E
Lithuania	FITs	No recent changes	No information available about major changes of support scheme elements in the near future.
Luxembourg	FITs, FIP (introduction in 2016) and possibility of investment grants	Changes in 2016: • Replacement of FIT through FIP for eligible generators >500 kW (>3MW or 3 generation units for wind) • Introduction of FIT for PV between 30 kW and 200kW (only applicable to cooperative undertakings composed of 7 natural persons or more)	• Introduction of FIP in 2016 in line with EEAG requirements • Cross border large scale PV tenders with Germany planned in 2017.
Malta	Level of support is determined administratively and limited to capacity under 1MWp.	No recent changes	Support to RES with capacity of 1MWp and over to be granted through a competitive bidding process as from 2017.

Netherlands	**FIPs - Stimulation of Sustainable Energy Production (SDE+):** • The primary target groups for SDE+ are companies, institutions and non-profit organisations. The project must be realised in the Netherlands. The national government is excluded from participation. Private producers (households) of renewable energy are not eligible for a SDE+ grant because the costs exceed the benefits. Other local or national incentive regulations sometimes apply. • The cost price for the production of renewable energy is set in the base sum for the technology. The yield of fossil energy is established in the correction sum. The SDE+ contribution = base correction sum. This makes the level of the SDE contribution dependant on energy-price developments. When the energy price is high, you receive less SDE+ and more from your energy consumer. When the energy price is lower, you get more SDE+ and less from the energy consumer. The correction amount is the average energy price per category during the year of production. The base energy price is the lower limit for the correction amount. The maximum grant is reached when the correction amount is equal to the base energy price. The final payments are calculated per year on the amount of energy produced and the actual energy price. There will be two periods for SDE+ subsidy applications in 2016, one being in spring and the other in autumn.	No recent changes	
Norway	**Green certificates**	No recent changes	
Poland	**Green certificates** • Auction system as the new main support system of green energy (system of certificates of origin will remain for old renewable energy sources). • Support system for each renewable energy source will be time-limited (maximum 15 years), • Amount of public aid received will be subject to regular inspections.	**Recent changes in 2016** • Changes in the financing of the RES support scheme • Changes in the way RES support levels are being determined (e.g. introduction of tendering procedures) • The introduction of auctioning procedures does not mean the immediate abandoning of the green certificate scheme. All existing RES benefiting from green certificates until the 1st July 2016 have the opportunity to stay in the previous system, or to move to the auction system. All new RES that are subject to start producing electricity after the 1st July 2016 are only allowed to take part in the auctioning support systems. In summary, there is currently no possibility of entry into the system of certificates (the circle of recipients of the green certificates is now closed), which will be gradually and slowly extinguished.	Guidelines on State Aid for environmental protection and energy (2014/C 200/01) have already been taken into account in the course of the enacting the law on RES.
Portugal	**FITs** • FITs are differentiated by technology. • In 2013 Decree Law no. 35/2013 introduced some flexibility mechanisms for the applicable remuneration regime of some wind power facilities. Also in 2013 Decree Law no. 25/2013 introduced a different remuneration regime for micro and mini-generation units under the designated general regime.	No recent changes	

Romania	**Green certificates:** • RES producers receive a number of green certificates (GC) for each MWh of produced and delivered energy. This varies between 0.5 GC/MWh and 6 GC MWh, depending on the primary source and/or by the used technology. GCs are granted for each 1 MWh produced for a period of 15 years, excepting the old hydro power plant and the plants with reused wind equipment, in these last cases the period is shorter. Hydro plants with more than 10MW nominal power do not receive GCs. • RES producers sell the GCs on the GC market, which is independent from the electrical energy market and according to the law, the price of a GC may vary between 27 EUR/GC and 55 EUR/GC. The limits are annually indexed according to the medium annual inflation index for the previous year, in the EURO zone. • Between July 1, 2013 - March 31, 2017, for plants accredited until 31.12.2013, trading temporarily postponed a number of GCs, depending on the technology, as follows: 1 GC for new hydro power plants with installed capacity of 10 MW; 1 GC for wind power; 2 GCs for solar power plants; GCs recovery will be deferred from April 1, 2017 for new hydro power plants and solar power plants, respectively as of January 1, 2018 for wind power plants, staggered at most up to December 30, 2020. • **Trading**: GCs are allowed trading between E-RES producers and operators with obligation to purchase GCs, in a transparent, non-discriminatory markets centralised and managed by the commercial operator of the electricity market; • Failure to apply for GC promotion system for photovoltaic plants located on lands that on December 31, 2013 were in agricultural use and for electricity quantities delivered by dispatchable units which are inducing imbalances in the system • E-RES supported by the promotion system, namely GCs may be sold through negotiated bilateral contracts (issued by ANRE) with suppliers to end consumers directly to an installed capacity of more than 1 MW per producer or 2 MW for producers in highly efficient cogeneration biomass; • Establishing mandatory quota of electricity annually by ANRE.	Last changes 2015	An economic operator who has installed capacity between 125 MW and 250 MW and that has not benefited from the promotion system by GCs or not issued individual decisions authorisation from the EC will be accredited by ANRE without the need to obtain individual decision authorisation from the EC. Any differences between the number of received and number of GCs and GCs due under the law shall regulate within 24 months from the date of issue of accreditation;

Slovenia	• **Feed-in tariff.** • Producers of electricity from renewable sources (qualified producers) may decide that they would like their electricity to be purchased at a fixed price.	Changes in the financing of the RES support scheme The new Slovenian Energy Act of 2014 introduced the support system for RES and high-efficiency cogeneration based on competitive procedure for entering through a public call. The changes of the support scheme required a notification to the European Commission. The Commission issued a Decision on compatibility of this scheme with the internal market in October 2016. Therefore, Slovenia started implemented the new support scheme at the end of 2016. The new entrants to the support scheme are selected on the basis of a two phase tender regime. The tender is carried out each year by the Energy Agency and is held in two rounds. In the round 1 between 70-90% of the overall available budget in any given year is allocated and is open to new installations falling into two 'pots'. Pot 1 is open to RES generators operating technologies based on the exploitation of resources which do not need to be purchased, i.e. non-fuelled technologies including solar, wind and hydropower. Pot 2 is available to technologies which are less competitive or bear higher risks during the preparation phase, i.e. fuelled or less competitive technologies including CHP, biomass, biogas and geothermal. The candidates are selected on the basis of the price offered for the production of electricity. Projects from both pots that fail to be selected in the first round are eligible to compete in the round 2. This round is open to all projects including renovated installations and depreciated wood biomass facilities that are otherwise too old to be deemed eligible under the scheme if, owing to the price of wood biomass, their production costs exceed the market price for electricity. This round is run on a technology neutral basis with the most cost effective projects of whatever technology being selected.	

Spain	• **Investment return + operation return for existing plants**, calculated in accordance to a reasonable Internal Rate of Return: 'specific remuneration' perceived by eligible plants on top of income derived from energy sales at market prices, so that —taken into account the assumed standards costs faced by a diligent entrepreneur for each 'type plant' considering technology, location, date of commissioning, etc.— they reach a so-called reasonable economic return which is linked to 10-year sovereign debt interest rate plus a 300 bpp spread (7,398% for the present 6-year regulatory period ending by Dec. 2020). Specific remuneration consists of an 'investment return' (Ri), related to *capex* and paid by installed power, plus (only for technologies where *opex* are deemed to be higher than forecasted average market price) an 'operation return' (Ro), paid by energy generated. Additionally, plants on non-mainland systems may get an extra incentive related to the extent to which they reduce present generation costs. • A minimum of operational equivalent hours are needed to qualify for support scheme; yearly total amount of support perceived is on the other hand capped at a maximum number of equivalent hours. Adjustments are foreseen to provide for deviations from forecasted market prices; thermal units (cogeneration, biomass) are subject to half-yearly updates to reflect changes in fuel costs. • **The scheme applies to existing and future plants**. Calculations are extended throughout plants' useful life; hence, plants closer to the end of their life might lose any specific remuneration altogether (hence receiving just market price) if it's deemed they have already received all due support. • **Auctions procedures since January 2016 for all new plants (no de-minimis):** Remuneration is assigned via competitive procedures (auctions): bidders offer a discount on a level of remuneration provided as reference. The only auction held so far, in Jan. 2016, for on-shore wind power and mainland biomass, resulted in a 100% discount. • Some new large scale RES plants (mostly solar PV above 150 MWp) are already getting permits with no foreseen application for support scheme. Source: Royal Decree 413/2014 and Ministerial Order IET/1045/2014	• Reform already implemented since 2014 • Changes to the way support levels are determined.	
Sweden	**Green certificates** The electricity certificate system is a market-based support system which aims to increase the production of renewable electricity in a cost effective manner. The system has existed in Sweden since 2003 and was merged between Sweden and Norway in 2012, with the common goal to increase the electricity production by 28.4 TWh from 2012 to 2020. The system works in such a way that for every MWh of renewable electricity produced the producer yields a certificate which can be sold and thus providing additional revenues for its renewable electricity production, in addition to the regular electricity sales.	No changes	

United Kingdom	**FITs, FIPs (CfD), Green certificates (Renewables Obligation scheme (RO** • **RO scheme**: Under the RO licensed UK electricity suppliers are required to source a specified proportion of the electricity they provide to customers from eligible renewable sources. The RO certificates (ROCs) are issued to generators per MWh, who then sell them to suppliers. Suppliers who do not present enough ROCs to meet their obligation must pay a penalty (buy-out price). This money is re-distributed to suppliers who presented ROCs. The RO will close to new generators on 31 March 2017. • **Smaller generation (<5MW) can receive a FIT**. This is set for 20 years and is linked to inflation. The FIT scheme is available through licensed electricity suppliers and requires some of them to make tariff payments on both generation and export of renewable and low carbon electricity. In 2012, a degression mechanism was introduced so that tariffs change over time depending on deployment levels. • **Contracts for Difference (CfD):** The Contract for Difference (CfD) renewable support scheme is one of three major policy interventions introduced under the Electricity Market Reform (EMR) under the Energy Act 2013. It places an obligation for RES generators to sell electricity and acts as a contractual agreement between the generator and a Government owned counterparty – the Low Carbon Contracts Company (LCCC). This agreement guarantees that the generator will be paid a set price, 'the strike price', for each unit of electricity produced for the duration of the agreement (15 years). RES generators bid the strike price they are willing to receive for a specified capacity (MW) in a **competitive auction**. Funding is awarded to RES generators based on these bids, with cheapest strike price bids always accepted first.	The RO has fulfilled its intended outcome of facilitating an increased share of renewable generation. Despite this significant increase in renewable capacity, it was no longer compatible with the UK Government's aim of supporting low carbon technologies in the most cost effective way, and maximising investment certainty. Against this changing social and political landscape, the UK Government concluded that a new approach to RES support was necessary. From 31st March 2017, the RO subsidy will be closed to new capacity. Until this date, the scheme will co-exist with the Contract for Difference (CfD) support schemes	

Annex 5 - INSTANCE DETERMINING THE NON-TAX LEVIES FOR FUNDING RES SUPPORT SCHEMES*

Country	No changes since 2014	Government	National Regulatory Authority (NRA)	Other
Austria	X	X		
Belgium		X		
Bulgaria	X			
Croatia	X	X		
Cyprus	X		X	
Czech Republic			X	
Denmark	X	X		
Estonia	X			TSO
Germany	X			TSO
Greece			X	
Hungary	X			
Ireland			X	
Italy	X	X	X	
Lithuania	X			
Luxembourg	X		X	
Netherlands	X	X		
Poland		X	X	
Romania			X	
Slovenia	X		X	
Spain		X		
Sweden	X			Swedish Energy Agency
UK				

*In the table only CEER member countries with a financing scheme based on non-tax levies.

Annex 6 – OVERVIEW OF EXEMPTION FROM CONTRIBUTION TO RES SUPPORT SCHEMES

Country	No changes	No exemptions	Yes, for :				Specifications
			EII	SC	Network losses	Other	
Austria	X		X			X	Vulnerable customers might be partly exempted from contributing to the RES support The support system relies on the electricity taken from the public grid.
Belgium			X	X	X		**EII**: Depending on a combination of large quantities and the industry in which the consumer operates, there are exemptions (in % of the consumption) in the quota obligation and the financing of the support system. **SC**: Auto-production sites (RES or other) pay only in function of the net offtake of energy.
Bulgaria	X						
Croatia	X				X	X	Currently, end consumers that have an obligation to procure a permit for greenhouse gas emissions pay an approximately 7 times smaller RES fee. There is a very small number of these consumers in Croatia.
Cyprus	X	X					There are no exemptions from RES financing.
Czech Republic				X		X	Two components of the price for support of electricity from promoted energy sources a. For supply and delivery points in the Czech Republic connected to the transmission system or a distribution system at the VVN and VN voltage levels, on the basis of the agreed booked input power, b. For supply and delivery points in the Czech Republic connected to the a distribution system at the NN voltage level on the basis of the rated current of the main circuit breaker upstream of the electricity meter and all distribution tariffs under a separate regulation. The maximum payment for the component of the price for support of electricity from promoted energy sources for a supply or delivery point for the billed period is determined as the product of CZK 495/MWh times the total electricity quantity taken from the transmission or distribution system at the supply or delivery point over the billed period. This total quantity shall not include the electricity quantity under a separate regulation
Denmark	X		X	X			**Energy intensive industries: When a** consumption of more **than 100 GWh/yea**r per place of consumption apply, a **reduced PSO tariff is used for the part of their consumption that exceeds 100 GWh/year per place of consumption**. The reduction corresponds to the costs relating to subsidies and balancing costs relating to renewable energy. **Self-consumption**: Reduced PSO tariff is used for the part of their consumption that they cover by their own production. The reduction corresponds to the costs relating to subsidies for renewable energy and local CHP units.
Estonia		X					
Finland	X	X					All RES subsidies are financed from the state budget, i.e. electricity consumers are not charged for financing RES support.
France			X	X			**Some industries (metallurgy, chemistry, etc.) are totally exempted of the tax**. Moreover, energy-intensive industries are subject to reduced rates of the applicable tax on electricity consumption which finances RES support. While the nominal tax rate is 22.5 €/MWh, the reduced rates range from 0.5 to 7.5 €/MWh. **Self-consumption** is exempted from the tax, under a threshold fixed at 240 TWh/year.
Germany	X		X	X	X		**Energy-intensive industries (**see §63-69 EEG 2014): Exemptions apply only to electricity-intensive companies in sectors that compete internationally. In concrete terms, the Special Equalisation Scheme works as follows: Beneficiaries pay the full EEG surcharge for the first gigawatt hour and then 15% of the EEG surcharge for every kilowatt hour of electricity they consume above and beyond this. This burden is limited to a maximum of 4% of the respective enterprise's gross value added or, in the case of enterprises with an electricity-cost intensity of 20% or more, a maximum of 0.5%. **Self-consumption (see § 61 EEG 2014)**: Self-consumption of conventional & RES energy is exempted from the RES surcharge when the installation was put into service before the new Renewable Energy Sources Act went into force on 1 August 2014.

Country	No changes	No exemptions	Yes, for :				Specifications
			EII	SC	Network losses	Other	
							• **For new conventional installations, 100% of the surcharge is imposed**. • Self-suppliers who use **new renewable energy installations** or new, highly-efficient heat-power cogeneration systems have to pay only **a reduced EEG surcharge**. In order to progressively introduce the new provisions, the reduced surcharge rate will initially be 30% through 2015 and 35% for 2016. • All renewable energy installations and highly efficient heat-power cogeneration systems that are put into service from 1.1.2017 onwards will pay a **reduced EEG surcharge of 40%**. • For self-consumed electricity generated by RES installations ≤ 10 kW and for up to 10 MwH per year, no RES surcharge is imposed.
Greece	X					X	The RES levy is attributed differently to consumer categories (HV, MV agricultural, MV consumption >13GWh, MV consumption <13GWh, LV agricultural, LV residential, LV commercial) according to specific methodology based on non-competitive electricity charges. An annual cap on the total amount of RES levy is set (991,000/year, which favours only a few energy intensive industries.
Hungary	X					X	Households and small business consumers eligible for universal supply are exempted from contributing to RES financing
Ireland	X						The RES levy is attributed differently to different customer categories; domestic, small commercial customers (maximum import capacity of less than 30kVA) and medium and large customers (maximum import capacity of equal to or greater than 30kVA).The levy is charged to all electricity customers in Ireland.
Italy			X	X			The tariff component A3 is applied to electricity consumed (not only withdrawn from the grid) by final customers except: • **Energy intensive customers** connected in Medium Voltage (MV) in relation to **monthly consumption greater than 8 GWh** and connected in High Voltage (HV) and Extra High Voltage (EHV) in relation to monthly consumption **greater than 12 GWh**; • **Self-consumption**: A tiny change for self-consumption has been introduced: in fact, from 2015 onwards, in cases of what we call Sistemi Efficienti di Utenza – SEU (which is systems with RES generation facilities or high efficiency CHP plants installed at the consumption site) and in the case of what we call Reti Interne d'Utenza – RIU (which is networks in specific industrial or commercial sites), 5% of the unit value of the tariff component identified as A3 (which accounts support for RES) is applied to self-consumption as well. Up to 2014, this A3 component was applied only to electricity withdrawn from the grid but not at all on self-consumption.
Latvia	X	X					Part of RES support costs are covered from the state budget (10% over market price), other part is covered by the consumers, paying the RES component with no exemptions. .
Lithuania	X	X					
Luxembourg	X		X	X	X		**Energy intensive industries** can, under certain conditions, benefit from a lower rate for the levy used for RES support (taux de la catégorie C).To be eligible, companies have to engage in an agreement with the government through which they commit to substantial improvement of their overall energy efficiency. **SC:** Payment of levy is only due on final consumption of electricity that was delivered through the grid. Self-consumer electricity is hence not subject to RES support levy. Electricity used for storage purposes, under any form, in view of further retransformation and use at a later stage is also exempt from the levy.
Malta	X	X					Feed-in tariffs are financed through national budget. Investment grants through a mix of ERDF funds and national budget.
Netherlands	X			X			Self-generated electricity is netted against the same consumer tariff as used energy (with a max of 5000 kWh), including taxes and levies etc.
Norway	X		X				Energy intensive industries are partly exempted from paying for res-support. The energy intensive part of the process is exempted while electricity consumed in administration buildings etc. is not exempted.
Poland			X				

Country	No changes	No exemptions	Yes, for :				Specifications
			EII	SC	Network losses	Other	
Portugal				X		X	**SC**: According to the Decree-Law no. 153/2014, the self-consumption with an installed power higher than 1.5 kW and that is connected to the grid **pays a monthly fixed compensation in the first 10 years of exploration**. This compensation integrates an amount for RES support. **Othe**r: Every consumer pays for RES support, but, since the distribution of RES support by each voltage level is made considering the number of consumers in each voltage level, **the majority of RES support is paid by Low Voltage under 20.7 kVA of contracted power**.
Romania			X				Energy intensive companies are exempted from contributing to the financing of RES support scheme. For exempting EII qualification criteria are in place.
Slovenia	X		X		X		From the second half of 2015 energy intensive companies in Slovenia pay reduced levies for funding the support scheme.
Spain	X						
Sweden	X		X	X	X		**Energy intensive industries** that meet certain criteria in terms of electricity consumption and added value. Also some sectors are exempt, such as electrolysis, chemical reduction and mineralogical processes. **Self-consumption**: Consumption from installations that are smaller than 50 kW and/or amounts to less than 60 MWh per year are exempt from quota obligation.
UK			X	X			Self-consumption: The costs of the renewables obligation and FITs scheme are passed through by suppliers on to customer bills. As customers are not billed for auto -consumption, the costs of the RES support cannot be spread across this part of the electricity use

EEI: Energy- intensive industries.
SC: Self-consumption (i.e. consumption of self-generated RES and/or conventional electricity)

Annex 7 – OVERVIEW OF BALANCING RESPONSIBILITIES FOR RES PRODUCERS

	Level of balancing responsibility for RES producers					Comment/ Explanation
	Level playing field	Some RES producers as conventional	None - other institution w/o specific incentives	None - other institution with specific incentives	Other	
Austria				X		OEMAG purchases supported RES and redistributes it to the suppliers in Austria. Supplier get a day-ahead schedule. OEMAG is responsible for minimising the balancing costs (Green electricity act)
Bulgaria	X					
Croatia		X (FIP)	X (FIT)			• RES producers under premium scheme are responsible for their imbalances like any other conventional power plant.
Cyprus			X			
Czech Republic	X					
Denmark			X			
Estonia	X					
Finland	X					
France				X		Under the FIT scheme (FIP not yet in place), the incumbent supplier (EDF) has the balancing responsibility for all RES electricity plants. The compensation it gets for this mission may be reduced if its balancing costs are deemed excessive.
Germany		X (FIP)		X (FIT)		• RES producers under FIP scheme (**all new installations above 100 kW**): Full balancing responsibility • RES producers under FIT scheme: RES electricity is sold on the market place by the TSOs, which are also balancing responsible. An incentive scheme is in place for TSOs to market RES electricity as best as possible.
Greece			X			The TSO is responsible for balancing however not financially responsible. There is no incentive to minimise cost, however the forecasting contract with external service provider includes claws to minimise forecasting errors.
Hungary					X	All RES producers ≥ 0.5 MW are balancing responsible, but they pay less than other conventional plants. RE producers pay balancing fees of 5 HUF / kWh only if the deviation from forecasts exceeds a certain percentage (eg. for PV and wind deviations above +-50% of daily quantity are charged, for biomass plants > 5MW deviations exceeding +-5% in a 15 minute period are charged).
Ireland				X		
Italy		X			X	• Programmable RES plants are responsible in exactly the same manner as any other conventional plant. • Not programmable RES plants (each size) are responsible in exactly the same manner as any other conventional plant. As alternative to what above described (this alternative can be chosen by BRP once a year): a franchise has been defined (49% for wind plants > 10 MW, 31% for PV plants >10 MW, 8% for hydroelectric plants flowing water > 10 MW, 8% for zonal aggregation of plants < 10 MW, 1,5% for the other RES plants >10 MW). The franchise has been defined as imbalances divided by injection program: in this franchise imbalances are compensated between not programmable producers on a zonal basis. Above the franchise not programmable RES plants (each size) are responsible in exactly the same manner as any other conventional plant. • No imbalances related to RES are charged to final customers.

Latvia		X	X			Wind power plants >0,25MW and other RES with more than 15 MW received 20% less for imbalance, other RES are balanced by the Public trader (company with the obligation to purchase all the RES-electricity
Lithuania			X			
Luxembourg		X	X			While RES receiving FiT support are not explicitly exempt of balancing responsibility, the electricity is allocated into the balancing group of the supplier that purchases the RES electricity for a fixed price. This supplier becomes responsible for any imbalances coming from the RE generation and cannot pass on penalties to the RES producer. RES generators who are not benefiting from support are not, in principle, exempt from balancing responsibilities. They need to ensure they have a contractual relationship with a BRP, who takes their production into his balancing group.
Malta				X		Malta has one DSO who is also responsible for balancing, no balancing responsibilities on RES generators
Netherlands	X					
Norway	X					
Poland				X		
Portugal			X			Last resort supplier
Romania	X					
Slovenia		X (FIP)				Only the RES plants with the premium tariff are responsible
Spain	X					RES producers can offer together through representative. Then, net imbalances are considered.
Sweden	X					
UK		> 30kW & domestic premises				RES generators under the CfD scheme will be subject to the same standard balancing responsibilities as defined by UK national regulation, i.e. they are responsible for settlement costs associated with deviations from their delivery commitments.

Annex 8 – CONNECTION AND ACCESS REGIME FOR RES PLANTS

Country	Does the connection charge regime for RES-E plants differ from the one for conventional plants? If "yes", specify special RES treatment.		Type connection regime	Does the access charge regime for RES-E plants differ from the one for conventional plants? If "yes", specify special RES treatment.	
Austria	No		Semi-deep	No	
Belgium		For offshore windfarms, financial support in the form of an investment grant is given (€25 million over a 5-year period	Other		
Bulgaria	Yes		Deep	No	
Croatia	No		Deep	No	
Cyprus	No		Deep	No	
Czech republic	No		Shallow	No	
Denmark	Yes	Please see description from last review	Shallow	Yes/No	There is an in-feed tariff (0.3dkk/MWh). However RES plants receive a grant to cover the tariff through the PSO settlement.
Estonia	No		Deep	No	
Finland	No		Deep	No	
France	Yes		Semi-deep	No	
Germany	No		Deep	No	
Greece	Yes	No special treatment	Deep	No	
Hungary	Yes	They can receive a 50% reduction from the connection fee.	Semi-shallow	No	
Ireland	No	Connection charges policy does not discriminate between technology sources. Regardless of its type (renewable or conventional), the generator pays 100% of the construction of the Least Cost Connection physical connection to the transmission system i.e. the shallow connection works. Any deep reinforcements required to facilitate the connections are not charged to the generator. *The process of connecting to the grid* might differ depending on the generation source and generator size (GPA for larger renewable generators, GPA for conventional generators, non-GPA for smaller renewable generators).	Deep	Yes	**Transmission Use of System Charges (TUoS)** are designed to recover the total costs involved in operating, maintaining and developing the transmission system, and are paid by both *generators* and *large energy users* connected directly to the transmission system or indirectly via the lower voltage distribution system. ***TUoS charges to generators*** connected to the system are based on the generator's capacity and are site specific, differing according to the location of the generator. Most customers use the transmission system to some degree although only very large customers are directly connected to the transmission system. The majority of end customers are connected to the distribution system. *TUoS charges to energy users* are based on a mixture of capacity and energy use, with the tariffs depending on whether they are connected to the transmission system or the distribution system. For the majority of customers, the charge is further divided into two tariff categories depending on consumption. **Distribution Use of System Charges (DUoS)** are designed to recover the total costs involved in operating, maintaining and developing the distribution system. DUoS tariffs are charged to suppliers on the basis of the amount of energy used by their customers, and include standing charges. There are different DUoS tariffs for different types of customers
Italy	Yes	Low Voltage (LV) and Medium Voltage (MV) RES connection charges are defined on a conventional basis, referring to medium connection costs. So they aren't cost reflective for each power plant but they should be cost reflective on a medium basis. High Voltage (HV) and Extra High Voltage (EHV) RES connection charges are defined applying a discount to the real connection costs.	Semi-deep	No	

Country	Does the connection charge regime for RES-E plants differ from the one for conventional plants? If "yes", specify special RES treatment.		Type connection regime	Does the access charge regime for RES-E plants differ from the one for conventional plants? If "yes", specify special RES treatment.	
Latvia	No		Semi-deep	No	
Lithuania	Yes	RES plant pays a part of amount of connection to the grid. RES generators who receive support have to pay the expenses of connection to the grid by following proportion: 1) 40% of the connection costs (for plants with a capacity above 350 kW) and 2) 20% of the connection costs (for plants with a capacity of up to 350 kW). RES generators, who do not receive support have to pay 100% of the connection costs.	Semi-deep	No	
Luxembourg	Yes	Same financial regime as conventional plants, but network operators are obliged to foresee simplified connection procedures for high efficiency CHP and renewable generators.	Deep	No	
Malta	No		Semi-deep	No	The only difference between connecting a load and connecting any type of generator is that for generators with a capacity above 16A/phase a network impact study is required.
Netherlands	No			No	
Norway	No		Semi-deep	No	
Poland	Yes	RES Operators are privileged on the connection to the network. In most cases, the costs are shared between the manufacturer and the power grid operator.	Semi-shallow	No	
Portugal	No		Semi-deep	Yes	RES-E plants connected at LV level do not pay access tariffs.
Romania	No		Semi-deep	No	
Slovenia	No		Shallow	No	
Spain	No		Deep	No	
Sweden	No			No	
UK	No	For transmission connections, the costs of assets required to provide connection that are not shareable are recovered in full from the generator. The majority of assets are potentially shareable and the costs of these are recovered via access charges, so most generators do not pay a connection charge. For the distribution connection regime, the connecting customer is only charged for works up to one voltage level above the voltage they are connecting to e.g. if they are connecting at low voltage and work is required at low voltage, high voltage and extra high voltage, the customer will only be charged for the work at low voltage and high voltage. The work at extra high voltage will be socialised (i.e. spread across all users).	Other	Yes	The access charge contains a locational signal reflecting the incremental cost of transmission incurred by the generator. For assets local to a generator (typically a radial circuit and substation) this locational signal is particularly sharp and therefore has some similarities with connection charges whilst still being based on generic information

Deep = Generator pays.
Semi-deep= Generators and System Operators share costs.
Semi-shallow= RES Generators pay less than conventional generators.
Shallow= System Operator pays.

Annex 9 – OVERVIEW OF ACCESS, CONNECTION AND DISPATCH RULES FOR RES

Country	Connection to the grid	Dispatch of RES electricity/ Access to the network	Comments
Austria	Non-discriminatory	Priority	DSO defines next grid access point based on grid capacity. This is not necessarily the shortest connection to the grid. In case of local limited free capacities it can be the next substation etc. In case that RES and conventional are applying for the same locally free grid capacity, RES has priority.
Bulgaria	Priority	Priority	
Croatia	Non-discriminatory	Priority	System operators give the priority to generating installations using renewable energy sources in so far as the secure operation of the national electricity system permits. In case of a large curtailment of electricity produced from renewable energy sources, system operators need to notify HERA and also offer solutions for eliminating said curtailment. HERA determines if the curtailment was justified and if the proposed measures are adequate.
Cyprus	Non-discriminatory	Priority	
Czech Republic	Priority	Priority	RES has priority
Denmark	Priority	Priority	
Estonia	Non-discriminatory	Non-discriminatory	
Finland	Non-discriminatory	Non-discriminatory	
France	Non-discriminatory	Priority	
Germany	Priority	Priority	Grid system operators must connect RES installations without delay and as a priority to the place in their grid system which is appropriate in terms of the voltage level and which is the shortest linear distance to the site of the installation if this or a different grid system does not have a technically and economically more suitable connection point; when the question of which is the economically more suitable connection point is examined, consideration must be given to the costs deriving directly from the grid system connection. The duty to provide a connection to the grid system still applies if the purchase of the electricity is only possible following optimisation, strengthening or development of the grid system. Grid system operators must transmit to those wishing to feed in electricity a precise timetable for the processing of the request to connect to the grid system without delay following receipt of a request to connect to the grid system. For more details see §8 EEG 2014
Greece	Non-discriminatory	Priority	
Hungary	Priority	Priority	According to §35 (2) of the Electricity Act (86/2007) TSO/DSOs grant a priority connection and access to electricity producers of CO2 neutral, renewable energy, waste and high efficiency CHP technologies. According to §36 (1) of Electricity act the transmission or distribution of electricity can be restricted if it causes disadvantage for the generation or use of RES. No major changes in the last 2 years.

Ireland	Non-discriminatory	Priority	Existing policy for connection of exporting generators to the electricity network in Ireland is non-discriminatory, and is captured under two broad processing approaches: the group processing approach (GPA) and the non-group processing approach (non-GPA). • The GPA has been designed for larger, renewable and conventional generators. Under the GPA, system operators have issued connection offers to these generators in batches, called "gates". Eligibility for inclusion in a gate has been based on criteria set out by the CER in its decisions on each of the three gates to date; gate 1 in 2004, gate 2 in 2006 and gate 3 in 2008 and 2009. In the last iteration, gate 3, system operators issued approx. 6,000MW of connection offers – 4,000MW to renewable generators (mostly wind) and 2,000MW to conventional generators. Gate 3 has been largely driven by Ireland's commitment to meet 40% of electricity demand by renewable sources. • The non-GPA is the process to connect small, renewable and low carbon generators that fulfil public interest criteria. While under the GPA, generators included in a given gate have always been processed together as a group, non-GPA applicants are processed individually and sequentially. In 2015 the CER began a process of reviewing the GPA and the non-GPA connection approaches to ensure that they were fit for purpose for future system requirements in a changing energy market environment. As part of its review of connection policy, the CER published in December 2015 a consultation paper (CER/15/284). In that paper, the CER sought comments on the development of a new connection policy (enduring connection policy) and also proposed a number of transitional arrangements that will be put in place until the implementation of the enduring connection policy. The CER published its decision on transitional arrangements on 12 October 2016 (CER/16/284). Further consultation on the enduring connection policy will commence in 2017. Dispatch rules: Once connected to the system, priority dispatch requirements must be met whilst maintaining the secure operation of the electricity system. The SEM Committee has deemed that priority dispatch is a SEM matter and has set out how priority dispatch is implemented in the SEM, including how different parties qualifying for priority dispatch are treated relative to each other.
Italy	Priority	Priority	Connection - In the case of RES plants, the connection process is governed primarily. In particular, for not RES plants, the time limits established by NRA are subject to change as they can be established by DSO in their own procedure in order to guarantee the priority for RES connections. Dispatching - Priority of dispatching is guaranteed to RES power plants for the same offer price. No changes have occurred in the last 2 years.
Latvia	Non-discriminatory	Non-discriminatory	
Lithuania	Priority	Priority	It's no changes in the last 2 years.
Luxembourg	Priority	Priority	
Malta	Non-discriminatory	Priority	
Netherlands	Non-discriminatory	Non-discriminatory	Connection is guaranteed, dispatching is non-prioritised.
Norway	Non-discriminatory	Non-discriminatory	
Poland	Priority	Non-discriminatory	Renewable energy sources are prioritised in the context of connection and access to the network.
Portugal	Non-discriminatory	Priority	Priority dispatch. Guaranteed access.

Romania	Non-discriminatory	Priority	Connection - guaranteed; priority dispatch is applicable for electricity producers from RES in power plants with installed power of maximum 1 MW, as long as the safety of the national power system is not affected
Slovenia	Other	Priority	Connection: Granted. Dispatching: Non RES plants are curtailed first (the electricity system operator shall, within the framework of balancing network activities and on the basis of transparent and non-discriminatory criteria, give priority to generation units using renewable energy sources and high-efficiency cogeneration insofar as this permits the secure operation of the national electricity system).
Spain	Priority	Priority	By Electricity Act 24/2013, renewable and cogeneration plants have priority in connection and dispatch. They also have dispatching priority if economic market conditions are equivalent to other technologies. No changes in last years.
Sweden	Non-discriminatory	Non-priority	Connection: Guaranteed Dispatching: Non-priority
UK	Non-discriminatory	Priority	

Annex 10 – RESPONSIBILITIES OF GRID OPERATORS IN CASE OF CONGESTIONS

Country	Please describe how responsible grid operators are dealing with electricity produced by RES installations in the case of a congestion within the network.
Bulgaria	No congestion
Croatia	System operators give the priority to generating installations using renewable energy sources in so far as the secure operation of the national electricity system permits. In other words, RES installations are the last ones to be curtailed. In case of a large curtailment of electricity produced from renewable energy sources, system operators need to notify HERA and also offer solutions for eliminating the curtailment of RES. HERA determines if the curtailment was justified and if the proposed measures are adequate.
Cyprus	According to the legislation, the electricity produced from RES is set as a priority as long as the security of the system is ensured. The decision is of the TSO.
Czech republic	The output of photovoltaic and wind power plants can be curtailed, if there is a state of emergency or a need for particular curtailment steps which are necessary for pre-emption or for solving a state of emergency. The state of emergency is specified in the public notice No. 80/2010 issued by the Ministry of industry and trade. The implementation of a curtailment plan for RES has to be approved by TSO's central control. TSO's central control will trigger the curtailment plan after an evaluation of other operational measures such as ancillary services, use of balancing market and an export of electricity. In the curtailment plan are included power plants with a reserved power above 100 kW and with a possibility of remote control management.
Denmark	In so-called “normal situations” the merit order operation is not affected by the priority dispatch of RES. RES plants, including wind power, are bid into the electricity market and the exchange sets the price and determines the economic dispatch based on the supply bids from different sources. The minimum price in the electricity market is negative (a price cap of -500 €/MWh) and almost all decentralised CHP plants and a large number of wind turbines are not willing to run at negative prices, i.e. they use price dependent bids to the exchange, and, again, the economic dispatch is based on the supply bids from the different sources. Since 2009, when negative prices were introduced, there is no curtailment.
Estonia	If there is congestion, then the TSO will also curtail RES. It has not happened.
Finland	Usually the grid is built for RES maximum production. It depends on the contract between producer and TSO/DSO. Network is usually not congested in Finland. The size of the power line connection to the power plant is built according to the plant’s operator needs. If this might mean congestion in grid then usually TSO/DSO invests in network expansion.
France	There are no specific curtailment rules for RES; in case of congestion within the transmission network due to RES generation, the grid operator will manage this congestion within the balancing market or via specific contracts if the congestion is anticipated before the day-ahead. These contracts are standardized and published on the TSO's website.
Germany	Based on the RES legislation (§ 11 EEG) grid operators are authorised to regulate systems and CHP plants connected to their grid, directly or indirectly, which are equipped with a facility to remotely control the reduction of the feed-in power in case of grid overload insofar as (1) a bottleneck would otherwise occur in the respective grid, including the upstream grid, (2) priority is given to electricity produced from renewable energy sources, mine gas and combined heat and power generation, unless other plants must remain on the grid to generate electricity in order to ensure the security and reliability of the electricity supply system, and (3) they have obtained the data available on the actual power supply in the respective region of the grid. The objective of the legislation is to integrate as high a proportion as possible of power from renewable sources, mine gas or combined heat and power generation into the grid while maintaining grid security, and not to interfere with the legally prescribed, immediate grid expansion while doing so.
Greece	In general curtailment is not necessary yet in the IS. Curtailment is usually happening on Non Interconnected Islands. In this case a rotating rolling curtailment of RES units is followed so as on a monthly or yearly basis an equal treatment of all RES units is ensured. In any case the TSO-DSO is obliged to absorb the maximum possible amount of RES energy.
Hungary	RES installations are curtailed as a last option by the network operator when all other alternatives at his disposal have been unsuccessful in eliminating the bottleneck
Italy	Terna, the Italian TSO, in the case of congestion, can curtail RES production, but only if no other actions can be defined.
Latvia	There is no congestion within the country.
Lithuania	The RES are connected where no congestions are being expected.
Luxembourg	There is no congestion within the country.
Malta	There are no specific curtailment rules however no congestion or curtailment issues have been reported by the DSO so far.
Norway	In Norway, 98 % of all electricity production is stemming from RES, and RES is treated on equal terms as all other types of electricity production. There is no specific curtailment practice for RES. Further, all redispatch is market based, and all generators are paid the market price for the redispatch orders.
Poland	No specific data available at the moment.
Portugal	RES installations are curtailed as a last option by the network operator when all other alternatives at his disposal have been unsuccessful in eliminating the bottleneck.
Romania	RES installations are curtailed as a last option by the network operator.
Slovenia	In the case of congestions non RES electricity plants are curtailed first.
Spain	System Operator can control RES generation, with the CECRE (Special System Control Center). All RES plants above 5 MW and 0,5 MW in isolated systems must be connected to CECRE. In case of congestion, according to Operational Procedures, RES plants are curtailed.
Sweden	Generation Curtailment is the event that takes place when a deliberate action is taken by the relevant network operator (TSO or DSO) to reduce a portion or all of the energy capable of being produced from a generating facility. Such action may be needed if the amount of generation injected in the electric grid within a particular control area exceeds either available network capacity or the demands of the load taking the energy off the grid, or a combination of these factors. The estimation of non-produced energy should be based on the programed production at the moment of the curtailment. Curtailments due to protection system operations should not be included.

Annex 11 – OVERVIEW OF COMPENSATION ARRANGEMENTS IN CASE OF CURTAILMENTS

Country	Are RES producers compensated for the amount of electricity curtailed?	
Austria	No	
Bulgaria	No	
Croatia	No	
Cyprus	No	
Czech republic	Yes	
Denmark	Yes	Yes, but regulation power = 0
Estonia	Yes	
Finland	No	
France	Yes?	If the congestion is known after the day ahead, balancing mechanism rules apply. All the producers (RES producers but also conventional producers) located in the congested area will have to propose downwards bids. The selected producer will buy the energy on the balancing market instead of producing it. If the congestion is anticipated before the day ahead, the producer is compensated for the loss of income and any other costs that could be associated to the curtailment. If several producers can resolve the congestion, RTE will choose the producer requiring the lowest amount of compensation.
Germany	Yes	If the feed-in of electricity from an installation to generate electricity from renewable energy sources, mine gas or CHP is reduced due to a grid system bottleneck, the grid system operator to whose grid system the installation is connected must compensate the operators affected by the measure for 95 percent of the lost revenues plus the additional expenses and minus the saved expenses. If the lost revenues in a year exceed 1 percent of the revenues of that year, the operators affected by the assumption of technical control are to be given 100 percent compensation from that point in time.
Greece	No	A general provision exists however secondary legislation and regulation is not in place.
Hungary	Yes	FIT
Ireland	Yes	RES producers currently get their market revenues. However, with the advent of a new wholesale electricity market (i.e. I-SEM) in May 2018, RES producers will not be compensated for curtailment.
Italy	Yes	Curtailed electricity from large wind power plants is compensated at the zonal hourly price, just as it had been produced. In the case of other non- programmable RES plants (not so big as wind power plants) no payments have been defined up to now as electricity curtailed has never reached a relevant quantity.
Latvia	No	N/A
Lithuania	No	
Luxembourg	No	Currently, there is no need for curtailment on the Luxembourgish grid
Norway	Yes	Yes, all producer, including RES, are compensated the market price of the redispatch order.
Poland	No	
Portugal	Yes	As a general rule, there is no right to monetary compensation. However there is a subset of RES installations that are compensated, if curtailed, for the estimated value of the non-produced energy. This compensation is paid by the non-curtailed installations of the mentioned subset.
Romania	No	
Slovenia	No	
Spain	Yes	All generation plants are compensated by 0.15 x energy curtailed x daily market price. (Market price in days with curtailments is around zero)
Sweden	No	

Annex 12 – OTHER FORMS OF FINANCIAL SUPPORT

MS	Yes/ No	If yes, please specify
Austria	No	RES installations can benefit from various additional sources like local investment grants or are necessary to apply for housing subsidies.
Bulgaria	No	
Croatia	Yes	1. Electricity prosumer: electricity supplier that supplies a prosumer is obligated to sign a contract with said prosumer by which he purchases any excess electricity injected into the grid.
Cyprus	No	
Czech Republic	No	
Denmark	No	
Estonia	No	
Finland	No	
France	Yes	RES installations can benefit from local, state or EU level subsidies, which are not accounted for in the cost of support.
Germany	Yes	1) **Indirect support of RES installations used for self-consumption purposes**: RES producers which are self-consuming all or parts of their production are exempted from network charges, electricity tax and other electricity price components such as the RES surcharge paid by consumers for the electricity delivered through the grid. Since 2014, self-consumers with new RES installations have to pay a reduced RES surcharge on their self-consumed electricity. 2) For RES installations which are not supported through the RES support scheme, they are entitled to a compensation from the grid operator, a "**avoided network charge**", when connected to a lower grid level. 3) A range of dedicated financing programmes are in place for investors in RES installations from the state owned credit bank (KfW)
Greece	Yes	1) Guarantees of origin for RES not supported through FiT/FiP. 2) A net metering scheme is in place since 2015. 3) For some technologies tax exemptions or grants are foreseen. Since April 2014 these are taken into account by reducing the remuneration of the FiT/FiP scheme.
Hungary	No	Our NRA has no comprehensive data about the investment support.
Ireland	Yes	Guarantees of Origins for unsupported RES
Italy	Yes	Only for PV plants, Italian Government defined a fiscal subtraction (equal to 50% of the investment costs, up to a maximum cost of € 96,000). This support is provided only if PV plants are installed on buildings during their renovation works.
Latvia	Yes	For the RES-E that produces electricity in a combined heat and power with installed capacity >4MW receives the monthly capacity payment
Lithuania	No	
Luxembourg	Yes	Investment grants from the Ministry of Environment are available to residential consumers wishing to install a PV system. Companies developing RES projects can apply for investment grants from the Ministry of Economy, As an NRA, we do not have a comprehensive overview of the application of available schemes
Malta	Yes	Grant schemes
Netherlands	No	
Norway	No	
Poland	Yes	Investment grants, exemption from stamp duties, annual license fees etc.
Portugal	Yes	Credit lines: some banks have credit lines available for micro and mini-generation systems acquisition.
Romania	No	
Slovenia	No	
Spain	No	
Sweden	Yes	Investment support for PV installations, tax reductions, special VAT conditions. An extra support for offshore wind is examined at the moment.

Annex 13 - OVERVIEW OF SELF-CONSUMPTION SCHEMES

Country	Is SC of self-generated (RES and/ or conventional) electricity allowed?	Specific schemes (e.g. exemption from network charges, taxes or subsidies) for self-consumption in place	How is SC measured?	Description of how SC is being metered	Planned adjustments in the near future?
Austria	Yes	**No.** One has to pay network charges for electricity taken from the grid. The amount of electricity taken from the grid is reduced via self-consumption though.	A		
Bulgaria	Yes	**No** specific scheme	A		
Croatia	Yes	Electricity supplier that supplies a prosumer is obligated to sign a contract with said prosumer by which he purchases any excess electricity injected into the grid. **There are no exemptions from network charges, taxes or subsidies for the share of electricity taken from the grid. The share of self-consumed electricity is not subject to any charges.**	C	There is only one meter in place at the connection point, which measures electricity injected and retrieved from the grid. Ei will be the electricity injected into the grid, Et will be the electricity taken from the grid, Ep will be the electricity produced from the production unit and Es will be the electricity spent by the prosumer. If at a certain 15 minute interval Ep > Es, then the prosumer is injecting into the grid: Ei = Ep – Es. The meter is reading that Ei is injected into the grid. If at another 15 minute interval Ep < Es, then the prosumer is taking from the grid: Et = Es – Ep. The meter is reading that Et is taken from the grid. At the end of the month, the total of Ei and Et (all measuring intervals) is summed up and the supplier buys sum(Ei) from the prosumer and the prosumer buys sum(Et) from the supplier. If however sum(Et) < sum(Ei) then the price of electricity that supplier buys is lowered by sum(Et)/sum(Ei) to discourage only producing and not spending electricity on the location.	It is not planned for now.
Cyprus	Yes	There is a **special self-consumption scheme and they pay special network charges**	C	Three meters (input from grid, input from PVs' production, excess)	

Country	Is SC of self-generated (RES and/ or conventional) electricity allowed?	Specific schemes (e.g. exemption from network charges, taxes or subsidies) for self-consumption in place	How is SC measured?	Description of how SC is being metered	Planned adjustments in the near future?
Czech republic	Yes	There is no specific scheme for self-consumption, with exception for supported customers. These market players have to be in Green Bonuses regime. However, an amount of electricity consumed without use of transmission or distribution network is not charged with payment for system services, payment for support of electricity from promoted energy sources and payment for the market operator's activities.	B	Possibility of option A and B can occur, let us explain differences on example of a household with photovoltaic power plant on a roof. Option B If a power plant was granted with a subsidy in form of green bonus, a production has to be measured with an electricity meter installed in the output of the power plant. This meter measures electricity witch flows from power plant to a household. Second electricity meter is installed on borderline between household installation and distribution network. This meter measures an amount of electricity which flows out of the house and inside the house from distribution network. A self-consumption of electricity can be determinate if we deduct figures on first meter from second one. Option A. In the case there is no green bonus, only one electricity meter is installed on borderline between household installation and distribution network. Electricity which flows from power plant to household doesn't have to be measured with a meter. As result an amount of electricity consumption in household cannot be detected from the electricity meter installed on borderline between household installation and distribution network.	No major changes are planned.
Denmark	Yes	**For self-consumption/auto-producers**: a reduced PSO tariff is used for the part of their consumption that they cover by their own production. The reduction corresponds to the costs relating to subsidies for renewable energy and local CHP units.	B		For PW: Instead of offsetting the annual production and consumption, we **now offset the hour to hour production and consumption.**
Estonia	Yes	Exemption from network charges, taxes and fees of subsidies	A		
Finland	Yes	No- Self-consumed electricity is not addressed.	A	Also B - Two meters (e.g. one measuring electricity produced and one measuring electricity fed into the grid).	-

Country	Is SC of self-generated (RES and/ or conventional) electricity allowed?	Specific schemes (e.g. exemption from network charges, taxes or subsidies) for self-consumption in place	How is SC measured?	Description of how SC is being metered	Planned adjustments in the near future?
France	Yes	• **Spontaneous self-consumption**, i.e. a consumer deciding to install a power producing unit for its own needs, **is allowed**. • **Prosumers may be connected to the public network and inject their surplus while self-produced electricity cannot be consumed**, or • Decide **not to be connected** to the network and **get autonomous**. Such a self-consumer would benefit from exemption of the variable share of network charges and taxes for its self-consumption (case of surplus injection) or would not pay any network charge (case of total self-consumption).	B	Two meters are currently required, either to measure the electricity fed into the grid and consumed from the grid (case of surplus), or to measure the electricity fed into the grid that should be equal to zero (case of total self-consumption). Once smart meters are deployed (Linky), they will be able to measure on both ways with only one meter (self-consumers are given priority for this roll-out).	A ministerial order dealing with self-consumption has been published recently. It aims at encouraging self-consumption, by defining individual and collective self-consumption (at a neighbourhood scale) operations, and asking the national regulator (CRE) to design specific network tariffs for self-consumers.
Germany	Yes	• Self-consumption of electricity produced with RES technologies and highly efficient CHP plants can be exempted from taxation, levies and network charges. • The full exemption from the RES-surcharge is only granted to self-consumption in all installations taken into operation before August 2014, i.e. SC in new installations is now subject to reduced RES surcharge payments under certain conditions. • SC in new conventional installations taken into operation after August 2014 is subject to 100% payment of the RES surcharge but remains exempted from network charges and taxes. .	B	In principle, with the introduction of a RES surcharge payment obligation for the share of self-consumed electricity in the EEG 2014, each producer must technically ensure a separate measurement of the volumes of 1) electricity generated, 2) (surplus) electricity injected into the grid and 3) electricity retrieved from the grid. The measurement period should be real-time (i.e. 15 minutes interval), when production and consumption does not happen at the same time (i.e. within 15 minutes). This is mostly the case in industry with own installations for self-consumption purposes. In households with small rooftop PV systems without storage facilities, consumption and production are usually happening at the same time. However, concrete specifications for ensuring a separate measurement of electricity produced, self-consumed and fed into the grid, have yet not been specified. (see EEG 2014 § 61 (7)). Major changes have already been introduced with the EEG review in 2014. From 1.8.2014 up to 31.12.2015 all self-consumed electricity produced by a newly installed RES installation (as defined in EEG § 5 Nr.1) or from a highly efficient CHP plant will be subject to a reduced RES surcharge of 30%. This share will be raised to 35% in 2016 and from 2017 onwards, will be set at 40%.Self-consumed electricity produced by other newly installed technologies (e.g. coal-fired power plants) is subject to the full RES surcharge payment since 1.08.2014. Some exemptions may apply.	electricity generated, 2)
Greece	Yes	No	A		

Country	Is SC of self-generated (RES and/ or conventional) electricity allowed?	Specific schemes (e.g. exemption from network charges, taxes or subsidies) for self-consumption in place	How is SC measured?	Description of how SC is being metered	Planned adjustments in the near future?
Hungary	Yes	Exemption from network charges, taxes and fees of subsidies	B	One meter measuring the electricity injected to/taken from the grid. These values are netted for a month or for a year.	
Ireland	Yes				
Italy	Yes	**For self-consumption electricity, network charges are not applied**, while general system charges (including the tariff component A3 for RES support scheme) are applied but their unit value is equal to the 5% of the unit value that would be applied if that electricity had been withdrawn from the grid.	B	In general, self-consumption should be measured through two meters: one able to measure production and one able to measure electricity injected into the grid and electricity withdrawn from the grid. Self-consumption is then calculated using an appropriate algorithm. NRA is defining rules in order to calculate self-consumption in the case of each voltage level connections.	No changes are already defined at the moment.
Latvia	Yes	No. Self-consumed electricity is not addressed, i.e. no taxes, charges, etc. are applied to these quantities of electricity.	B		N/A
Lithuania	Yes	RES producers don't pay a PSO for consumption of self-generated RES electricity.	B		No information available about major changes in the near future in electricity sector.
Luxembourg	Yes	RES support levy not applied to self-consumption	B		
Malta	Yes	Self- generated electricity (RES) is directly consumed and no charges are applicable for this generation apart from the flat rate service charge which is applicable for all connections.	B	In general, the metering configuration used in the case of RES generators includes a meter that measures the RES production and an import/export meter that measures electricity injected into the grid and electricity withdrawn from the grid. Self-consumption is calculated using the readings of these meters.	No
Norway	Yes		A		No
Netherlands	Yes	Self-generated electricity is either directly consumed or fed into the network. In the yearly bill settlement, the consumed electricity is netted with the generated and not consumed energy against the same customer tariff, including taxes etc.	A	Self-consumption is not metered. Consumption is netted against generated and not consumed (thus fed into the network) by either two meters or by one meter with back running capabilities (usually old meters).	
Poland	Yes	No. Self-consumption is not subject to any additional regulations, i.e. this share of electricity is not being addressed through charges, taxes, etc.	A	Self-consumed electricity is not subject to measurement	No data on government plans available at the moment.
Portugal	Yes	No.	B		No, the Decree Law establishing the framework for RES self-consumption and RES small scale units (up to 250 kW) is recent (Decree Law no. 153/2014).
Romania	Yes	No	B		

Country	Is SC of self-generated (RES and/ or conventional) electricity allowed?	Specific schemes (e.g. exemption from network charges, taxes or subsidies) for self-consumption in place	How is SC measured?	Description of how SC is being metered	Planned adjustments in the near future?
Slovenia	Yes	Slovenia established a SC scheme in January 2016. This is a net metering scheme applied to domestic and small commercial customers. The quantities of energy consumed from the grid and injected to the grid are settled (netted) on the annual basis. This means that the customers who are on the annual basis net consumers pay energy costs, network charges and levies only for the difference between withdrawn and injected electricity. The customers who are on the annual basis net producers pay no network charges, but receive no payment for the annual surplus energy injected to the grid	B		
Spain	Yes	Network charges exemption for consumers with capacity installed up to 10 kW	B	Basic configuration: Two bi-directional metering equipment: One in the own generation plant and another one in the grid frontier point.	
Sweden	Yes	Clarification: Self-consumption is only allowed when it's used to cover the network losses. Specific schemes: No, except a reduction on taxes for electricity suppliers who deals with micro production RES electricity. Self-consumption is only allowed when it's used to cover the network losses. Specific schemes: No, except No specific support scheme except a reduction on taxes for electricity suppliers who deals with micro production RES electricity.	B		No major changes are planned.

Legend:

A- Self-consumed electricity is not measured ((e.g. just one meter)
B- Two meters (e.g. one measuring electricity produced and one measuring electricity fed into the grid).
C- Other metering scheme.

Annex 14 – SHARE OF SELF-CONSUMPTION

Country	Share of self-consumption, in %?
Austria	NA
Belgium	NA
Bulgaria	1
Croatia	NA
Cyprus	1,8 MW installed capacity
Czech republic	NA
Denmark	1,8
Estonia	No official statistics
Finland	NA
France	The number of "total self-consumers" is difficult to assess, since such people do not always declare their installation to the public DSO (although it is mandatory). In 2015, around 3500 were self-consumers with injection of their surplus, versus 300.000+ producers connected to low and medium voltage grids.
Germany	Data for 2013: Total self-consumption volume (all technologies, mainly coal-fired plants): 60,7 TWh (= 11 % of German electricity supply) Prognosis for 2017: 65 TWh
Greece	NA
Hungary	2 (share in electricity generation)
Italy	On a medium basis, according to the available data, self-consumption is equal to the 35% of total production in the case of PV plants, to the 60% of total production in the case of thermal plants, to the 10% of total production in the case of wind plants and to the 25% of total production in the case of hydro plants. However self-consumption is above all estimated: nowadays it is measured only in the case of high and very high voltage level connections.
Lithuania	NA
Luxembourg	0
Malta	An estimated share of self-consumed electricity by PV is 23% (NB: This is based on 2012/2013 billing period for the PV generation self- consumed over the total electricity generated by PV)
Poland	NA
Portugal	0.05 (% in terms of installed capacity. Self-consumption: 10 MW of installed capacity.)
Romania	NA
Slovenia	This type of data is not collected by the agency.
Spain	No data available yet
Sweden	No official statistics but <1 % if you consider RES electricity and conventional electricity

Annex 15 – KEY ASPECTS OF NET METERING SCHEMES

Country	Net-metering framework in place?	Key aspects of net-metering framework	Net metering scheme planned?
Austria	No		No, this is not planned.
Bulgaria	Yes	Net-metering executed by the owner of the grid	
Croatia	No		It is not planned for now.
Cyprus	Yes	Net Metering scheme in place for Photovoltaic systems up to 3 kW installed in buildings of Local Authorities. The electricity coming from the power grid to meet the needs of the premises is netted against the electricity generated by the PV system, which is injected to electricity grid over a period of two months (CERA Decision 06/2014- KDP 1089/2014) Appointment of DSO as the implementing body of the net metering project for PV systems used in households and buildings of local authorities: The Cyprus Energy Regulatory Agency (CERA), taking into account the provisions of the Regulating the Electricity Market Laws of 2003-2012, the relevant Regulations and Decisions concerning the Licensing Exceptions and following the announcement of the Plan for wider installation of PV systems with the net metering method for household units and buildings used by local authorities, appointed the DSO as the implementing agency of this project. The DSO is responsible to receive, evaluate and approve the applications of the interested parties and to perform checks and connect the PV systems according to the procedure CERA defined with its Terms of Reference.	
Czech republic	No		National Action Plan on Smart Grids (NAP SG) identified a net-metering scheme as one of possibilities which can improve existing electricity market model. No particular details about the net-metering scheme are mentioned in NAP SG. One exemption is an impact of the net-metering scheme on billing of electricity. A customer who will use the net-metering won't pay for electricity itself, but will pay for surcharges related to distribution of that electricity. However, there is no final decision for introducing the net-metering scheme.
Denmark	Yes	The annual PW production must be offset the annual consumption.	
Estonia	No		No
Finland	No		No
France	No		No
Germany	No		It is not planned to introduce such a system in the near future.
Greece	Yes	As of Jan 2015 (impl. May 2015) net-metering is introduced for systems up to 500kW. The produced electricity is counter-balanced with the electricity consumed on an annual basis upon a 25-year long contractual agreement with the supplier. Any excess of injected electricity is not compensated. Exemptions from regulated charges such as the RES levy and network charges are foreseen for the electricity produced by the RES system.	
Hungary	Yes	Only for generators below 50 kW. Netting is done monthly or yearly.	

Country	Net-metering framework in place?	Key aspects of net-metering framework	Net metering scheme planned?
Ireland	No	No net metering framework in place, as net metering is not permitted.	
Italy	Yes	Net metering is not a physical compensation (in kWh) between electricity injected into the grid and electricity withdrawn from the grid. It's an economical compensation: moreover, network charges and general system charges are returned on exchanged electricity, just as if that electricity had never used the grid. This economic net-metering mechanism is called Scambio sul posto. Net metering can be applied to final customers with RES plants up to 500 kW or high efficiency CHP plants up to 200 kW (power plants may also be managed by different subjects, like Escos). Firstly, electricity withdrawn from the grid is bought by each final customer from a seller and, later on, net metering is managed by Gestore dei Servizi Energetici S.p.A. (GSE) who pays a fee equal to the market value of electricity injected into the grid in the limit of market value of electricity withdrawn from the grid + network charges and general system charges returned on exchanged electricity.	
Latvia	No		No. Net-metering framework is only applied for micro-generators in households.
Lithuania	Yes	NCC sets the price for the usage of distribution grid. Price is for 1 kWh of recovered energy from the electricity grid and must cover all the DSO˜s reasonable costs and assess the DSO˜s benefits. Price is differentiate according to the voltage users of net-metering framework don't pay charges for DSO provided services and PSO.	
Luxembourg	No		
Malta	No		No net-metering plans
Norway	No		No.
Netherlands	Yes	Self-generated electricity is netted against the same consumer tariff as used energy (with a max of 5000 kWh), including taxes and levies, etc.	
Poland	No	n/a	n.a.
Portugal	No		No.
Romania	No		Under discussions with Ministry of Finance
Slovenia	Yes	Since 12/2015 a specific scheme - net-metering is entered into force for RES electricity plants (fotovoltaic, wind and hydro plants) up to 11 kVA for the purposes of self-consumption (self-sufficiency of households). The net-metering system allows households and small commercial customers self-sufficiency in electricity from renewable energy sources (RES) on the basis of net metering. This means that owners of devices for self-sufficiency have accounted for the consumption of electricity at the end of the calendar year in a way that takes into account the difference between the electricity production and consumption.	
Spain	Yes	Self-consumption legislative framework since October 2015, with 2 types: • **Type 1**: Consumers with capacity installed up to 100 kW and generation power below capacity installed. No revenues for energy injected to the grid. • **Type 2:** Generation plants with generation power below capacity installed. Market price for energy injected to the grid.	
Sweden	No		No.

Annex 16 – Unit support costs for new installations in 2014 and 2015

The following two tables show unit support costs for new installations i.e. those that were installed in 2014 or 2015. When compiling this data, different methodologies were used; in particular, most countries[27] reported the full support payments rather than subtracting the wholesale price in order to demonstrate the incentive element of the support (as has been done for the tables in the main body of the report).

Country	Bioenergy	Geothermal energy	Hydropower	Solar	Wind energy - Onshore	Wind energy - Offshore	Others
Austria	191,21	-	47,11	322,09	89,17	-	-
Cyprus	-	-	-	208,00	-	-	-
Czech Republic	58,16	-	91,14	-	46,30	-	-
Finland	-	-	-	-	73,55	-	-
Hungary	65,15	-	-	64,58	-	-	-
Italy	152,24	11,87	121,82	-	86,58	-	-
Latvia	175,72	-	-	-	-	-	-
Lithuania	83,39	-	-	99,48	38,95	-	-
Malta	-	-	-	92,20	-	-	-
Norway	-	-	164,00	-	164,00	-	-
Portugal	102,06	-	-	267,00	69,76	-	-
Romania	50,11	-	50,11	50,11	50,11	-	-
Slovenia	251,82	-	95,00	92,22	96,00	-	-
Sweden	21,47	-	21,14	187,16	21,44	-	-
United Kingdom	54,02	-	-	53,81	53,82	53,92	-

Table A17.1: Support levels for installations that were new in 2014, by technology, in [€/MWh]

Country	Bioenergy	Geothermal energy	Hydropower	Solar	Wind energy - Onshore	Wind energy - Offshore	Others
Austria	143,00	-	66,34	366,80	86,61	-	-
Cyprus	-	-	-	208,00	166,60	-	-
Czech Republic	46,26	-	93,34	-	-	-	-
Finland	103,25	-	-	-	74,84	-	-
Hungary	60,50	-	63,27	63,50	-	-	-
Italy	157,40	39,61	94,18	-	97,03	-	-
Latvia	148,13	-	-	-	-	-	-
Lithuania	91,54	-	36,00	273,42	38,92	-	-
Malta	-	-	-	55,41	-	-	-
Norway	-	-	145,00	-	145,00	-	-
Portugal	58,92	-	70,61	196,87	74,65	-	-
Romania	47,95	-	47,95	47,95	47,95	-	-
Sweden	18,52	-	18,60	76,84	18,52	-	-
United Kingdom	62,44	-	-	60,55	60,45	60,55	-

Table A17.2: Support levels for installations that were new in 2015, by technology, in [€/MWh]

[27] All shown, save for Czech Republic, Hungary, Italy, Lithuania and Slovenia.

Annex 17 – Full breakdown by technology in 2014 and 2015

As per the following table, "LCY" stands for "local currency"

Country Code	Type of support scheme	Year	Technology detail	Installed capacity [MW]	Average unitary FIT [LCY/MWh]	Value of premiums or inv. grants [MLCY]	Value of premiums or inv. grants [MEUR]	Effective unitary incentive [LCY/MWh]	Effective unitary incentive [EUR/MWh]	Energy receiving support [MWh]	RES incentives costs [MLCY]	RES incentives costs [MEUR]	RES unitary incentives costs [LCY/MWh]	RES unitary incentives costs [EUR/MWh]	Installed capacity [new plants] [MW]	Energy receiving support [new plants] [MWh]	RES incentives costs [new plants]	RES incentives costs [new plants]
AT	FIT	2014	Biogas - Landfill gas	14	45,78	-	-	10,43	10,43	20.388	0	0	-	-	0	30	0	0
AT	FIT	2014	Biogas - Other biogas	80	175,30	-	-	139,95	139,95	542.689	76	76	-	-	1	90	0	0
AT	FIT	2014	Solid biomass - Other solid	-	-	-	-	-	-	-	-	-	-	-	0	507	0	0
AT	FIT	2014	Solid biomass - Total solid	319	133,78	-	-	98,44	98,44	1.941.156	191	191	-	-	-	-	-	-
AT	FIT	2014	Geothermal energy[28]	1	34,75	-	-	-0,59	-0,59	384	-0	-0	-	-	-	-	-	-
AT	FIT	2014	Hydropower	391	47,78	-	-	12,43	12,43	1.703.079	21	21	-	-	31	118.947	6	6
AT	FIT	2014	Solar energy - PV	404	-	-	-	-	-	-	-	-	-	-	78	35.887	12	12
AT	FIT	2014	Wind energy - Onshore	1.981	86,68	-	-	51,33	51,33	3.639.875	187	187	-	-	432	485.120	43	43
AT	Investment grant	2014	Hydropower	16	-	16	16	-	-	64.000	1	1	19,23	19,23	-	-	-	-
AT	Investment grant	2014	Solar energy - PV	39	-	10	10	-	-	37.219	1	1	19,67	19,67	-	-	-	-
AT	FIT	2015	Biogas - Landfill gas	15	42,96	-	-	10,70	10,70	18.607	0	0	-	-	1	2	0	0
AT	FIT	2015	Biogas - Other biogas	81	175,98	-	-	143,72	143,72	558.930	80	80	-	-	1	1.800	0	0
AT	FIT	2015	Solid biomass - Other solid	315	132,34	-	-	100,07	100,07	2.043.298	204	204	-	-	8	37.660	5	5
AT	FIT	2015	Geothermal energy	1	31,30	-	-	-0,96	-0,96	61	-0	-0	-	-	-	-	-	-
AT	FIT	2015	Hydropower	414	49,03	-	-	16,77	16,77	1.518.950	25	25	-	-	16	20.313	1	1
AT	FIT	2015	Solar energy - PV	489	250,30	-	-	218,03	218,03	436.583	95	95	-	-	81	38.713	14	14
AT	FIT	2015	Wind energy - Onshore	2.349	88,09	-	-	55,82	55,82	4.591.775	256	256	-	-	376	241.765	21	21
AT	Investment grant	2015	Hydropower	16	-	16	16	-	-	64.000	1	1	19,23	19,23	-	-	-	-
AT	Investment grant	2015	Solar energy - PV	35	-	9	9	-	-	33.630	1	1	20,65	20,65	-	-	-	-
BE	Green Certificates	2014	Biogas - Landfill gas	-	-	-	-	-	-	98.569	8	8	82,58	82,58	-	-	-	-
BE	Green Certificates	2014	Biogas - Sewage sludge	-	-	-	-	-	-	35.969	4	4	110,09	110,09	-	-	-	-
BE	Green Certificates	2014	Biogas - Other biogas	-	-	-	-	-	-	702.589	68	68	97,35	97,35	-	-	-	-
BE	Green Certificates	2014	Biogas - Total biogas	-	-	-	-	-	-	837.128	81	81	96,16	96,16	-	-	-	-
BE	Green Certificates	2014	Solid biomass - Biodegradable	-	-	-	-	-	-	1.401.023	138	138	98,32	98,32	-	-	-	-
BE	Green Certificates	2014	Solid biomass - Other solid	-	-	-	-	-	-	1.398.878	121	121	86,67	86,67	-	-	-	-
BE	Green Certificates	2014	Solid biomass - Total solid	-	-	-	-	-	-	2.799.901	259	259	92,50	92,50	-	-	-	-
BE	Green Certificates	2014	Bioenergy	-	-	-	-	-	-	3.639.114	340	340	93,40	93,40	-	-	-	-
BE	Green Certificates	2014	Hydropower	-	-	-	-	-	-	271.289	7	7	25,21	25,21	-	-	-	-
BE	Green Certificates	2014	Solar energy - PV	-	-	-	-	-	-	2.830.705	518	518	182,90	182,90	-	-	-	-
BE	Green Certificates	2014	Wind energy - Offshore	-	-	-	-	-	-	2.221.311	232	232	104,24	104,24	-	-	-	-

[28] Negative values for geothermal energy in AT mean unitary income for this technology are below average wholesale market price.

Country Code	Type of support scheme	Year	Technology detail	Installed capacity [MW]	Average unitary FIT [LCY/MWh]	Value of premiums or inv. grants [MLCY]	Value of premiums or inv. grants [MEUR]	Effective unitary incentive [LCY/MWh]	Effective unitary incentive [EUR/MWh]	Energy receiving support [MWh]	RES incentives costs [MLCY]	RES incentives costs [MEUR]	RES unitary incentives costs [LCY/MWh]	RES unitary incentives costs [EUR/MWh]	Installed capacity [new plants] [MW]	Energy receiving support [new plants] [MWh]	RES incentives costs [new plants]	RES incentives costs [new plants]
BE	Green Certificates	2014	Wind energy - Onshore	-	-	-	-	-	-	2.330.567	189	189	81,04	81,04	-	-	-	-
BE	Green Certificates	2014	Other	-	-	-	-	-	-	1.223	0	0	106,34	106,34	-	-	-	-
BE	Green Certificates	2015	Biogas - Landfill gas	-	-	-	-	-	-	85.111	7	7	80,95	80,95	-	-	-	-
BE	Green Certificates	2015	Biogas - Sewage sludge	-	-	-	-	-	-	40.987	4	4	105,40	105,40	-	-	-	-
BE	Green Certificates	2015	Biogas - Other biogas	-	-	-	-	-	-	741.894	72	72	96,50	96,50	-	-	-	-
BE	Green Certificates	2015	Biogas - Total biogas	-	-	-	-	-	-	867.992	83	83	95,39	95,39	-	-	-	-
BE	Green Certificates	2015	Solid biomass - Biodegradable	-	-	-	-	-	-	1.360.946	133	133	97,96	97,96	-	-	-	-
BE	Green Certificates	2015	Solid biomass - Other solid	-	-	-	-	-	-	1.897.667	166	166	87,66	87,66	-	-	-	-
BE	Green Certificates	2015	Solid biomass - Total solid	-	-	-	-	-	-	3.258.613	300	300	91,96	91,96	-	-	-	-
BE	Green Certificates	2015	Bioenergy	-	-	-	-	-	-	4.127.942	383	383	92,72	92,72	-	-	-	-
BE	Green Certificates	2015	Hydropower	-	-	-	-	-	-	270.590	7	7	25,06	25,06	-	-	-	-
BE	Green Certificates	2015	Solar energy - PV	-	-	-	-	-	-	2.896.328	522	522	180,33	180,33	-	-	-	-
BE	Green Certificates	2015	Wind energy - Offshore	-	-	-	-	-	-	2.611.751	273	273	104,45	104,45	-	-	-	-
BE	Green Certificates	2015	Wind energy - Onshore	-	-	-	-	-	-	2.573.522	210	210	81,76	81,76	-	-	-	-
BE	Green Certificates	2015	Other	-	-	-	-	-	-	1.223	0	0	106,34	106,34	-	-	-	-
CY	FIT	2014	Biogas - Other biogas	10	125,00	-	-	125,00	125,00	37.461	5	5	-	-	-	-	-	-
CY	FIT	2014	Solar energy - PV	46	208,00	-	-	208,00	208,00	61.987	13	13	-	-	14	16.311	208	208
CY	FIT	2014	Wind energy - Onshore	147	166,60	-	-	166,60	166,60	182.418	30	30	-	-	-	-	-	-
CY	Other	2014	Solar energy - PV	18	-	-	-	-	-	28.867	-	-	-	-	-	-	-	-
CY	FIT	2015	Biogas - Other biogas	10	125,00	-	-	125,00	125,00	37.211	5	5	-	-	-	-	-	-
CY	FIT	2015	Solar energy - PV	51	208,00	-	-	208,00	208,00	233.910	49	49	-	-	5	25.638	208	208
CY	FIT	2015	Wind energy - Onshore	158	166,60	-	-	166,60	166,60	221.398	37	37	-	-	11	15.847	167	167
CY	Other	2015	Solar energy - PV	24	-	-	-	-	-	39.235	-	-	-	-	-	-	-	-
CZ	FIT	2014	Biogas - Landfill gas	-	2.798,97	-	-	1.753,97	63,70	8.689	15	1	-	-	-	-	-	-
CZ	FIT	2014	Biogas - Other biogas	-	4.064,07	-	-	3.019,07	109,64	133.592	403	15	-	-	-	-	-	-
CZ	FIT	2014	Solid biomass - Other solid	-	3.709,63	-	-	2.664,63	96,77	37.945	101	4	-	-	-	-	-	-
CZ	FIT	2014	Hydropower	-	2.595,69	-	-	1.550,69	56,32	93.700	145	5	-	-	2	3.467	11	0
CZ	FIT	2014	Solar energy - PV	-	13.012,70	-	-	11.967,70	434,62	1.361.953	16.299	592	-	-	-	-	-	-
CZ	FIT	2014	Wind energy - Onshore	-	2.715,00	-	-	1.670,00	60,65	58.699	98	4	-	-	-	-	-	-
CZ	FIP (incl. CfD)	2014	Biogas - Landfill gas	-	-	386	14	-	-	180.000	386	14	2.144,65	77,89	-	-	-	-
CZ	FIP (incl. CfD)	2014	Biogas - Other biogas	-	-	6.430	234	-	-	2.034.000	6.430	234	3.161,29	114,81	-	-	-	-
CZ	FIP (incl. CfD)	2014	Solid biomass - Other solid	-	-	3.225	117	-	-	1.756.000	3.225	117	1.836,56	66,70	2	128	0	0
CZ	FIP (incl. CfD)	2014	Hydropower	-	-	1.702	62	-	-	949.000	1.702	62	1.793,73	65,14	8	12.904	30	1
CZ	FIP (incl. CfD)	2014	Solar energy - PV	-	-	8.252	300	-	-	733.000	8.252	300	11.257,84	408,84	-	-	-	-
CZ	FIP (incl. CfD)	2014	Wind energy - Onshore	-	-	906	33	-	-	411.000	906	33	2.204,98	80,08	11	3.233	4	0

Country Code	Type of support scheme	Year	Technology detail	Installed capacity [MW]	Average unitary FIT [LCY/MWh]	Value of premiums or inv. grants [MLCY]	Value of premiums or inv. grants [MEUR]	Effective unitary incentive [LCY/MWh]	Effective unitary incentive [EUR/MWh]	Energy receiving support [MWh]	RES incentives costs [MLCY]	RES incentives costs [MEUR]	RES unitary incentives costs [LCY/MWh]	RES unitary incentives costs [EUR/MWh]	Installed capacity [new plants] [MW]	Energy receiving support [new plants] [MWh]	RES incentives costs [new plants]	RES incentives costs [new plants]
CZ	FIT	2015	Biogas - Landfill gas	-	2.835,10	-	-	1.861,10	68,22	6.383	12	0	-	-	-	-	-	-
CZ	FIT	2015	Biogas - Other biogas	-	4.018,80	-	-	3.044,80	111,62	72.790	222	8	-	-	-	-	-	-
CZ	FIT	2015	Solid biomass - Other solid	-	3.517,90	-	-	2.543,90	93,25	2.910	7	0	-	-	-	-	-	-
CZ	FIT	2015	Hydropower	-	2.713,30	-	-	1.739,30	63,76	76.329	133	5	-	-	0	142	0	0
CZ	FIT	2015	Solar energy - PV	-	13.224,00	-	-	12.250,00	449,06	1.413.922	17.321	629	-	-	-	-	-	-
CZ	FIT	2015	Wind energy - Onshore	-	2.781,60	-	-	1.807,60	66,26	65.279	118	4	-	-	-	-	-	-
CZ	FIP (incl. CfD)	2015	Biogas - Landfill gas	-	-	363	13	-	-	165.000	363	13	2.200,00	80,65	-	-	-	-
CZ	FIP (incl. CfD)	2015	Biogas - Other biogas	-	-	6.794	249	-	-	2.148.000	6.794	249	3.162,94	115,95	-	-	-	-
CZ	FIP (incl. CfD)	2015	Solid biomass - Other solid	-	-	3.450	126	-	-	1.871.000	3.450	126	1.843,93	67,60	0	0	0	0
CZ	FIP (incl. CfD)	2015	Hydropower	-	-	1.792	66	-	-	965.000	1.792	66	1.856,99	68,07	1	572	1	0
CZ	FIP (incl. CfD)	2015	Solar energy - PV	-	-	9.494	348	-	-	817.000	9.494	348	11.620,56	425,99	-	-	-	-
CZ	FIP (incl. CfD)	2015	Wind energy - Onshore	-	-	1.085	40	-	-	498.000	1.085	40	2.178,71	79,87	-	-	-	-
DE	FIT	2014	Biogas - Total biogas	237	71,22	-	-	38,64	38,64	625.620	24	24	-	-	-	-	-	-
DE	FIT	2014	Solid biomass - Total solid	2.022	206,42	-	-	173,84	173,84	12.814.057	2.228	2.228	-	-	-	-	-	-
DE	FIT	2014	Bioenergy	2.259	200,12	-	-	167,54	167,54	13.439.677	2.252	2.252	-	-	-	-	-	-
DE	FIT	2014	Geothermal energy	23	243,25	-	-	210,67	210,67	53.304	11	11	-	-	-	-	-	-
DE	FIT	2014	Hydropower	846	103,97	-	-	71,39	71,39	2.432.425	174	174	-	-	-	-	-	-
DE	FIT	2014	Solar energy - PV	32.263	332,25	-	-	299,67	299,67	27.547.584	8.255	8.255	-	-	-	-	-	-
DE	FIT	2014	Wind energy - Offshore	372	184,37	-	-	151,79	151,79	149.982	23	23	-	-	-	-	-	-
DE	FIT	2014	Wind energy - Onshore	5.359	91,33	-	-	58,75	58,75	6.929.727	407	407	-	-	-	-	-	-
DE	FIP (incl. CfD)	2014	Biogas - Total biogas	284	-	38	38	-	-	983.220	38	38	38,67	38,67	-	-	-	-
DE	FIP (incl. CfD)	2014	Solid biomass - Total solid	4.552	-	3.753	3.753	-	-	25.494.974	3.753	3.753	147,20	147,20	-	-	-	-
DE	FIP (incl. CfD)	2014	Bioenergy	4.836	-	3.791	3.791	-	-	26.478.194	3.791	3.791	143,17	143,17	-	-	-	-
DE	FIP (incl. CfD)	2014	Geothermal energy	11	-	10	10	-	-	44.828	10	10	219,64	219,64	-	-	-	-
DE	FIP (incl. CfD)	2014	Hydropower	641	-	148	148	-	-	2.725.804	148	148	54,33	54,33	-	-	-	-
DE	FIP (incl. CfD)	2014	Solar energy - PV	5.961	-	1.078	1.077	-	-	5.444.337	1.077	1.077	197,91	197,91	-	-	-	-
DE	FIP (incl. CfD)	2014	Wind energy - Offshore	622	-	185	185	-	-	1.299.447	185	185	142,61	142,61	-	-	-	-
DE	FIP (incl. CfD)	2014	Wind energy - Onshore	31.872	-	3.413	3.413	-	-	48.349.475	3.413	3.413	70,59	70,59	-	-	-	-
DE	FIT	2015	Biogas - Total biogas	323	71,69	-	-	40,49	40,49	531.753	22	22	-	-	-	-	-	-
DE	FIT	2015	Solid biomass - Total solid	2.266	204,94	-	-	173,74	173,74	11.153.640	1.938	1.938	-	-	-	-	-	-
DE	FIT	2015	Bioenergy	2.589	198,88	-	-	167,68	167,68	11.685.393	1.959	1.959	-	-	-	-	-	-
DE	FIT	2015	Geothermal energy	25	215,33	-	-	184,13	184,13	80.075	15	15	-	-	-	-	-	-
DE	FIT	2015	Hydropower	844	104,19	-	-	72,99	72,99	2.444.750	178	178	-	-	-	-	-	-
DE	FIT	2015	Solar energy - PV	32.835	330,56	-	-	299,36	299,36	28.652.062	8.577	8.577	-	-	-	-	-	-
DE	FIT	2015	Wind energy - Offshore	65	155,20	-	-	124,00	124,00	21.790	3	3	-	-	-	-	-	-

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DE	FIT	2015	Wind energy - Onshore	5.996	89,63	-	-	58,43	58,43	6.679.782	390	390	-	-	-	-	-	-
DE	FIP (incl. CfD)	2015	Biogas - Total biogas	176	-	35	35	-	-	891.360	35	35	38,94	38,94	-	-	-	-
DE	FIP (incl. CfD)	2015	Solid biomass - Total solid	4.634	-	4.468	4.468	-	-	29.474.578	4.468	4.468	151,60	151,60	-	-	-	-
DE	FIP (incl. CfD)	2015	Bioenergy	4.810	-	4.503	4.503	-	-	30.365.938	4.503	4.503	148,30	148,30	-	-	-	-
DE	FIP (incl. CfD)	2015	Geothermal energy	9	-	12	12	-	-	53.065	12	12	220,41	220,41	-	-	-	-
DE	FIP (incl. CfD)	2015	Hydropower	619	-	152	152	-	-	2.860.782	152	152	53,17	53,17	-	-	-	-
DE	FIP (incl. CfD)	2015	Solar energy - PV	6.492	-	1.169	1.169	-	-	6.558.425	1.169	1.169	178,26	178,26	-	-	-	-
DE	FIP (incl. CfD)	2015	Wind energy - Offshore	3.363	-	1.259	1.259	-	-	8.140.224	1.259	1.259	154,67	154,67	-	-	-	-
DE	FIP (incl. CfD)	2015	Wind energy - Onshore	35.153	-	4.484	4.484	-	-	64.147.450	4.484	4.484	69,90	69,90	-	-	-	-
DK	FIT	2014	Biogas - Total biogas	485	-	-	-	-	-	482.843	421	57	-	-	-	-	-	-
DK	FIT	2014	Solid biomass - Total solid	2.004	-	-	-	-	-	2.872.573	438	59	-	-	-	-	-	-
DK	FIT	2014	Hydropower	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DK	FIT	2014	Solar energy - PV	608	1.500,00	-	-	1.267,00	169,96	112.302	116	16	-	-	-	-	-	-
DK	FIT	2014	Wind energy - Offshore	1.271	800,00	-	-	567,00	76,06	7.792.560	2.403	323	-	-	-	-	-	-
DK	FIT	2014	Wind energy - Onshore	3.615	500,00	-	-	267,00	35,82	4.775.227	1.479	199	-	-	-	-	-	-
DK	FIT	2014	Other	2.003	-	-	-	-	-	3.850.000	1.961	263	-	-	-	-	-	-
DK	FIT	2015	Biogas - Total biogas	484	-	-	-	-	-	514.791	524	70	-	-	-	-	-	-
DK	FIT	2015	Solid biomass - Total solid	2.017	-	-	-	-	-	2.530.859	446	60	-	-	-	-	-	-
DK	FIT	2015	Hydropower	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DK	FIT	2015	Solar energy - PV	784	1.500,00	-	-	1.324,51	177,58	128.053	74	10	-	-	-	-	-	-
DK	FIT	2015	Wind energy - Offshore	1.271	800,00	-	-	624,51	83,73	9.138.155	2.731	367	-	-	-	-	-	-
DK	FIT	2015	Wind energy - Onshore	3.809	500,00	-	-	324,51	43,51	4.911.959	1.742	234	-	-	-	-	-	-
DK	FIT	2015	Other	2.001	-	-	-	-	-	3.084.000	2.322	312	-	-	-	-	-	-
EE	FIT	2014	Biogas - Total biogas	9	53,70	-	-	16,09	16,09	42.900	1	1	-	-	4	-	-	-
EE	FIT	2014	Solid biomass - Total solid	93	53,70	-	-	16,09	16,09	557.800	9	9	-	-	4	-	-	-
EE	FIT	2014	Hydropower	8	53,70	-	-	16,09	16,09	22.400	0	0	-	-	1	-	-	-
EE	FIT	2014	Solar energy - PV	1	53,70	-	-	16,09	16,09	538	0	0	-	-	0	-	-	-
EE	FIT	2014	Wind energy - Onshore	302	53,70	-	-	16,09	16,09	489.100	8	8	-	-	20	-	-	-
EE	FIT	2015	Biogas - Total biogas	10	53,70	-	-	22,62	22,62	49.913	1	1	-	-	2	-	-	-
EE	FIT	2015	Solid biomass - Total solid	104	53,70	-	-	22,62	22,62	583.126	13	13	-	-	11	-	-	-
EE	FIT	2015	Hydropower	8	53,70	-	-	22,62	22,62	18.420	0	0	-	-	0	-	-	-
EE	FIT	2015	Solar energy - PV	4	53,70	-	-	22,62	22,62	1.595	0	0	-	-	3	-	-	-
EE	FIT	2015	Wind energy - Onshore	307	53,70	-	-	22,62	22,62	600.195	14	14	-	-	6	-	-	-
EL	FIT	2014	Bioenergy	47	104,00	-	-	42,28	42,28	207.000	9	9	-	-	-	-	-	-
EL	FIT	2014	Hydropower	220	88,10	-	-	26,38	26,38	701.000	18	18	-	-	-	-	-	-

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EL	FIT	2014	Solar energy - PV	2.596	329,88	-	-	268,16	268,16	3.829.000	1.027	1.027	-	-	-	-	-	-
EL	FIT	2014	Wind energy - Onshore	1.978	90,90	-	-	29,18	29,18	3.689.000	108	108	-	-	-	-	-	-
EL	FIT	2015	Bioenergy	52	104,90	-	-	49,61	49,61	222.000	11	11	-	-	-	-	-	-
EL	FIT	2015	Hydropower	224	87,00	-	-	31,71	31,71	708.000	22	22	-	-	-	-	-	-
EL	FIT	2015	Solar energy - PV	2.604	305,36	-	-	250,07	250,07	3.900.000	975	975	-	-	-	-	-	-
EL	FIT	2015	Wind energy - Onshore	2.091	89,40	-	-	34,11	34,11	4.621.000	158	158	-	-	-	-	-	-
ES	Other	2014	Bioenergy	990	-	-	-	-	-	4.511.171	292	292	64,83	64,83	-	-	-	-
ES	Other	2014	Hydropower	2.098	-	-	-	-	-	3.016.406	79	79	26,06	26,06	-	-	-	-
ES	Other	2014	Solar energy - PV	4.655	-	-	-	-	-	8.146.130	2.442	2.442	299,79	299,79	-	-	-	-
ES	Other	2014	Solar energy - CSP	2.300	-	-	-	-	-	4.945.262	1.240	1.240	250,80	250,80	-	-	-	-
ES	Other	2014	Wind energy - Onshore	23.020	-	-	-	-	-	37.544.434	1.254	1.254	33,39	33,39	-	-	-	-
ES	Other	2015	Bioenergy	1.006	-	-	-	-	-	4.539.101	296	296	65,24	65,24	-	-	-	-
ES	Other	2015	Hydropower	2.104	-	-	-	-	-	2.234.633	74	74	32,94	32,94	-	-	-	-
ES	Other	2015	Solar energy - PV	4.674	-	-	-	-	-	8.152.979	2.435	2.435	298,61	298,61	-	-	-	-
ES	Other	2015	Solar energy - CSP	2.300	-	-	-	-	-	5.084.727	1.275	1.275	250,71	250,71	-	-	-	-
ES	Other	2015	Wind energy - Onshore	23.020	-	-	-	-	-	34.702.719	1.254	1.254	36,12	36,12	-	-	-	-
FI	FIP (incl. CfD)	2014	Biogas - Other biogas	2	-	0	0	-	-	4.777	0	0	28,74	28,74	2	-	1	1
FI	FIP (incl. CfD)	2014	Biogas - Total biogas	2	-	0	0	-	-	4.777	0	0	28,74	28,74	2	-	1	1
FI	FIP (incl. CfD)	2014	Solid biomass - Other solid	3.653	-	28	28	-	-	6.719.630	28	28	4,14	4,14	-	-	-	-
FI	FIP (incl. CfD)	2014	Solid biomass - Total solid	3.653	-	28	28	-	-	6.719.630	28	28	4,14	4,14	-	-	-	-
FI	FIP (incl. CfD)	2014	Wind energy - Onshore	421	-	52	52	-	-	757.733	52	52	68,19	68,19	259	669.249	49	49
FI	Investment grant	2014	Biogas - Landfill gas	-	-	0	0	-	-	-	-	-	-	-	-	-	0	0
FI	Investment grant	2014	Biogas - Total biogas	-	-	0	0	-	-	-	-	-	-	-	-	-	0	0
FI	Investment grant	2014	Geothermal energy	-	-	1	1	-	-	-	-	-	-	-	-	-	1	1
FI	Investment grant	2014	Hydropower	-	-	1	1	-	-	-	-	-	-	-	-	-	1	1
FI	Investment grant	2014	Solar energy - PV	-	-	2	2	-	-	-	-	-	-	-	-	-	2	2
FI	Investment grant	2014	Wind energy - Offshore	-	-	20	20	-	-	-	-	-	-	-	-	-	20	20
FI	Investment grant	2014	Wind energy - Onshore	-	-	0	0	-	-	-	-	-	-	-	-	-	0	0
FI	FIP (incl. CfD)	2015	Biogas - Other biogas	6	-	1	1	-	-	11.306	1	1	84,25	84,25	2	4.399	0	0
FI	FIP (incl. CfD)	2015	Biogas - Total biogas	6	-	1	1	-	-	11.306	1	1	84,25	84,25	2	4.399	0	0
FI	FIP (incl. CfD)	2015	Solid biomass - Other solid	3.697	-	30	30	-	-	5.191.127	30	30	5,73	5,73	-	-	-	-
FI	FIP (incl. CfD)	2015	Solid biomass - Total solid	3.697	-	30	30	-	-	5.191.127	30	30	5,73	5,73	-	-	-	-
FI	FIP (incl. CfD)	2015	Wind energy - Onshore	903	-	112	112	-	-	1.543.886	112	112	72,34	72,34	473	419.558	31	31
FI	Investment grant	2015	Geothermal energy	-	-	1	1	-	-	-	-	-	-	-	-	-	1	1
FI	Investment grant	2015	Hydropower	-	-	0	0	-	-	-	-	-	-	-	-	-	0	0

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FI	Investment grant	2015	Solar energy - PV	-	-	4	4	-	-	-	-	-	-	-	-	-	4	4
FI	Investment grant	2015	Solar energy - CSP	-	-	0	0	-	-	-	-	-	-	-	-	-	0	0
FI	Investment grant	2015	Wind energy - Onshore	-	-	0	0	-	-	-	-	-	-	-	-	-	0	0
FR	FIT	2014	Biogas - Total biogas	270	122,78	-	-	76,65	76,65	1.303.744	100	100	-	-	28	-	-	-
FR	FIT	2014	Solid biomass - Total solid	47	168,04	-	-	116,76	116,76	77.836	9	9	-	-	12	-	-	-
FR	FIT	2014	Hydropower	1.754	74,56	-	-	33,62	33,62	5.427.690	182	182	-	-	78	-	-	-
FR	FIT	2014	Solar energy - PV	4.990	458,24	-	-	420,09	420,09	5.174.579	2.174	2.174	-	-	566	-	-	-
FR	FIT	2014	Wind energy - Onshore	9.038	93,30	-	-	50,15	50,15	16.075.164	806	806	-	-	978	-	-	-
FR	FIT	2014	Other	1.027	58,15	-	-	14,02	14,02	2.421.294	34	34	-	-	105	-	-	-
FR	Other	2014	Biogas - Total biogas	16	-	-	-	-	-	88.946	6	6	63,50	63,50	-	-	-	-
FR	Other	2014	Solid biomass - Total solid	295	-	-	-	-	-	1.507.777	147	147	97,26	97,26	-	-	-	-
FR	Other	2014	Solar energy - PV	268	-	-	-	-	-	220.575	29	29	130,08	130,08	-	-	-	-
FR	Other	2014	Wind energy - Onshore	84	-	-	-	-	-	180.649	9	9	47,40	47,40	-	-	-	-
FR	FIT	2015	Biogas - Total biogas	318	130,58	-	-	87,22	87,22	1.511.758	132	132	-	-	40	-	-	-
FR	FIT	2015	Solid biomass - Total solid	67	194,03	-	-	142,49	142,49	177.070	25	25	-	-	14	-	-	-
FR	FIT	2015	Hydropower	1.793	77,33	-	-	35,21	35,21	4.746.922	167	167	-	-	85	-	-	-
FR	FIT	2015	Solar energy - PV	5.901	412,62	-	-	371,95	371,95	6.208.531	2.309	2.309	-	-	636	-	-	-
FR	FIT	2015	Wind energy - Onshore	10.171	93,59	-	-	51,11	51,11	19.881.512	1.016	1.016	-	-	1.116	-	-	-
FR	FIT	2015	Other	703	59,21	-	-	16,77	16,77	2.164.958	36	36	-	-	40	-	-	-
FR	Other	2015	Biogas - Total biogas	16	-	-	-	-	-	90.816	6	6	63,60	63,60	-	-	-	-
FR	Other	2015	Solid biomass - Total solid	314	-	-	-	-	-	1.788.480	176	176	98,16	98,16	-	-	-	-
FR	Other	2015	Solar energy - PV	443	-	-	-	-	-	507.513	69	69	135,37	135,37	-	-	-	-
FR	Other	2015	Wind energy - Onshore	84	-	-	-	-	-	208.698	8	8	38,37	38,37	-	-	-	-
HR	FIT	2014	Biogas - Landfill gas	5	1.180,00	-	-	860,00	112,65	11.001	9	1	-	-	2	-	-	-
HR	FIT	2014	Biogas - Other biogas	12	1.400,00	-	-	1.080,00	141,46	87.934	95	12	-	-	1	-	-	-
HR	FIT	2014	Biogas - Total biogas	17	1.370,00	-	-	1.050,00	137,54	98.935	104	14	-	-	3	-	-	-
HR	FIT	2014	Solid biomass - Total solid	8	1.300,00	-	-	980,00	128,37	50.158	49	6	-	-	1	-	-	-
HR	FIT	2014	Hydropower	1	960,00	-	-	640,00	83,83	9.005	6	1	-	-	0	-	-	-
HR	FIT	2014	Solar energy - PV	34	2.360,00	-	-	2.040,00	267,21	35.174	72	9	-	-	14	-	-	-
HR	FIT	2014	Wind energy - Onshore	339	720,00	-	-	400,00	52,39	729.970	292	38	-	-	85	-	-	-
HR	FIT	2015	Biogas - Landfill gas	6	440,00	-	-	130,00	17,07	91	0	0	-	-	1	-	-	-
HR	FIT	2015	Biogas - Other biogas	22	1.280,00	-	-	970,00	127,40	153.335	149	19	-	-	9	-	-	-
HR	FIT	2015	Biogas - Total biogas	27	1.270,00	-	-	960,00	126,09	153.426	147	19	-	-	10	-	-	-
HR	FIT	2015	Solid biomass - Total solid	25	1.220,00	-	-	910,00	119,52	86.865	79	10	-	-	17	-	-	-
HR	FIT	2015	Hydropower	3	930,00	-	-	620,00	81,43	10.323	6	1	-	-	2	-	-	-

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HR	FIT	2015	Solar energy - PV	44	2.140,00	-	-	1.830,00	240,36	53.161	97	13	-	-	10	-	-	-
HR	FIT	2015	Wind energy - Onshore	384	780,00	-	-	470,00	61,73	782.212	368	48	-	-	-	-	-	-
HU	FIT	2014	Biogas - Landfill gas	13	31.464,27	-	-	18.911,27	61,26	54.231	1.026	3	-	-	1	2.175	41	0
HU	FIT	2014	Biogas - Sewage sludge	0	36.300,10	-	-	23.747,10	76,92	0	0	0	-	-	-	-	-	-
HU	FIT	2014	Biogas - Other biogas	39	33.649,94	-	-	21.096,94	68,34	128.604	2.713	9	-	-	4	1.454	32	0
HU	FIT	2014	Biogas - Total biogas	52	33.001,64	-	-	20.448,64	66,24	182.835	3.739	12	-	-	5	-	73	0
HU	FIT	2014	Solid biomass - Other solid	359	34.401,85	-	-	21.848,85	70,77	1.289.027	28.164	91	-	-	-	-	-	-
HU	FIT	2014	Solid biomass - Total solid	359	34.401,85	-	-	21.848,85	70,77	1.289.027	28.164	91	-	-	-	-	-	-
HU	FIT	2014	Hydropower	57	22.056,74	-	-	9.503,74	30,79	289.926	2.755	9	-	-	-	-	-	-
HU	FIT	2014	Solar energy - PV	7	32.490,00	-	-	19.937,00	64,58	6.810	136	0	-	-	5	4.320	86	0
HU	FIT	2014	Wind energy - Onshore	324	34.361,78	-	-	21.808,78	70,64	623.638	13.601	44	-	-	-	-	-	-
HU	FIT	2015	Biogas - Landfill gas	17	31.270,44	-	-	18.816,44	60,70	59.028	1.111	4	-	-	4	9.390	174	1
HU	FIT	2015	Biogas - Sewage sludge	0	32.971,29	-	-	20.517,29	66,18	271	6	0	-	-	-	-	-	-
HU	FIT	2015	Biogas - Other biogas	42	33.002,04	-	-	20.548,04	66,28	136.093	2.796	9	-	-	2	2.186	44	0
HU	FIT	2015	Biogas - Total biogas	59	32.478,88	-	-	20.024,88	64,60	195.392	3.913	13	-	-	-	-	-	-
HU	FIT	2015	Solid biomass - Other solid	371	34.252,47	-	-	21.798,47	70,32	1.309.163	28.538	92	-	-	-	-	-	-
HU	FIT	2015	Solid biomass - Total solid	371	34.252,47	-	-	21.798,47	70,32	1.309.163	28.538	92	-	-	-	-	-	-
HU	FIT	2015	Hydropower	57	21.586,12	-	-	9.132,12	29,46	223.615	2.042	7	-	-	0	52	1	0
HU	FIT	2015	Solar energy - PV	25	32.140,00	-	-	19.686,00	63,50	10.523	207	1	-	-	18	2.197	43	0
HU	FIT	2015	Wind energy - Onshore	320	34.390,00	-	-	21.936,00	70,76	663.612	14.557	47	-	-	-	-	-	-
IE	Other	2014	Bioenergy	-	-	-	-	-	-	263,476	-	9	-	32,30	-	-	-	-
IE	Other	2014	Hydropower	-	-	-	-	-	-	6.649	-	0	-	25,50	-	-	-	-
IE	Other	2014	Wind energy - Onshore	-	-	-	-	-	-	3.781.095	-	47	-	12,40	-	-	-	-
IE	Other	2015	Bioenergy	-	-	-	-	-	-	326.657	-	15	-	45,10	-	-	-	-
IE	Other	2015	Hydropower	-	-	-	-	-	-	6.320	-	0	-	36,20	-	-	-	-
IE	Other	2015	Wind energy - Onshore	-	-	-	-	-	-	4.974.427	-	116	-	23,40	-	-	-	-
IT	FIT	2014	Biogas - Landfill gas	112	212,00	-	-	156,90	156,90	565.327	89	89	-	-	0	1.080	0	0
IT	FIT	2014	Biogas - Other biogas	780	280,00	-	-	224,90	224,90	5.594.281	1.258	1.258	-	-	13	14.540	3	3
IT	FIT	2014	Solid biomass - Other solid	-	-	-	-	-	-	-	-	-	-	-	7	9.480	2	2
IT	FIT	2014	Solid biomass - Total solid	130	273,00	-	-	217,90	217,90	519.684	113	113	-	-	-	-	-	-
IT	FIT	2014	Bioenergy	1.205	274,00	-	-	218,90	218,90	7.184.506	1.573	1.573	-	-	21	25.100	4	4
IT	FIT	2014	Hydropower	503	217,00	-	-	161,90	161,90	2.086.173	338	338	-	-	12	21.540	3	3
IT	FIT	2014	Solar energy - PV	1.035	199,00	-	-	143,90	143,90	1.158.375	167	167	-	-	-	-	-	-
IT	FIT	2014	Wind energy - Onshore	67	227,00	-	-	171,90	171,90	57.660	10	10	-	-	33	9.300	2	2
IT	Green Certificates	2014	Biogas - Landfill gas	239	-	-	-	87,92	87,92	563.128	50	50	-	-	-	-	-	-

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IT	Green Certificates	2014	Biogas - Other biogas	114	-	-	-	105,76	105,76	277.812	29	29	-	-	-	-	-	-
IT	Green Certificates	2014	Solid biomass - Biodegradable	1.142	-	-	-	116,08	116,08	1.053.984	122	122	-	-	-	-	-	-
IT	Green Certificates	2014	Solid biomass - Other solid	1.874	-	-	-	134,26	134,26	1.710.498	230	230	-	-	-	-	-	-
IT	Green Certificates	2014	Solid biomass - Total solid	3.016	-	-	-	-	-	2.764.482	352	352	-	-	-	-	-	-
IT	Green Certificates	2014	Bioenergy	4.185	-	-	-	121,14	121,14	7.272.414	881	881	-	-	-	-	-	-
IT	Green Certificates	2014	Geothermal energy	681	-	-	-	88,56	88,56	1.703.731	151	151	-	-	-	-	-	-
IT	Green Certificates	2014	Hydropower	7.396	-	-	-	94,00	94,00	12.739.519	1.198	1.198	-	-	-	-	-	-
IT	Green Certificates	2014	Solar energy - PV	6	-	-	-	94,00	94,00	1.770	0	0	-	-	-	-	-	-
IT	Green Certificates	2014	Wind energy - Onshore	8.206	-	-	-	94,00	94,00	14.036.453	1.319	1.319	-	-	-	-	-	-
IT	FIP (incl. CfD)	2014	Solid biomass - Biodegradable	18	-	0	0	-	-	6.892	0	0	68,20	68,20	-	-	-	-
IT	FIP (incl. CfD)	2014	Solid biomass - Other solid	-	-	-	-	-	-	-	-	-	-	-	18	6.890	0	0
IT	FIP (incl. CfD)	2014	Solid biomass - Total solid	18	-	-	-	-	-	6.892	0	0	-	-	-	-	-	-
IT	FIP (incl. CfD)	2014	Bioenergy	18	-	0	0	-	-	6.892	0	0	68,20	68,20	18	6.890	0	0
IT	FIP (incl. CfD)	2014	Geothermal energy	20	-	2	2	-	-	153.297	2	2	11,87	11,87	20	153.300	2	2
IT	FIP (incl. CfD)	2014	Hydropower	10	-	2	2	-	-	38.294	2	2	60,85	60,85	4	5.960	0	0
IT	FIP (incl. CfD)	2014	Solar energy - PV	16.635	-	6.336	6.336	-	-	19.992.310	6.336	6.336	316,92	316,92	-	-	-	-
IT	FIP (incl. CfD)	2014	Wind energy - Onshore	231	-	24	24	-	-	339.940	24	24	70,81	70,81	83	44.870	3	3
IT	Other	2014	Biogas - Other biogas	28	-	-	-	-	-	115.048	10	10	85,27	85,27	-	-	-	-
IT	Other	2014	Solid biomass - Biodegradable	285	-	-	-	-	-	1.511.339	206	206	136,11	136,11	-	-	-	-
IT	Other	2014	Solid biomass - Other solid	102	-	-	-	-	-	677.595	111	111	164,52	164,52	-	-	-	-
IT	Other	2014	Solid biomass - Total solid	387	-	-	-	-	-	2.188.934	317	317	-	-	-	-	-	-
IT	Other	2014	Bioenergy	415	-	-	-	-	-	2.303.982	327	327	141,93	141,93	-	-	-	-
IT	Other	2014	Wind energy - Onshore	150	-	-	-	-	-	202.696	9	9	42,23	42,23	-	-	-	-
IT	FIT	2015	Biogas - Landfill gas	121	215,00	-	-	163,31	163,31	663.679	108	108	-	-	-	-	-	-
IT	FIT	2015	Biogas - Other biogas	783	279,00	-	-	227,31	227,31	5.701.654	1.296	1.296	-	-	-	-	-	-
IT	FIT	2015	Biogas - Total biogas	-	-	-	-	-	-	-	-	-	-	-	14	62.590	10	10
IT	FIT	2015	Solid biomass - Other solid	-	-	-	-	-	-	-	-	-	-	-	6	13.520	2	2
IT	FIT	2015	Solid biomass - Total solid	107	269,00	-	-	217,31	217,31	444.082	97	97	-	-	-	-	-	-
IT	FIT	2015	Bioenergy	1.222	270,20	-	-	218,51	218,51	7.612.193	1.663	1.663	-	-	21	76.110	12	12
IT	FIT	2015	Hydropower	514	213,00	-	-	161,31	161,31	1.694.145	273	273	-	-	10	46.910	6	6
IT	FIT	2015	Solar energy - PV	958	193,00	-	-	141,31	141,31	1.126.097	159	159	-	-	-	-	-	-
IT	FIT	2015	Wind energy - Onshore	101	208,00	-	-	156,31	156,31	125.606	20	20	-	-	35	31.560	4	4
IT	Green Certificates	2015	Biogas - Landfill gas	216	-	-	-	90,15	90,15	452.385	41	41	-	-	-	-	-	-
IT	Green Certificates	2015	Biogas - Other biogas	112	-	-	-	111,61	111,61	247.857	28	28	-	-	-	-	-	-
IT	Green Certificates	2015	Solid biomass - Biodegradable	1.087	-	-	-	121,18	121,18	1.080.164	131	131	-	-	-	-	-	-

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IT	Green Certificates	2015	Solid biomass - Other solid	1.844	-	-	-	122,76	122,76	1.926.381	236	236	-	-	-	-	-	-
IT	Green Certificates	2015	Solid biomass - Total solid	2.931	-	-	-	-	-	3.006.545	367	367	-	-	-	-	-	-
IT	Green Certificates	2015	Bioenergy	4.075	-	-	-	121,31	121,31	7.350.680	892	892	-	-	-	-	-	-
IT	Green Certificates	2015	Geothermal energy	581	-	-	-	88,92	88,92	1.362.062	121	121	-	-	-	-	-	-
IT	Green Certificates	2015	Hydropower	7.028	-	-	-	97,06	97,06	7.985.948	775	775	-	-	-	-	-	-
IT	Green Certificates	2015	Solar energy - PV	5	-	-	-	97,12	97,12	1.488	0	0	-	-	-	-	-	-
IT	Green Certificates	2015	Wind energy - Onshore	8.149	-	-	-	96,57	96,57	13.876.632	1.340	1.340	-	-	-	-	-	-
IT	FIP (incl. CfD)	2015	Biogas - Landfill gas	2	-	1	1	-	-	9.937	1	1	72,46	72,46	-	-	-	-
IT	FIP (incl. CfD)	2015	Solid biomass - Biodegradable	18	-	0	0	-	-	5.812	0	0	75,71	75,71	-	-	-	-
IT	FIP (incl. CfD)	2015	Solid biomass - Total solid	18	-	-	-	-	-	5.812	0	0	-	-	-	-	-	-
IT	FIP (incl. CfD)	2015	Bioenergy	20	-	1	1	-	-	15.749	1	1	73,66	73,66	-	-	-	-
IT	FIP (incl. CfD)	2015	Geothermal energy	77	-	11	11	-	-	376.389	11	11	29,73	29,73	57	214.870	9	9
IT	FIP (incl. CfD)	2015	Hydropower	21	-	7	7	-	-	118.622	7	7	60,61	60,61	4	20.730	1	1
IT	FIP (incl. CfD)	2015	Solar energy - PV	16.715	-	6.075	6.075	-	-	20.531.935	6.075	6.075	295,88	295,88	-	-	-	-
IT	FIP (incl. CfD)	2015	Wind energy - Onshore	281	-	36	36	-	-	534.327	36	36	68,12	68,12	38	38.110	2	2
IT	Other	2015	Biogas - Other biogas	19	-	-	-	-	-	81.020	7	7	80,23	80,23	-	-	-	-
IT	Other	2015	Solid biomass - Biodegradable	263	-	-	-	-	-	1.345.722	176	176	130,58	130,58	-	-	-	-
IT	Other	2015	Solid biomass - Other solid	73	-	-	-	-	-	601.942	99	99	164,67	164,67	-	-	-	-
IT	Other	2015	Solid biomass - Total solid	336	-	-	-	-	-	1.947.664	275	275	-	-	-	-	-	-
IT	Other	2015	Bioenergy	355	-	-	-	-	-	2.028.684	281	281	138,69	138,69	-	-	-	-
IT	Other	2015	Wind energy - Onshore	121	-	-	-	-	-	167.663	7	7	40,68	40,68	-	-	-	-
LT	FIT	2014	Biogas - Total biogas	21	130,56	-	-	84,56	84,56	43.992	4	4	-	-	3	9.234	1	1
LT	FIT	2014	Solid biomass - Total solid	63	81,25	-	-	35,25	35,25	289.266	10	10	-	-	1	-	-	-
LT	FIT	2014	Hydropower	127	70,67	-	-	24,67	24,67	71.357	2	2	-	-	-	-	-	-
LT	FIT	2014	Solar energy - PV	69	165,21	-	-	119,21	119,21	72.817	9	9	-	-	1	2.121	0	0
LT	FIT	2014	Wind energy - Onshore	285	77,00	-	-	31,00	31,00	628.162	19	19	-	-	4	3.517	0	0
LT	FIT	2015	Biogas - Total biogas	27	119,25	-	-	71,35	71,35	58.847	4	4	-	-	6	4.916	0	0
LT	FIT	2015	Solid biomass - Total solid	64	63,83	-	-	15,93	15,93	318.358	5	5	-	-	2	-	-	-
LT	FIT	2015	Hydropower	128	69,00	-	-	21,10	21,10	69.276	1	1	-	-	1	861	0	0
LT	FIT	2015	Solar energy - PV	70	164,58	-	-	116,68	116,68	73.144	9	9	-	-	0	395	0	0
LT	FIT	2015	Wind energy - Onshore	435	70,50	-	-	22,60	22,60	725.486	16	16	-	-	150	7.760	0	0
LU	FIT	2014	Biogas - Sewage sludge	2	64,89	-	-	30,47	30,47	1.221	0	0	-	-	-	-	-	-
LU	FIT	2014	Biogas - Other biogas	8	147,64	-	-	113,22	113,22	57.821	7	7	-	-	-	-	-	-
LU	FIT	2014	Biogas - Total biogas	10	145,93	-	-	111,51	111,51	59.042	7	7	-	-	-	-	-	-
LU	FIT	2014	Solid biomass - Other solid	4	108,63	-	-	74,21	74,21	21.007	2	2	-	-	-	-	-	-

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LU	FIT	2014	Solid biomass - Total solid	4	108,63	-	-	74,21	74,21	21.007	2	2	-	-	-	-	-	-
LU	FIT	2014	Hydropower	1	91,41	-	-	56,99	56,99	2.202	0	0	-	-	-	-	-	-
LU	FIT	2014	Solar energy - PV	109	-	-	-	-	-	93.631	-	-	-	-	-	-	-	-
LU	FIT	2014	Wind energy - Onshore	49	76,32	-	-	41,90	41,90	71.332	3	3	-	-	-	-	-	-
LU	FIT	2015	Biogas - Sewage sludge	1	64,91	-	-	31,76	31,76	1.481	0	0	-	-	-	-	-	-
LU	FIT	2015	Biogas - Other biogas	10	145,46	-	-	112,31	112,31	55.589	6	6	-	-	-	-	-	-
LU	FIT	2015	Biogas - Total biogas	10	143,37	-	-	110,22	110,22	57.071	6	6	-	-	-	-	-	-
LU	FIT	2015	Solid biomass - Other solid	4	109,77	-	-	76,62	76,62	24.170	2	2	-	-	-	-	-	-
LU	FIT	2015	Solid biomass - Total solid	4	109,77	-	-	76,62	76,62	24.170	2	2	-	-	-	-	-	-
LU	FIT	2015	Hydropower	1	87,87	-	-	54,72	54,72	1.904	0	0	-	-	-	-	-	-
LU	FIT	2015	Solar energy - PV	115	-	-	-	-	-	102.461	-	-	-	-	-	-	-	-
LU	FIT	2015	Wind energy - Onshore	51	76,09	-	-	42,94	42,94	82.443	4	4	-	-	-	-	-	-
LV	FIT	2014	Biogas - Total biogas	60	185,94	-	-	135,82	135,82	335.538	46	46	-	-	4	13.865	3	3
LV	FIT	2014	Solid biomass - Total solid	42	168,54	-	-	118,42	118,42	195.292	23	23	-	-	10	12.421	2	2
LV	FIT	2014	Hydropower	28	180,15	-	-	130,03	130,03	66.640	9	9	-	-	-	-	-	-
LV	FIT	2014	Wind energy - Onshore	58	107,29	-	-	57,17	57,17	87.785	5	5	-	-	-	-	-	-
LV	FIT	2015	Biogas - Total biogas	63	176,35	-	-	134,50	134,50	374.875	50	50	-	-	3	5.125	1	1
LV	FIT	2015	Solid biomass - Total solid	48	147,93	-	-	106,08	106,08	269.711	29	29	-	-	5	15.216	2	2
LV	FIT	2015	Hydropower	28	180,27	-	-	138,42	138,42	63.338	9	9	-	-	-	-	-	-
LV	FIT	2015	Wind energy - Onshore	58	109,13	-	-	67,28	67,28	90.193	6	6	-	-	-	-	-	-
MT	FIT	2014	Solar energy - PV	54	142,36	-	-	32,36	32,36	57.596	2	2	-	-	26	22.777	2	2
MT	Investment grant	2014	Solar energy - PV	17	-	15	15	-	-	-	2	2	-	-	-	-	-	-
MT	FIT	2015	Solar energy - PV	73	175,29	-	-	70,29	70,29	78.209	5	5	-	-	19	11.190	1	1
MT	Investment grant	2015	Solar energy - PV	8	-	5	6	-	-	-	1	1	-	-	-	-	-	-
NO	Green Certificates	2014	Hydropower	597	-	-	-	164,00	19,63	1.306.203	214	26	-	-	178	266.910	164	20
NO	Green Certificates	2014	Wind energy - Onshore	102	-	-	-	164,00	19,63	217.638	36	4	-	-	45	52.146	164	20
NO	Green Certificates	2015	Hydropower	596	-	-	-	145,00	16,20	2.488.017	361	40	-	-	153	464.590	145	16
NO	Green Certificates	2015	Wind energy - Onshore	102	-	-	-	145,00	16,20	343.592	50	6	-	-	6	1.978	145	16
PL	Green Certificates	2014	Biogas - Total biogas	189	-	-	-	300,03	71,70	803.125	241	58	-	-	26	-	-	-
PL	Green Certificates	2014	Solid biomass - Total solid	1.008	-	-	-	300,03	71,70	4.615.077	1.385	331	-	-	21	-	-	-
PL	Green Certificates	2014	Hydropower	977	-	-	-	300,03	71,70	2.181.136	654	156	-	-	7	-	-	-
PL	Green Certificates	2014	Solar energy - PV	21	-	-	-	300,03	71,70	4.515	1	0	-	-	19	-	-	-
PL	Green Certificates	2014	Wind energy - Onshore	3.834	-	-	-	300,03	71,70	7.640.802	2.292	548	-	-	444	-	-	-
PL	Green Certificates	2014	Other	-	-	-	-	300,03	71,70	4.462.168	1.339	320	-	-	-	-	-	-
PL	Green Certificates	2015	Biogas - Other biogas	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-

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PL	Green Certificates	2015	Biogas - Total biogas	212	-	-	-	300,03	71,71	873.270	262	63	-	-	-	-	-	-
PL	Green Certificates	2015	Solid biomass - Total solid	1.123	-	-	-	300,03	71,71	4.490.125	1.347	322	-	-	114	-	-	-
PL	Green Certificates	2015	Hydropower	982	-	-	-	300,03	71,71	1.828.417	549	131	-	-	5	-	-	-
PL	Green Certificates	2015	Solar energy - PV	71	-	-	-	300,03	71,71	40.898	12	3	-	-	50	-	-	-
PL	Green Certificates	2015	Wind energy - Onshore	4.582	-	-	-	300,03	71,71	10.536.564	3.161	756	-	-	748	-	-	-
PL	Green Certificates	2015	Other	-	-	-	-	300,03	71,71	4.120.826	1.236	295	-	-	-	-	-	-
PT	FIT	2014	Biogas - Total biogas	72	112,43	-	-	74,42	74,42	265.170	20	20	-	-	3	3.721	0	0
PT	FIT	2014	Solid biomass - Biodegradable	95	85,30	-	-	47,29	47,29	381.015	18	18	-	-	-	-	-	-
PT	FIT	2014	Solid biomass - Other solid	138	116,44	-	-	78,43	78,43	712.584	56	56	-	-	-	-	-	-
PT	FIT	2014	Hydropower	461	94,92	-	-	56,91	56,91	1.507.710	86	86	-	-	-	-	-	-
PT	FIT	2014	Solar energy - PV	242	308,58	-	-	270,57	270,57	361.679	98	98	-	-	90	75.317	20	20
PT	FIT	2014	Wind energy - Offshore	2	170,25	-	-	132,24	132,24	3.610	0	0	-	-	-	-	-	-
PT	FIT	2014	Wind energy - Onshore	5.206	93,49	-	-	55,48	55,48	11.809.805	655	655	-	-	171	83.147	6	6
PT	FIT	2014	Other	617	98,95	-	-	60,94	60,94	1.846.995	113	113	-	-	-	-	-	-
PT	FIT	2015	Biogas - Total biogas	74	112,00	-	-	63,73	63,73	282.632	18	18	-	-	0	1.040	0	0
PT	FIT	2015	Solid biomass - Biodegradable	95	86,53	-	-	38,26	38,26	467.243	18	18	-	-	-	-	-	-
PT	FIT	2015	Solid biomass - Other solid	138	117,29	-	-	69,02	69,02	732.714	51	51	-	-	-	-	-	-
PT	FIT	2015	Hydropower	472	94,05	-	-	45,78	45,78	810.948	37	37	-	-	8	514	0	0
PT	FIT	2015	Solar energy - PV	269	297,62	-	-	249,35	249,35	484.491	121	121	-	-	27	17.618	3	3
PT	FIT	2015	Wind energy - Offshore	2	171,18	-	-	122,91	122,91	4.415	1	1	-	-	-	-	-	-
PT	FIT	2015	Wind energy - Onshore	5.305	94,13	-	-	45,86	45,86	11.331.616	520	520	-	-	83	36.266	3	3
PT	FIT	2015	Other	494	99,30	-	-	51,03	51,03	1.664.904	85	85	-	-	-	-	-	-
RO	Green Certificates	2014	Biogas - Landfill gas	3	-	-	-	222,66	50,11	16.106	4	1	-	-	0	568	0	0
RO	Green Certificates	2014	Biogas - Sewage sludge	1	-	-	-	222,66	50,11	937	0	0	-	-	0	109	0	0
RO	Green Certificates	2014	Biogas - Other biogas	8	-	-	-	222,66	50,11	31.703	7	2	-	-	3	11.608	3	1
RO	Green Certificates	2014	Biogas - Total biogas	12	-	-	-	222,66	50,11	48.746	11	2	-	-	4	12.284	3	1
RO	Green Certificates	2014	Solid biomass - Biodegradable	88	-	-	-	222,66	50,11	636.795	142	32	-	-	30	88.621	20	4
RO	Green Certificates	2014	Solid biomass - Total solid	88	-	-	-	222,66	50,11	636.795	142	32	-	-	30	88.621	20	4
RO	Green Certificates	2014	Hydropower	564	-	-	-	222,66	50,11	1.298.680	289	65	-	-	21	12.448	3	1
RO	Green Certificates	2014	Solar energy - PV	1.230	-	-	-	222,66	50,11	1.319.028	294	66	-	-	83	45.361	10	2
RO	Green Certificates	2014	Wind energy - Onshore	2.550	-	-	-	222,66	50,11	4.556.231	1.014	228	-	-	219	130.666	29	7
RO	Green Certificates	2015	Biogas - Landfill gas	5	-	-	-	213,14	47,95	21.655	5	1	-	-	2	-	-	-
RO	Green Certificates	2015	Biogas - Sewage sludge	1	-	-	-	213,14	47,95	2.505	1	0	-	-	1	1.016	0	0
RO	Green Certificates	2015	Biogas - Other biogas	11	-	-	-	213,14	47,95	41.781	9	2	-	-	3	6.345	1	0
RO	Green Certificates	2015	Biogas - Total biogas	17	-	-	-	213,14	47,95	65.941	14	3	-	-	1	-	-	-

Country Code	Type of support scheme	Year	Technology detail	Installed capacity [MW]	Average unitary FIT [LCY/MWh]	Value of premiums or inv. grants [MLCY]	Value of premiums or inv. grants [MEUR]	Effective unitary incentive [LCY/MWh]	Effective unitary incentive [EUR/MWh]	Energy receiving support [MWh]	RES incentives costs [MLCY]	RES incentives costs [MEUR]	RES unitary incentives costs [LCY/MWh]	RES unitary incentives costs [EUR/MWh]	Installed capacity [new plants] [MW]	Energy receiving support [new plants] [MWh]	RES incentives costs [new plants]	RES incentives costs [new plants]
RO	Green Certificates	2015	Solid biomass - Biodegradable	89	-	-	-	213,14	47,95	657.771	140	32	-	-	1	1.962	0	0
RO	Green Certificates	2015	Solid biomass - Total solid	89	-	-	-	213,14	47,95	657.771	140	32	-	-	1	1.962	0	0
RO	Green Certificates	2015	Hydropower	333	-	-	-	213,14	47,95	853.583	182	41	-	-	19	37.234	8	2
RO	Green Certificates	2015	Solar energy - PV	1.297	-	-	-	213,14	47,95	1.597.068	340	77	-	-	69	36.690	8	2
RO	Green Certificates	2015	Wind energy - Onshore	2.957	-	-	-	213,14	47,95	4.944.578	1.054	237	-	-	145	165.021	35	8
SE	Green Certificates	2014	Bioenergy	2.715	-	-	-	195,51	21,49	4.812.324	941	103	-	-	147	148.471	29	3
SE	Green Certificates	2014	Hydropower	9.680	-	-	-	195,51	21,49	1.376.114	269	30	-	-	0	26	0	0
SE	Green Certificates	2014	Solar energy - PV	35	-	-	-	195,51	21,49	10.771	2	0	-	-	15	3.000	1	0
SE	Green Certificates	2014	Wind energy - Offshore	190	-	-	-	195,51	21,49	-	-	-	-	-	-	-	-	-
SE	Green Certificates	2014	Wind energy - Onshore	4.564	-	-	-	195,51	21,49	11.023.759	2.155	237	-	-	914	1.009.903	197	22
SE	Investment grant	2014	Solar energy - PV	56	-	76	8	-	-	-	-	-	-	-	25	-	5	0
SE	Green Certificates	2015	Bioenergy	2.876	-	-	-	173,23	18,52	4.416.473	765	82	-	-	161	280.841	49	5
SE	Green Certificates	2015	Hydropower	9.681	-	-	-	173,23	18,52	1.703.192	295	32	-	-	1	4.138	1	0
SE	Green Certificates	2015	Solar energy - PV	56	-	-	-	173,23	18,52	24.539	4	0	-	-	21	4.007	1	0
SE	Green Certificates	2015	Wind energy - Offshore	187	-	-	-	173,23	18,52	15.612.210	2.705	289	-	-	-	-	-	-
SE	Green Certificates	2015	Wind energy - Onshore	5.316	-	-	-	173,23	18,52	-	-	-	-	-	752	1.104.428	191	20
SE	Investment grant	2015	Solar energy - PV	65	-	78	8	-	-	-	-	-	-	-	8	-	2	0
SI	FIT	2014	Biogas - Total biogas	34	115,00	-	-	74,57	74,57	129.437	10	10	-	-	0	48	0	0
SI	FIT	2014	Solid biomass - Biodegradable	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SI	FIT	2014	Solid biomass - Other solid	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SI	FIT	2014	Solid biomass - Total solid	22	134,00	-	-	93,57	93,57	99.975	9	9	-	-	4	23.166	6	6
SI	FIT	2014	Hydropower	29	47,00	-	-	6,57	6,57	156.737	1	1	-	-	0	346	0	0
SI	FIT	2014	Solar energy - PV	255	242,00	-	-	201,57	201,57	244.645	49	49	-	-	6	6.703	1	1
SI	FIT	2014	Wind energy - Onshore	3	61,00	-	-	20,57	20,57	4.209	0	0	-	-	1	2.014	0	0
SI	FIT	2015	Biogas - Total biogas	34	115,00	-	-	73,59	73,59	129.237	10	10	-	-	-	-	-	-
SI	FIT	2015	Solid biomass - Biodegradable	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SI	FIT	2015	Solid biomass - Other solid	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SI	FIT	2015	Solid biomass - Total solid	24	134,00	-	-	92,59	92,59	119.975	11	11	-	-	-	-	-	-
SI	FIT	2015	Hydropower	30	47,00	-	-	5,59	5,59	119.837	1	1	-	-	-	-	-	-
SI	FIT	2015	Solar energy - PV	256	242,00	-	-	200,59	200,59	266.045	53	53	-	-	-	-	-	-
SI	FIT	2015	Wind energy - Onshore	3	61,00	-	-	19,59	19,59	5.509	0	0	-	-	-	-	-	-
UK	FIT	2014	Solid biomass - Other solid	107	131,38	-	-	89,25	110,72	591.204	53	65	-	-	-	-	-	-
UK	FIT	2014	Solid biomass - Total solid	107	-	-	-	-	-	591.204	53	65	-	-	-	-	-	-
UK	FIT	2014	Bioenergy	107	131,38	-	-	89,25	110,72	591.204	53	65	-	-	-	-	-	-
UK	FIT	2014	Hydropower	66	184,54	-	-	142,41	176,66	242.697	35	43	-	-	-	-	-	-

Country Code	Type of support scheme	Year	Technology detail	Installed capacity [MW]	Average unitary FIT [LCY/MWh]	Value of premiums or inv. grants [MLCY]	Value of premiums or inv. grants [MEUR]	Effective unitary incentive [LCY/MWh]	Effective unitary incentive [EUR/MWh]	Energy receiving support [MWh]	RES incentives costs [MLCY]	RES incentives costs [MEUR]	RES unitary incentives costs [LCY/MWh]	RES unitary incentives costs [EUR/MWh]	Installed capacity [new plants] [MW]	Energy receiving support [new plants] [MWh]	RES incentives costs [new plants]	RES incentives costs [new plants]
UK	FIT	2014	Solar energy - PV	2.526	323,81	-	-	281,68	349,43	2.324.851	655	812	-	-	-	-	-	-
UK	FIT	2014	Wind energy - Onshore	301	257,04	-	-	214,91	266,60	741.603	159	198	-	-	-	-	-	-
UK	Green Certificates	2014	Biogas - Landfill gas	866	-	-	-	44,07	54,67	4.762.694	210	260	-	-	5	5.323	0	0
UK	Green Certificates	2014	Biogas - Sewage sludge	188	-	-	-	44,07	54,67	768.694	34	42	-	-	2	7.288	0	0
UK	Green Certificates	2014	Biogas - Other biogas	102	-	-	-	44,07	54,67	420.838	19	23	-	-	16	23.125	1	1
UK	Green Certificates	2014	Biogas - Total biogas	1.155	-	-	-	44,07	54,67	5.952.226	262	325	-	-	23	35.736	2	2
UK	Green Certificates	2014	Solid biomass - Other solid	2.253	-	-	-	44,07	54,67	12.242.435	540	669	-	-	104	348.372	15	19
UK	Green Certificates	2014	Solid biomass - Total solid	2.253	-	-	-	44,07	54,67	12.242.435	540	669	-	-	104	348.372	15	19
UK	Green Certificates	2014	Bioenergy	3.438	-	-	-	44,07	54,67	18.240.826	804	997	-	-	134	385.782	17	21
UK	Green Certificates	2014	Hydropower	716	-	-	-	44,07	54,67	2.636.116	116	144	-	-	0	273	-	-
UK	Green Certificates	2014	Ocean energy	4	-	-	-	44,07	54,67	1.422	0	0	-	-	-	-	-	-
UK	Green Certificates	2014	Solar energy - PV	2.029	-	-	-	44,07	54,67	1.542.152	68	84	-	-	1.525	956.640	42	51
UK	Green Certificates	2014	Wind energy - Offshore	4.757	-	-	-	44,07	54,67	13.286.680	586	726	-	-	586	766.113	33	41
UK	Green Certificates	2014	Wind energy - Onshore	7.832	-	-	-	44,07	54,67	17.449.335	769	954	-	-	473	537.028	23	29
UK	FIT	2015	Solid biomass - Other solid	159	133,46	-	-	83,14	114,54	898.938	75	93	-	-	-	-	-	-
UK	FIT	2015	Solid biomass - Total solid	159	-	-	-	-	-	898.938	75	93	-	-	-	-	-	-
UK	FIT	2015	Bioenergy	159	133,46	-	-	83,14	114,54	898.938	75	93	-	-	-	-	-	-
UK	FIT	2015	Hydropower	91	188,12	-	-	137,80	189,85	333.421	46	57	-	-	-	-	-	-
UK	FIT	2015	Solar energy - PV	3.334	283,08	-	-	232,76	320,68	2.960.238	689	855	-	-	-	-	-	-
UK	FIT	2015	Wind energy - Onshore	469	250,19	-	-	199,87	275,36	1.283.191	256	318	-	-	-	-	-	-
UK	Green Certificates	2015	Biogas - Landfill gas	868	-	-	-	44,66	61,53	4.492.472	201	276	-	-	2	9.938	0	1
UK	Green Certificates	2015	Biogas - Sewage sludge	190	-	-	-	44,66	61,53	790.261	35	49	-	-	2	2.822	0	0
UK	Green Certificates	2015	Biogas - Other biogas	106	-	-	-	44,66	61,53	483.795	22	30	-	-	4	38.388	2	2
UK	Green Certificates	2015	Biogas - Total biogas	1.163	-	-	-	44,66	61,53	5.766.528	258	355	-	-	-	-	-	-
UK	Green Certificates	2015	Solid biomass - Biodegradable	-	-	-	-	44,66	61,53	-	-	-	-	-	8	-	-	-
UK	Green Certificates	2015	Solid biomass - Other solid	2.275	-	-	-	44,66	61,53	16.638.927	743	1.024	-	-	-	107.708	5	6
UK	Green Certificates	2015	Solid biomass - Total solid	2.275	-	-	-	44,66	61,53	16.638.927	743	1.024	-	-	22	107.708	5	7
UK	Green Certificates	2015	Bioenergy	3.486	-	-	-	44,66	61,53	22.453.090	1.003	1.382	-	-	43	151.781	7	10
UK	Green Certificates	2015	Hydropower	716	-	-	-	44,66	61,53	2.774.216	124	171	-	-	-	934	-	-
UK	Green Certificates	2015	Ocean energy	4	-	-	-	44,66	61,53	96	0	0	-	-	-	-	-	-
UK	Green Certificates	2015	Solar energy - PV	4.031	-	-	-	44,66	61,53	4.220.888	189	260	-	-	2.001	1.836.248	81	111
UK	Green Certificates	2015	Wind energy - Offshore	5.022	-	-	-	44,66	61,53	17.388.273	777	1.070	-	-	265	641.622	28	39
UK	Green Certificates	2015	Wind energy - Onshore	8.272	-	-	-	44,66	61,53	21.003.582	938	1.292	-	-	440	578.849	25	35

Annex – About CEER

The Council of European Energy Regulators (CEER) is the voice of Europe's national regulators of electricity and gas at EU and international level. CEER's members and observers (from 33 European countries) are the statutory bodies responsible for energy regulation at national level.

One of CEER's key objectives is to facilitate the creation of a single, competitive, efficient and sustainable EU internal energy market that works in the public interest. CEER actively promotes an investment-friendly and harmonised regulatory environment, and consistent application of existing EU legislation. Moreover, CEER champions consumer issues in our belief that a competitive and secure EU single energy market is not a goal in itself, but should deliver benefits for energy consumers.

CEER, based in Brussels, deals with a broad range of energy issues including retail markets and consumers; distribution networks; smart grids; flexibility; sustainability; and international cooperation. European energy regulators are committed to a holistic approach to energy regulation in Europe. Through CEER, NRAs cooperate and develop common position papers, advice and forward-thinking recommendations to improve the electricity and gas markets for the benefit of consumers and businesses.

The work of CEER is structured according to a number of working groups and task forces, composed of staff members of the national energy regulatory authorities, and supported by the CEER Secretariat. This report was prepared by the Sustainable Development (SDE) Task Force of CEER's Electricity Working Group.

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