Report on progress in the promotion and use of energy from renewable sources in the Czech Republic under Article 22 of the European Parliament and Council Directive 2009/28/EC on support for the use of energy from renewable sources (2015 and 2016)

1. Sectoral and overall shares and actual consumption of energy from renewable sources in the preceding 2 years

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

	2015	2016
RES-H& C[2] (%)	**19.64 %**	**19.87 %**
RES-E[3] (%)	**14.07 %**	**13.61 %**
RES-T[4] (%)	**6.45 %**	**6.42 %**
Overall RES share[5] (%)	**14.99 %**	**14.89 %**
Of which from cooperation mechanism[6] (%)	**0.00 %**	**0.00 %**
Surplus for cooperation mechanism[7] (%)	**0.00 %**	**0.00 %**

Table 1a: **Calculation table for the renewable energy contribution of each sector to final energy consumption (ktoe)**[8]

	2015	2016
(A) Gross final consumption of RES for heating and	2 050	2 050
(B) Gross final consumption of electricity from RES	345	345
(C) Gross final consumption of energy from RES in	223	223
(D) Gross total RES consumption[9]	2 617	2 617
(E) Transfer of RES to other Member States	0	0
(F) Transfer of RES from other Member States and third	0	0
(G) RES consumption adjusted for target (D)-(E)+(F)	2 617	2 617

[1] Facilitates comparison with Table 3 and Table 4a of the NREAPs.
[2] Share of energy from renewable sources 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 the NREAPs applies.
[3] Share of energy from renewable sources in electricity generation: gross final consumption of electricity from renewable energy sources during electricity generation (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 the NREAPs applies.
[4] Share of energy from renewable sources 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 the NREAPs applies.
[5] Share of energy from renewable sources in gross final energy consumption. The same methodology as in Table 3 of the NREAPs applies.
[6] In percentage point of overall RES share.
[7] In percentage point of overall RES share.
[8] Facilitates comparison with Table 4a of the NREAPs.
[9] According to Article 5(1) of Directive 2009/28/EC, gas, electricity and hydrogen from renewable energy sources shall only be considered once. No double counting is allowed.

Table 1.b: **Total actual contribution (installed capacity, gross electricity generation) from each renewable energy technology in the Czech Republic to meet the binding 2020 targets[10]**

	2015		2016	
	MW	**GWh**	**MW**	**GWh**
Hydropower[11]:	1 088	2 291	1 090	2 279
non pumped				
<1 MW	154	485	156	473
/ MW-10 MW	181	658	181	647
>10 MW	753	1 235	753	1 217
pumped[*1]				
mixed[12]				
Geothermal	0	0	0	0
Solar:	2 075	2 264	2 068	2 131
photovoltaic	2 075	2 264	2 068	2 131
concentrated solar power				
Tide, wave, ocean				
Wind:	281	521	282	519
onshore	281	521	282	519
offshore				
Biomass[13]:	368	4 702	369	4 657
solid biomass		2 091		2 068
biogas	368	2 611	369	2 589
bioliquids				
TOTAL	3 812	9 778	3 809	9 586
of which in CHP	–	4 689		4 692

*1 According to the methodology specified in 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, and Commission Decision of 30 June 2009, establishing a template for National Renewable Energy Action Plans under Directive 2009/28/EC of the European Parliament and of the Council, pumped hydro power plants are not considered a renewable energy source

Table 1.c: **Total actual contribution (final energy consumption[14]) from each renewable energy technology in the Czech Republic to meet the binding 2020 targets (ktoe)[15]**

	2015	**2016**
Geothermal (excluding low temperature geothermal heat in heat pump applications)	0	0
Solar	18	19
Biomass[16]:	2 559	2 617
solid biomass	2 404	2 438
biogas	155	179
bioliquids	0	0
Renewable energy from heat pumps: - of which aerothermal - of which geothermal - of which hydrothermal	90.9	106.1
TOTAL	2 668	2 742
Of which DH[17]	205	211
Of which biomass in households[18]	1 753	1 777

[10] Facilitates comparison with Table 10a of the NREAPs.
[11] Normalised in accordance with Directive 2009/28/EC and Eurostat methodology.
[12] In accordance with new Eurostat methodology.
[13] Take into account only those complying with applicable sustainability criteria, cf. Article 5(1) last subparagraph of Directive 2009/28/EC.
[14] Direct use and district heat as defined in Article 5(4) of Directive 2009/28/EC.
[15] Facilitates comparison with Table 11 of the NREAPs.
[16] Take into account only those complying with applicable sustainability criteria, cf. Article 5(1) last subparagraph of Directive 2009/28/EC.
[17] District heating and/or cooling from total renewable heating and cooling consumption (RES- DH).
[18] From the total renewable heating and cooling consumption.

Table 1d: **Total actual contribution from each renewable energy technology in the Czech Republic to meet the binding 2020 targets (ktoe)[19, 20]**

	2015	2016
Bioethanol/ bio-ETBE	63	48
Of which Biofuels[21] (Article 21(2))		
Of which imported[22]		
Biodiesel	233	253
Of which Biofuels[23] (Article 21(2))		
Of which imported[24]		
Hydrogen from renewables	0	0
Renewable electricity	34	38
Of which road transport	1	2
Of which non-road transport	33	36
Others (as biogas, vegetable oils, etc.) – please specify	0	0
Of which Biofuels[25] (Article 21(2))		
TOTAL	331	338

2. Measures taken in the preceding 2 years 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 *(Article 22(1)(a) of Directive 2009/28/EC)*

Table 2: **Overview of all policies and measures**

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
Act No 165/2012	Regulatory	Installed capacity,	Public administration, investors, planners	Existing/Completed	Amendment of act approved in 2015 (Act No 131/2015): 13 May 2015 Effective date: 1 January 2016 Amendment of act approved in 2016 (Act No 107/2016): 16 March 2016 Effective date: 6 April 2016
Act No 183/2006	Regulatory	Installed capacity,	Public administration, investors, planners	Existing/Completed	Amendment of act approved in 2015 (Act No 39/2015): 10 February 2015 Effective date: 1 April 2015

[19] For biofuels, take into account only those compliant with the sustainability criteria, cf. Article 5(1) last subparagraph.
[20] Facilitates comparison with Table 12 of the NREAPs.
[21] Biofuels that are included in Article 21(2) of Directive 2009/28/EC.
[22] From the whole amount of bioethanol/bio-ETBE.
[23] Biofuels that are included in Article 21(2) of Directive 2009/28/EC.
[24] From the whole amount of biodiesel.
[25] Biofuels that are included in Article 21(2) of Directive 2009/28/EC.

Act No 184/2006	Regulatory	Installed capacity	Public administration, investors, planners	Existing/Completed	Amendment of act approved in 2016 (Act No 49/2016): 13 January 2016 Effective date: 1 May 2016
Act No 416/2009	Regulatory	Installed capacity	Public administration, investors, planners	Existing/Completed	Amendment of act approved in 2016 (Act No 49/2016): 13 January 2016 Effective date: 1 May 2016
MIT – state programme	Slight, Financial	Installed capacity, energy produced, reduction in consumption	Public administration, investors, planners	Existing	Valid for 2015 and 2016
MIT – building authority Other	Regulatory	Installed capacity, energy produced	Public administration	Existing/Completed	Applicability of Amendment No 350/2012 (Act No 183/2006) Effective date: 1 January 2013
Price decisions of the ERA	Regulatory, Financial	Installed capacity	Public administration, investors	Existing, planned	Valid for 2015 and 2016
Green Light to Savings Programme / New Green Light to Savings Programme	Financial	Reduction in consumption, increased installed capacity of electricity and heat producing installations, and increased production of electricity and	Investors	Existing	Valid for 2015 (Green Light to Savings Programme) and 2016 (New Green Light to Savings Programme)
Act No 201/2012 on air protection, as amended	Regulatory	Use of biofuel in transport Biofuel certification for sustainability criteria	Public administration Producers, biofuel importers and sellers, fuel suppliers	Existing/ Completed	Amendment of act approved in 2015 (Act No 382/2015): 10 December 2015 Effective date: 1 January 2016 Amendment of act approved in 2016 (Act No 369/2016): 19 October 2016 Effective date: 1 January 2017
Act No 383/2012 on conditions of trading with greenhouse gas emission allowances, as amended	Regulatory	EU ETS has a general positive impact on the development of certain kinds of RES, e.g. co-combustion of biomass	Public administration Operators of installations in EU ETS	Existing/ Completed	Amendment of act approved: 22 October 2014 Effective date: 1 January 2015

* Indicate if the measure is (predominantly) regulatory, financial or soft (e.g. information campaign).

**Is the expected result behavioural change, installed capacity (MW; t/year), energy generated (ktoe)?
Who are the targeted persons: investors, end users, public administration, planners, architects, installers, etc.? Or what is the targeted activity/sector: biofuel production, energy use of animal manure, etc.? * Does this measure replace or complement measures contained in Table 5 of the NREAP?

2.a. Please describe the progress made in evaluating and improving administrative procedures to remove regulatory and non-regulatory barriers to the development of renewable energy *(Article 22(1)(e) of Directive 2009/28/EC).*

Administrative procedures and permission proceedings are governed, above all, by the following legislation:

- **Act No 183/2006 on land planning and the building code (Building Act)**
  a) Regulation No 268/2009 on technical requirements for buildings
  b) Regulation No 499/2006 on building planning documentation
  c) Regulation No 501/2006 on general requirements for the use of land, as amended
  d) Regulation No 500/2006 on territorial analytical documents, land planning documentation, and method of registration of land planning activities
  e) Regulation No 503/2006 on detailed regulation of land planning proceedings, public law contracts, and land planning measures.

In 2015–16 a major amendment to the Building Act was drafted with the aim of simplifying and shortening authorisation processes. A fundamental change will be the introduction of new joint procedures. These procedures will include the location and authorisation of a structure, and possibly also the EIA process. It will be possible for such procedures to be conducted for structures under the jurisdiction of the general building authorities, certain special structures (structures under the jurisdiction of the road administration authorities, the railway authority and the water authority) and important energy structures under the jurisdiction of the Ministry of Industry and Trade. It will be possible for the procedures to be conducted both for individual buildings and for groups of buildings, even if those buildings are under the jurisdiction of different building authorities. The possibility of conducting separate land planning procedures and construction planning procedures has been preserved, with the possibility of linking the EIA process to the land planning procedures.
Simultaneously with the amendment to the Building Act, Act No 416/2009 on expediting the construction of transport, water and energy infrastructures, Act No 184/2006 on the removal or limitation of ownership rights to land or buildings (Expropriation Act), Act No 458/2000 on conditions of business activity and the exercise of state administration in the energy sector and on amendments to certain acts (Energy Act), Act No 634/2004 on administrative fees and Act No 406/2000 on energy management will be amended. Furthermore, Regulation No 500/2006 on territorial analytical documents, land planning documentation, and the method of registration of land planning activities, Regulation No 503/2006 on detailed regulation of land planning procedures, land planning measures and the Building Code, and Regulation No 499/2006 on building documentation will be amended.

- **Act No 184/2006 on the removal or limitation of ownership rights to land or buildings (Expropriation Act)**
- **Act No 184/2006 on the removal or limitation of ownership rights to land or buildings (Expropriation Act)**

- **Act No 458/2000 on conditions of business activity and the exercise of state administration in the energy sector and on amendments to certain acts (Energy Act)**

a) Regulation No 426/2005 on the particulars of granting licences for business in the energy sector, as amended
b) Regulation No 387/2012 on state authorisation for the construction of an electricity producing installation.
c) Regulation No 51/2006 on conditions for connecting to the electrification system, as amended.

- **Act No 634/2004 on administrative fees**

- **Act No 406/2000 on energy management, as amended**

a) Regulation No 78/2013 on the energy performance of buildings
b) Regulation No 441/2012 on determining the minimum efficiency of the use of energy in electricity and heat generation
c) Regulation No 480/2012 on energy audits and energy assessments
d) Regulation No 194/2013 on furnace and heat energy distribution inspections
e) Regulation No 118/2013 on energy specialists
f) Regulation No 193/2007, laying down particulars for the efficiency of the use of energy in heat distribution and internal heat and cooling distribution
g) Regulation No 194/2007, laying down rules for heating and hot water supply, measuring indicators of heat consumed in heating and in the production of hot water, and requirements as to the fitting of internal heat equipment in buildings with devices regulating and registering heat supply.

- **Act No 100/2001 on environmental impact assessment and amendments to some related acts (the environmental impact assessment act), as amended**

Regulates environmental impact assessment (including, e.g., impacts on animals and plants, on ecosystems, on soil, the mineral environment, water, air, climate and landscape, natural resources, tangible assets and cultural monuments, etc.) and public health, and steps to be taken by natural persons, legal entities, administrative authorities, and regional self-governing units (municipalities and regions) in the course of such assessment. Assesses the impact on public health and environmental impacts specified by special legislation and on their mutual effects and correlations.

Other related regulations, e.g.:

- Act No 114/1992 on the protection of nature and the countryside, as amended.
- Act No 289/1995 on forests and amendments to some acts, as amended (Forest Act),
- Act No 334/1992 on protecting the agricultural land fund, as amended,
- Act No 254/2001 on water and amendments to some acts, as amended (Water Act),
- Act No 20/1987 on care of national heritage, as amended, etc.
- regulations and development policy documents of local and regional self-governing authorities, in particular:

✓ principles of regional development of a region,
✓ regional energy policies of regions

- **Act No 369/2016 amending Act No 201/2012 on air protection**

The act modified the obligations to reduce greenhouse gas emissions from delivered fuels. According to the amendment to the act, in 2017 fuel suppliers must achieve at least a 3.5 % reduction in greenhouse gas emissions from the fuel delivered by them compared to the base value.

2.b. Please describe the measures in ensuring the transmission and distribution of electricity produced from renewable energy sources and in improving the framework or rules for the bearing and sharing of costs related to grid connections and grid reinforcements *(Article 22(1)(J) of Directive 2009/28/EC).*

Connecting and operating electricity production installations:

In the case of steps to ensure the transmission and distribution of electricity produced from renewable sources, and to improve the framework or rules for the bearing and sharing of the costs of connection to the grid system, and for enhancing the grid system, the rules applicable in 2015 and 2016 were set by the following legislation:

- Act No 458/2000 on conditions of business activity and the exercise of state administration in the energy sector and on amendments to certain acts (Energy Act)
- Act No 165/2012 on supported sources of energy and on amendments to certain acts
- until 31.1.2016, Regulation No 51/2006 on conditions for connecting to the electrification system, as amended
- until 1.2.2016, Regulation No 16/2016 on conditions for connecting to the electrification system

Following the amendments to Act No 458/2000 which allowed, under certain conditions, customers to operate production installations with an installed capacity of up to 10 kW without the need to obtain a licence, Regulation No 16/2016 introduced the process of simplified connection of these installations. If the conditions specified in the notice are met, the customer may not request a standard connection (only the existing connection agreement is amended) and the grid system operator cannot reject the connection of such an installation.

Investments in the development of the distribution and transmission systems:

a) Implemented and planned investments in the transmission and distribution networks in the Czech Republic

Within the Czech Republic, the companies ČEPS, a. s. (the transmission system operator), E.ON Distribuce, a.s., ČEZ Distribuce, a.s. and PREdistribuce, a.s. are the largest investors and operators of the transmission and distribution networks (regional grid system operators). On its website, each of these companies publishes information on the financial costs invested in transmission and distribution networks, and its future plans in this area. The attached table provides a summary of investment costs in 2015 and 2016.

Total investments implemented and planned by grid and transmission system operators

	Investment costs expended *	
Company name	2015	2016
ČEPS, a.s.	4 572 million CZK	4 551 million CZK
E.ON Distribuce, a.s.	3 789 million CZK	3 471 million CZK
ČEZ Distribuce, a.s.	7 697 million CZK	7 946 million CZK
PREdistribuce, a.s.	1 494 million CZK	1 583 million CZK

*source: annual reports of the companies

In accordance with Czech legislation, ČEPS, a.s. prepares a ten-year plan for the development of the transmission system, including an investment plan.

Distribution companies publish information about the expected development of their distribution networks on their websites, on the basis of the requirement stipulated in Section 25 of Act No 458/2000.

b) Selected completed and planned projects

As has already been stated, detailed information on projects in the distribution and transmission networks which have been the subject of past investment is available to the public on the websites of each of the companies; nevertheless, for more detailed information, the attached tables contain a summary of some of the completed and planned projects.

ČEPS, a.s.

The implemented ČEPS projects aim to ensure the transmission system's readiness to connect new production capacities within the time frames agreed between the investors and the transmission system operator, to strengthen the 400/110 kV transformer power between TS and DS covering both the increase in consumption and the change in the structure of sources connected to DS (swapping larger conventional sources with high utilisation of distributed sources with low utilisation and fluctuating production and removing bottlenecks to promote international electricity trade). Many of ČEPS' upcoming development investment projects are part of the regional investment plan for Continental Central and Eastern Europe (CCE ENTSO-E) and are included in the TYNDP ten-year European investment plan, which is subject to assessment under defined criteria. TYNDP aims not only to prepare the conditions for meeting EU climate goals, but also to define the necessary transmission infrastructure to meet these goals.

Completed projects				
Project name	Locality	Output	Completion	Investment costs ['000s CZK]
Modernisation of the Mírovka 400/110 kV transformer station	Mírovka		2015	843 500
Replacement of the Čebín 400/110 kV transformer station	Čebín	Replacement of 250 MVA with 350 MVA	2015	93 700

Replacement of the Nošovice 400/110 kV transformer station	Nošovice	Replacement of 250 MVA with 350 MVA	2015	119 600
Doubling of Výškov – Central Bohemia 400 kV lines	Výškov – Central Bohemia	2x1 730 MVA	2015	2 572 800
Modernisation of the Čebín 400/110 kV transformer station	Čebín		2016	566 000
Modernisation of the Lískovec 220/110 kV transformer station	Lískovec		2016	414 900
New 400 kV lines Krasíkov – Horní Životice	Krasíkov – Horní Životice	1 386 MVA	2016	1 742 900

ČEZ Distribuce, a. s.

Completed projects				
Project name	Locality	Output (voltage level)	Realisation	Investment costs
substation refurbishment	Albrechtice	110 kV	2015	N/A
construction of a new transformer station	Bavoryně	110/22 kV	2015	N/A
substation refurbishment	Hradec Králové	35 kV	2015	N/A
line refurbishment	Česká Třebová – Krasíkov	110 kV	2016	N/A
substation refurbishment	Vernéřov	110 kV	2016	N/A
construction of a new transformer station	Triangle	110/22 kV	2016	N/A

E.ON Distribuce, a.s.

Completed projects			
Project name	Locality	Realisation	Investment costs [’000s CZK]
Refurbishment of V 1357 110 kV lines	Tábor-Pacov	2016	CZK 111 000
VHV and HV dispatching control	Brno	2016	CZK 71 000
Refurbishment of V1317/1318 110 kV lines	Mírovka – Jihlava	2016	CZK 123 000
Refurbishment of TR110/22 kV	Hulín	2015	CZK 98 000

PRE Distribuce, a. s.

Completed projects			
Project name	Locality	Realisation	Investment costs
TR Třeboradice	Třeboradice	2011 – 2017	N/A
TR Uhříněves	Uhříněves	2009 – 2017	N/A
Refurbishment of 110kV overhead lines between TR Červený vrch and TR Sever	Suchdol	2008 – 2017	N/A
New SCADA dispatching control system	Vinohrady	2010 – 2017	N/A

Regulatory framework:

The Energy Regulatory Authority ("ERA") regulates the prices of related services in electricity in a transparent and predictable manner in accordance with the principles of price regulation so that regulated prices cover the economically justifiable costs of ensuring the reliable, safe and efficient performance of the licenced activity, depreciations and a reasonable profit to ensure the return of the investments made into facilities used to perform the licenced activity and the eligible costs for increasing energy efficiency in the construction and operation of the transmission system and distribution systems (see Section 17(11) and (12) and Section 19a of Act No 458/2000, the Energy Act). This creates the appropriate incentive for the transmission system operator (PPS) and the grid system operators (PDS) to invest.

The TSO and DSOs are required to ensure the safe, reliable and efficient operation, renewal, and development of the system (see Section 24(1)(a) et seq. regarding the obligations of the TSO, and Section 25(1)(a) et seq., regarding the obligations of the DSO) in conjunction with the obligation to preferentially connect producers of energy from renewable sources, according to Section 7(1) of Act No 165/2012 on supported sources of energy.
In conjunction with the Authority's powers to supervise compliance by the TSO and the DSOs (see the provisions of Section 17(7)(f) and Section 18 of the Energy Act), these obligations ensure that, in the development of their systems, the TSO and the DSOs have to take into account the development of electricity from renewable sources.

In relation to powers to regulate and to audit investments, within the meaning of Article 16(1) of the Directive on Renewable Sources, Member States have a general duty to ensure that their designated regulatory authorities have the authority to monitor the investment plans of the TSO and assess them in their annual report, pursuant to Article 37(1)(g) of the Directive on the Electricity Market. In relation to the TSO, the ERA is entrusted with the authority to approve the TSO's investment plans (see the provisions of Article 17(7)(i) of the Energy Act), and thus to intervene in those plans. With regard to the DSOs, or more specifically the resources to secure their fulfilment, this obligation is met mainly through the ERA having the authority to exercise supervision in the energy sector (see the provisions of Section 17(7)(f) in conjunction with Section 18 of the Energy Act). For any breaches found it may impose fines and corrective measures, which may lead to the withdrawal of their licence.

The established regulatory framework in the Czech Republic fully supports investment in the networks. In accordance with the wording of Section 19a(1) of the Energy Act, the ERA proceeds in the regulation of prices in such manner that the prices set cover the costs reasonably incurred in ensuring reliable, safe and efficient performance of the licenced activity, as well as depreciation and a reasonable profit for providing a return on the investment made in facilities serving the activity licenced, and costs reasonably incurred in increasing energy efficiency during the construction and operation of the transmission system and distribution systems.

3. Please describe the support schemes and other measures currently in place that are applied to promote energy from renewable sources and report on any developments in the measures used with respect to those set out in your National Renewable Energy Action Plan. ***(Article 22(1)(b) of Directive 2009/28/EC).***

A) Support for electricity generation from RES in the Czech Republic **Operational support (purchase prices and green bonuses)**

The legislative basis for operational support in the Czech Republic is Act No 165/2012 on supported sources of energy, which implemented Directive 2009/28/EC on support for the use of energy from renewable sources. Subsidy programmes financed by the national budget (Green Light to Savings, EFEKT) and operational programmes funded from the EU structural funds (OPEIC, OPEnv, SPR, IROP) represent Investment support for energy from RES or construction of production installations using RES.

Operating support is possible for the electricity sector in the form of a purchase price or green bonus. The redemption price is the price the producer is entitled to, regardless of the current market price. A green bonus is paid for the producer's own consumption or as a "contribution" to the market price for which the producer sold the produced energy. These schemes cannot be combined; a producer must select a system under which it will produce, with purchase price support being available only to selected production units, in order to give priority to support in the form of green bonuses.

The payment of the support for electricity in the case of the purchase price form of support is ensured by the obligatory buyer (the state delegated electricity trader, or until its selection the supplier of the last instance for the respective territory), the RES electricity producers pay the fixed purchase price and the market operator (a company established by the state through which all the financial flows associated with the support occur) is required to pay the buyer the difference between the purchase price and the hourly (market) price of electricity.
Purchase prices were calculated with a view to the wording of Section 4 of Act No 165/2012, and are set such as to ensure that, over the lifetime of the relevant kinds of electricity production installations, producers were guaranteed a fifteen-year return on their investment. Over the lifetime of the source, purchase prices are increased by 2 % per year, in accordance with the law (with the exception of production installations using biogas, biomass or bioliquid).

In the case of support by a green bonus, the market price of electricity is paid to the electricity producer by the buying electricity trader and the green bonus is paid to the electricity producer by the market operator. Payment of support for heat occurs whereby the regulated price of heat is paid to the supplier by the heat consumer and the green bonus is paid by the market operator. Payment of support for bioethane occurs whereby the regulated price of bioethane is paid by the bioethane consumer (the gas trader) and the green bonus is paid by the market operator. The Energy Regulatory Authority sets the value of green bonuses in such manner as to take account of the value of the market price of electricity for each type of renewable energy source. Under

this system, a producer may sell his electricity output to any customer or electricity trader at the market price, gaining a green bonus in addition. The bonus scheme also permits the use of generated electricity for one's own use and the application of a green bonus against this use. Compared to purchase prices, they are advantaged, because their value reflects the increased level of risk associated with selling the electricity produced on the market.

Operational support financing:

The costs of electricity support and heat operating support are covered by the market operator from funds made up of

- revenues from the payments of the price component of the grid system service and the price component of the transmission system service to support electricity,
- revenues from payments for not meeting the minimum energy efficiency when burning brown coal pursuant to Article 6(5) of the Energy Management Act,
- subsidies from state budget funds, and
- revenues from auctioning of allowances under the Act on conditions of trading with greenhouse gas emission allowances implemented through the Ministry's chapter.

In 2015, Act No 406/2000 on energy management was amended (by Act No 103/2015). The amendment to Act No 406/2000 removed, with effect from 1 July 2015, the provisions of Section 6 concerning the minimum efficiency of energy use for combustion of brown coal and the associated charges. It is not possible to count on this source of financing of the support (mentioned in Section 28(1)(b) of Act No 165/2012).

According to the Ministry of Finance, proceeds from auctioning allowances under the Act on conditions of trading with greenhouse gas emission allowances implemented through the Ministry of Industry and Trade's chapter are already part of the funding from the state budget.

By means of decree, the Government will earmark state budget funds for granting a subsidy for payment of the price component of the grid system service and the price component of the transmission system service to support electricity, and payment of heat operating support by 30 September of the calendar year preceding the calendar year for which the ERA determines the price component of the grid system service and the price component of the transmission system service. The state budget funds for a subsidy are specified on the basis of the funds referred to in the previous paragraph so that, together, they cover the total foreseen funds for electricity support and heat operational support.

In order to cover the costs associated with the support for solar power plants put into service during the period from 1 January 2009 to 31 December 2010, a levy was introduced for the 2011–2013 period, by which these electricity production installations must compensate for the disproportionate level of their support. Since 2014, this levy has been paid only by solar power plants put into operation in 2010, for the entire period of operating support.

The purchase prices and green bonuses for individual types of renewable sources are set out in the Energy Regulatory Authority's price decisions, by which support for the production of electricity from RES, combined electricity and heat generation, and secondary energy sources for a given year are determined.

In 2015 there was another amendment to Act No 165/2012 along with Act No 458/2000 (Energy Act), namely Act No 131/2015, amending Act No 458/2000 on conditions of business activity and the exercise of state administration in the energy sector and on amendments to certain acts (Energy Act), with effect from 1 January 2016. In addition to tightening checks on disbursed subsidies and extending the ERA's competencies, the amendment to the Act on supported sources of energy introduces, in particular, a change in the levying of fees for renewable sources, which will continue to be levied according to the size of the connection (for households, the circuit breakers).

Under this act, heat operating support was also introduced, which covers useful heat from heat production installations located in the Czech Republic, having an installed electrical output of up to 500 kW and using biogas generated from more than 70 % manure and animal by-products or biodegradable waste

As part of the amendment to the Energy Act, there was also a reduction in administrative requirements for the connection and operation of small sources of up to 10 kW, intended primarily for own consumption, where, according to the approved amendment to Section 3(3), no licence for electricity generation is required for production installations with outputs up to 10 kW, even if the production installation is connected to a transmission or grid system. Production installations must meet the following criteria:

- They must be installations designed for the customer's own consumption up to 10 kW.
- The installation must be connected to the grid system on the basis of a contract with the grid system operator, i.e. the conditions for connection of electricity production installations under the existing regulations must be met.
- A production installation without a licence cannot be connected to an installation for which the holder is licenced and receives support at one consumption point (therefore owners of small production installations from 2006 – 2013 who receive a green bonus, cannot set up another installation without a licence).

The installation can deliver overflows to the system in a quantity that is not yet limited. However, the customer cannot receive the market price for the electricity supplied, because it would be a business that requires a licence.

In 2016, several European Commission proceedings were concluded with the Czech Republic on the compatibility of operating support introduced by Act No 165/2012 with the EU internal market and EU state aid rules in the field of environment and energy. This concerned the following decisions by which the European Commission decided on the compatibility of this support with the following rules:

- SA.40171 (2015/NN) of 28 November 2016 — Czech Republic — Support for the production of electricity from renewable energy sources (intended for RES put into operation in the period 1.1.2006 – 31.12.2012)
- SA.43182 (2015/N) of 22 August 2016 — Czech Republic — Support for the production of electricity by small hydro power stations (intended for small hydro power stations put into operation in the period 1.1.2016 – 31.12.2020)
- SA.43451 (2015/N) of 22 August 2016 — Czech Republic — Operating support for small biogas stations with installed capacity of up to 500 kW (intended for sources put into operation in the period 1.1.2016 – 31.12.2020)

Investment support

A) *Investment support* from subsidy programmes for promoting electricity generation from renewable sources:

a) *State programmes*

State programme for the promotion of energy savings and use of renewable energy sources *(Ministry of Industry and Trade)*
Green Light to Savings and New Green Light to Savings *(Ministry of the Environment)*
Programme for furnace replacements under the Operational Programme Environment OPEnv 2014–2020, SC 2.1 *(Ministry of the Environment and selected regions)*

b) *Operational programmes*

- Operational Programme Enterprise and Innovation for Competitiveness OPEIC (Ministry of Industry and Trade) 2014–2020, *Priority Axis 3, Renewable Energy Programme,* 3 calls have already been announced, supported activities: *construction, reconstruction and modernisation of a small hydro power station (up to 10 MWe of installed capacity)*
- Operational Programme Environment OPEnv *(Ministry of the Environment)*

c) *European Agricultural Fund for Rural Development*

- The Rural Development Programme RDP *(Ministry of Agriculture)*

Other types of support (*Tax exemption, reduction, or refund):*

a) Exemption from tax on electricity for electricity from renewable sources on the basis of Act No 261/2007 on public budget stabilisation, as amended.

By the end of 2015, all environment-friendly electricity was exempt from tax. This is electricity from solar energy, wind energy or geothermal energy and electricity produced in hydro power stations, from biomass or biomass products, methane emissions from closed coal mines or from fuel cells.

With effect from 1 January 2016, the exemption for environment-friendly electricity was considerably reduced because it was a non-systemic tax measure. However, in order make tax collection as efficient as possible, the option of tax-exemption for small producers/consumers of green electricity (typically family houses with solar panels) had to be retained. The exemption thus applies only to environment-friendly electricity produced in electricity production installations with an installed output of up to and including 30 kW when consumed at the same consumption point at which it was produced.

b) Tax exemption on real estate (under the Real Estate Tax Act):

- ✓Land constituting one functional unit with a taxed building or taxed unit subject to the conditions stipulated in Section 4(1)(h) of Act No 338/1992 on real estate tax, as amended, serving to improve the environment in the Czech Republic, e.g. for operation of wind farms

- ✓ Section 9(1) of Act No 338/1992, as amended, inter alia, exempts taxable buildings or taxable units used, for example, by electricity or heat producing installations using biogas energy, from real estate tax if the energy obtained is supplied to the network or other consumers. Furthermore, taxable buildings are exempt from real estate tax following a change of heating system from solid fuels to a system using RES, for a period of five years.

B) Support for heating and cooling from RES in the Czech Republic

Given that a heat supply system exists in nearly all larger towns and cities in the Czech Republic, and that the share of supply from heat supply systems accounts for more than 50 % of total heat consumption in the Czech Republic, the existing scope of heat supply infrastructure can be considered, in principle, sufficient, in terms of the possibility of attaining the target for the utilisation of renewable sources of energy for 2020. In existing systems, it will be necessary to focus primarily on their refurbishment and increased efficiency (reduction of losses in distribution). New heat supply systems may be established primarily in smaller settlements, where a suitable renewable source of energy is available (in particular biomass or biogas) in a sufficient quantity. No central plans are produced in the Czech Republic for future support for the development of heat supply infrastructure.

In 2016 the heating and cooling sector contributed to the total RES share in gross final consumption at about 15 % of two-thirds (specifically 10.6 %). For this reason, increased attention needs to be paid to support for heat from RES. One of the reasons for the high contribution to the overall share is the relatively high efficiency of energy conversion from primary energy sources, particularly in heat production or combined heat and power production compared to mono-electricity production from these renewable sources with possible heat production.

Operational support

In the context of support for heat, the following operating support or related issues have been introduced:

- operating support for electricity from high efficiency combined heat and power production pursuant to Section 6 of Act No 165/2012,
- operating support for heat from RES using biomass combustion determined for the difference of fuel costs between RES and non-RES pursuant to Section 24(3) of Act No 165/2012,
- operational support of heat from RES using biogas produced from more than 70 % manure and animal by-products and/or biodegradable waste intended for the construction of heat production installations pursuant to Section 24(4) of Act No 165/2012,
- the obligation to purchase heat from RES from the holder of a licence for heat energy distribution and the connection of the RES heat production installation to the heat distribution system pursuant to Section 27(1) of Act No 165/2012,
- prepare and regularly update an overview of all efficient systems of heat energy supply in the Czech Republic pursuant to Section 25(5) of Act No 165/2012.

Investment support

This is mainly investment support for the construction of RES heat production installations and their reconstruction (reconstruction of non-RES installations to RES ones) from subsidy programmes (national and European — EFEKT, OPEIC, OPRD, OPEnv).

Furthermore, this also concerns "mandatory" or "forced" installation of heat production installations (biomass boilers, solar collectors, heat pumps) by owners and building builders in the framework of fulfilment of requirements for the energy performance of buildings and the progressive tightening of these requirements (during the construction and reconstruction of existing buildings), until achieving the value of buildings with nearly zero energy consumption and energy active buildings that are paid for by owners and builders. This is the setting of parameters and indicators for the energy performance of buildings pursuant to Act No 406/2000 on energy economy and Regulation No 78/2013 on the energy performance of buildings.

Use of renewable sources of energy in heat supply systems is currently supported through the following support regimes:

✓ Investment support — operational programmes and state programmes (the "State Programmes")

- State programme for the promotion of energy savings and use of renewable energy sources *(Ministry of Industry and Trade)*
- Green Light to Savings and New Green Light to Savings *(Ministry of the Environment)*
- Programme for furnace replacements under the Operational Programme Environment OPEnv 2014–2020, SC 2.1 *(Ministry of the Environment and selected regions)*

✓ Operational programmes

- Operational Programme Enterprise and Innovation for Competitiveness OPEIC (Ministry of Industry and Trade) 2014 –2020
  In the framework of Priority Axis 3, specifically the Renewable Energy Programme, 3 calls have already been announced, supporting the following activities:
  a) the conducting of heat from existing electricity production installations — biogas stations using biogas in the biogas station to produce electricity and heat through heat distribution facilities to the point of consumption; the conducting of biogas from existing biogas stations through a gas line to a remote cogeneration unit using biogas from an existing biogas station in order to utilise the useful heat delivered to the heat distribution system of the heat supply system,
  b) construction and reconstruction of sources of combined electricity and heat production from biomass, including the conducting of heat to a heat exchange station,
  c) construction and reconstruction of sources of heat from biomass, including the conducting of heat to a heat exchange station,
- Operational Programme Environment OPEnv *(Ministry of the Environment)*

✓ European Agricultural Fund for Rural Development

- The Rural Development Programme RDP *(Ministry of Agriculture)*

✓ Exemption from real estate tax:

a. Sources of geothermal energy, including heat pumps
b. Solar collectors and sources of energy from biomass

C) Cost of operating support for RES in the Czech Republic

Table 3: **Actual costs of the promotion of electricity from SRES**

Actual costs of the promotion of electricity from SRES	2015	2016
	[mil. CZK]	[mil. CZK]
Small hydro power stations	1 927	2 057
Photovoltaic stations	26 804	25 911
Wind farms	1 215	1 100
Geothermal sources	0	0
Biogas stations	7 694	7 897
Biomass	3 458	3 787
Total RES	**41 098**	**40 752**

3.1 Please provide the information on how supported electricity is allocated to final customers for the purposes of Article 3(6) of Directive 2003/54/EC *(Article 22(1)(b) of Directive 2009/28/EC).*

Information on how supported electricity is allocated to final energy customers for the purposes of Article 3(9) of Directive 2009/72/EC concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC (which replaced Directive 2003/54/EC) is given in line with the provisions of Act No 458/2000 on conditions of business activity and the exercise of state administration in the energy sector and on amendments to certain acts (the Energy Act) and Regulation No 70/2016 on the billing of supplies and services in energy sectors on invoices for the final customer.

4. Please provide information on how, where applicable, the support schemes have been structured 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*(Article 22(1)(c) of Directive 2009/28/EC).*

Support for different kinds of renewable sources is not discriminatory and there is no preferential support for one kind of renewable energy over another. The Czech Republic does not have any special support which would give preferential treatment to biofuels produced from waste, residues, non-food cellulose materials and ligno-cellulose materials compared to other biofuels.

5. Please provide 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 *(Article 22(1)(d) of Directive 2009/28/EC).*

Guarantees of origin are issued in the Czech Republic pursuant to Act No 165/2012 on supported sources of energy, and the applicable implementing Regulation No 440/2012. Guarantees of origin for energy from renewable energy sources are issued in the Czech Republic only for electricity from renewable energy sources as required by the original Directive 2001/77/EC on support for electricity produced from renewable energy sources on the internal electricity market and the current Directive 2009/28/EC. In addition, guarantees of origin of energy from high-efficiency cogeneration of electricity and heat are issued in the Czech Republic, as required by Directive 2012/27/EU on energy efficiency.
Guarantees of origin in the Czech Republic are issued by the delegated organisation, which is the market operator (OTE, a.s.). Guarantees of origin issued by the market operator were used primarily to authenticate the right to exemption from the tax on electricity, implemented as an optional exemption pursuant to Directive 2003/96/EC on the taxation of energy products and electricity.
Data stated in a producer's request for the issue of a guarantee of origin is validated in the market operator's secure system. The period and amount of electricity for which guarantees of origin are requested is also compared in a secure manner with the database of subsidies paid by the market operator and operators with an obligation to purchase.
The price for the issue of a guarantee of origin contains both fixed and variable elements. The fixed element is payable for each month in which at least one guarantee of origin is issued. The variable element is payable per guarantee of origin issued (relating to the volume of 1 MWh of electricity supplied to the network). According to ERA Price Decision No 2/2014, of 25 November 2014, laying down regulated prices related to the supply of electricity, the price for the issuing a guarantee of origin in 2015 amounted to CZK 4.45/MWh and CZK 25/month in which a guarantee of origin was issued. For the year 2016, these prices were changed according to the ERA Price Decision No 7/2015 of 26 November 2015, as follows:

- price for issuing a guarantee of origin — 0.95 CZK/MWh,
- price for transferring a guarantee of origin within the Czech Republic — 0.20 CZK/MWh,
- price for transferring a guarantee of origin within the Czech Republic — 0.20 CZK/MWh,
- price for keeping an account in the guarantee of origin records — 100 CZK/month.

6. Please describe the developments in the preceding 2 years in the availability and use of biomass resources for energy purposes *(Article 22(1)(g) of Directive 2009/28/EC).*

It is suggested that tables 4 and 4a are used to provide more detailed information on the biomass supply.

Table 4: **Biomass supply for energy use**

	Amount of domestic raw material (*)		**Primary energy in 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 third countries (*)**		**Primary energy in amount of imported raw material from third countries (ktoe)**	
	2015	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**	**2016**
Biomass supply for heating and electricity:												
Direct supply of wood biomass	5 605	5 685	1 740	1 765	2	3	1	1	4	5	1	2

from forests and other wooded land energy generation (fellings, etc.)**												
Indirect supply of wood biomass (residues and co-products from wood industry, etc.)**	4 104	4 037	1 080	1 066	470	701	132	195	36	40	10	11
Energy crops (grasses, etc.) and short rotation trees	372	386	133	138	0	0	0	0	0	0	0	0
Agricultural by-products / processed residues and fishery by-products **	5 173	5 181	546	534	0	0	0	0	0	0	0	0
Biomass from waste (municipal, industrial, etc.) **	4 387	4 415	147	152	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0	0
Biomass supply for transport:												
Common arable crops for biofuels	N/A	N/A	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	**0**	**0**	**0**	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0	0

* Amount of raw material if possible in m^3 for biomass from forestry and in tonnes for biomass from agriculture and fishery and biomass from waste.
** The definition of this biomass category should be understood in line with Table 7 of part 4.6.1 of Commission Decision C(2009) 5174 final, establishing a template for the National Renewable Energy Action Plans under Directive 2009/28/EC.

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

Land use	**Surface *(ha)***	
	2015	**2016**
1. Land used for common arable crops (wheat, sugar beet, etc.) and oilseeds (rapeseed, sunflower, etc.) (Please specify main types) *1	**159 797** (canola, sugar beet, maize)	**134 551** (canola, sugar beet, maize)
2. Land used for short rotation trees (willows, poplars). (Please specify main types)	**2 838** (mainly poplars, LPIS source)	**2 869** (mainly poplars, LPIS source)
3. Land used for other energy crops, such as grasses (reed canary grass, switch grass, *Miscanthus*), sorghum. (Please specify main types)	**Not monitored**	**Not monitored**

*1 This is not land used, but a reverse estimate of land area needed to produce biofuels
Note: for short rotation trees this is information on the areas included in the LPIS system as an SRT culture. The area for other cultivated energy crops is not monitored as a separate culture.

7. **Please provide information on any changes in commodity prices and land use within the Czech Republic in the preceding 2 years associated with increased use of biomass and other forms of energy from renewable sources. Please provide, where available, references to relevant documentation on these impacts in the Czech Republic** *(Article 22(1)(h) of Directive 2009/28/EC).*

When assessing commodity price impacts, it is suggested to consider at least the following commodities: common food and feed crops, energy wood, pellets.

There was no evidence of an increase in agricultural commodity prices as a result of the use of purpose-grown biomass.

Over the last 2 years, there has been no significant change in land use for cultivating raw materials for the production of traditional biofuels. The main raw materials for the production of biofuels in 2015 and 2016 were canola, sugar beet and maize (see Table 4a).

An important aspect in the consideration of the impact that biomass used for energy purposes in the Czech Republic has on prices and land use is also the fact that the Czech Republic has available sufficient arable land to secure 100 % food self-sufficiency, as well as to meet its 10 % RES target in transport, without there being competition for the use of arable land for these different purposes (see the Biomass Action Plan for 2012–2020, approved by the government on 12 September 2012).

8. **Please describe the development and share of biofuels made from wastes, residues, non-food cellulosic material, and lingo cellulosic material** *(Article 22(1)(i) of Directive 2009/28/EC).*

Table 5: **Production and consumption of biofuels pursuant to Article 21(2) (Ktoe)**

Biofuels pursuant to Article 21(2)[26]	Year 2015	Year 2016
Production – FAME from waste food and animal fats *)	4.5	40.5
Consumption – FAME from waste food and animal fats	0	0
Total production of biofuels pursuant to Article 21(2)	4.5	40.5
Total consumption of biofuels pursuant to Article 21(2)	0	0
% share of biofuels pursuant to Article 21(2) within total RES-T	0	0

*) Exclusively for export, an estimate of 5 000 t in 2015 and 45 000 t in 2016

9. **Please provide information on the estimated impacts of the production of biofuels and bioliquids on biodiversity, water resources, water quality, and soil quality within the Czech Republic in the preceding 2 years. Please provide information on how these impacts were assessed, with references to relevant documentation on these impacts within the Czech Republic** *(Article 22(1)(j) of Directive 2009/28/EC).*

The conditions which a farmer must fulfil for growing biofuel feedstock are no different from those for growing foodstuffs, namely compliance with good agricultural and environmental conditions (GAEC). Compliance with these conditions is checked and is linked to the payment of subsidies. Non-compliance would entail the risk of a financial penalty for the farmer. For this reason, no impact is expected during the cultivation period.

[26] Biofuels made from wastes, residues, non-food cellulosic material, and lignocellulosic material.

The area of agricultural land on which purpose-grown biomass for non-food use is produced is declared by the farmers each year in the Single Application of the State Agricultural Intervention Fund.

The impact of agricultural production on biodiversity, water, soil, air, and other aspects of the environment is routinely monitored in the Czech Republic and is evaluated using a set of relevant indicators. The values of selected indicators are presented to the government and made public through the annual Report on the State of Agriculture, the Report on the State of the Environment and the Sustainable Development Report for the Czech Republic. In the 2015 – 2016 monitoring period, the value of most of the agricultural environmental impact indicators remained at approximately the same level. This indicates that the impact of biomass production for energy use on agricultural land was neutral during the monitoring period. We attach the following table for information:

Name of indicator for assessing agricultural environmental impact	2015 values	2016 values
Area of territories protected pursuant to Act No 114/1992 on the protection of nature and landscape	1 687 300 ha	1 722 400 ha
Consumption of mineral nitrogen fertilisers	113.67 kg N/ha	116.70 kg N/ha

Source: Zemědělství, 2016, Ministry of Agriculture

Method of documenting compliance with biofuel sustainability criteria in the Czech Republic

In the Czech Republic, the obligation to document compliance with sustainability criteria is stipulated by Act No 201/2012 on air protection, as amended, and the accompanying Government Decree No 351/2012 on biofuel sustainability criteria. According to the Czech system, each economic entity involved in the biofuel production chain must hold a valid certificate that gives the entity the right to issue documents of compliance with sustainability criteria for each batch of sustainable products. The only exception are biomass producers who do not need to have a certificate, as they are inspected within the scope of checks on biomass sellers. Economic entities purchasing biomass directly from producers must have separate declarations of compliance with sustainability criteria issued by the biomass producers.

Compliance with sustainability criteria by biomass sellers and importers (persons defined in Section 21(3) of Act No 201/2012) and producers, importers and sellers of liquid or gas products for the production of biofuels (persons defined in Section 21(2) Act No 201/2012) is documented by an interim declaration of compliance with sustainability criteria.

Compliance with sustainability criteria by producers, importers, and sellers of biofuels and importers and sellers of motor petrol and motor diesel with the addition of biofuel not released into free tax circulation in the Czech Republic (person defined in Section 21(1) of Act No 201/2012) is documented by a declaration of compliance with sustainability criteria.

In order for the economic entities referred to above to be able to issue documents confirming compliance with sustainability criteria for each batch of sustainable products, they must hold a certificate granted by a person authorised pursuant to Section 32(1)(g) of the act referred to above.
If an economic entity holds a certificate or other similar authorisation issued in line with the legislation of another EU Member State, the declarations and interim declarations issued by it can only be recognised pursuant to Section 21(11) of Act No 201/2012 if it is registered with the Ministry of the Environment. The economic entity must provide proof to the Ministry of the Environment that it holds a certificate or other similar authorisation issued in line with the laws of another European Union Member State.
Compliance with sustainability criteria can be documented on the basis of Section 21(12) of Act No 201/2012 by the economic entity's inclusion in a voluntary scheme recognised on the basis of a European Commission decision issued on the basis of Article 18(4) of Directive 2009/28/EC, or on the basis of Article 7c(4) of Directive 2009/30/EC.
Authorisations for issuing certificates are granted pursuant to Section 32(2) of Act No 201/2012 by the Ministry of the Environment, upon agreement with the Ministry of Agriculture. With its application for an authorisation, the applicant must enclose a list of individuals who will carry out the certification, certificates of accreditation for that work issued by the Czech Accreditation Institute (Český institute pro akreditaci, o.p.s.), and a description of the work processes, methods, and principles that will ensure due control of compliance with sustainability criteria by certified persons. A list of authorised persons is available at:
http://www.mzp.cz/cz/kriteria udržitelnosti ovzduší

An authorised person shall:

- check at least once a year whether the economic entities to which it issued a certificate still comply with the requirements for the granting thereof;
- if economic entities purchase biomass directly from biomass producers, he/she must check at least 3 % of biomass producers;
- draw up a report after each inspection and archive it for 5 years;
- send a copy of the report without delay to the Czech Environmental Inspectorate in the event that shortcomings are found in compliance with sustainability criteria;
- send copies of the certificates issued to the Ministry of the Environment;
- draw up a summary report of inspections conducted in the previous calendar year and send the report to the Ministry of the Environment by 28 February.

A list of certified persons is available at:
http://www.mzp.cz/cz/kriteria udržitelnosti ovzduší

Obligations of economic entities

Economic entities (biomass sellers and importers, producers, importers, and sellers of liquid or gas products for biofuel production, producers, importers, and sellers of biofuel, and producers and sellers of motor petrol and motor diesel with a biofuel additive not released into free tax circulation in the Czech Republic) shall only receive a certificate from an authorised person if they have introduced a quality control system enabling credible documentation and monitoring of compliance with sustainability criteria. Furthermore, economic entities must have a weight balance system introduced for documenting compliance with sustainability criteria. A certificate is valid for 12 months.

A quality system must allow for the documentation of the origin of biomass, intermediate products intended for the production of biofuels, and biofuels themselves at any time, and must include:

- the introduction and reporting of a weight balance system documenting in full the origin of biomass, intermediate products intended for the production of biofuels, and biofuels themselves, compliant with sustainability criteria in their mixing with products which do not comply with sustainability criteria;
- the keeping of records of inbound and outbound products and their link in the records to independent declarations received, interim declarations of compliance received and issued, and declarations of compliance with sustainability criteria received and issued;
- retention of records for at least 5 years;
- keeping of records of intra-company processes.

The weight balance system allows for the mixing of supplies of biomass, intermediate products intended for the production of biofuels, and biofuels themselves which comply with sustainability criteria, in spite of them manifesting a different production of greenhouse gas emissions, and furthermore, it must ensure that:

- information about the weight and production in each inbound supply of biomass, intermediate products intended for the production of biofuels, and biofuels themselves would be included in the documentation accompanying the mixture;
- the sum of the weights and production of greenhouse gases in supplies compliant with sustainability criteria added into mixtures would equal or be greater than the sum of weights and production of greenhouse gas supplies compliant with sustainability criteria taken from the mixture;
- in the case of the mixing of products compliant with sustainability criteria with those that do not meet the criteria, the amount of sustainable products added to the mixture would be established in advance and the amount of products that are removed from the mixture and are to serve as products compliant with sustainability criteria would not be greater than the amount of sustainable criteria of the products added to the mixture.

Check on economic entities

In the Czech Republic, economic entities are essentially subject to two levels of control.

The first is carried out by the authorised person, who is entitled not to issue a new certificate to an economic entity, or to revoke an old one. In that case, the economic entity is not able to issue documents of compliance with sustainability criteria.

The second check is performed by state administration authorities, which are entitled to impose high penalties on economic entities.

The Ministry of Agriculture is authorised to check on biomass producers and sellers. The Czech Environmental Inspectorate is authorised to check on producers and sellers of liquid and gas products for biofuel production, on biofuel producers and sellers, and on sellers of motor petrol and motor diesel with a biofuel additive not released into free tax circulation in the Czech Republic.

Customs authorities are authorised to check on biomass importers, importers of liquid and gas products for biofuel production, importers of biofuel, and importers of motor petrol and motor diesel with a biofuel additive not released into free tax circulation in the Czech Republic. Furthermore, customs authorities check whether fuel suppliers have included only biofuels compliant with sustainability criteria in their obligation to ensure a minimum share of biofuels in fuel pursuant to Section 19, and in the compulsory reduction of greenhouse gas emissions from fuel pursuant to Section 20

Particulars of records of economic entities and particulars of documents showing compliance with sustainability criteria

Particulars of records of economic entities

- Information about individual inbound and outbound deliveries, namely:
  - independent declarations received from biomass producers, interim declarations of compliance with sustainability criteria received and issued, and declarations of compliance with sustainability criteria received and issued, copies of certificates of all suppliers;
  - delivery documents for inbound and outbound deliveries;
  - purchase agreements or orders for inbound and outbound deliveries;
  - identification of the supplier/client and unique identification numbers of inbound and outbound deliveries;
  - type of inbound/outbound sustainable product;
  - date of delivery/shipping of a sustainable product;
  - volume;
  - clear identification of the place of storage and place of release;
  - country of origin of biomass;
  - information about the method of determining greenhouse gas emission production;
  - the value of production of greenhouse gas emissions, in gCO2eq/kg or gCO2eq/MJ,
  - identification of the supplies for which a bonus for growing on degraded land was used, or a bonus for using improved agricultural procedures;
  - identification of deliveries made out of waste.
- Information from the production process
  - document of the date of the placement of the installation into operation;
  - the volume of losses (change in weight) of the products originating in intra-company procedures (treatment of biomass, intermediate products, or biofuel to obtain the required quality (drying to the required humidity level, removal of undesirable admixtures),
  - In the case of producers of intermediate products and biofuel producers, the conversion factors required for weight balance calculation (e.g. the volume of biomass required for the production of one tonne of intermediate product or one tonne of biofuel);
  - in the case of the determination of the value of greenhouse gas emission production using actual values, a record of all energy input and output in the production process and efficiency of energy conversion, and other information from operational records decisive for determining greenhouse gas emission production.

Particulars of records of biomass producers

- Area of the land on which biomass compliant with sustainability criteria is grown;
- Agriculture cultivation of the soil on which biomass compliant with sustainability criteria is grown;
- Types of biomass grown, and yield for the relevant calendar year;
- Copies of each independent declaration issued;
- Records of each outbound supply, consisting of the following information:
  - unique identification number of the independent declaration;
  - identification information about the client;
  - identification number of each outbound delivery;
  - volume and type of biomass sold;
  - shipping date;
  - value of greenhouse gas emission production;
- If actual values of greenhouse gas emission production are used, the biomass producer shall keep a record of information that has a significant impact on greenhouse gas emission production;
- If a bonus for growing on degraded land was used, or a bonus for using improved agricultural procedures was used in the calculation of actual values of greenhouse gas emissions, identify the deliveries for which the bonus was applied.

Particulars of the separate declaration by a biomass producer:

- Unique identification number of separate declaration assigned by the issuer;
- Identification data about the issuer and recipient of the declaration;
- Declaration as to whether biomass comes from land that was arable land prior to 1 January 2008;
- Declaration as to whether biomass was not grown on land with a high value of biological diversity, on land with a high carbon stock, or in a peat bog;
- Declaration stating that the biomass was grown in line with requirements and standards in accordance with the common rules for the direct support regime under the common agricultural policy of the European Union;
- Information about biomass, including its type, year of harvest, and place of cultivation;
- Information as to whether a partial standard value for growing or the actual value is to be used for determining the value of production of greenhouse gas emissions;
- Place and date of issue and signature of the person authorised to issue the declaration;

Particulars of the interim declaration of conformity with sustainability criteria

- Unique identification number of the interim declaration of conformity assigned by the issuer;
- Identification data about the issuer and recipient of the interim document;
- Type of biomass or intermediate product, total volume;
- Country of origin of biomass;
- Information about the method of determining greenhouse gas emission production;
- Value of greenhouse gas emission production in gCO_{2eq}/kg or gCO_{2eq}/MJ;
- Place and date of issue and signature of the person authorised to issue the declaration;

Particulars of the declaration of conformity with sustainability criteria

- Unique identification number of declaration of conformity assigned by the issuer;
- Identification data of the issuer and recipient of the document;
- Type of biomass, including the raw material and its total volume;
- Declaration as to whether the biofuel was produced at an installation that was in operation prior to 24 January 2008;
- Country of origin of biomass used for biofuel production;
- Information about the method of determining greenhouse gas emission production;
- Value of greenhouse gas emission production in gCO_{2eq}/MJ;
- Place and date of issue and signature of the person authorised to issue the declaration;

10. **Please estimate the net greenhouse gas emission savings due to the use of energy from renewable sources** *(Article 22(1)(k) of Directive 2009/28/EC).*

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

Environmental aspects	Year 2015	Year 2016
Total estimated net GHG emission saving from using renewable energy[27]	13 716 639	13 751 825
- estimated net GHG emission saving from the use of renewable electricity	5 196 807	5 230 181
- estimated net GHG emission saving from the use of renewable energy in heating and cooling	7 730 674	7 789 544
- estimated net GHG emission saving from the use of renewable energy in transport	789 158	732 100

Source: Biofuel consumption from Ministry of Trade and Industry statistics
https://www.mpo.cz/assets/cz/energetika/statistika/kapalna-biopaliva/2017/3/Kapalna_biopaliva_2016CZ_12Cs.pdf.
Production of emissions from emission reports that are annually submitted by fuel suppliers to the Ministry of Environment.

11. Please report on (for the preceding 2 years) and estimate (for the following years up to 2020) 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 *(Article 22(1)(l) and (m) of Directive 2009/28/EC).*

It is not anticipated that the RES targets for the Czech Republic will be met by RES energy transfers from another EU Member State before 2020. Nor is it anticipated that the Czech Republic will transfer an RES energy surplus to another EU Member State. The values provided below in Table 7 therefore constitute only theoretical calculations, based on the difference in values between a scenario executed pursuant to Directive 2009/28/EC, resulting in a binding share of energy from RES for the Czech Republic of 13 % in 2010, and a scenario of the expected updated developments through to 2020, as stated in the updated RES NAP from 2015, approved in January 2016, which will probably exceed the binding values determined for the Czech Republic.

Table 7: Estimated excess and/or deficit (-) production of renewable energy, compared to the indicative trajectory, which could be transferred to/from other Member States in the Czech Republic (ktoe)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimated excess production in the document with preliminary estimates											
Estimated excess production	0.00	0.00	0.00	0.00	1 145.97	1 039.66	946.81	862.87	891.73	678.04	642.54

[27] The contribution of gas, electricity and hydrogen from renewable energy sources should be reported depending on the final use (electricity, heating and cooling or transport) and only be counted once towards the total estimated net GHG emission savings.

National Action Plan for energy from renewable sources											
Insufficient production estimated in the document with preliminary estimates											
Insufficient production estimated in the National Action Plan for energy from renewable sources											

11.1 Please provide details of statistical transfers, joint projects, and joint support scheme decision rules.

The Czech Republic is not currently considering the use of a "cooperation mechanism" facilitating cross-border support for renewable energy, such as statistical transfers, joint projects, and joint support schemes. The Czech Republic made no use of any cooperation mechanism with another Member State in 2015 and 2016.

12. Please provide information on how the share for biodegradable waste in waste used for producing energy has been estimated, and what steps have been taken to improve and verify such estimates. *(Article 22(1)(n) of Directive 2009/28/EC).*

The proportion of biodegradable municipal waste specified in Regulation No 477/2012 on determining the types and parameters of renewable sources supported for electricity, heat or biomethane production, and on the establishment and specification and filing of documents, is determined on the basis of consultation and information from the IEA, Eurostat, other EU countries, and information from local operators of municipal waste incinerators.