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Subject: State aid SA. 33134 2011/N – RO
Green certificates for promoting electricity from renewable sources

Sir,

1. PROCEDURE

1. By electronic notification (SANI 5925), registered by the Commission on 6 June 2011, the Romanian authorities, in accordance with Article 108(3) of the Treaty on the Functioning of the European Union (thereinafter "TFEU") notified the above mentioned measure¹ as a non-aid measure for reasons of legal certainty. The Romanian authorities provided further clarifications by letter of 21 June 2011.

2. DESCRIPTION

2.1. Objective

2. The primary objective of the notified measure is to ensure compliance with the mandatory renewable energy target of Directive 2009/28/EC on the promotion of the use of energy from renewable sources (thereinafter "the Renewables directive")² by 2020. In the case of Romania this target was set at the level of 24% of the final energy consumption. At national level the Romanian energy strategy for the period of 2007-2020, as approved by the Government Decision No 1069/2007 establishes the level of national targets concerning the shares of

¹ The notified measure was pre-notified on 25 November 2009 (registered under PN 288/2009).

² Directive 2009/28/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, OJ L 140, 5.6.2009, p. 16.

electricity generated from renewable energy sources in the final consumption of electricity at 35% (2015) and 38% (2020).

3. Romania estimates that the support to electricity production from renewable sources will result in avoided CO₂ emissions between 2.7 million tonnes in 2011 and 10.4 million tonnes in 2020.

2.2. Scope of the notification, legal basis, granting authority

4. The current notification covers the following renewable energy sources³: hydropower <10 MW, wind, solar, biomass from bio-waste (electricity only or high efficiency cogeneration), biomass from energy crops (electricity only), landfill gas and sewage treatment plant gas⁴. The green certificates support mechanism also applies to electricity produced in wind power units/plants that were previously used to produce electricity in other countries (second -hand) if they are used in isolated electricity systems or if they were commissioned before the entry into force of notified support system, are not older than 10 years and meet the environmental protection norms.
5. In the case of electricity produced in multi-fuel electricity plants which use renewable and conventional sources, only the part of electricity generated entirely from renewable energy sources will benefit from the promotion system. The multi-fuel electricity plant is defined under the Romanian legislation as a power plant which produces electricity using renewable and conventional energy sources used in separate combustion plants/boilers or in the same combustion plant if the energy content of the conventional fuel used does not exceed 10% of the total energy content.
6. The legal basis is Law 220/2008 establishing the system for promoting the production of energy from renewable sources of energy (as modified by Law 139/2010 and by the draft Government Emergency Ordinance submitted by the Romanian authorities on 6 June 2011). The support system established by the Law 220/2008 (as amended) is a green certificates support system, under which green certificates are issued to producers of electricity from renewable sources and an obligation (mandatory quota) is imposed on the electricity suppliers to acquire green certificates.
7. Based on this Law the Romanian authorities already implemented the green certificate price trading limits of 27 and 55 EUR per certificate, explaining that the new values are merely a necessary indexation of the old values and do not modify the already existing scheme (introduced before the accession of Romania to the EU). Currently, all producers of electricity from renewable resources receive 1 green certificate per MWh, without distinction between electricity produced from different renewable energy sources (according to the currently

³ These are categories of renewable energy sources for which the Romanian authorities submitted the information for the assessment of their compatibility with the internal market and therefore also the present Commission decision covers only these above listed sources despite the fact that Law 220/2008 as modified by Law 139/2010 refers also to other renewable energy sources.

⁴ Under the Law 220/2008 (as amended) support is to be provided also for geothermal energy sources. Also, support is provided under the form of one additional green certificate to high efficiency cogeneration from all types of biomass, not only biomass from bio-waste. However, these are not covered by the current notification (but will be subject to a separate notification once relevant).

applicable green certificates scheme, put in place since 2005). The Romanian authorities point out in this context that no support was granted at the newly introduced levels as the respective provision of the Law will be implemented only after Commission approval of the measure.

8. ANRE⁵ determines the number of green certificates, which the electricity suppliers have the obligation to acquire annually. The transmission and system operator (TSO) grants green certificates to producers on a monthly basis.

2.3. Duration, budget

9. Duration of the notified measure is until 31 December 2016, which is the final date until when new beneficiaries will be able to enter the scheme.
10. The beneficiaries who will enter the scheme in the course of its duration referred to above will receive green certificates during the support period specified in the Law 220/2008 as amended (15 years new installations, 10 years for upgraded/refurbished hydro installations, 3 years for existing hydro installations, 7 years for second hand installations; detailed information is presented below in table 2)⁶.
11. As regards the budget of the notified measure the Romanian authorities estimate that the total value of the scheme budget is RON 80.713 billion (approximately EUR 19.5 billion) for the whole duration. Table 1 below presents the estimated levels for the annual budget estimations (covering the total values of green certificates issued for the whole support period for the contracts concluded in the respective year):

Table 1: Overview of budgetary estimations

Year	2011	2012	2013	2014	2015	2016	Total
Budget [mil. RON]	23305*	13902	14504	10666	9322	9015	80713

* 2011 calculations were made considering the application of the promotion scheme from 1 January 2011; source: Romanian authorities

2.4. Beneficiaries

12. Beneficiaries are installations producing energy from renewable energy sources and biomass.
13. The eligible high-efficiency cogeneration installations using renewable energy sources (biomass, landfill gas and sewage treatment plant gas) will receive a cogeneration bonus of 1 green certificate per MWh. In order to be eligible, they have to comply with the requirements of high efficiency, in line with Directive 2004/8/EC on the promotion of cogeneration based on a useful heat demand⁷

⁵ ANRE (the National Authority of Regulation in the field of Energy) is the independent regulatory authority set up in pursuance to Article 23 of Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC (OJ L 176, 15.7.2003, p. 37).

⁶ Accordingly, based on the notified duration of the scheme, the green certificates will be issued to the beneficiaries until 2031 at the latest.

⁷ Directive 2004/8/EC on the promotion of cogeneration based on a useful heat demand in the internal energy market and amending Directive 92/42/EEC, OJ L 52, 21.2.2004, p. 50.

and whose production leads to overall primary energy savings compared to separate production defined by Directive 2004/8/EC and Decision 2007/74/EC. Furthermore, the eligible high efficiency cogeneration installations are: undertakings distributing electric power and heat to the public, where the costs of producing such electric power or heat exceed its market price; or the industrial users of the combined production of electric power and heat, where it can be shown that the production costs of one unit of energy using that technique exceed the market price of one unit of conventional energy.

14. As for the upgraded hydro plants, they will be eligible for support in case they comply with set of pre-defined conditions, namely the supported plant has a duration of operation of at least 15 years from the date of commissioning and was subject to various replacement operations of existing worn out technologies with modern technologies in order to increase the effectiveness of production activity.
15. The support system applies to beneficiaries supplying electricity to the grid or directly to the customers as well as where the generated electricity is consumed on site. The law also foresees the possibility of common agreements with other Member States of the European Union aiming at joint projects and statistical transfers, in line with the Directive 2009/28/EC. The notified green certificates promotion system for producing electricity from renewable sources of energy shall not be applied for:
 - a) electricity produced from imported industrial and/or city waste, regardless of the installed power of the electric plant;
 - b) electricity produced in plants which accumulate by pumping the water previously pumped in the superior basin;
 - c) electricity produced in power plants using renewable and conventional energy sources in the same combustion plant, if the energy content of the conventional fuel used exceeds 10% of the total energy content;
 - d) electricity related to the internal technical consumption of the plant.
16. Beneficiaries are all companies (large companies as well as SMEs). The expected number of beneficiaries is between 101 and 500.

2.5. Form of support and its levels

17. The beneficiaries receive support in the form of green certificates, from which they can subsequently generate income by selling them on the green certificates market (details are describe below).
18. The beneficiaries will receive the number of green certificates established by the Law 220/2008 (as amended) during the whole duration of the support period specified in Table 2 below (for the exact scope of the current notification, see point 3 above). For the trial period, 1 GC/MWh hour is granted regardless of the renewable energy source. For the producers who benefitted from green certificates before the entry into force of the notified support system, the duration of support is decreased by the periods for which the beneficiaries already received green certificates.

Table 2: Green certificates level and support periods as referred to in Law 220/2008 (as amended)

RES	Type of power plant/group	GC/MWh	Support period (years)
1. HYDRO (used in power plants with installed power ≤10 MW)	New (commissioned as of 1 January 2004)	3 GC	15
	Upgraded/refurbished	2 GC	10
	Commissioned prior to 1 January 2004 and not upgraded	0.5 GC	3
2. WIND energy	(new)	2 GC until 2017	15
		1 GC as from 2018	
	Second-hand	2 GC until 2017	7
		1 GC as from 2018	
3. BIOMASS (regardless of its aggregation form)	(new) – from all types of bio-waste	2 GC	15
	(new) – from energy crops	3 GC	15
	High efficiency cogeneration (additional to GC for biomass plants mentioned above) ⁸	1 additional GC	15
4. Landfill gas and sewage treatment plant gas	(new)	1 GC	15
5. Geothermal ⁹	(new)	2 GC	15
6. SOLAR energy	(new)	6 GC	15

2.6. Functioning of the system, granting mechanism

19. Electricity suppliers have the obligation to acquire annually a certain number of green certificates determined for each year by ANRE. The level of the obligation corresponds to the value of the mandatory renewable quota established for the current year multiplied by the quantity of electricity (expressed in MWh) supplied annually to the final consumers.
20. The annual mandatory quotas are determined at the level which will allow meeting the 2020 mandatory national target under Directive 2009/28/EC on the promotion of the use of energy from renewable sources. For the period 2009-2020 the annual mandatory quotas for electricity produced from renewable

⁸ As explained above the current decision covers only the high efficiency cogeneration from bio-waste, for which data has been provided.

⁹ As explained above the current decision does not include the geothermal energy, which will be notified separately once relevant.

sources of energy which benefit from the promotion system of green certificates are the following¹⁰:

Table 3: Mandatory quotas as referred to in Law 220/2008 (as amended by Law 139/2010)

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Quota	8.3%	10%	12%	14%	15%	16%	17%	18%	19%	19.5%	20%

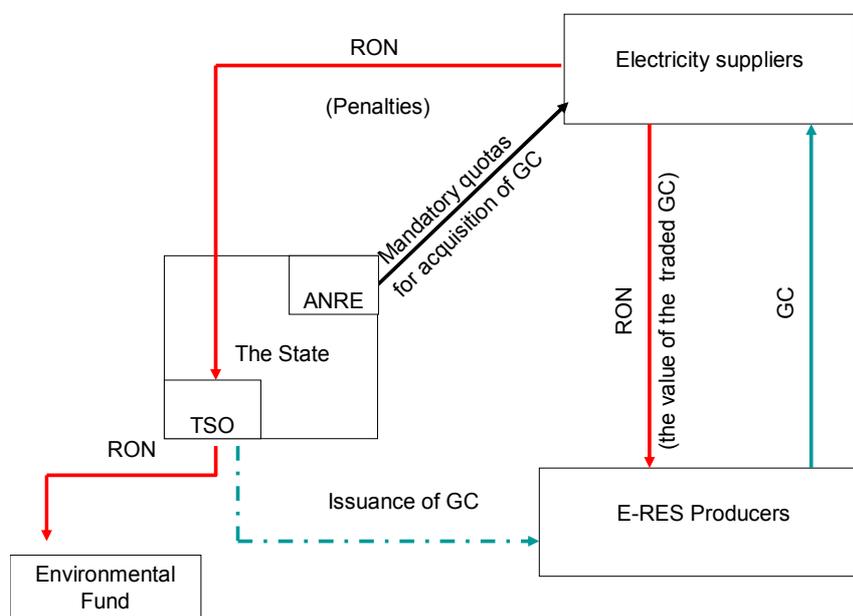
21. The green certificates, granted to producers on a monthly basis by the TSO, can be sold to the suppliers on the centralised green certificate market, and/or on the bilateral contract market. The producers sell their electricity on the electricity market for the (grey electricity) market price. The sale of green certificates to suppliers shall bring them the additional income in order to cover the increased costs linked to the use of renewable energy sources. The electricity and green certificates market are separate and operate independently.
22. As regards the centralised market for green certificates, the transaction value of the green certificates is the centralized green certificates market clearing price, set at the intersection point of the supply and demand of green certificates curves. The clearing price has to be in the range defined by the minimum and maximum legal limits. The price, as well as the contractual parties of the transactions, are determined by the clearing centre (OPCOM), however the financial transactions are carried out directly between the participants (producers and suppliers) without any financial transfer through the clearing center. The transaction period/year starts on 1 March and ends at the end of February of the following year.
23. The green certificates trading value on the centralized green certificate market is established through competition mechanisms and can vary between a minimum trading value of 27 EUR/certificate and a maximum trading value of 55 EUR/certificate. The same price limits are imposed on the bilateral trading. As from 2011 these green certificate price limits will be indexed on annual basis by ANRE, according to the average inflation parameter in the previous year¹¹.
24. The guaranteed minimum green certificates purchase price also ensures the "bankability" of the renewable energy projects. The Romanian authorities explained that a green certificates system involves greater risks for the investors (both the price of electricity and the price of green certificates are variable) as compared to e.g. the feed-in tariff measures. In order to manage these risks linked to financing of the investment projects in the field of renewable energy, the banks usually require for the investor to have definite electricity purchase contracts and an assurance that the green certificate price will not fall under a certain limit. The green certificates are valid for 16 months.

¹⁰ Annual mandatory quotas for electricity produced from renewable sources of energy which benefit from the green certificate promotion system for the 2020-2030 period shall be set by the designated ministry and shall be approved by Government decision and shall not be lower than the quota set for year 2020.

¹¹ The inflation parameter is calculated at a level of the euro zone in EU, officially communicated by EUROSTAT.

25. In case the demand is higher than the offer of green certificates, the trading price is expected to reach the maximum value established by the Law at the level 55 EUR per certificate; if at the clearing price there are more purchase offers, the certificates are allocated in a pro-rata system, i.e. in proportion to the number of certificates demanded by the individual suppliers. In case at the end of a year the demand for certificates by the electricity suppliers is much higher than the offer, ANRE is empowered to adjust the mandatory quota referred to above to the number of certificates available on the market in the respective year¹².
26. The suppliers shall demonstrate to ANRE on an annual basis that they acquired the required number of certificates. In case the suppliers do not comply fully with their obligation, ANRE imposes a penalty, which is established at the level of EUR 110 for each not acquired certificate laid down in Law 220/2008 as modified. The penalties are collected by the TSO and subsequently transferred to the Environmental Fund¹³.
27. The penalties form revenues of the Environment Fund and will be used for support of production of energy from renewable sources by individuals who invest in energy facilities with installed power of up to 100 kW. The support will be granted by the Romanian authorities under the de minimis aid rules¹⁴.
28. The structure of the green certificate system can be summarised the following way:

Figure 1: Functioning of green certificates system



¹² In case the number of green certificates exceeds the number necessary for ensuring compliance with the quota, no adjustment is foreseen.

¹³ The Environmental Fund is managed by the Administration of the Environmental Fund, which is a public institution subordinated to the Ministry of Environment and Forestry.

¹⁴ Commission Regulation (EC) No 1998/2006 of 15 December 2006 on the application of Articles 87 and 88 of the Treaty to de minimis aid, OJ L 379, 28.12.2006, p. 5.

2.7. No overcompensation in the aggregate, viability, competitiveness

29. The Romanian authorities submitted the following data on levelised costs and income levels¹⁵ in the context of the assessment of the absence of overcompensation in the aggregate:

Table 4: Levelised production costs and revenues (in EUR/MWh)

	Wind, new equipment		Wind, reused		Solar	
	Min – Max	Central	Min-Max	Central	Min-Max	Central
Levelised cost per unit	103 – 110	104	74 - 340	100	256 - 318	306
Revenue per unit of electricity, out of which:	56 – 102	98	57 - 105	101	148 - 289	285
From electricity market (electricity price)	26 - 41	37	26 - 41	37	26 - 41	37
From GC market	30 - 61	61	31 - 64	64	122 - 248	248
	Hydro, new		Hydro, upgrade		Hydro, existing	
	Min – Max	Central	Min – Max	Central	Min – Max	Central
Levelised cost per unit	106 - 193	184	105 - 253	115	29 - 233	53
Revenue per unit of electricity, out of which:	87 - 165	161	53 - 96	92	29 - 47	43
From electricity market (electricity price)	26 - 41	37	26 - 41	37	26 - 41	37
From GC market	61 - 124	124	27 - 55	55	3 - 6	6
	Biomass, bio-waste, co-generation		Biomass, bio-waste, electricity only		Biomass, energy crops - electricity only	
	Min – Max	Central	Min – Max	Central	Min – Max	Central
Levelised cost per unit*	94 - 218	156	117 - 166	137	132 - 235	181
Revenue per unit of electricity, out of which:	75 - 140	136	67 - 124	120	87 - 165	161
From electricity market (electricity price)	26 - 41	37	26 - 41	37	26 - 41	37
From GC market	49 - 99	99	41 - 83	83	61 - 124	124
	Landfill & Sewage-Electricity only					
	Min – Max	Central				
Levelised cost per unit*	72 - 87	84				
Revenue per unit of electricity, out of which:	46 - 82	78				
From electricity market (electricity price)	26 - 41	37				
From GC market	20 - 41	41				

¹⁵ Levelised costs and income levels are analysed over the period of 20 years, which corresponds to the lifetime of the installations for the majority of the technologies.

30. In order to determine the production costs levels, the Romanian authorities started by carrying out a survey among investors/potential investors based on widely distributed questionnaires.
31. The calculation of levelised production costs¹⁶ is based on discount rate of 10% which corresponds to the weighted average cost of capital (WACC) and the required rate of return. The Romanian authorities explain that the models submitted by the investors showed that the rate of return is expected within the range of 10-13%.
32. The Romanian authorities submitted a detailed analysis concerning costs of capital in Romania which took into account several external studies (e.g. OFGEM). They explained that the Romania country risk is reflected by the ratings applied by the international rating agencies. At present, the Standard&Poor's rating for the foreign currency credit is BB+, which places Romania in the high risk category. The rating for long-term foreign currency credit attributed to Romania by Fitch is BB. This high risk attributed to Romania by the rating agencies is also reflected in the level of the protection financial instruments against credit default swaps (CDS) which are traded on the financial markets. For the calculation of the IRR according to the CAPM (capital asset pricing model) calculation model, the Romanian authorities considered the share of equity/debt 25-30/75-70%. As regards the costs of equity, a country risk of 2.76% (corresponding to CDS spreads) was considered. The analysis resulted in the post-tax nominal return on equity of 16.5-22.8% (this corresponds to pre-tax levels of 19.64-27.14%). Costs of debt were estimated at the level of 8.3-9%¹⁷ (this corresponds to real pre-tax costs of debt range 6.2-6.8%). The resulting nominal pre-tax WACC is 11.7-13.5%.
33. The IRR values resulting from the support scheme are estimated within a range between 9.9% for reused wind installations and 11.8% for landfill gas and sewage treatment plant gas. The IRR for existing hydro installations is estimated at the level of 2.1%¹⁸.

Table 5: Internal rate of return for the supported technologies

	New wind power plants	Second hand wind power plants	New hydropower plants, P _i ≤10 MW	Upgraded hydropower plants, P _i ≤10 MW	Old hydropower plants, P _i ≤10 MW	Biomass - cogeneration	Biomass residues – only electricity	Biomass energy cultures – only electricity	Fermentation gas of municipal waste & used waters – only electricity	Solar
IRR (%)	10.9	9.9	10.2	10.3	2.1	10.5	10.6	11.3	11.8	11.6

¹⁶ Levelised unitary cost of electricity for each technology was determined as a ratio between the levelised total costs (investment costs and annual operation costs) and electricity production over the analysis period, using the same levelising rate, in accordance with the OECD/IEA methodology.

¹⁷ A debt premium of 1.6% was applied for Romania.

¹⁸ The low IRR value for the old hydropower plants aims at directing the investors' actions towards their upgrading, but also at ensuring their minimum viability on the market.

34. As regards the high efficiency installations receiving the cogeneration bonus of 1 certificate/MWh, revenues from heat production are deducted from the production costs.
35. The income from sales of electricity is based on an electricity market price¹⁹ of EUR/MWh 37. An annual increase of 2% was considered for the electricity price (the analysis was carried out using constant prices without taking into consideration the inflation and the 2% increase does not relate to the inflation).. The Romanian authorities submitted information illustrating the development of electricity prices (Table 6):

Table 6: Electricity price development

Day ahead market	2005 (Jul-Dec)	2006	2007	2008	2009	2010
Weighted average price EUR/MWh	36.26	46.88	49.91	52.40	36.69	36.5

36. The evolution of the green certificates' average market price was determined considering that it will reach the minimum price level in the years when the number of green certificates issued exceeds the mandatory quota provided in the Law (2015 and 2016), respectively the maximum price level in the years when the ratio is reversed (all other years); additionally, in the years when the quota of the supported E-RES exceeds the lawful mandatory quota, the average price considered for the GC was diminished proportionately to the number of unsold GC. However, as it can be seen also in table 4, the central price of the green certificates was considered to be the maximum price established by the law.
37. The Romanian authorities confirm that the production costs and revenues (market price of electricity, revenues from green certificates) will be monitored on a yearly basis and that the support levels for new beneficiaries will be adapted in case a risk for overcompensation is identified²⁰.
38. As regards the necessity of the support for ensuring the viability of the renewable energy sources, the Romanian authorities refer to the overview of levelised production costs of electricity generated from renewable energy sources in comparison with the market price of electricity, which is lower (Table 4 above).
39. According to the Romanian authorities, the support scheme does not dissuade the beneficiaries from becoming more competitive as they have to sell their electricity in the market and the same is valid for green certificated granted

¹⁹ Weighted average (wholesale) price on the day ahead market according to OPCOM (Romanian Electricity Exchange) for the period January 2010 – October 2010 which was the relevant period when the calculations were carried out. As regards further development, the electricity price decreased in the last months of 2010 so that the average electricity price for 2010 was lower than the one considered in the analysis (EUR/MWh 36.5). Furthermore, the forward price for December 2011 is currently (June 2011) EUR/MWh 36.

²⁰ In case a risk of overcompensation is identified, ANRE shall propose measures to reduce the number of green certificates to be granted to new entrants to the scheme. Such measures to be adopted by the Government will enter into force on 1 January of the following year.

under the scheme. The beneficiaries thus need to establish their bidding strategies in two separate markets in order to generate revenues. According to the Romanian authorities, this will increase the competition in the electricity market and positively impact on customers. Furthermore, the notified measure rewards the output and therefore provides an incentive for generators to increase efficiency of their production.

2.8. Cumulation

40. The support in the form of green certificates can be cumulated with the investment aid²¹. The number of green certificates will then be reduced so that reasonable profitability rates should result around the values considered in Table 5.
41. The number of certificates is decreased by determining a reduction factor, which is calculated as a result of the specific investment reduction rate (ratio between the investment aid value and the specific investment reference value expressed in EUR/MW) and a correction factor (Fcor) determined for each technology, so that the considered internal rate of return remains unchanged by the cumulation.

Table 7: Cumulation rules – reduction of green certificates in case of cumulation with investment aid

	New wind power plants	Second hand wind power plants	New hydro power plants, Pi<=10 MW	Upgraded hydro power plants, Pi<=10 MW	Existing hydro power plants, Pi<=10 MW	Biomass - cogeneration	Biomass residues – only electricity	Biomass energy cultures – only electricity	Fermentation gas of municipal waste & used waters – only electricity	Solar
IRR - Central (%)	10.9	9.9	10.2	10.3	2.1	10.5	10.6	11.3	11.8	11.6
Fcor ²²	1.263	-	1.142	1.190	-	0.742	0.686	0.589	1.047	1.023

42. In the case of high efficiency cogeneration installations, the producers have the right to choose either the cogeneration promotion scheme²³ or the green certificates promotion scheme²⁴ (i.e. no cumulation between the two support schemes is allowed).

²¹ This decision does not cover such investment aid.

²² No correction factor is applied in the case of second hand wind plants and existing non-upgraded hydro power plants as such technologies are not eligible for being granted investment aid.

²³ N437/2009 Aid scheme for the promotion of co-generation, approved by the Commission on 17 September 2009, OJ C 31, 9.2.2010, p.8.

²⁴ This decision only covers cogeneration from bio-waste, as explained above.

2.9. Other information

43. The Romanian authorities confirm that they will comply with the annual reporting and monitoring obligations as laid down in Sections 7.1 and 7.3 of the Environmental aid guidelines.
44. Furthermore, the Romanian authorities also confirmed that in case the resulting renewable electricity generation capacity of an installation will exceed 125 MW, the aid will be notified individually to the Commission.

3. ASSESSMENT

3.1. Existence of aid within the meaning of Article 107(1) TFEU

45. State aid is defined in Article 107(1) TFEU as any aid granted by a Member State or through State resources in any form whatsoever, which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods in so far as it affects trade between Member States.
46. On the applicability of Article 107(1) TFEU to the Green Certificates Scheme the Commission considers the following: The obligation imposed by the Romanian authorities (ANRE) on energy suppliers to demonstrate to ANRE that they have acquired a required number of green certificates results in additional income for renewable energy generators as they sell green certificates to the suppliers on bilateral or centralised markets. The notified measure therefore results in an advantage granted to these entities. This advantage strengthens the position of energy generators in relation to their competitors in the EU and therefore has potentially distorting effects on competition. The energy produced by the beneficiary companies concerned might be subject to intra-EU trade, therefore granting of green certificates under the notified measures is likely to affect the trade between Member States.
47. In order to conclude that the notified measure constitutes State aid within the meaning of Article 107(1) TFEU, the Commission must determine whether the State resources are at stake. Romania has notified the green certificates support scheme as a non-aid measure, arguing that no State resources are involved in the notified measure. The Commission has carefully analysed the arguments provided by Romania.
48. Firstly, the Commission notes in this context that the obligation imposed by the State on the electricity suppliers to acquire a pre-determined amount of green certificates does not on its own involve State resources.
49. Secondly, as illustrated in Figure 1 above, the State provides free green certificates to green electricity producers. They must prove they have produced a certain amount of green electricity and in return they receive a corresponding amount of green certificates. They can sell these certificates to the electricity suppliers on the green certificates market. The State thus offers them intangible assets. The State not only provides a formal proof demonstrating that green electricity was actually produced, but configures such certificates as tradable assets and vests them with a pre-defined value (minimum price).

50. Thirdly, the transactions on green certificates markets are carried out between private entities and do not involve State intervention in the form of State resources. The State only established the minimum and maximum limits for green certificates price. The State does not buy any eventual excess of green certificates which cannot be sold on the market.
51. Furthermore, on the centralised green certificate market the clearing centre (OPCOM) is not involved in financial flows between sellers and buyers. The clearing price and the number of green certificates traded are determined at the intersection point of the two curves, supply and demand for green certificates:
- (i) for each trading session and for each participant to the market who traded, the clearing centre determines the traded volume - number of green certificates traded multiplied by the clearing price;
 - (ii) the clearing centre is not a party either to the transactions nor is it involved in the financial flows, settlement being done bilaterally between buyers and sellers, upon clearing/settlement statements issued by the clearing centre;
52. Finally, the Commission notes in this context that if the obligated parties do not demonstrate that they have acquired the required number of green certificates, they must pay a penalty. Penalty payments collected by the TSO are turned into revenue for the Environmental Fund, which finances the environmental projects, including investments in renewable energy. Pursuant to Law 220/2008 as amended the collected penalties shall finance the production of energy from renewable sources by individuals who invest in energy facilities with installed power of up to 100 kW. The Romanian authorities explain that such support will be granted in compliance with the *de minimis* aid rules.
53. While taking note of all of the above, the Commission also observes that by giving green certificates for free to producers of electricity from renewable sources, the State is actually providing them, for free, intangible assets. In fact, the green certificates can be traded on a specific market and by selling them the producers of electricity from renewable resources obtain revenues. The Commission has already found this to constitute aid in the case of emission permits²⁵. However, the Commission notes a difference between the emission permits that the State could sell itself on the market, and the green certificates, which constitutes a proof of a certain amount of electricity being produced from renewable resources.²⁶
54. Irrespective of whether the State could have sold or auctioned these certificates and thereby has foregone revenue, the fact remains that the State provides certain undertakings with an asset, which has a monetary value, and that asset originates with the State which has created it.²⁷ This is further demonstrated by

²⁵ Case N 35/2003 - NOx Trading Scheme – Netherlands, approved by the Commission on 9 July 2003, OJ C/227, 23.09.2003, p.8.

²⁶ According to the Law 220/2008 (as amended), the green certificate is defined as "title which certifies the production from renewable sources of energy of a quantity of electricity".

²⁷ In addition, in the present case it cannot be argued that the certificates are only proof that "green electricity" has been produced and only acquire a value after they are in the hands of the undertakings through the interaction of supply and demand on the market for certificates. Since

the fact that the undertakings not having purchased the necessary number of certificates on the market are subject to a penalty - hence, the certificates created by the State serve as an alternative to payment of a fine which would constitute State resources.

55. In any event, in the present case it is not necessary to take a definitive position as to the existence of aid within the meaning of 107(1), because even if State aid is involved, the measure is compatible with the internal market, as assessed below in section 3.3.

3.2. Lawfulness of the aid

56. By notifying the aid measure before its implementation, the Romanian authorities fulfilled their obligation according to Article 108(3) TFEU.

3.3. Compatibility of the aid

57. The Commission has assessed the compatibility of the notified scheme according to Article 107(3)(c) TFEU and in the light of the 2008 Community Guidelines on State Aid for Environmental Protection currently applicable (hereinafter referred to as "the Environmental aid guidelines")²⁸.

58. Given the fact that the notified measure concerns operating aid for electricity produced from renewable energy sources and considering its market based set up, the compatibility conditions laid down in point 110 (Option 2 for operating aid to renewable energy sources) of the Environmental aid guidelines apply.

59. As stated above, the current notification covers exclusively the following renewable energy sources: hydropower <10 MW, wind, solar, biomass – bio-waste (electricity only or high efficiency cogeneration), biomass – energy crops (electricity only), landfill gas and sewage treatment plant gas. As regards the support for reused (second hand) installations under the current notification, it is limited to wind installations which were put into operation before the entry into force of the notified support system and in isolated systems.

60. Firstly, the Commission notes that the supported energy sources comply with the definition of renewable energy sources and biomass as laid down in point 70(5) and 70(6) of the Environmental aid guidelines.

61. As regards the granting of the cogeneration bonus of 1 green certificate/MWh, the Romanian authorities confirm that only cogeneration installations complying with the requirements of high efficiency in line with Directive 2004/8/EC and whose production leads to overall primary energy savings compared to separate production defined by Directive 2004/8/EC and Decision 2007/74/EC are eligible for support. Furthermore, the eligible high efficiency cogeneration

Romania has established a minimum price at which certificates can be traded, the certificates have a minimum monetary value *ab initio*.

²⁸ OJ C 82, 1.4.2008, p. 1. With reference to point 50 of the Environmental aid guidelines, the Commission reminds the Romanian authorities that the development of small-scale hydropower installations should be in accordance with the principles set out in the Water Framework Directive (2000/60/EC).

installations are those referred to in point 119 of the Environmental aid guidelines.

62. The compatibility conditions as laid down by point 110 of the Environmental aid guidelines for market mechanism are the following:
- a) Support is essential to ensure the viability of the renewable energy sources concerned;
 - b) Support does not in the aggregate result in overcompensation;
 - c) Support does not dissuade renewable energy producers from becoming more competitive;
 - d) The Commission authorises the aid system for the period not exceeding 10 years.
63. As regards the first condition concerning the necessity of support for the viability of renewable energy sources concerned, the Commission notes that the levelised production costs as summarised in Table 4 above exceed the market price of electricity. The Commission thus concludes that the support to be granted in the form of green certificates under the notified measure complies with the above mentioned condition of necessity for viability and appears necessary so that the renewable energy generation in Romania achieves its mandatory target for the consumption of green electricity. .
64. In order to assess whether there is no overcompensation in the aggregate, the Commission needs to verify that the revenues of the generators do not exceed the costs of production and a reasonable benefit in the aggregate of the scheme i.e. over time and over technologies. Firstly, the Commission takes note of the difficulties in establishing precise forecasts of production costs and revenues streams for the time period envisaged.
65. In the context of ensuring the compliance with this condition, the Commission refers to Table 4 above which compares the levelised production costs (over the period of 20 years, which represents approximately the lifetime of the installations concerned) with the revenues of the beneficiaries stemming from sale of green certificates and the market price of electricity. The data presented there in three possible scenarios (range of minimum – maximum values and a central value) show that the total revenues do not exceed in the aggregate the levelised production costs.
66. As regards the discount rate of 10% applied in the calculations of levelised production costs (WACC), the Commission notes that the Romanian authorities submitted a detailed WACC analysis for Romania. The Romanian authorities provided also calculations of the resulting estimated IRR to be reached by the beneficiaries, which varies between 9.9% and 11.8%²⁹. In the light of the above, the Commission considers the discount rate applied in the production costs calculations as reasonable.

²⁹ The estimated level for existing hydro installations is outside this range, i.e. 2.1%.

67. As regards the calculation of beneficiaries' revenues, the Commission notes that both the electricity price element as well as revenues from green certificates are indexed annually what is reflected in the revenues calculations. Furthermore, the Commission notes that the Romanian authorities provided three alternative scenarios for the income levels from electricity and green certificates and that the central level does not represent a simple average between maximum and minimum levels, but is close to the maximum level of income. This results from the fact that the Romanian authorities tried to estimate more realistically the actual situation.
68. As the support in the form of green certificates can be cumulated with the investment aid, the Romanian authorities undertook to lower the number of green certificates by using a reduction and correction factors as described above in order to exclude overcompensation of installations at hand. The Commission thus considers the cumulation rules of the notified measure in line with Section 6 of the Environmental aid guidelines.
69. With respect to the absence of overcompensation in time, the Romanian authorities confirmed that the production costs and revenues (market price of electricity, revenues from green certificates) will be monitored on a yearly basis and that the support levels for new beneficiaries will be adapted in case a risk for overcompensation of is identified.
70. In the light of the above mentioned considerations, including the commitment of the Romanian authorities to adapt the notified measure in time in order to avoid overcompensation, the Commission finds that the notified measure is in line with the condition of absence of overcompensation in the aggregate.
71. As for the compliance with the third compatibility condition requiring that the support scheme does not dissuade the beneficiaries from becoming more competitive, the Commission has considered the arguments of the Romanian authorities concerning the fact that the beneficiaries have to sell their electricity and green certificates in two separate markets in order to generate actual income. According to the Romanian authorities, this will increase the competition in the electricity market and positively impact on customers. In addition, the Commission recalls that the notified measure rewards the output and therefore provides an incentive for generators to increase efficiency of their production and the same is valid for green certificated granted under the scheme. The Commission thus considers the third compatibility condition as complied with.
72. Finally, in line with the condition regarding the limitation of Commission authorisation, the duration of the notified measure does not exceed 10 years.
73. The Romanian authorities also confirmed that in case the renewable electricity generation capacity of an installation will exceed 125 MW, the aid will be notified individually to the Commission. Furthermore, the Romanian authorities confirmed the respect of annual reporting and monitoring provisions of the Environmental aid guidelines as laid down in Sections 7.1 and 7.3.

74. As regards the incentive effect of the aid to be granted, the Commission notes that the calculations provided by the Romanian authorities show that the production costs of electricity from renewable energy sources and in high efficiency co-generation installations are higher than the expected electricity market price. Hence, without the notified aid, there would be an insufficient incentive to undertake or carry on generation of electricity from renewable energy sources and in high efficiency co-generation installations as such activity would be unlikely to be economically viable.
75. Accordingly, the Commission comes to the conclusion that the notified scheme complies with the Environmental guidelines and is therefore compatible with the internal market in accordance with Article 107(3)(c) TFEU.

3. DECISION

76. The Commission finds that the aid scheme "Green certificates for promoting electricity from renewable sources" is compatible with the internal market in accordance with Article 107(3)(c) TFEU and has therefore decided not to raise objections to the notified measure.
77. The Commission reminds the Romanian authorities that, in accordance with Article 108(3) of the TFEU, plans to refinance, alter or change this scheme have to be notified to the Commission pursuant to the provisions of Commission Regulation (EC) No 794/2004 implementing Council Regulation (EC) No 659/1999 laying down detailed rules for the application of Article 93 of the EC Treaty.³⁰
78. If this letter contains confidential information, which should not be disclosed to third parties, please inform the Commission within 15 working days of the date of receipt. If the Commission does not receive a reasoned request by that deadline, you will be deemed to agree to the disclosure to third parties and to the publication of the full text of the letter in the authentic language on the Internet site:

http://ec.europa.eu/eu_law/state_aids/state_aids_texts_ro.htm

Your request should be sent by registered letter or fax to:

European Commission
Directorate-General for Competition
State Aid Registry
B-1049 Brussels
Fax No: + 32-2-296 12 42

Yours faithfully,

³⁰ OJ L 140, 30.4. 2004, p.1.

For the Commission

Joaquín ALMUNIA
Vice-President

