

## Report on progress in the promotion and use of energy from renewable sources

The report is submitted under Article 22 – Reporting by Member States under Directive 2009/28/EC of the European Parliament and of the Council on the promotion of the use of energy from renewable sources

1. Each Member State shall submit a report to the Commission on progress in the promotion and use of energy from renewable sources by 31 December 2011, and every two years thereafter. The sixth report, to be submitted by 31 December 2021, shall be the last report required.

The report shall detail, in particular:

(a) the sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in the preceding two calendar years and the measures taken or planned at national level to promote the growth of energy from renewable sources taking into account the indicative trajectory in Part B of Annex I, in accordance with Article 5;

### Answer:

For 2009 the actual share of energy from renewable sources was 7.4 %. In the case of 2010, all the relevant data concerning the actual share of energy from renewable sources are not yet available. Actual values for 2010 will be available by mid-2012. For 2010, therefore, it is possible only to restate the information set out in the NAP (National Action Plan). The share of energy from renewable sources was estimated at 8.3 % for 2010 in the Action Plan.

Moreover, on the basis of preliminary analyses, it may be stated that the indicative target of 8 % of gross consumption set for electricity from RES under Directive 2001/77/EC was met for 2010.

In the NAP submitted, the following breakdown was forecast for the share of energy from renewable sources in 2009 (basis: 100 % of total energy from renewable sources): electricity 16.09 %, thermal energy 74.62 % and transport 9.29 %. After taking account of the actual values for 2009, the breakdown is as follows: electricity 17.76 %, thermal energy 73.60 % and transport 8.64 %.

In view of the foregoing, it is possible only to restate the forecast data as regards the values for the sectoral shares of energy from renewable sources for 2010. In the NAP submitted, the following breakdown was forecast for the share of energy from renewable sources in 2010: electricity 17.82 %, thermal energy 72.46 % and transport 9.72 %.

The measures taken to promote the growth of energy from renewable sources are set out in answers (b), (e) and (f) of this report.

(b) the introduction and functioning of support schemes and other measures to promote energy from renewable sources, and any developments in the measures used with respect to those set out in the Member State's national renewable energy action plan, and information on how supported electricity is allocated to final customers for purposes of Article 3(6) of Directive 2003/54/EC;

### Answer:

Support for energy from renewable sources was provided for by Act No 180/2005 on the promotion of the use of renewable energy sources, as amended. On 30 May 2012, Act No

165/2012 of 31 January 2012 on the promotion of energy sources was published in the Collection of Laws, replacing the existing Act. The purpose of the new Act is to guarantee implementation of the NAP and of Directive 2009/28/EC and to make more detailed provision for the promotion of renewable energy sources, secondary energy sources and combined heat and power with a view to providing greater support for sources that are efficient in terms of both energy and cost. Amendments to the RES support scheme having regard to effective use of domestic primary energy sources and the economic situation of the Czech Republic. Legislation is being drafted which includes relevant provisions.

The following table defines the status of the individual measures included in the NAP:

Name and reference of the measure	Type of measure (*)	Expected results (**)	Target group and or activity (***)	Existing or planned	End date of the measure
1. Act No 180/2005 and new act on the promotion of energy sources	Regulatory, financial	Installed capacity, energy produced	Investors	Existing planned	Amending Acts: 3.11.2010, 14.12.2010 New Act: 30.5.2012
2. Act No 406/2000	Regulatory	Reduction in consumption	Public administration, installers, etc.	Existing/planned	New Act: 30.5. 2012 (Directive 2009/28/EC) Amending Act: 3rd quarter 2012 (Directive 2010/31/EU)
3. Act No 458/2000	Regulatory	Installed capacity	Public administration, investors, planners	Existing/planned	18. August 2011
4. Act No 183/2006	Regulatory	Installed capacity, energy produced	Public administration, investors, planners	Existing/planned	2nd quarter 2012
5. Act No 184/2006	Regulatory	Installed capacity	Public administration, investors, planners	Existing	2nd quarter 2012
6. 4.2.1 c) Analysis of current legislation and identification of critical points which prolong the authorisation procedures, as part of the land-use planning and building procedures	Regulatory	Installed capacity	Public administration, investors, planners	Planned	11.4.2012
7. 4.2.1 c) Implementation of measures to simplify authorisation procedures in existing legislation	Regulatory	Installed capacity	Public administration, investors, planners	Planned	4th quarter 2012
8. 4.2.1 g) Methodological guidelines of the Ministry of Regional Development	Soft	Installed capacity, energy produced	Public administration, investors, planners	Existing	-
9. 4.2.1 g) Ministry of Industry and Trade – National programme	Soft, financial	Installed capacity, energy produced, reduction in consumption	Public administration, investors, planners	Existing	-
10. 4.2.1 m) Ministry of the Environment – Methodological guideline	Soft	Installed capacity	Public administration	Existing	-
11. 4.2.1 m) Ministry of Industry and Trade – Special building authority	Regulatory	Installed capacity, energy produced	Public administration	Planned	2nd quarter 2012 (Amendment to Act No 183/2006) 29.6.2011 (amendment to Act No 416/2009)
12. 4.2.3 i) and 4.3 and 4.4 EU Structural Funds	Financial	Installed capacity, energy produced, reduction in consumption	Investors	Existing/planned	-
13. 4.2.4. i) Drafting of a study on the introduction of intelligent metering systems	Regulatory, soft	Reduction in consumption	Public administration	Planned	2nd quarter 2012
14. 4.3 and 4.4 Price	Regulatory,	Installed capacity	Public administration,	Existing/planned	-

Name and reference of the measure	Type of measure (*)	Expected results (**)	Target group and or activity (***)	Existing or planned	End date of the measure
decisions of the Energy Regulatory Office	financial		investors		
15. 4.4 c) Green Savings Programme	Financial	Reduction in consumption	Investors	Existing	-
16. 4.5 a) Act on fuels and implementing legislation	Regulatory	Biofuels	Public administration, investors	Existing/planned	3. 3.2011
17. 4.6.2 c) Support for short-rotation coppice			Public administration, investors	Existing	-
1. New act on air protection and implementing legislation	Regulatory	Use of biofuels in transport Certification of biofuels on the basis of sustainability criteria	Public administration Producers, importers and sellers of biofuels, fuel suppliers	Existing/planned	18.7. 2011

Information on how the supported electricity is allocated to final consumers for the purposes of Article 3(9) of Directive 2009/72/EC is given on invoices issued to final consumers in accordance with Act No 458/2000.

Under existing legislation, supported electricity is intended primarily to cover grid losses.

(c) how, where applicable, the Member State has structured its support schemes to take into account renewable energy applications that give additional benefits in relation to other, comparable applications, but may also have higher costs, including biofuels made from wastes, residues, non-food cellulosic material, and ligno-cellulosic material;

Answer:

Operating aid for individual types of RES is non-discriminatory, no type of RES is given preference over the others and the amount is set each year by the Energy Regulatory Office in the form of pricing decisions. The Czech Republic does not therefore have any special support which gives preference to second-generation biofuels (B2G) over first-generation biofuels (B1G). Support for B2G is commensurate with that for B1G and takes the form of relief from excise duties on mineral oils. The amount of support is set according to the share of biofuel in a given fuel.

In addition to operating aid, investment aid provided for under the relevant aid schemes financed from the State budget or EU Structural Funds is also available in the Czech Republic.

(d) the functioning of the system of guarantees of origin for electricity and heating and cooling from renewable energy sources and the measures taken to ensure the reliability and protection against fraud of the system;

Answer:

Guarantees of origin for energy from renewable sources are issued in the Czech Republic only for electricity from renewable energy sources, as required by Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources in the internal electricity market and Directive 2009/28/EC. Guarantees of origin for heating and cooling from renewable sources are not issued in the Czech Republic. On account of RES support in the Czech Republic, mainly in the form of feed-in tariffs, green bonuses and substantial investment aid, the above guarantees are not tradable.

Guarantees of origin in the Czech Republic are issued by the organisation responsible, which is the market operator. At present guarantees of origin are used in particular in the Czech

Republic to provide the confirmation required for tax deduction purposes. Guarantees of origin issued by the market operator are currently used to prove entitlement to exemption from electricity tax, which was introduced by Directive 2003/96/EC on taxation of energy products and electricity.

Data relating to the producer's request for the issue of a guarantee of origin are validated in the secure system of the market operator. The period and quantity of electricity for which a guarantee of origin is requested are also compared by secure means with the database of aid paid to distribution system operators.

(e) progress made in evaluating and improving administrative procedures to remove regulatory and non-regulatory barriers to the development of energy from renewable sources;

Answer:

The procedures used when authorising and granting permission for the building of power installations have been analysed. The analysis gave rise to the following recommendations and measures:

- centralisation of the permitting process by transferring the permitting of relevant buildings and structures to the central authorities;
- integration of permitting procedures in particular by bringing together the land-use procedure, the building consent procedure and any other procedures (environmental impact assessment);
- establishment of a standardised consultation process for negotiations with the individual public authorities concerned,
- introduction of measures aimed at shortening or defining more clearly the time-limits that apply in the permitting process, both for generating plants and for power lines used for transmission and distribution.

Areas where the integration of renewable and other energy sources into the grid could be speeded up and simplified were also identified:

- specification of a simplified process for the construction and modernisation of buildings and structures used in the energy sector (especially the strengthening of power lines),
- streamlining and speeding-up of the expropriation process,
- streamlining of the selection and preparation of power-line corridors.

Work is continuing on identifying other measures that would simplify procedures for the permitting of buildings and structures used in the energy sector and integrate renewable energy sources into the Czech electricity system.

In parallel with the above, individual steps have already been taken to implement a number of measures, e.g. by tabling amendments to the Building Act, which are currently the subject of a legislative procedure and provide for certain measures to simplify procedures for the authorisation and permitting of buildings and structures used in the energy sector.

(f) 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 referred to in Article 16(3);

Answer:

1. Amendments were made to legislation in 2010 and 2011 which helped to address the situation as regards integrating RES into the Czech electricity system. The amendments in question were made to Act No 458/2000 on business conditions and performance in the energy sectors and amending certain Acts (Energy Act) and Implementing Decree No 51/2006 on conditions for connecting to the electricity grid.
2. Implementing Decree No 81/2010 amending Implementing Decree No 51/2006 on conditions for connecting to the electricity grid clearly defines the conditions and procedure for assessing requests for connection to the electricity grid. It sets up mechanisms that, as far as possible, limit the opportunity for speculative capacity-blocking in the transmission or distribution system for newly connected plants. Specifically:
  - the conditions for connection are differentiated according to the amount of output to be connected (consistency with the land-use plan up to 5 MW; issue of a land-use decision above 5 MW);
  - the system operator assesses requests for connection also in the light of planned system development, the order in which requests are submitted or the limits on connectable power;
  - requests for connection also include a connectivity study (deadlines are set for the submission of this study);
  - the setting of connection deadlines.
3. As certain renewable energy sources cause instability in the electricity grid, the impact of unstable sources on the electricity grid was measured.

This included an examination of the impact of already connected unstable sources on the voltage level, flicker (Pst and Plt), harmonic voltage distortion (THDu), voltage imbalance (uu) and active power overflows. All of the above variables that were measured are voltage quality parameters according to European standard EN 50 160, Edition 3, which was translated and introduced into Czech national standards this year as ČSN EN 50 160 (classification symbol 33 01 22). EN 50 160 (Voltage characteristics of electricity supplied by public distribution systems) is a CENELEC standard applicable in EU countries.

The following conclusions were drawn from the measurement:

- photovoltaic power plants were found to significantly affect the voltage level; in more than 30 % of cases in low-voltage networks and more than 11 % of cases in high-voltage networks, quality parameters were not maintained (see the parameters examined in the above measurement);
- most commonly, the permissible flicker values were exceeded (flicker is the technical term for rapid visible changes in the brightness of lights):
  - this can be attributed to voltage fluctuations caused by rapid changes in network load due to a connected installation, in this case photovoltaic power plants;
  - these fluctuations also have a negative effect on technical equipment that is sensitive to constant voltage compliance;
- other quality parameters were affected to a lesser extent;
- the measurement confirmed the effect of operational photovoltaic power plants on the quality of supply to final customers connected to the distribution system.

The following action was taken on the basis of the above:

- a) amendment to Act No 458/2000, providing for:
    - the inclusion of a new requirement for electricity producers with an installed capacity of over 100 kW to fit their electricity generating plant with equipment to facilitate the dispatching of the plant, and to maintain the equipment in working order.
    - the adaptation of provisions relating to the dispatching of plants which generate electricity from renewables and the capacity for achieving a balance between supply and demand on the electricity market; This is possible only after the exhaustion of available resources and will be carried out against payment of a consideration which is to be laid down in new implementing legislation.
    - State consent for the construction of electricity generating plants having an output of more than 100 kW.
  - b) adjustments to the Rules on the operation of distribution grids and the transmission system.
4. The further integration of renewable sources to be connected to the grid will entail the following steps:
- (a) release of previously reserved power to facilitate the connection of new plants (will be ensured during the final stages of the procedure for approving the draft Act on subsidised sources of energy);
  - (b) case-by-case assessment of each request for the connection of a new installation in order to minimise the impact of newly connected sources on the quality and security of the electricity supply to customers;
  - (c) more precise definition of the balancing limits for the connection of new installations to the electricity grid in accordance with the NAP;
  - (d) use of dispatching at installations, made possible by the amendment to the Energy Act which has been adopted;
  - (e) following on from (d), the drafting of implementing legislation on the dispatching of installations and compensation arrangements in respect of dispatching.
5. Whilst preparing annual transmission system operations, calculations are made on the basis of which the parameters for connecting new electricity generating plants, including those using renewable sources, to the distribution grids will be updated. At present, every request for connection is assessed in accordance with the procedure described in point 4 b.

(g) developments in the availability and use of biomass resources for energy purposes;

Answer:

In mid-2010 the Ministry of the Environment set up an inter-departmental working group on biomass with representatives from the Ministry of the Environment, Ministry of Industry and Trade, Ministry of Agriculture, Energy Regulatory Office, Czech Statistical Office and State Energy Inspectorate. The group's remit was, inter alia, to consider the potential for biomass in the Czech Republic.

It completed its work in 2011 and was replaced by the working group of the Czech Government Council for Raw Material and Energy Security.

The outcome of the work of the original inter-departmental working group and of the Government Council for Raw Material and Energy Security working group has been or will be the analysis and definition of the Czech Republic's available biomass potential, particularly for wood chips and purpose-grown biomass.

On the basis of the findings of this subgroup the Ministry of Agriculture is drafting an update of the biomass action plan and the Ministry of Industry and Trade a draft update of the NAP for the promotion of RES.

(h) changes in commodity prices and land use within the Member State associated with its increased use of biomass and other forms of energy from renewable sources;

Answer:

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

(i) the development and share of biofuels made from wastes, residues, non-food cellulosic material, and ligno-cellulosic material;

Answer:

Second-generation biofuel has not yet been produced and used in the Czech Republic. Bio-ethanol is not produced from waste at present. In the case of FAME (fatty acid methyl esters) fatty acids are produced from used vegetable oils or rendering plant fat. According to research conducted by the Agricultural Engineering Research Institute, around 1260 tonnes of FAME is produced per month from waste edible oils and animal fats.

(j) the estimated impact of the production of biofuels and bioliquids on biodiversity, water resources, water quality and soil quality within the Member State;

Answer:

No impact is expected since biomass is covered by the same rules as other crops – compliance with the principles of good agricultural and environmental condition (GAEC).

(k) the estimated net greenhouse gas emission saving due to the use of energy from renewable sources;

Answer:

The estimated greenhouse gas emission savings in the case of biofuels is as follows (in accordance with the Annex to Directive 2009/28/EC):

- 45 % for biodiesel (in the Czech Republic it is mainly rapeseed methyl ester (RME) that is produced)
- 61 % for bioethanol (in the Czech Republic it was produced mainly from sugar beet in 2010).

(l) the estimated excess production of energy from renewable sources compared to the indicative trajectory which could be transferred to other Member States, as well as the estimated potential for joint projects, until 2020;

Answer:

The appropriate indicative interim targets for the period 2011-20 and the binding target for energy from renewable sources for 2020 are expected to be achieved by means of domestic renewable energy sources alone. It is not anticipated, therefore, that there will be any transfer to another Member State of surplus energy produced from domestic renewable sources.

(m) the estimated demand for energy from renewable sources to be satisfied by means other than domestic production until 2020;

Answer:

The appropriate indicative interim targets for the period 2011-20 and the binding target for energy from renewable sources for 2020 are expected to be achieved by means of domestic renewable energy sources alone. It is not anticipated, therefore, that any demand for energy from renewable sources will be satisfied by means other than national production.

(n) information on how the share of biodegradable waste in waste used for producing energy has been estimated, and what steps have been taken to improve and verify such estimates.

Answer:

For international statistical reporting purposes (IEA, Eurostat, UN) an investigation was carried under the PHARE project in 2004 to determine the proportion of biodegradable components contained in municipal waste burned in Czech incineration plants. At the same time, the approaches adopted by Eurostat, the IEA and the statistical offices of the EU Member States were examined. Eurostat methodology and IEA energy statistics did not at that time provide a detailed analysis of the problem, but merely recommended using a value of 50 % of the energy produced for the biodegradable share of incinerated municipal waste. In Germany, it was recommended that a share of 62 % be applied to the energy produced (*Länderarbeitskreis Energiebilanzen*, May 2005). In the United Kingdom a share of 61 % is used, taking account of calorific values. According to information from Czech incineration plants which were able to supply the relevant data, the share by weight of biodegradable waste in incinerated municipal waste ranged from 50 % to 65 %. A reference value of 60 % was therefore set for the biodegradable share, taking account of calorific values and weight. This is the value which has been applied to date in drawing up energy statistics, including those for international reporting purposes up to 2010.

Ways of defining this share as precisely as possible are currently being sought.

- a) In 2011 measurements were performed in domestic facilities engaged in the recovery of energy from municipal waste (municipal solid waste (MSW) incinerators) in order to determine the biogenic or fossil CO<sub>2</sub> content of the combustion gases through carbon dating.

- b) Analyses were also carried out on the basis of the findings of scientific and technical projects of the Ministry of the Environment with a view to establishing the characteristics of municipal waste.
- c) A consultation is being held with CEWEP (Confederation of European Waste-to-Energy Plants) on the proportion of biodegradable components contained in incinerated MSW in EU Member States with a higher proportion of thermally processed waste.

The findings of this investigation will, following an amendment to statistical reporting methodology, be taken into account in international and national statistics, including those drawn up for the purposes of the RES NAP.

The biodegradable proportion of incinerated hospital and industrial waste is not calculated since the information available is insufficiently detailed. Furthermore, in view of the minimal quantities of this incinerated waste, or waste used for energy purposes, nor is the share of biodegradable waste which it contains expected to be calculated in the future.

In the case of industrially produced 'alternative' fuels used in cement works and lime works the proportion of biodegradable components is calculated. The biodegradable share of 'alternative' fuels burned was determined on the basis of information from the producers of those fuels. This estimated quantity of energy is included in the total energy produced from renewable sources (heat and electricity) and therefore in the reference shares of this energy used for international reporting.

2. In estimating net greenhouse gas emission saving from the use of biofuels, the Member State may, for the purpose of the reports referred to in paragraph 1, use the typical values given in part A and part B of Annex V.

Answer:

The estimated greenhouse gas emission savings in the case of biofuels is as follows (in accordance with the Annex to Directive 2009/28/EC):

- 45 % for biodiesel (in the Czech Republic it is mainly rapeseed methyl ester (RME) that is produced)
- 61 % for bioethanol (in the Czech Republic it was produced mainly from sugar beet in 2010).

3. In its first report, the Member State shall outline whether it intends to:

(a) establish a single administrative body responsible for processing authorisation, certification and licensing applications for renewable energy installations and providing assistance to applicants;

Answer:

There are at present no plans to establish a single administrative body which would be responsible for processing authorisation, certification and licensing applications for renewable energy installations and providing assistance to applicants.

However, at central government level, the Ministry of Industry and Trade issues permits (State authorisation) for all planned power plants with an installed capacity of more than 100 kWe and an overview of all planned significant energy sources therefore exists; in addition

the Energy Regulatory Office issues licences to electricity producers and the settlement of disputes in this connection also falls within its sphere of responsibility.

Measures aimed at streamlining the permitting procedure are also under way – see answer No 1(e) of this document.

(b) provide for automatic approval of planning and permit applications for renewable energy installations where the authorising body has not responded within the set time limits; or

Answer:

There are currently no plans to provide for automatic approval of planning and permit applications for renewable energy installations where the authorising body has not responded within the set time limits; However, Czech building legislation provides for notification arrangements, which in the case of the simple buildings and structures referred to in the question has already been introduced (in some cases it may be used for photovoltaic or solar panels installed on building envelopes).

(c) indicate geographical locations suitable for exploitation of energy from renewable sources in land-use planning and for the establishment of district heating and cooling.

Answer:

There are at present no plans to indicate specific geographical locations suitable for the exploitation of energy from renewable sources or for the establishment of district heating and cooling. Development of the energy sector at the level of individual regions, towns, municipalities or other territorial units is set out in the territorial energy plans drawn up for land-use planning purposes. However, suitable locations for siting such sources include industrial zones.