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Report for 2007 and 2008 with regard to achieving the indicative targets of electricity production from renewable energy sources in Romania

The provisions of Directive 2009/28/EC for promoting the use of energy from renewable sources, with regard to the Member States reporting their progress in achieving the indicative targets of electric ity production from renewable energy sources enter into force on January 1, 2012, the date when Directives 2001/77/EC and 2003/30/EC are revoked (according to art. 26 (3).

For this reason, this report has been drafted with regard to the sector of electricity produced from RES in compliance with the provisions of art. 3 (3) of Directive 2001/77/EC of the European Parliament and Council with regard to promoting electric ity. Taking into account that Directive 2009/28/EC is to be transposed into the national legislation by December 5, 2010, the report has taken into account merely as guidelines the provisions of the new directive .

The reporting period for this report is two years, namely 2007 and 2008.

1. The Legal Framework and the level of European and National Targets

Directive 2009/28/EC unifies in a single piece of legislation the provisions regarding electric, thermal (heat and cold) energy and transport, produced fro m renewable energy sources, the main objective at EU27 level being the target of 20% as the share of energy from renewable energy sources in the gross total energy consumption, and the target of 10% as the share of energy from renewable energy sources used in transport by 2020.

For Romania, the target laid down by Directive 2009/28/EC for 2020 is 24% as the share of energy from renewable energy sources in the gross consumption of energy, which is an increase of 6.2% as compared to 2005, the reference year (the base value for 2005 is 17.8%).

In compliance with Directive 2001/77 /EC (with the subsequent amendments as per Directive 2006/108 /EC), the target laid down for Romania for 2010 with regard to the share of electricity produced from renewable energy so urces in the gross consumption of electric power is 33%.

Following the approval of Government Decision 1069/2007 with regard to the energy strategy of Romania, the level of national targets regarding the share of electricity produced from renewable energy sources in the end consumption of electricity has been

increased from the value of 33% (2010) laid down by Directive 2006/108/EC to 35% (2015) and 38% (2020).

The following pieces of legislation, relevant for the sector of renewable energy sources in Romania, have been approved during the reporting period 2007 and 2008:

- Government Decision 1069/2007 – in order to approve the Energy Strategy of Romania for the period between 2007-2020– Official Journal of Romania (OJ), Part 1, no. 781/2007.
- Law 13/2007 with regard to electric energy, OJ, Part 1, no. 51 of 23.01.2007.
- Government Decision 219/2007 with regard to promoting cogeneration based on the demand of useful thermal energy.
- Government Decision 750 /2008 – in order to approve the Regional State Aid Scheme with regard to capitalizing the renewable sources of energy, OJ no. 543/18.07.2008.
- Order no. 2228/ 2008 with regard to approving the List of Eligible Costs for projects financed within measure 4.2. " Capitalizing the renewable energy sources for producing green energy", priority axis 4 "Increase energy efficiency and the security of supply in the context of combating climate change" of the Sectoral Operational Programme – Increasing Economic Competitiveness – SOP IEC 2007-2013.
- Law no. 220/2008 with regard to setting the system of promoting the production of energy from renewable energy sources, O J 743/3.11.2008.
- Government Decision 1461 /2008 – approval of the Procedure with regard to issuing guarantees of origin for the electricity produced in high efficiency cogeneration.
- Government Decision 1538 /2008 with regard to the amendment of art. 4 (2) of Government Decision 1892/2004 for setting the system of promoting electricity production from renewable energy sources.
- Government Decision 1661/2008 with regard to approving the National programme for increasing energy efficiency and use of renewable e nergy sources in the public sector, for the period between 2009-2010.
- Government Ordinance no. 22/2008 with regard to energy efficiency and promoting with the end-user the consumption of renewable energy sources.
- Government Decision no. 409 in order to approve the Methodological norms with regard to enforcing Government Ordinance no. 22/2008, OJ 263/22 April 2009.
- Government Decision 90/2008 – Rules with regard to connecting the users to the public interest power networks.
- Order no. 129/2008 – Rules with regard to setting solutions of connecting the users to the public interest power networks.
- Order no. 51/2009 – Technical conditions of connecting the wind power plants to the public interest power networks – Technical norm.

The provisions of Directive 2001/77/EC have been transposed into the national legislation as early as 2003, by means of Government Decision 443/2003 with regard to promoting the production of electricity from renewable energy sources . By means of

Government Decision 1892/2004 for setting the system of promoting the production of electricity from renewable energy sources, with the amendments from Government Decision 958/2005, the system of mandatory quotas have been set, combined with the system of trading the green certificates . The market of green certificates operates based on Order 22/2006 of the National Agency for Energy Regulation (ANRE) – Rules of organization of the green certificate market .

2. Issuing the guarantees of origin (GO) for E-RES in 2007 and 2008

Certification of the origin of electricity produced from renewable energy sources (E-RES) is the subject of art. 5 of Directive 2001/77/EC with regard to promoting E-RES, the EU member states being compelled to implement by October 27, 2003 a system for certifying the origin of E-RES.
In Romania, a system of certifying the origin of E-RES has been adopted by means of Government Decision no. 1429/2004 for the approval of the Rules of certifying the origin of electricity produced from renewable sources of energy . The system became operational as of January 1, 2005. ANRE is the authority that issues, upon producer's request, the guarantees of origin for the producers of E-RES. ANRE records the guarantees of origin in the Single Registry of the Guarantees of Origin .

The GOs are used for:
- monitoring the achievement of the national target with regard to the share of electricity produced from renewable energy sources in the gross domestic electricity consumption ;
- establishing and recording the share of electricity produced from RE S in the electricity invoiced to the end users;
- producers' access to the systems of promoting the electricity produced from RES, as per terms of the law;
- recording the amount of electricity produced from renewable sources of energy in case of import/export of electricity produced from RES.

In order to observe art. 3. (6) of Directive 2003/54/EC, as of 2005 a system of labelling electricity supplied to the consumers has been implemented in Romania through Order no. 41/2004. This system aims to:
- achieve a high degree of consumer information in terms of choosing the supplier ;
- increase transparency on the electricity market ;
- promote RES and clean technologies;
- reduce the environmental impact of the electricity sector .

The electricity supplier shall, once a year, but no later than the 15th of April, attach the label of the electricity supplied during the previous calendar year to the invoice issued to each user they supply to. The label includes information regarding the share of each primary source of energy in the electricity purchased by the supplier, the level of CO2 emissions and of the radioactive waste corresponding to the electricity of the supplier.

2.1. Statistics data resulting from processing the information required for issuing the GO [3][4]

- The total number of GOs issued to the producers of E-RES was **594** in 2007 (allocated by semesters: 48,1% in S1 and 51,9 % in S2) and **644** in 2008 (allocated by semesters: 50,16 % in S1 and 49,84 % in S2);
- Of the total GOs issued in 2007, 80,3 % were for SC Hidroelectrica SA, and in 2008, 74,06% were again for SC Hidroelectrica SA;
- At the end of 2008, of the 39 E-RES producers that held a license (13 used wind energy and 26 hydro-energy) only 35 producers got GO;
- At the end of 2007, of the 34 E-RES producers that held a license (12 used wind energy and 22 hydro-energy) only 31 producers got GO;
- The installed power capacity in the power plants of the E-RES producers that requested Go was of 6444 MW in 2008 and 6329 MW in 2007;
- The total electricity production of the E-RES producers was 16,917,803 MWh in 2008 and 15,942,980 MWh in 2007 (with a share of 99% of the hydro-energy).

Table 1: Licenses and permits issued by ANRE for setting up electricity production capacity [5], [6]

	2007	2008
Licenses granted for E-RES, of which: - wind - hydro	15 8 7	6 1 5
Setting-up permits granted for E-RES: - Wind-capacities for electricity production – new installations - Existing hydro-electric plants – modernizing - Small power hydro-electric units – new installations	1 - - 1	17 15 (628,2 MWe) 2 (579 MWe) -

3. The mechanism of promoting electricity production from renewable energy sources

3.1. Operational type promoting system [1],[2],[7]

In Romania, the system of promoting the renewable energy sources is applied to electricity produced from wind energy, solar energy, geothermal energy, biomass, energy of the waves, hydrogen, as well as for that produced in hydro-plants of maximum 10MW power, set into operation or modernized starting with 2004.

In compliance with Government Decision 1892/2004, the system of mandatory quotas, combined with the system of green certificates, imposes upon the suppliers of electricity the obligation to purchase certain amounts of electricity produced from renewable sources of energy, in compliance with the mandatory quotas [1].

The transport and system operator (TSO) – Transelectrica, issues green certificates to the producers of electricity from renewable energy sources, in compliance with the Procedure for issuing green certificates, signed in approval by ANRE. The green certificates are issued upon request of the producer of electricity from renewable energy sources, after getting from ANRE the qualification of the E-RES production units for priority production.

Each month, the producers of electricity from renewable energy sources receive from the TSO one green certificate for each 1MWh of electricity delivered to the network, based on the data transmitted by the operators of the networks to which the producers' installations are connected.

The producers of electricity from renewable energy sources may sell the green certificates:
- through two-party contracts concluded with the electricity suppliers, at prices negotiated with the latter;
- through two-party contracts concluded with the electricity suppliers, at regulated prices, in compliance with ANRE Order no. 44/2007.
- monthly, on a centralized green certificate market, separate from the electricity market, organized and managed by the Operator of the Green Certificate Market (SC OPCOM SA).

The sale of the green certificates is not conditioned by the sale of energy. Thus, if a supplier has a surplus of green certificates as compared to the necessary amount for meeting their own quota of energy from renewable energy sources, they may sell the surplus of green certificates directly to another electricity supplier, so that the latter also achieves their quota. Any transfer of green certificates is recorded in the Registry of Green Certificates.

The sale price of the green certificate shall be between the minimum and maximum values set by law, namely 24 - 42 euro/Green Certificate.

In November 2008, by issuing Law no. 220/2008, the system of promotion laid down by Government Decision 1892/2004 was amended by granting a different number of green certificates depending on the type of technology used for the production of electricity from renewable energy sources, as well as by changing the minimum and maximum price

[1] In compliance with art. 4 (2) of Government Decision 958/2005, ANRE may change the value of the mandatory quota for the period between 2005 -2007 in case the capacity installed in plants that produce green energy cannot ensure the demand of green certificates. This provision has later on been extended for the period between 2008 -2009 by Government Decision 1538/2008 with regard to the amendment of art 4 (2) of Government Decision 1892/2004.

value to 27-52 euro/Green Certificate for the trading of green certificates. By Law no. 220/2008 the system of energy quotas from renewable energy sources that have to be achieved by the electricity suppliers by 2020 has been extended 2020 (chart 1).

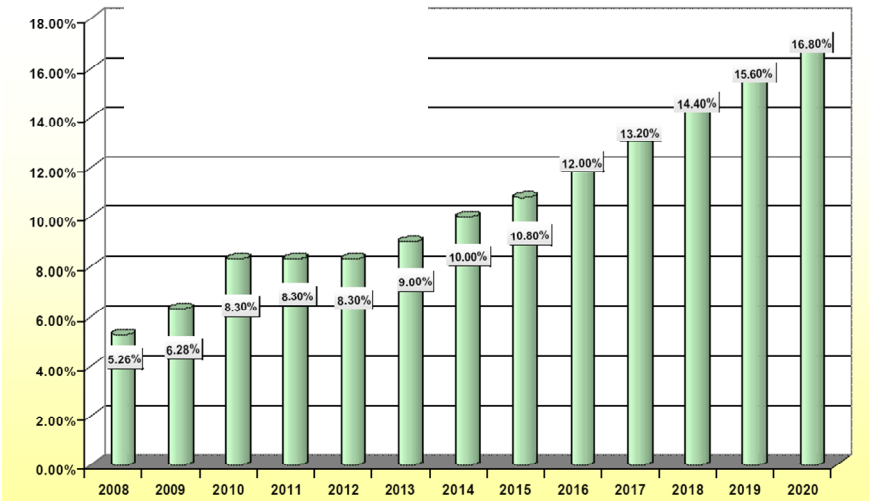
The provisions of Law no. 220/2008 regarding state aid will be enforced after r eceiving the decision of authorization from the European Commission . Until this approval, 1 Green Certificate is granted for 1MWh, irrespective of the RES technology, i.e. as laid down by Government Decision 1892/2004.
For 2008-2014, the minimum and maximu m yearly trading value of the green certificates are the RON equivalent of 27 Euro/certificate and the RON equivalent of 55Euro/certificate respectively, calculated at the average value of the exchange rate set by the National Bank of Romania for December of the previous year.
If the suppliers do not achieve the quotas imposed upon them by law, in terms of purchasing the necessary number of green certificates, they shall pay penalties, as follows:

- For 2007 and the first 10 months of 2008, in compliance with Government Decision 958/2005, the penalties paid by the suppliers that have not achieved their mandatory quota imposed by law, by purchasing the necessary amount of green certificates, are collected by the TSO (Transelectrica). The respective amounts of money are used by the TSO: a) for the purchase of green certificates at minimum price, offered by the E-RES producers and unsold in case there is a surplus of green certificates on the market, and b) re-distribution to the electricity producers from renewable energy sources, depending on the number of sold green certificates .

Chart 1:

The mandatory quotas as set by Law no. 220/2008, representing percentage of the gross annual consumption of electric power, calculated for achieving the targets of 2020. [7]

The mandatory quota for 2007 – 3,74% (according to Government Decision 958/2005)



- For the last two months of 2008, in compliance with Law no. 220/2008, art 11. (2), the penalty paid by the suppliers that have not purchased the appropriate number of green certificates in order to achieve their mandatory quotas is 70 euro/not purchased green certificate, calculated at the average value of the exchange rate set by the National Bank of Romania for December of the previous year.

Table 2: The results of the operation of the green certificate market for the period of 2007-2008 [1],[2]

Indicators that show the operation of the green certificate market	Year 2007	Year 2008
Change introduced by ANRE with regard to the mandatory quota of energy from renewable energy sources imposed on suppliers	**2.62% as compared to the legal quota of 3.74% laid down by Government Decision 958/2005** **(change introduced in compliance with Order no. 63/2007)**	**0,316 % as compared to the legal quota of 5,26% laid down by Law no. 220/2008** **(change introduced in compliance with Order no. 127/2008)**
The minimum and maximum trading value of the green certificate	**24-42 euro/Green Certificate**	**24-42 euro/Green Certificate – for the first 10 months of 2008** **27- 55 euro/Green Certificate – for the last two months of 2008**
Production of electricity that benefitted from the system of support adopted for promoting E-RES	**46.299MWh (of which 83.7% hydro and 16,3% wind)**	**132.445 MWh (of which 91.7% hydro is 8.3% wind)**
Power of the installed units that produced E-RES and benefitted from the support system	**52,36MW (of which 84,7% hydro is 15,3% wind)**	**75,283MW (of which 85,4% hydro is 14,6% wind)**
Average trading price of the electricity from renewable energy sources	**304,1 RON/MWh**	**301,58 RON/MWh**
Average trading price of the Green Certificate	**142,72 RON/Green Certificate**	**169.58 RON/Green Certificate**
Level of support that the electricity producers from renewable energy sources have benefitted from	**6608 thousand RON**	**23711 thousand RON**
Increase of electricity price at the end consumer	**0,144 RON/MWh**	**0,484 RON/MWh**
Number of participants listed to the Green Certificate market	**63 suppliers and 19 producers**	**65 suppliers and 23 producers**
Total number of Green Certificates available for achieving the quotas of electricity from RES, imposed on suppliers by law	**47.200 green certificates**	**141.068 green certificates**
CO2 emission avoided by production of electricity that benefitted from the support system	**26.205 ton CO2**	**74964 ton CO2**

3.2. Investment-type promotion system

The Sectoral Operational Programme – Increasing Economic Competitiveness (SOP – IEC): Priority axis 4: Improving energy efficiency and sustainable development in the energy sector, approved by Decision of the European Commission C(2007) 3.472 of July 12, 2007, has the aim to finance from structural funds (European Fund for Regional Development) projects regarding energy production from renewable energy sources, within the indicative operation:
Investments in modernizing, rehabilitation and building new production capacity for electricity and thermal energy, by capitalizing the renewable energy sources: wind, hydroelectric (capacities <10MW), biomass, bio fuel, solar, geothermal and others.

For the current programming period 2007-2013, the total financial envelope is 260 million Euros. In August 2008, the first official call for proposals was launched, with an allocated amount of 275,000,000 RON (80 million euro). The conditions for funding supposed 100,000 Euro as minimum project value and 50,000,000 Euro as maximum project value, with a maximum amount of 20,000,000 Euro co-financing from European funds, the applicants being local public authorities and economic operators, legal persons with the headquarter in Romania.
During the first call for proposals, a number of 52 project proposals were submitted with a total value (including VAT) of 2,228,912,279 RON, projects that entered the assessment process in 2009.

4. Facilities for connecting the producers of electricity from renewable energy sources to the network

In compliance with the provisions of Government Decision 443/2003, art. 8 (1) and (2), the network operators have the obligation to grant taking over with priority and selling the electricity produced from renewable energy sources, by transporting this electricity through their network of electricity transport and distribution, to the extent the safety of the national energy system is not endangered. Similarly, Government Decision 219/2007 imposes by art. 10 the obligation to connect to the energy network the producers of energy from high efficiency cogeneration, as well as the transport and distribution of the produced electricity.

The electricity producers are connected to the network based on the provisions of Government Decision 90/2008 – Rules with regard to connecting the users to the public interest electricity networks. Government Decision 90/2008 does not foresee specific conditions for connecting the producers of electricity from renewable energy sources that have to observe the legal provisions acting as users that connect to the National Electricity Network.
Thus, according to art 39. of Government Decision 90/2008, the costs of the work for building the installations in order to connect to the network, works done downstream of the delimitation point between the user and the network operator, are supported fully by the user. According to art 37. (1), the costs related to connecting that have an impact on

strengthening the electricity network upstream of the connection point, are generally supported by the network operator. However, according to the same article, in case the strengthening works are meant to connect one single producer with a share of more than 60%, part of these costs are supported by the producer, too, not only by the network operator.

Law 220/2008 introduced a provision meant to facilitate access to the network for the producers of electricity from renewable energy sources . Thus, according to art 11. (4) of Law 220/2008, the amounts paid to the TSO – Transelectrica, from penalties (in the amount of 70 euro/not purchased green certificate), paid by the suppliers that have not achieved their mandatory quota, are allocated by ANRE to investments meant to facilitate the access of producers of electricity from renewable energy sources to the transport and distribution network. Currently this provision of Law no. 220/ 2008 is not applicable, being one of the provisions that have to be notified to the European Commission .

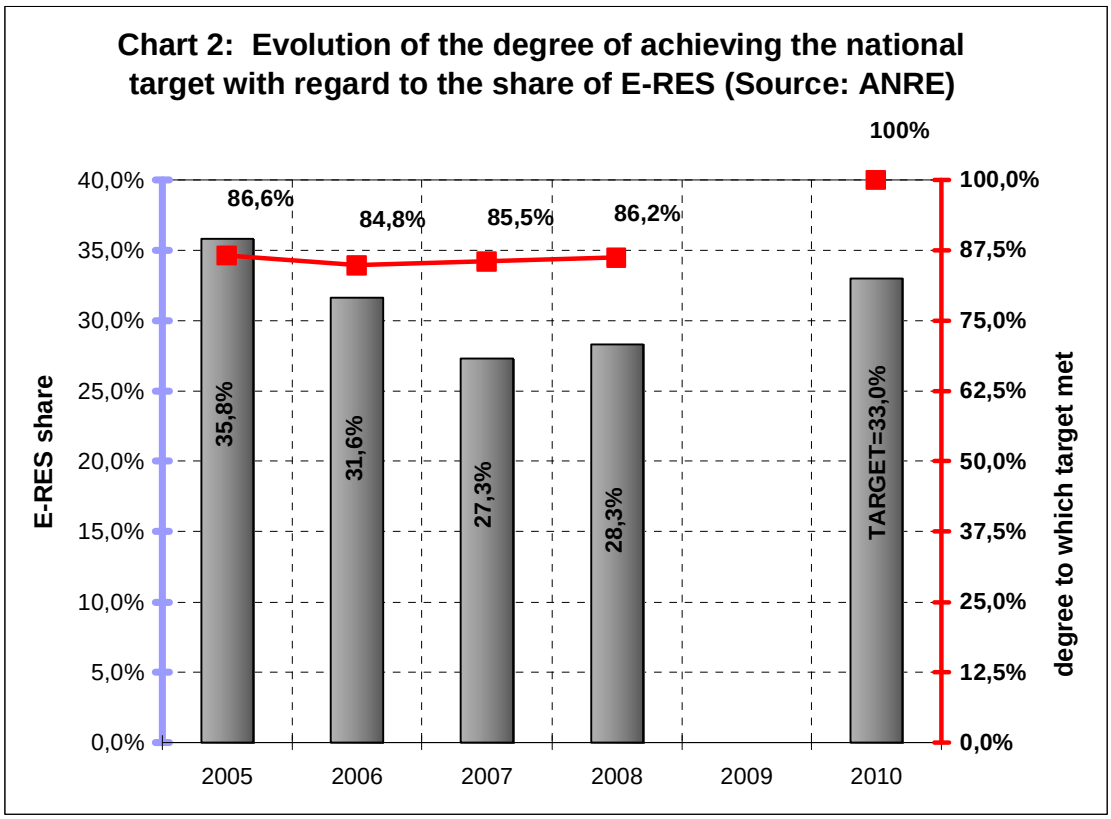
As regards financing from structural funds, the connection costs are considered eligible, to the extent they refer to constituting immobilized own assets, in compliance with the provisions of Order no. 2228 /2008 with regard to the approval of the List of eligible costs for the projects financed within measure 4.2.

5. Conclusions

- The national target of 33%, set for 2010 regarding the share of E-RES in the gross domestic electricity consumption, in 2007 was met to the extent of 85.5%, and in 2008 to the extent of 86.2%, and it has been calculated according to the new proposals of the European Commission to be taken into account when setting the degree of achieving the national target, for hydroelectric energy, of the average value achieved in the past 15 years. If the hydroelectric energy actually produced was taken into account, the target of 33% would be achieved in 2008 in a proportion of 85.8%.

- The total production of electricity achieved by the producers of E-RES, for which Guarantees of Origin have been issued, was of 15, 943 GWh in 2007 and 16,918GWh in 2008, with a major contribution (99%) of hydroelectric energy.

- The production of electricity that benefitted from the support system adopted for promoting E-RES was of 46.23 GWh in 2007 and 132.45 GWh in 2008



Bibliography:

[1] Report regarding the operation of the Green Certificate market in 2007 – ANRE
[2] Report regarding the operation of the Green Certificate market in 2008 – ANRE
[3] Report with regard to issuing the guarantees of origin for the electricity produced from renewable energy sources for 2007 – ANRE
[4] Report with regard to issuing the guarantees of origin for the electricity produced from renewable energy sources for 2007 – ANRE
[5] Yearly Report 2008 – ANRE
[6] Yearly Report 2007 – ANRE
[7] Guide for the producer of electricity from renewable sources of energy – ANRE 2009