

Hungary
Ministry of National Development

Report

on the use of renewable energy sources in Hungary in 2011 and 2012
(Reporting by a Member State pursuant to Article 22 of Directive 2009/28/EC)

Budapest
January 2014

Introduction

Environmental sustainability and responsible management of limited resources are values of special importance for Hungary. This idea is represented in the supreme law of Hungary, the country's new Fundamental Law adopted in 2011, which mentions the careful utilisation of natural resources. In 2011, the Parliament of Hungary adopted the National Energy Strategy, which stated that energy efficiency and renewable energy sources played an important strategic role in reducing dependence on energy imports.

Hungary's Renewable Energy Utilisation Action Plan adopted in 2010 ('National Action Plan') aims at achieving a share of 14.65 % of renewable energy sources by 2020 compared to total gross energy consumption.

The legislation adopted and measures taken on the subject by the Government and the Parliament of Hungary from the second half of 2010 aimed at bringing about a shift towards sustainable energy management in line with the above, thereby promoting energy efficiency and the increasing utilisation of renewable energy sources. The objectives set forth in the National Action Plan were fulfilled in due course, and the 2011 and 2012 actual final statistics even exceed the objectives undertaken. Table 1 shows the objectives of the National Action Plan and the results already available.

NCsT	National Action Plan
Tényleges	Actual

Figure 1 Share of energy from renewable sources in gross final consumption of energy

The aim of the aforementioned Report is to demonstrate – as part of the reporting obligation of Member States defined under Article 22 of Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (hereinafter referred to as RED), published in the Official Journal of the European Union L 110, 5.6.2009 – the progress achieved in the utilisation of renewable energy sources in 2009 and 2010.

The Report has been compiled using the form provided by the European Commission, with the structure and data content specified therein.

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1. Sectoral and overall shares and actual total consumption of energy from renewable sources in 2011 and 2012

Table 1: Sectoral (electricity, heating, cooling and transport) and overall shares of energy from renewable sources

Description	2011	2012
RES-H&C ¹ (%)	12.28	13.54
RES-E ² (%)	6.35	6.1
RES-T ³ (%)	5.05	4.49
Overall RES share ⁴ (%)	9.06	9.6
<i>Of which from cooperation mechanism* (%)</i>	0	0
<i>Surplus for cooperation mechanism* (%)</i>	0	0

* Hungary has not entered into cooperation agreements with other Member States yet, but is open to transferring the surplus under cooperation agreements.

¹ Share of renewable energy in heating and cooling: gross final consumption of energy from renewable sources for heating and cooling (as defined in Articles 5(1)(b) and 5(4) of Directive 2009/28/EC) divided by gross final consumption of energy for heating and cooling. The same methodology as in Table 3 of NREAPs applies.

² Share of renewable energy in electricity: gross final consumption of electricity from renewable sources for electricity (as defined in Articles 5(1)(a) and 5(3) of Directive 2009/28/EC) divided by total gross final consumption of electricity. The same methodology as in Table 3 of NREAPs applies.

³ Share of renewable energy in transport: final energy from renewable sources consumed in transport (cf. Article 5(1)(c) and 5(5) of Directive 2009/28/EC) divided by the consumption in transport of 1) petrol; 2) diesel; 3) biofuels used in road and rail transport and 4) electricity in land transport (as reflected in row 3 of Table 1). The same methodology as in Table 3 of NREAPs applies.

⁴ Share of renewable energy in gross final energy consumption. The same methodology as in Table 3 of NREAPs applies.

Table 1a: Calculation table for the renewable energy contribution of each sector to final energy consumption (ktoe)

Description	2011	2012
(A) Gross final consumption of RES for heating and cooling	1 133	1 115
(B) Gross final consumption of electricity from RES	233	222
(C) Gross final consumption of energy from RES in transport	162	137
(D) Gross total RES consumption	1 528	1 474
(E) Transfer of RES to other Member States	0	0
(F) Transfer of RES from other Member States and third countries	0	0
(G) RES consumption adjusted for target (D)-(E)+(F)	1 528	1 474

Table 1b: Total actual contribution (installed capacity, gross electricity generation) from each renewable energy technology in Hungary to meet the binding 2020 targets and the indicative interim trajectory for the period until 2020 for the shares of energy from renewable resources in electricity

Energy source type	2011		2012	
	MW	GWh	MW	GWh
Hydro: ⁵	55	217	55	219
non-pumped				
<1 MW	3.22	15	3.49	20
1 MW–10 MW	10.68	40	10.68	39
>10 MW	40.9	161	40.9	160
pumped				
mixed ⁶				
Geothermal:	0	0	0	0
Solar:	4	2	12	8
photovoltaic	4	2	12	8
concentrated solar power	0	0	0	0
Tide, wave, ocean	0	0	0	0
Wind: ⁷	323	645	325	701
onshore	323	645	325	701
offshore	0	0	0	0
Biomass: ⁸	392	1 844	348	1 656
solid biomass	343	1 656	298	1 421
biogas	49	188	50	235
bioliquids	0	0	0	0
TOTAL	774	2 708	740	2 584
of which in CHP	134.4	253	138	268

⁵ Normalised in accordance with Directive 2009/28/EC and Eurostat methodology.

⁶ In accordance with new Eurostat methodology.

⁷ Normalised in accordance with Directive 2009/28/EC and Eurostat methodology.

⁸ Only those complying with applicable sustainability criteria were taken into account, in line with the last subparagraph of Article 5(1) of Directive 2009/28/EC.

Table 1c: Total actual contribution (final energy consumption ⁹) from each renewable energy technology in Hungary to meet the binding 2020 targets and the indicative interim trajectory for the period until 2020 for the shares of energy from renewable resources in heating and cooling (ktoe)

Description	2011	2012
Geothermal (excluding low temperature geothermal heat in heat pump applications)	104	107
Solar	6	6
Biomass	1 023	1 002
<i>solid biomass</i>	1 011	985
<i>biogas</i>	12	18
<i>bioliquids</i>	0	0
Renewable energy from heat pumps*		
<i>of which aerothermal</i>		
<i>of which geothermal</i>		
<i>of which hydrothermal</i>		
TOTAL	1 133	1 115
<i>Of which DH¹⁰</i>	<i>75</i>	<i>85</i>
<i>Of which biomass in households¹¹</i>	<i>724</i>	<i>724</i>

* Taking into account the fact that in the interest of reducing administrative burdens, the installation of heat pumps is not always subject to a licence, reliable data are not available at present for the whole volume.

⁹ Direct use and district heat as defined in Article 5(4) of Directive 2009/28/EC.

¹⁰ District heating and / or cooling from total renewable heating and cooling consumption (RES-DH).

¹¹ From total renewable heating and cooling consumption.

Table 1d: Total actual contribution from each renewable energy technology in Hungary to meet the binding 2020 targets and the indicative interim trajectory for the period until 2020 for the shares of energy from renewable resources in the transport sector (ktoe)

Description	2011	2012
Bioethanol/ bio-ETBE	46	34
<i>Of which biofuels Article 21(2)</i>		
<i>Of which imported¹²</i>	46	34
Biodiesel	116	103
<i>Of which biofuels Article 21(2)</i>	18	17
<i>Of which imported¹³</i>	19	18
Hydrogen from renewables		
Renewable electricity	18	17
<i>Of which road transport</i>		
<i>Of which non-road transport</i>	18	17
Others (as biogas, vegetable oils, etc.) – please specify		
<i>Of which biofuels Article 21(2)</i>		
TOTAL	180¹⁴	154¹⁵

¹² From the whole amount of bioethanol / bio-ETBE.

¹³ From the whole amount of biodiesel.

¹⁴ In order to avoid cumulation, 'Electricity from renewable sources' was not taken into account in Table 1a.

¹⁵ In order to avoid cumulation, 'Electricity from renewable sources' was not taken into account in Table 1a.

2. Measures taken in 2011 and 2012 and/or planned at national level to promote the growth of energy from renewable sources taking into account the indicative trajectory for achieving the national RES targets as outlined in the National Renewable Energy Action Plan

Table 2: Overview of all policies and measures

Name and reference of the measure	Type of measure	Expected result	Target group and/or activity	Existing or planned	Start and end dates of the measure
1. Mandatory dispatch of electricity at a guaranteed price	financial	New installed capacities and increase in the quantity of energy produced. <u>In figures in relation to RES:</u> 2011: Sold quantity: 1 845 GWh (159 ktoe); Aid: HUF 25 330 million (EUR 90.72 million) 2012: Sold quantity: 1 862 GWh (160 ktoe); Aid: HUF 28 659 million (EUR 99.02 million) ¹⁶	target group: investors, power plants activity: electricity generation	implemented	From 1 January 2003; no final date is established, but the system is currently under revision (METÁR)

¹⁶ The conversion to EUR was performed by applying the average exchange rate published by the Central Bank of Hungary for the given year.
Source: http://english.mnb.hu/Statisztika/data-and-information/mnben_statisztikai_idosorok

2. Modernisation of livestock farms (for the implementation of built and built-in technology and infrastructure projects for the treatment, storage, partial processing and use of manure produced at livestock farms)	legal, financial	new installed capacity, quantity of utilised energy input, quantity of heat or electricity output	farmers	replaces measure No 26A in Table 5 of the relevant National Action Plan and supplements measures Nos 2, 6, 7 and 8	23 April 2007–23 May 2007 ; 13 August 2007–17 September 2007; 16 November 2009–15 December 2009; and 1 August 2012–31 August 2012
3. Adding value to agricultural products, ÉLIP	legal, financial	rationalisation of energy use	sole traders, one-man companies, unincorporated and incorporated economic associations and cooperatives qualifying as SMEs or large companies	replaces measure No 26A in Table 5 of the relevant National Action Plan and supplements measure No 8	5 May–16 June 2008; 20 October–30 November 2009; 22 June 2012–23 July 2012
4. KEOP-2011-4.9.0 Development of the energy performance of buildings combined with the utilisation of renewable energy sources		Increase in the use of renewable energy sources (electricity generation), reduction of greenhouse gas emissions (CO ₂ eq), annual quantity of primary energy sources saved by increasing energy efficiency	Enterprises qualifying as SMEs, budgetary bodies and bodies operating according to the budgetary regime, non-profit organisations		10 February 2011–14 May 2011; 12 October 2012–25 October 2012
5. KEOP-2011-4.2.0-A Meeting local heating, cooling and electricity demand with renewable energy sources		Increase in the use of renewable energy sources (electricity generation), reduction of greenhouse gas emissions (CO ₂)	Enterprises, budgetary bodies and bodies operating according to the budgetary regime, non-profit organisations and other organisations operated not for profit, other economic organisations		10 February 2011–26 July 2011

6. KEOP-2011-4.2.0-B Meeting local heating, cooling and electricity demand with renewable energy sources		Increase in the use of renewable energy sources, reduction of greenhouse gas emissions (CO ₂)	Enterprises, budgetary bodies and bodies operating according to the budgetary regime, non-profit organisations and other organisations operated not for profit, other economic organisations		10 February 2011–26 July 2011
7. KEOP-2011-4.3.0 Renewable energy-based regional development		Increase in the use of renewable energy sources (electricity generation), reduction of greenhouse gas emissions (CO ₂)	Enterprises, budgetary bodies and bodies operating according to the budgetary regime, non-profit organisations and other organisations operated not for profit, other economic organisations		10 February 2011
8. KEOP-2011-4.4.0 Renewable energy-based electricity, heat and electricity cogeneration and biomethane production		Increase in the use of renewable energy sources (electricity generation), reduction of greenhouse gas emissions (CO ₂)	Enterprises, budgetary bodies and bodies operating according to the budgetary regime, non-profit organisations and other organisations operated not for profit, other economic organisations		10 February 2011–19 May 2011
9. KEOP-2011-4.7.0 Support for the preparation and project development activities of geothermal-based heat and electricity generation projects	financial		final customers, public administration	implemented (supplements and specifies the measures previously listed in the National Action Plan)	2011–

10. KEOP-2011-4.9.0 Development of the energy performance of buildings combined with the utilisation of renewable energy sources	financial		final customers, public administration	implemented (supplements and specifies the measures previously listed in the National Action Plan)	2011–
11. ÚSZT-FŰTÉSKOR/ 2012 New Széchenyi Plan – Modernisation of heating systems	financial	New installed capacity, CO ₂ savings achieved in connection with the subprogramme: 1 893.6 tonnes/year	final customers	implemented (supplements and specifies the measures previously listed in the National Action Plan)	2012–
12. ÚSZT-ZBR-NAP-2011 New Széchenyi Plan – Support of the installation of solar collector systems	financial	New installed capacity, energy savings achieved in connection with the subprogramme: 11 770.9 MWh/year, CO ₂ savings: 3 520.05 tonnes/year	final customers	implemented (supplements and specifies the measures previously listed in the National Action Plan)	2011–
13. ÚSZT-ZBR-MO-11 ZBR Our Home Renovation and New Home Construction Subprogramme	financial	New installed capacity, energy savings achieved in connection with the subprogramme: 10 173.3 MWh/year, CO ₂ savings: 2 138.9 tonnes/year	final customers	implemented (supplements and specifies the measures previously listed in the National Action Plan)	2011–

2a. Description of the progress made in evaluating and improving administrative procedures to remove regulatory and non-regulatory barriers to the development of renewable energy

Hungary is currently *not planning* to establish a body/authority which engages exclusively in the licensing of facilities that generate energy from renewable sources. *We intend to encourage* the spread of renewable energy power plants primarily *by gradually simplifying the licensing rules currently in force.*

Act LXXXVI of 2007 on Electric Energy ('Act LXXXVI of 2007') does not prescribe a separate licence for the establishment of power plants with a rated capacity of 0.5 MW or less, whereas, pursuant to Section 80(1) and (2) of Act LXXXVI of 2007, the regulatory authority (Hungarian Energy and Public Utility Regulatory Authority, 'MEKH') *issues a combined small power plant licence (an establishment and generation licence in one)* for power plants with a rated capacity of between 0.5 MW and 50 MW in *a simplified licensing procedure.* Pursuant to the relevant European Union directives, environmental permits have also to be obtained in addition to the above licences.

Furthermore, Act LIII of 2006 on accelerating and simplifying the implementation of projects of national economic priority ('Act LIII of 2006') ensures that *projects to be partly or fully implemented using European Union aid and/or promoting the implementation of environmental or research and development objectives, i.e. procedures initiated in the case of high-priority cases, may be conducted in a shorter timeframe than that stipulated in general regulations.* Renewable energy power plant projects may also belong to this category. The authorities have to assess the applications as a matter of urgency in high-priority cases; the maximum time provided for each phase of the licensing procedure is also set. The Government shall classify issues as high-priority in a decree.

In high-priority cases, the timeframe for the administrative handling of official licensing procedures concerning the construction of electrical installations was reduced with the amendment of Act LIII of 2006, which entered into force on 1 May 2012, further simplifying the rules of procedure for high-priority cases. The competent authority has to take a decision in cases within the scope of Act LIII of 2006 and classified as such within **30 days** instead of two months as before.

Section 71(2) of Act CXL of 2004 on the general rules of administrative procedures and services ('Act CXL of 2004') provides for the automatic acquisition of certain licences as follows:

'Section 71(2) If the purpose of the client's application is to acquire a right and the adverse client did not take part in the procedure at first instance, instead of designating another authority or specialist authority to conduct a procedure, legislation may provide for ensuring that

(a) the client is entitled to exercise the right applied for if the authority does not take a decision by the prescribed deadline;

(b) if the specialist authority does not issue a position statement within the prescribed deadline, its consent shall be regarded as granted.'

However, it needs to be pointed out that although Act CXL of 2004 allows 'automatic consent' to be granted by the specialist authority, this rule is only applicable if it is provided for in separate legislation.

In addition to licensing procedures, Hungary also places significant emphasis on simplifying aid procedures and making them more 'client friendly'. As a first step, the application procedures for certain investment aids were significantly simplified in the first half of 2011. First, the simplified electronic application management procedure was introduced more widely in certain aid schemes announced in the Environment and Energy Operational Programme; then, in the second half of 2011, an electronic application submission system was introduced for residential Solar Collector Applications under the Green Investment Scheme (GIS).

2b. Description of the measures taken to ensure the transmission and distribution of electricity produced from renewable energy sources and to improve the framework or rules for bearing and sharing of costs related to grid connections and grid reinforcements

The measures planned for 2010 to 2020 are described in detail in the document titled 'Hungary's Renewable Energy Utilisation Action Plan for 2010 to 2020' sent to the European Commission; therefore, the Report only includes a brief summary description of the said measures.

The rules relating to ensuring the transmission and distribution of electricity generated from renewable energy sources and to grid connections and grid reinforcements can be summarised as follows.

Pursuant to Section 25(3) of Act LXXXVI of 2007 on Electricity ('Act LXXXVI of 2007'), the promotion of the generation of electricity from renewable energy sources has also to be taken into account when planning grid development. The Hungarian Energy and Public Utility Regulatory Authority ('MEKH') approved the grid development plan for 2011 and 2012.

Section 35(3) of Act LXXXVI of 2007 prescribes, furthermore, that in operating networks and providing access to networks, network licensees have to prefer, under conditions specified by law, electricity generators using carbon-free technology and generating energy from renewable energy sources, waste and cogeneration.

Section 36(1)(g) of Act LXXXVI of 2007 also declares that the Transmission System Operator may deny access to the transmission grid and to the distribution grid which affects the operation of the transmission grid in an objective and transparent way, without infringing the requirement of equal treatment, under conditions specified in separate legislation, and may curtail, reduce or suspend deliveries already contracted. Curtailment, reduction or suspension may also be applied in advance or during the operation of the electricity system if, *inter alia*, the delivery of electricity adversely affects the generation or use of renewable energy sources, energy from waste or cogenerated electricity.

Pursuant to Section 6(8) of Decree No 76 of 21 December 2011 of the Minister for National Development on the financial and technical conditions of establishing connection to the public electricity grid, distributors have to provide information annually on their websites about the available connection possibilities in their areas of operation. The detailed rules applicable to the content of the information, the application procedure and the fulfilment of requests for connection are set forth in the Distribution Code. The MEKH had a study prepared under the title 'Promotion of the grid connection of new electricity generators that use renewable energy sources and get connected to the distribution network'. The study completed in July 2011 is available on the website of the MEKH (http://www.eh.gov.hu/gcpdocs/201108/mecs_infrapont_egi_vegleges_20110720.pdf).

Pursuant to Section 6(3) of Decree No 76 of 2011 of the Minister for National Development, power plants using at least 70 % of renewable energy sources get a discount of 30 % from the connection fee, while those using at least 90 % of renewable energy sources get a discount of 50 %.

In addition to the legal sources, the achievement of the above goals is also set forth in the codes of the Transmission System Operator.

Operational Code of the System Operator

The Operational Code ('OC') of the Transmission System Operator, MAVIR, which was drawn up pursuant to the authorisation granted in, and for the implementation of, Act LXXXVI of 2007 and other relevant legislation, declares that

'1.2.2 The **OC has been devised with a view to the establishment of an efficiently functioning, competitive electricity market, the enforcement of the principles of energy efficiency and energy conservation in the interest of sustainable development, the provision of electricity supply to customers in a secure and uninterrupted way, of satisfactory quality and with a transparent cost structure, the integration of the Hungarian electricity market into the electricity markets of the European Communities becoming closely integrated, compliance with the legislation of the European Communities, the development of objective and transparent regulations, which meet the requirement of equal treatment** and ensure the implementation of all the above objectives.'

'1.2.4 The OC defines:

(A) content and formal requirements for the elaboration and amendment of the related guidelines, technical specifications and rules of procedures;

(B) the operational control of the electricity system, the rights and obligations of the transmission system operation licensee and the distribution network licensees (collectively: 'network licensees'), the generators and other entities connected to the system, as well as the structure and operation of the hierarchical management system;

(C) rules for the connection to the grid of the entities subject to the OC, commissioning, network use, operation and disconnection;

(D) the technical conditions for dispatching electricity generated from renewable energy and at power plants defined in separate legislation and the connection of such electricity generation equipment.

The OC is available at:

<http://mavir.hu/web/mavir/uzemi-szabalyzat>

Code of Business Practice of the Transmission System Operator

Furthermore, Section III/3.1.1 of the Code of Business Practice of the Transmission System Operator, MAVIR, declares that:

'The Transmission System Operator prepares a network development plan for networks of 135 kV or higher of the electricity system at least every two years, taking into consideration development plans and offers prepared by distribution network licensees, current and expected electricity use, generation, demand and supply, the cross-border transmission of electricity, the requirements of the European electricity market, as well as the development plans relating to networks at regional and Community level. **In planning the development of transmission and distribution networks, it takes into consideration the energy policy requirements for promoting demand side management, the generation of electricity from renewable energy sources and waste as well as of cogenerated electricity.**

The Code of Business Practice of MAVIR is available at:

http://mavir.hu/documents/10258/189017653/MAVIR_UzSZ_torzsszoveg_20131030.pdf/db21436f-a5f1-485f-9c31-8f435a1740a4

3. The support schemes and other measures currently in place that are applied to promote energy from renewable sources and developments in the measures used with respect to those set out in the National Renewable Energy Action Plan

The mandatory dispatch scheme is of utmost importance in the field of electricity generated from renewable energy sources and combined heat generation based on renewables. The full review of the system commenced in 2011 in line with the provisions specified in the National Action Plan. The regulatory concept of a new mandatory dispatch scheme for heat and electricity generated from renewable and alternative energy sources ('METÁR') was devised on the basis of the review, introducing, firstly, stricter sustainability criteria (especially for wood combustion) and, secondly, more predictable regulatory conditions for clients.

The METÁR concept was sent to the European Commission in a pre-notification procedure on 18 July 2013.

The data on the mandatory dispatch of electricity for the years 2011 and 2012 are shown in Table 3. Certain elements of the relevant table of the form were not filled in, because the questions provided in them were not relevant to the Hungarian situation.

New regulation adopted in 2013

Act LXXXVI of 2007 transposes, in its Section 3(45b), the concept of support schemes specified in Directive 2009/28/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC. Furthermore, it was laid down in Act LXXXVI of 2007 that under the renewable energy support scheme, support may only be provided for the establishment and operation of renewable energy equipment that meets the technical requirements specified in a separate Decree.

The fundamental rules of the technical requirements are set forth in Decree No 1 of 20 January 2012 of the Minister for National Development on the calculation methodology of the share of renewable energy. Pursuant to Section 7/B of the Decree, any aid may be provided under the renewable energy support scheme only if the renewable energy-generating system conforms to the technical specifications of the relevant European standard published as a national standard.

The requirement to provide information about the support schemes, the technical requirements for using aid and other measures is also set forth in Section 7/A of the Decree. Pursuant to that Section, in order to facilitate the use and spread of renewable energy sources and the obligations relating to renewable energy, and to provide information and guidance for the public, customers, construction specialists, engineers, designers, installers and providers, the Minister has to provide information, by electronic means via a website created on the internet, about the following:

- (a) the support scheme for renewable energy-generating systems and renewable energy-powered vehicles;
- (b) the benefits of, and practical issues relating to, the development and use of energy from renewable sources;
- (c) the net benefit arising from the cost and energy efficiency of renewable energy-generating systems;
- (d) the combination of renewable energy-generating systems with other energy-generating systems.

Table 3: Support schemes for promoting renewable energy

2011	Average feed-in tariff ¹⁷		Per unit subsidy ¹⁸		Total subsidy ¹⁹	
	HTJF/kWh	EUR/MWh ²⁰	HUF/kWh	EUR/MWh	HUF m	EUR m
Renewables	29.57	105.92	13.73	49.18	25 330	90.72
Wind power plant	30.71	109.98	15.21	54.46	9 139	32.73
Hydropower plants, over 5 MW	16.90	60.52	1.23	4.40	202	0.72
Hydropower plants, 5 MW or less	29.58	105.95	13.85	49.62	663	2.37
Total hydropower	19.76	70.76	4.07	14.59	864	3.10
Biomass firing only	30.64	109.74	14.70	52.65	7 505	26.88
Mixed coal and biomass firing	31.58	113.11	15.32	54.87	6 212	22.25
Total biomass firing	31.06	111.23	14.97	53.63	13 717	49.13
Biogas	30.35	108.71	14.23	50.96	1 125	4.03
Landfill gas	28.90	103.51	13.31	47.67	469	1.68
Sewage treatment plant gas	31.86	114.11	14.93	53.48	15	0.05
Solar power plant	–	–	–	–	–	–
Renewable part of municipal waste	–	–	–	–	–	–

¹⁷ The average feed-in tariff is the quotient of the total amount paid under the mandatory dispatch scheme and the quantity of electricity dispatched for the given technology.

¹⁸ The per unit subsidy is the quotient of the total subsidy under the mandatory dispatch scheme and the quantity of electricity dispatched for the given technology.

¹⁹ The subsidy under the mandatory dispatch scheme is the product of the difference between the mandatory dispatch price and the average day-ahead market price on the organised power exchange (HUPX) and the quantity of electricity dispatched for the given technology.

²⁰ The conversion to EUR was performed by applying the average HUF/EUR exchange rates published by the Central Bank of Hungary for the given year. http://english.mnb.hu/Statisztika/data-and-information/mnben_statistikai_idosorok

2012	Average feed-in tariff ²¹		Per unit subsidy ²²		Total subsidy ²³	
	HUF/kWh	EUR/MWh ²⁴	HUF/kWh	EUR/MWh	HUF m	EUR m
Renewables	30.40	105.05	15.40	53.19	28 659	99.02
Wind power plant	31.91	110.26	17.14	59.23	12 728	43.98
Hydropower plants, over 5 MW	11.21	38.75	1.53	5.28	256	0.88
Hydropower plants, 5 MW or less	59.02	203.93	19.61	67.75	703	2.43
Total hydropower	19.65	67.90	4.72	16.30	959	3.31
Biomass firing only	31.59	109.15	16.36	56.53	9 823	33.94
Mixed coal and biomass firing	32.09	110.86	17.13	59.19	2 592	8.96
Total biomass firing	31.69	109.49	16.51	57.06	12 415	42.90
Biogas	31.48	108.78	15.85	54.78	1 875	6.48
Landfill gas	29.73	102.71	14.85	51.32	657	2.27
Sewage treatment plant gas	32.23	111.36	16.12	55.71	20	0.07
Solar power plant	30.71	106.11	13.98	48.31	5	0.02
Renewable part of municipal waste	–	–	–	–	–	–

3.1 Information on how supported electricity is allocated to final consumers for the purposes of Article 3(6) of Directive 2003/54/EC

Allocation of electricity dispatched under the mandatory dispatch scheme

The situation in 2011 and 2012

The rules governing the allocation of electricity dispatched under the mandatory dispatch scheme are regulated in Section 13 of Act LXXXVI of 2007. Pursuant to this provision, all electricity traders (including universal service providers) and generation licensees selling electricity directly to customers were obliged, in accordance with the provisions of a separate piece of legislation (Decree No 109 of 23 December 2007 of the Minister for Economy and Transport on the allocation of electricity subject to dispatch by the Transmission System Operator and on the method of determining the prices applicable during allocation), to dispatch electricity that is subject to a dispatch obligation in proportion to the quantity of electricity sold to its customers, and to enter into an agreement with the Transmission System Operator to this end.

Customers engaged in the import of electricity were obliged to off-take electricity that was subject to a dispatch obligation in proportion to the quantity of electricity they consumed, and to enter into an agreement with the Transmission System Operator to this end. Electricity generated by a household power plant is not subject to the mandatory dispatch scheme; the electricity produced by their operators has to be dispatched by the electricity trader that supplies

²¹ The average feed-in tariff is the quotient of the total amount paid under the mandatory dispatch scheme and the quantity of electricity dispatched for the given technology.

²² The per unit subsidy is the quotient of the total amount paid under the mandatory dispatch scheme and the quantity of electricity dispatched for the given technology.

²³ The subsidy under the mandatory dispatch scheme is the product of the difference between the mandatory feed-in tariff and the average day-ahead market price on the organised power exchange (HUPX) and the quantity of electricity dispatched for the given technology.

²⁴ The conversion to EUR was performed by applying the average HUF/EUR exchange rates published by the Central Bank of Hungary for the given year. http://english.mnb.hu/Statiztika/data-and-information/mnben_statiztikai_idosorok

electricity at the connection point in question (regulated in detail by Sections 4 and 5 of Government Decree No 273 of 19 October 2007 implementing certain provisions of Act LXXXVI of 2007).

Change in the rules applicable to the allocation of electricity in 2013

Pursuant to the amendment of Act LXXXVI of 2007 in force since 1 January 2013, universal service providers and, as of 1 October 2013, electricity traders not qualifying as universal service providers are exempt from dispatching electricity subject to dispatch in respect of the quantity of electricity sold to a customer eligible for universal services for whom it provides the electricity trading service subject to the tariffs specified in the Ministerial Decree on the pricing of universal electricity services, at rates not exceeding the universal service rates applicable to the given place of consumption, but lower at least in the case of one rate, and provides the services which may be used by customers supplied by universal services, as specified in the Government Decree implementing certain provisions of Act LXXXVI of 2007 (Implementing Decree). A lower rate may also be ensured by providing a discount on the rate.

It is a condition for the exemption that the electricity trader has made a declaration to the Transmission System Operator that the exemption conditions exist for the reference month. The Authority will subsequently verify the fulfilment of the provisions of the declaration, and if it establishes that its provisions have not been fulfilled, it will impose a fine on the electricity trader.

As of 1 January 2014, electricity dispatched under the mandatory dispatch scheme will be allocated to balance group managers on the basis of the above quantities, and they will pass on these lots to the other players belonging to their balance group in proportion to the electricity consumption associated with them (taking into account the above exceptions).

Obligation of electricity market players to provide information

Pursuant to Section 56/A of Act LXXXVI of 2007, electricity market players are required to provide information to customers about the proportion and environmental impacts of the energy sources used for the generation of electricity sold in the previous calendar year. Furthermore, the MEKH is required to continuously provide the customers information and data on its website about the efficient use of electricity and the benefits associated with the use of energy-saving devices.

The detailed rules of provision of such information are specified in Decree No 6 of 18 June 2008 of the Minister for Transport, Communications and Energy on the provision of certain data relating to the control, operation and use of the electricity system. Pursuant to Section 6(2) to (4) of this Decree, the seller of electricity is obliged to provide information to the customers about the proportion of actually used primary energy sources, the source of such information, and the environmental impacts of the primary energy sources used during the generation of the electricity sold. The information may be provided in an invoice or preliminary invoice issued or in an information letter attached to such invoices or at another place specified in the invoice or preliminary invoice issued and accessible to the buyer of electricity.

Prescription of the obligation to provide general information about the use of renewable energy sources as of 2013

Section 7/A of Decree No 1 of 20 January 2012 of the Minister for National Development on the calculation methodology of the share of renewable energy provides that, in order to promote the use and spread of renewable energy sources and the obligations relating to renewable energy, and to provide information and guidance for the public, customers, construction specialists, engineers, designers, installers and providers, the Minister has to provide information, by electronic means via a website created on the internet, about the following:

- (a) the support scheme for renewable energy-generating systems and renewable energy-powered vehicles;
- (b) the benefits of, and practical issues relating to, the development and use of energy from renewable sources;
- (c) the net benefit arising from the cost and energy efficiency of renewable energy-generating systems;
- (d) the combination of renewable energy-generating systems with other energy-generating systems.

According to the plans, the information tasks will be carried out by a business organisation which **will perform the obligation to provide information by preparing a website suitable for this purpose.**

4. Information on how the support schemes have been structured in Hungary to take into account RES applications that give additional benefits, but may also have higher costs, including biofuels made from wastes, residues, non-food cellulosic material, and ligno-cellulosic material

Considering the fact that no demand emerged from market participants for second generation projects for biofuel production from waste, non-food residues or cellulose in Hungary in 2011 and 2012, no separate measure or support differentiation was prepared for this area. Hungary is open to adequately differentiating incentive schemes as long as realistic demand arises from market participants. With respect to waste, biodiesel production from used frying oil was realised to a notable degree but currently no regulations differing from the regulations on biodiesel made directly from vegetable oil are required in this area.

5. Information on the functioning of the system of guarantees of origin for electricity and heating and cooling from RES, and the measures taken to ensure reliability and protection against fraud of the system

The situation in 2011 to 2013

At the request of the electricity generator, the MEKH issued a certificate of origin and arranged for the electronic registration of such certificates under Sections 6/A and 12(1) of Act LXXXVI of 2007. Other detailed rules pertaining to the certificates of origin were set out in Government Decree No 389 of 23 December 2007 on the mandatory dispatch and feed-in tariff of electricity generated from renewable energy sources or waste and of cogenerated electricity ('Government Decree No 389 of 2007'). Any generator could request a certificate of origin; however, generators selling under the mandatory dispatch scheme have always had to certify their fulfilment of the conditions of mandatory dispatch with a certificate of origin following the reference year (Section 8(1) of Government Decree No 389 of 2007). The quantity of electricity sold under the mandatory dispatch scheme could not exceed the quantity of electricity specified in the certificate of origin (Section 7(1) of Government Decree No 389 of 2007).

Verification was conducted by the MEKH mainly through individual inspections and comparison with other data sources. Pursuant to Section 9(1) of Government Decree No 389 of 2007, if, during such verification, the MEKH established that an appropriate certificate of origin was missing or that the Vendor or the electricity (or part of the electricity) sold by the Vendor under the scope of this Decree had not met the statutory conditions in the given annual generation period, in the period following the end of such period or at any given time, in its decision the MEKH

- (a) determined the amount of kWh sold under the mandatory dispatch scheme in the context of the violation of the provisions of the Decree;
- (b) subject to the provisions of Section 9(2) and (3) of Government Decree No 389 of 2007 – and in the case of cogenerated electricity, subject only to the legislation in force at the time of sale – determined the exact amount of the reimbursement payable to the Receiver as well as the time schedule thereof by establishing a time limit for performance (partial performance);
- (c) determined the conditions the Vendor had to fulfil in order to be allowed to continue to sell electricity under the mandatory dispatch scheme; and
- (d) imposed a fine under Section 96(1)(b) of Act LXXXVI of 2007 on the Vendor and applied further legal consequences defined in Act LXXXVI of 2007, if necessary.

Further details were set forth in Sections 9 and 9/A of Government Decree No 389 of 2007.

The scheme based on certificates of origin was replaced by a scheme based on guarantees of origin on 13 August 2013 pursuant to Government Decree No 309 of 16 August 2013 on the certification of origin of electricity from renewable sources and high-efficiency cogeneration.

The new scheme of guarantees of origin

Pursuant to Section 12(1) of Act LXXXVI of 2007, the vendor may only certify the quantity of electricity from renewable sources or high-efficiency cogeneration with a guarantee of origin for the customer.

Pursuant to Government Decree No 309 of 16 August 2013 on the certification of origin of electricity from renewable sources and high-efficiency cogeneration, the MEKH has to operate the register of guarantees of origin via an electronic management system. In order to gain

access to the management system, generators and the purchasers of guarantees of origin are required to open a transaction account with the MEKH.

At the request of the generator, the MEKH establishes in a decision whether the power plant unit is suitable for generating electricity from renewable sources or high-efficiency cogenerated electricity (rating). The rating remains in force for five years. Applications for the rating of power plant units and registration applications (guarantee of origin applications of generators with a rating in force) may be submitted from 1 October 2013 and 1 January 2014, respectively. A guarantee of origin may only be issued to generators holding a rating in force.

The guarantee of origin has to be issued for a quantity of 1 MWh. No more than one guarantee of origin may be issued for each unit of the energy generated.

In the case of the generation of energy from renewable sources, a registration application may be submitted by the last day of the sixth calendar month following the generation of the given quantity of electricity or, in the case of high-efficiency cogeneration, by the last day of the 13th calendar month following the generation of the given quantity of electricity. The registration application has to be submitted for the quantity of electricity generated in at least a calendar month.

The submission of a guarantee of origin to a customer under Act LXXXVI of 2007 for inspection to prove that the quantity of electricity supplied was generated from renewable energy sources or as part of high-efficiency energy cogeneration is regarded as use of the guarantee of origin. The holder of the guarantee of origin is to notify the MEKH of the use of the guarantee of origin within five days of such use. The holder of the guarantee of origin may transfer a valid guarantee of origin via the management system.

On the basis of a relevant application, the MEKH recognises guarantees of origin issued in other countries for electricity from renewable energy resources or high-efficiency cogeneration. The MEKH cooperates with the authorities of other countries issuing guarantees of origin in the acceptance abroad of guarantees of origin issued in Hungary.

The MEKH may impose a fine of HUF 15 000 per guarantee of origin but no more than HUF 5 million per registration application, as defined in Act LXXXVI of 2007, on generation licensees and operators of small power plants not subject to licences if they provided incorrect data in their registration application for a reason attributable to them.

The guarantee of origin scheme does not apply to heating and cooling energy.

6. Description of the developments in 2011 and 2012 in the availability and use of biomass resources for energy purposes

Part of the data on biomass from waste pertains to stocks, i.e. shows the total available quantity, while another part of the data is about biomass already used and recycled for a certain purpose (e.g. for energy or heating/cooling).

Data are available on the quantity of biodegradable waste used by the Waste Recovery Facility for energy purposes, as well as on the quantity of the biodegradable part of industrial waste (paper and cardboard waste; wood waste; textile waste; food processing and food product waste; sorting waste; agricultural waste and slash from forestry operations) on the basis of the data contained in the Waste Management Information System (HIR) and the estimated quantity of sewage sludge. Since the majority of separately collected biodegradable waste is composted, the biogas quantity from biodegradable waste results from the biogas collected and treated at landfills.

Table 4: Biomass supply for energy use

	Amount of domestic raw material (*)		Primary energy content of domestic raw material (ktoe)		Amount of imported raw material from EU (*)		Primary energy in amount of imported raw material from EU (ktoe)		Amount of imported raw material from non-EU (*)		Primary energy in amount of imported raw material from non-EU (ktoe)	
	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012
Biomass supply for heating and electricity:												
Direct supply of wood biomass from forests and other wooded land energy generation (fellings, etc.)	3 932 626 m ³ of firewood 22 087 tonnes of pellets 2 496 tonnes of wooden briquettes	3 624 288 m ³ of firewood 24 387 tonnes of pellets 2 456 tonnes of wooden briquettes	715.03	660.78	8 496.8 m ³ of firewood 17 700.5 tonnes of pellets	3 488.6 m ³ of firewood 73 854.9 tonnes of pellets and other compacted products	9.11	32.4	70 220.0 m ³ of firewood 2 685.2 tonnes of pellets	64 465.7 m ³ of firewood 10 342.9 tonnes of pellets and other compacted products	13.7	16
Indirect supply of wood biomass (residues and co-products from wood industry etc.)	106 130 m ³ of industrial waste wood for energy purposes	216 965 m ³ of industrial waste wood for energy purposes	30.42	62.2	177 806.0 m ³ of industrial waste wood for energy purposes	122 887.9 m ³ of industrial waste wood for energy purposes	51	35.2	15 884.8 m ³ of industrial waste wood for energy purposes	103 165.2 m ³ of industrial waste wood for energy purposes	4.62	29.6
Energy crops (grasses, etc.) and short rotation trees (please specify)	n/a	4 285 m ³	n/a	0.77	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Agricultural by-products / processed residues and fishery by-products	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Biomass from waste (municipal, industrial, etc.) **	1(a) Biodegradable fraction of solid municipal waste** 218 177 tonnes 1(b) Landfill gas 16 711 300 m ³ 2. Biodegradable fraction of industrial waste* 1 160 103 tonnes 3. Sewage sludge* 68 100 tonnes	1(a) Biodegradable fraction of solid municipal waste** 194 780 tonnes 1(b) Landfill gas 28 751 300 m ³ 2. Biodegradable fraction of industrial waste* 1 143 955 tonnes 3. Sewage sludge* 78 004 tonnes										
Others (please specify)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<i>Biomass supply for transport:</i>												
Common arable crops for biofuels (please specify main types)	maize: 400 000 tonnes rape seed: 225 000 tonnes	maize: 700 000 tonnes rape seed: 210 000 tonnes	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Energy crops (grasses, etc.) and short rotation trees for biofuels (please specify main types)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Others (please specify)	used frying oil: 35 000 tonnes	used frying oil: 35 000 tonnes	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

* Based on the produced quantities reported in the HIR as part of the data supply process (tonnes)

** Biodegradable fraction of solid municipal waste used by the Waste Recovery Facility for energy purposes (tonnes)

Table 4a: Current domestic agricultural land use for the production of crops dedicated to energy production (ha)

Land use	Surface (ha)	
	2011	2012
1. Land used for common arable crops and oilseeds	maize: 62 000 ha, rape seed: 100 000 ha	maize: 108 000 ha rape seed: 89 000 ha
2. Land used for short rotation trees	3 000 ha	n/a
3. Land used for other energy crops such as grasses, sorghum	n/a	n/a

7. Information on changes in commodity prices and land use within Hungary in 2011 and 2012 associated with increased use of biomass and other forms of energy from renewable sources

The grain section of the **Budapest Stock Exchange** (BSE) is the commodities market in Hungary. Of the types of produce used for energy purposes, futures contracts can be concluded here on (fodder) maize (raw material for bioethanol) and rape seed (raw material for biodiesel) and/or option transactions can be made on the futures contracts of these types of produce. The quotations of the derivatives of both types of produce are influenced mainly by the quotations of the maize and rape seed derivatives of the Paris MATIF (a member of NYSE Euronext), which are gaining more significance throughout Europe, even though they are low-liquidity markets at global level.

Most maize and rape seed produced in Hungary is exported. The result of the growing popularity of biofuel production is that the export commodity reserve is somewhat reduced, but the increase of industrial utilisation at such a quick pace does not have any noticeable effect on the trends in futures and options, in particular, because it is going on simultaneously with a decrease in domestic fodder utilisation.

The average stock exchange price of maize was HUF 59 811/tonne in 2012 and HUF 55 674/tonne in 2011. The average stock exchange price of rape seed was HUF 134 368/tonne in 2012 and HUF 121 173/tonne in 2011. Price changes followed world market processes. Price changes directly related to energy generation could not be observed.

In summary, it can be stated that international trends apply in the grain section of the BSE, and there seems to be a clear price and volatility transmission between the BSE and the MATIF. Detailed impact assessments were not conducted, because data on the Hungarian derivatives markets are not available in a quality and at a frequency that would allow for a reliable use of mathematical and statistical means.

Agricultural and forestry biomass utilisation had practically no influence on **land use** in the reference period. Raw materials from forestry are used in the largest quantity, with 90 % of biomass for energy purposes being firewood. Slash from logged areas remains almost completely unutilised; thus, only 60 % to 70 % of the firewood quantity that can be collected from domestic forest areas is utilised. In addition to raw materials from forestry, agricultural by-products provide the greatest quantity of biomass. At the same time, the majority of the approximately 8 million tonnes of biomass from arable crop production is at present only a worthless by-product for the processing industry and is used only to an insignificant degree in energy production.

On the basis of expert estimates on the Hungarian biomass potential and the calculations made by the Research Institute for Agricultural Economics, the biomass quantity intended for direct combustion that is necessary for achieving the share of renewable energy sources foreseen for 2020 can be produced from forests in a sustainable manner and can be collected as waste from the wood industry or furniture industry, or as agricultural by-products from arable lands.

8. The development and share of biofuels made from wastes, residues, non-food cellulosic material, and lingo cellulosic material

No demand emerged from market participants for new projects of biofuel production from waste, non-food residues or cellulosic material in Hungary in 2011 and 2012. No separate measure or support differentiation was prepared for this area, but Hungary is open to appropriately differentiating incentive systems as long as realistic demand arises from market participants.

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

Article 21(2) biofuels²⁵	2011	2012
Production – used frying oil	biodiesel	biodiesel
Consumption – Fuel type X (Please specify)	0	0
Total production Article 21(2) biofuels	27	26
Total consumption Article 21(2) biofuels	18	17
% share of Article 21(2) fuels from total RES-T	10	11

²⁵ Biofuels made from wastes, residues, non-food cellulosic material, and ligno-cellulosic material.

9. Information on the estimated impacts of the production of biofuels and bioliquids on biodiversity, water resources, water quality and soil quality within Hungary in 2011 and 2012

When assessing the impacts of biofuel production, it has to be taken into account that Hungary has long been a net exporter of both oil crops and cereals. An additional 1.1 million tonnes of maize above the currently used 400 000 tonnes, i.e. a total of 1.5 million tonnes of maize, are necessary to produce the 475 000 tonnes of ethanol required to achieve the 2020 bioethanol targets specified in the Action Plan. This can be produced on 240 000 hectares of land, i.e. on one-fifth of the roughly 1.2 m ha maize-growing area in Hungary. If the production structure of arable crop production does not change and livestock numbers remain stagnant, it may still be possible to export 1.4 million to 2.4 million tonnes of maize annually after meeting domestic demand in Hungary.

The primary raw material for biodiesel production in Hungary is rape. An annual production of at least 550 000 tonnes of rape seed can be reckoned with; thus, the forecast biodiesel demand of the country for 2020, too, could be met from domestic raw materials. Rape production has undoubtedly expanded significantly since the middle of the last decade. This is due partly to demand picking up for biofuel within the European Union. However, rape did not occupy extensive areas of high biodiversity; rather it was in many cases planted on irrigable arable land with a high level of productivity that had been disengaged due to the decline in canning industry and sugar industry demand, partly in the interest of sustaining the crop rotation system.

The above data support the fact that the current and planned production of biofuels does not require the production of raw materials to be increased (the quantity necessary for the increase in biofuel utilisation was produced from the existing export commodity reserve). As a result, biofuel production in Hungary currently has no additional environmental impacts outside the factory; therefore, it has no separate effect on water use or biodiversity either.

Hungarian regulations establish sustainability criteria for biofuels in line with the provisions of the RED. According to the Hungarian rules, only biofuels produced from raw materials produced/used in compliance with the sustainability criteria may be included in the quantity to be placed on the market on a mandatory basis by the operator, as prescribed by law, and in the national target.

Pursuant to the sustainability criteria, biomass serving as a raw material for biofuels may only be produced in a default area categorised as arable land, for which a uniform area aid application was submitted in 2008, and which is not deemed as a sensitive area listed in legislation (including the conditions of the RED). Biomass which is from a sensitive area where cultivation compatible with the protection of that area is performed is also regarded as sustainable.

Furthermore, another sustainability criterion stipulated by Hungarian regulations (in line with the RED) is that biofuel is only considered sustainable if greenhouse gas emission savings from the use of biofuel are at least 35 %. The compliance of biomass with the sustainability criteria is verified by the National Food Chain Safety Office.

According to estimates, approximately 200 000 hectares of land that has unfavourable growing conditions (below 17 Golden Crowns, sandy or exposed to excess water or flooding) and is not

suitable for cereal production or for use as grazing land (degraded land) can be used in a sustainable way for solid biomass production in Hungary.

10. Estimate of the net greenhouse gas (GHG) emission savings due to the use of energy from renewable sources

Table 6: Estimated GHG emission savings from the use of renewable energy (t CO₂eq)

Environmental aspects	2011	2012
<i>Total estimated net GHG emission saving from using renewable energy²⁶</i>	4467773.24	4254287.87
– Estimated net GHG saving from the use of renewable <u>electricity</u>	1 031 204.11	921 739.96
– Estimated net GHG saving from the use of renewable energy in <u>heating and cooling</u>	3 177 000.75	3 112 749.02
– Estimated net GHG saving from the use of renewable energy in <u>transport</u>	259 568.37	219 798.89

²⁶ Net greenhouse gas emission savings from the use of renewable energy were calculated taking account of the specific CO₂ emissions of various fuel types, the typical values for biofuels under Part A of Annex V to the RED, and the typical values for electricity and energy for cooling and heating under Commission Communication COM(2010)/11.

11. Information and estimate concerning the excess/deficit production of energy from renewable sources compared to the indicative trajectory which could be transferred to/imported from other Member States and/or third countries, as well as estimated potential for joint projects until 2020

No excess was transferred to or received from other Member States in the years 2011 and 2012. The energy policy instruments of Hungary ensure that the target shares are met, therefore, no excess is expected to be received from other Member States in the future either.

Hungary is open to cooperating with other Member States to transfer excess renewables production statistically and to establish joint support schemes. Currently no quantified information can be provided on such projects or cooperation, because no such cooperation has been established yet.

Table 7: Actual and estimated excess (+) and/or deficit (–) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in Hungary (ktoe)²⁷²⁸

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Actual/estimated excess or deficit production (Please distinguish per type of renewable energy and per origin/destination of import/export)*	n/a	147	99	45	323	267	280	274	516	464	679	325

*The figures for the period 2009 to 2012 are actual values, while the figures for the other periods were estimated in accordance with the contents of Hungary’s Renewable Energy Utilisation Action Plan.

²⁷ Please use actual figures to report on the excess or shortfall in production in the two years preceding submission of the report, and estimates for the following years up to 2020. In every report, Member States may correct their data provided in the previous reports.

²⁸ When filling in the table, please mark the shortfall in production using negative numbers (e.g. –x ktoe).

11.1 Details of statistical transfers, joint projects and joint support scheme decision rules

Pursuant to Articles 6, 7, 9 and 11 of the RED, Member States may agree on statistical transfers, joint projects and joint support schemes (collectively: ‘cooperation mechanisms’).

Pursuant to the RED, the content elements of the above agreements are set forth in the agreements between the Member States – in this case, Hungary – and the EEA Member States (or third countries, where applicable).

Hungary did not enter into such cooperation agreement with other countries until 31 December 2012. In accordance with the relevant articles of the RED, Hungary transposed the concepts of joint investment, joint support schemes and statistical transfer in Section 1(1)(6), (7) and (13) of Decree No 1 of 20 January 2012 of the Minister for National Development on the calculation methodology of the share of energy from renewable sources (‘Decree No 1 of 2012 of the Minister for National Development’). Decree No 1 of 2012 of the Minister for National Development sets forth the national calculation methodologies and procedures for the share of energy from renewable sources for cooperation mechanisms, too. Thus, the individual statutory conditions necessary for the conclusion of Intergovernmental Agreements are available.

Decree No 1 of 2012 of the Minister for National Development therefore stipulates – in line with the RED – that if Hungary concludes cooperation agreements with other countries, the provisions of the cooperation agreements have to be taken into account when determining the share of energy from renewable sources in Hungary. Decree No 1 of 2012 of the Minister for National Development prescribes, *inter alia*, that the quantity of energy from renewable sources transferred by Hungary to another country under, e.g. a statistical transfer may not be taken in account when determining the share of energy from domestic renewable sources, or, on the contrary, the quantity received from other Member States has to be added to the domestic share.

The establishment of the regulation ensures the possibility for Hungary to transfer its statistical excess – in accordance with the provisions of the RED – to other Member States under the provisions of the cooperation agreement if such demand arises.

12. Information on how the share for biodegradable waste in waste used for producing energy has been estimated in Hungary, and what steps have been taken to improve and verify such estimates

In accordance with the practices of other Member States, 50 % of municipal waste was regarded as biodegradable waste in the course of the compilation of the Report.

Accepted in international practices as well, this value is also supported by the fact that the share of biodegradable municipal waste was 52.8 % w/w in 2009 and 52.7 % w/w in 2010 according to the quantitative and percentage data provided on the basis of a standard composition analysis of mixed municipal wastes delivered to the incinerator, conducted by the Budapest Waste Recovery Facility.

The following supplementary table shows the energy production from biodegradable waste for the years 2011 and 2012, calculated using the 50 % value.

Supplementary table: Energy production from biodegradable waste

		2011	2012
RES-E	MWh	117 732	111 030
RES-H	TJ	371	309