ISMERI EUROPA

EXPERT EVALUATION NETWORK
DELIVERING POLICY ANALYSIS ON THE PERFORMANCE OF COHESION POLICY 2007-2013
YEAR 1 - 2011

TASK 1: POLICY PAPER ON RENEWABLE ENERGY AND ENERGY EFFICIENCY OF RESIDENTIAL HOUSING

ITALY

VERSION: FINAL

NICOLA CORTINOVIS, ANDREA NALDINI, AUGUSTO NINNI

ISMERI EUROPA

A report to the European Commission
Directorate-General Regional Policy

CONTENTS

LIST OF ABBREVIATIONS

- EE – Energy Efficiency
- EEN – Expert Evaluation Network
- ERDF – European Regional Development Fund
- ESF – European Social Fund
- OP – Operational Programme
- PV – Photovoltaic
- RES – Renewable energy sources
- TGC – Tradable Green Certificates
- Toe – Tonne of oil equivalent

1. EXECUTIVE SUMMARY

Italian national and regional policy ascribes great importance to the challenge of the Europe 2020 strategy, committing themselves to increasing the production of energy from renewable sources and promoting energy efficiency. The ERDF plays an important role in this policy, as 7% of the ERDF resources assigned to Italy in the current programming period are allocated to energy interventions, much more than in the past.

National policy operates mostly through indirect measures such as feed-in tariffs, tradable green certificates (TGCs) and tax exemptions. Measures cover a range of renewables and energy-saving technologies. In the case of renewable energy sources (RES), incentive schemes for photovoltaic (PV) systems have been particularly effective and have expanded greatly over recent years.

Unlike national measures, ERDF-funded interventions mostly take the form of grants and direct benefits to those investing in energy efficient technologies or in the production of renewable energy. The main targets of energy efficient intervention, i.e. public buildings and residential housing, are not supported by EU funding, while incentives for RES target public institutions and firms. In addition to direct measures, regional authorities support awareness campaigns, R&D and production activities linked to renewables. Funding from the ERDF and national sources is, therefore, complementary in terms of targeting and the forms and areas of intervention.

The implementation of ERDF support in the two energy areas has experienced some delay, though not more than in other policy areas, due to the procedural complexity surrounding calls for tender, the reduction in private investment during the crisis and co-financing difficulties because of budget restrictions; tangible achievements remain limited.

Intervention by national and regional authorities to support RES and energy efficiency is justified in economic, political, social and environmental terms; motivations range from market failure hindering the diffusion of RES and the need to reduce vulnerability to energy supply shocks to the aim of achieving a better standard of living in a greener society. Profitability considerations play a marginal role.

Given the different geo-physical features of Italian regions, it is difficult to calculate the cost of producing electricity from RES. Estimates, however, confirm the marked generosity of national incentives. There is no evidence that energy efficiency affects the price of residential housing or rents.

In general terms, the energy policy has generated a marked increase in the use of RES in recent years, but it is affected by sustainability issues and delays in developing sectors that can exploit the increase in demand. In future, policy will need to maintain the growth of RES

by preserving a reasonable level of incentives to encourage investment. In this context, ERDF plays a fundamental role in helping to develop industrial activities linked to RES, tackle local needs and support public investment. However, the implementation mechanism needs to be improved and some adjustment in the next programming period may be necessary in response to the expected reduction in national funding.

2. NATIONAL POLICY

Italy relies largely on imports of energy (accounting for approximately 85% of the consumption in the past five years) and the use of renewable energy sources (RES) is limited (6.8% of total energy consumption and 16.6% of electricity production in 2008). Energy intensity[1] in Italy (energy used relative to GDP) is around 85% of the EU27 average, lower than in Germany and France. Before the crisis, in 2006, Italian CO_2 emissions were around 560 billion Toe, more than France (540) and less than Germany (983) and the UK (650)[2]. In brief, the Italian economy is highly vulnerable to energy shocks and is not environmentally efficient, although specialization in traditional low energy consumption sectors and the favourable climate limit the structural demand for energy. For these reasons Italy has a long-standing history of using RES to produce electricity: the large hydro plants date back to the 1920s and the large geothermal plants to the 1930s. Italian policy to promote RES in generating electricity was first initiated in 1991 through tariffs fixed by the Government.

Since the modification of the Italian Constitution in 2001, energy policy has been partially delegated to the Regions and Autonomous Provinces. The central Government is responsible for the general framework, while the local administrations have the power to adapt it to local requirements.

The evolution of Italian national policy on RES and EE

The most relevant policy promoting RES was the so-called "Bersani Decree" in 1999, which liberalised the electricity network and established tradable "Green Certificates" (TGC), which oblige large producers to generate an increasing share of their electricity through new or refurbished plants using renewable sources (when the legislation was adopted the share of renewables was 2%, now it is 5.3%).

Another important measure, in line with the EU Directive 2001/77, established the framework for promoting the use of solar energy (PV and solar thermal) through the so-called "Conto Energia", which regulates the incentives for electricity produced through solar energy.

In 2008, some changes were introduced in the incentive schemes, specifically, a 15-year feed-in tariff for RES-E schemes under 1 MW as an alternative to TGCs, and a coefficient for issuing TGCs according to the technology used. A feed-in tariff was not applied to PV but a premium instead, varying with its size and the extent of its integration into the building. When the legislation was passed, the intention was to keep the premium constant for 20 years, but it has recently been reduced by 2% per year.

[1] The measure is calculated as the ratio of the units of energy per unit of GDP.

[2] Data sources of this paragraph are Eurostat and Istat

In addition, in the case of RES plants with a capacity up to 200 MW, the electricity produced can be self-consumed, sold or exchanged with the network (the "net metering" system). The mechanism allows producers to compensate for the value of energy consumed by the value of the energy produced in different periods, so reducing their electricity bills.

Changes in the economic environment have not directly affected national policy on RES and EE and the incentive mechanisms in place. The decision to increase support during the economic downturn was not intentionally planned to counter the reduction in GDP but was motivated by a desire to strengthen the development of renewable energy and move towards the 20/20/20 target. A further another reason was an attempt to develop a an industry around renewable energy.

Since support for renewable sources of energy is largely based on schemes which pass the costs on to consumers, it does not affect public finances and accordingly is not affected by national budget constraints. At the same time, it reduces people's perception of the scale of support and the costs involved being the responsibility of politicians.

There is no regional variation in incentives. The only reasons for differences in the provision of incentives are the size of the system concerned and, in some cases, the architectural value of the building in which it is installed. Regions can provide some local incentives in addition to national ones (as for some ERDF measures mentioned below) but such cases are limited.

Current incentives for RES

On the basis of the 2010 Italian Renewable Energy Action Plan, the main current forms of support for the electricity produced from RES are:

- *Tradable Green Certificates or Fixed All-Inclusive Tariff* for firms producing electricity which feeds into the grid, though tariffs are only for new small suppliers (selling electricity since the end of 2007 and producing (a maximum of 1 MW, or 0.2 MW in the case of wind plants;
- *Incentive schemes through feed-in tariffs* for PV and solar thermal plants;
- *Net metering system* for small firms (up to 200 MW).

Electricity produced by RES has priority as regards distribution.

Owing to the complex system involved, it is not possible to provide clear data on the overall scale of support given to RES by national authorities. A recent report by the Council of European Energy Regulators (CEER) estimates that EUR 2,637.52 million was spent on incentives for RES[3] in 2009.

[3] This figure includes direct public expenditure and the value of trade in green certificates.

The support provided depends on the forms of RES and on the technologies used in each plant. In the case of Tradable Green Certificates (TGC), specific multiplication coefficients vary by type of RES. Annex Table A summarises the support given to the various RES under different support schemes; Annex Table B and C report the current tariffs and multiplication coefficients.

Current incentives for energy efficiency in residential housing

The current measures relating to the energy efficiency of residential buildings are:

- *Deductions from personal income tax and corporate income tax* of 55% of the costs incurred in installing solar collectors for hot water and winter heating systems with high energy efficiency heat pumps;
- *Tax deductions* of the costs of improving the energy efficiency of existing buildings; (eligibility is subject to a minimum reduction in the energy used for winter heating);
- *Premium (up to 30% on the incentive tariff) for efficient energy use* for systems supplying buildings (subject to a minimum reduction in annual energy use);
- *Compulsory energy efficiency certification* (of the energy used for heating in winter, district heating and cooling systems) in the event of the sale or rental of housing. Such certification is one of the requirements to be eligible for most incentive schemes for energy efficiency.

Because of the difficulty of calculating the value of fiscal incentives, no official or unofficial estimate of the scale of public financial support is available. In 2009, 238,000 cases of tax concessions were recorded.

Table A - Electricity production from RES (GWh and %)

	2002	2005	2008	2009	Increase 2009/2002 (%)
Hydro	39,519.4	36,066.7	41,623.0	49,137.5	24.3
Wind	1,404.2	2,343.4	4,861.3	6,542.9	366.0
PV	4.1	4.0	193.0	676.5	16,400.0
Geothermal.	4,662.3	5,324.5	5,520.3	5,341.8	14.6
Biomass	2,708.6	4,845.0	5,966.3	7,631.2	181.7
Total	48,298.6	48,583.5	58,163.9	69,329.9	43.5

Source: Terna

According to the requirements of Europe 2020, by 2020 17% of the energy consumed in Italy will need to be produced from RES. When this target was set in 2005, only 5.2% of the energy consumed was produced from renewables. Since then, the production of energy from RES has been subject to large-scale support and the share of electricity produced from renewables has increased significantly, by 44% from 2002 to 2009 (see Table A). In 2009, over 70% of the electricity produced from RES came from hydro plants there has also been a

marked increase in production from PV. Because of the incentive schemes, the output from PV rose from 4 GWh in 2002 to close to 700GWh in 2009. There were also smaller but significant increases in the use of wind power and biomass.

3. ERDF AND COHESION FUND SUPPORT AND CONTRIBUTION TO NATIONAL POLICY

Energy measures planned by Regional Authorities in their OPs and in the multi-regional OP[4] for Convergence regions can be grouped into four main categories:

1. Incentives for more efficient use of energy (e.g. more efficient street lighting or heating systems, or improved energy efficiency of public buildings) and, in almost all regions, to increase the production of energy from renewable sources (e.g. solar systems for schools, hospitals or firms);
2. Support for industrial research on RES and energy saving technologies, as well as the development of clusters supplying equipment for the production of green energy (e.g. in the Autonomous Province of Trento, Basilicata and Calabria);
3. Finance for infrastructure projects for electricity distribution and district heating (e.g. in Lombardy, Sicily and Calabria);
4. Communication initiatives to raise awareness of energy saving and to foster the use and production of electricity from RES (e.g. Calabria).

Interventions funded by the ERDF do not target any specific type of RES.

ERDF co-financed programmes and national policy overlap to a certain extent, as both invest in the same RES. For example, in Marche, where green energy accounts for only a small share of regional consumption, a decision was taken to boost all the main types of RES regardless of the national measures in force. Some other regions have fine-tuned their support to avoid cumulating incentives on the same type of renewable (e.g. Veneto, Piemonte and Lombardia). The amounts involved, however, are relatively small.

The measures adopted by ERDF are complementary to national policy, which includes a wide range of 'non-expenditure' measures, such as tax exemptions, feed-in tariffs and tradable quotas. Conversely, ERDF support mostly takes the form of the direct funding of projects. Moreover, regional OPs exclusively target public entities and firms and, unlike national policy, do not usually cover residential housing.

[4] The multiregional OP derives from the need to tackle the common structural problems affecting the Convergence regions in Italy, with regions and national authorities making a joint effort to promote a more efficient use of energy and increase energy production from renewable sources.

In Italy, over EUR 6 billion of the ERDF and national funding have been allocated to energy interventions[5] for the 2007-2013 period. Two-thirds (EUR 4,144 million) of the total amount of this is specifically allocated to renewables and energy efficiency projects[6].

In aggregate terms, EE and RES priorities received EUR 1.9 billion from the ERDF (7% of the total), almost equally distributed between RES interventions and EE in public buildings. IN Convergence regions, EUR 1.5 billion of the ERDF was devoted to renewables and energy efficiency.

The multiplicity and complexity of measures used at national level make it difficult to compare the scale of support of ERDF with the resources allocated under national policy. In approximate terms, the ERDF (as reported in Table B) amounts to EUR 150 million a year, around 7% of the national support for RES (see Annex Table A[7]).

Table B - Allocation of ERDF resources by objective and renewable source (in EUR million)

	Wind	Solar	Biomass	Geothermal/ Hydro	Total RES	Total EE
Convergence	52.2	251.7	309.5	190.1	803.5	740.5
Competitiveness	22.9	76.0	71.6	65.2	235.7	174.9
Italy	**75.1**	**327.7**	**381.1**	**255.3**	**1,039.2**	**915.4**

Source: DG Regio

Since 2007, various regions have introduced changes in the OPs and in the support for RES. One of the reasons was to make the support more effective. For instance, Campania changed its energy projects in order to include regional agencies among the beneficiaries, so reducing the energy costs for municipalities and public institutions. In other cases (Veneto and Lombardia), the changes were prompted by the introduction of a legal provision at national level (Legge Finanziaria 244/2007) preventing the cumulation of benefits and incentives for RES. In Abruzzi, resources were switched to speed up reconstruction after the 2009 earthquake. In some cases, as in Piedmont and Marche, the economic crisis is considered an important factor affecting the implementation of policy.

As far as **expenditure** is concerned, the AIRs analysis published in 2009 indicates a general delay in the use of available funds, and many regions, both in the Convergence and Competitiveness group, have not made any payments yet (e.g. Veneto, Lazio, Campania). Only the Autonomous Province of Trento and Piedmont, paid out respectively 26.2% and

[5] By this, we mean the allocation to the priorities related to energy in the various regional and interregional OPs, which thus include interventions not linked to RES and EE.

6 Enea, 2010.

[7] As mentioned, this amount includes also the market value of TGC.

20.2% of the total funds available to RES and EE by the end of 2009. Table C summarises the expenditure by end-2009 under the energy axes of regional OPs[8].

Table C – Progress in expenditure in Italian regions – December 2009

% Allocation	Number of regions
0 – 5%	13
6 – 10%	3
11 – 15%	–
16 – 20%	1
>20%	2

Source: Annual Implementation Report, 2009 AIRs9.

Payments relative to allocations as at February 2011 show some progress in implementation, 6.5% and 11% of the allocation to energy having been paid out in Convergence and Competitiveness regions respectively.

The main reasons for delay are linked to the bureaucratic and technical procedures that regional authorities and beneficiaries have to comply with.

Almost all the Italian regions refer to the negative impact of the economic crisis and the positive effect that projects on green energies and energy saving may have in terms of sustainability and competitiveness (e.g. Valle d'Aosta). In some cases (e.g. Marche 2009 AIR, Trento 2009 AIR, Veneto OP, Campania OP), the possible impact on employment and growth are taken into consideration. The most prominent example is Marche, where it is planned to increase the resources available under the "Energy efficiency and RES" axis by EUR 1.3 million to improve the e access of firms to finance.

4. RATIONALE FOR PUBLIC INTERVENTION

The rationale for the intervention of Italian authorities with regard to RES and EE published in official documents is rather generic. Market failure as regards international energy prices and housing, hinders improvements in energy efficiency and motivates public intervention. For example, in spite of the growing demand for green energy in Italy, the instability of the energy market and the difficulty in forecasting the profitability of investment in renewables tend to inhibit investors. Public intervention can make it economically profitable to invest in clean energies and to support firms, so making the energy supply system more efficient and raising the competitiveness of the regional economy.

Public intervention is generally justified in terms of policy considerations relating to compliance with the Kyoto Protocol, the Goteborg Strategy and the Europe 2020 targets, as

[8] These data thus refer also to measures not related to RES and EE.

[9] Tuscany and Sardinia are not included in the table as no data on payments were available.

well as to the uncertainty created by dependence on foreign suppliers; promoting energy efficiency and increasing production from renewable sources are the first step to overcome this.

In addition, in order to fully exploit the social and environmental benefits of a more ecologically-friendly economy, some regional authorities, like Abruzzi, Valle d'Aosta and Emilia Romagna, have directed their intervention towards making public transport more efficient and less polluting. This is expected to have a positive impact on the urban environment and the quality of people's life as well as contributing to overall sustainability.

Central and regional government documents also mention the environmental return resulting from investment in RES, as well as the creation of a productive chain with positive results for competitiveness and employment. However, no distinction is made between different sources of renewable nor are specific energy saving technologies taken into consideration. The delay in developing an industry around renewables has had a negative effect, as the large-scale imports of RES equipment from Germany and China limit the effects of PV incentives.

Public debate mostly focuses on the large incentives to PV systems, which is linked to the debate on nuclear energy, owing to Government plans to construct nuclear plants and to terminate the "Conto Energia", the scheme providing support to energy producers using PV and solar thermal systems.

After the incident in Fukushima and the increased opposition to nuclear energy, the government set aside its plans on nuclear plants and decided to retain "Conto Energia". Public attention then shifted towards the progressive reduction of incentives for solar energy motivated by the high cost of tariffs for consumers (approved by the Government in the Decreto Interministeriale, signed in May 2011). Green groups and PV and solar thermal producers oppose the downward adjustment in tariffs.

5. RATE OF SUPPORT AND PROFITABILITY

Italy has one of the most "generous" systems of incentives for RES in the world. According to the EU RE-SHAPING study (and confirmed by our own assessment), Italy has the highest average expenditure for supporting wind power and small hydroelectric plants in the EU, the same is true for solar energy and biogas. The support for RES cannot be considered "efficient", i.e. within the range of production costs in the country or slightly above them. Moreover, incentives are not linked to changes in the profitability of renewable energy production and/or with returns from improving the energy efficiency of residential housing.

On the other hand, high support levels have increased the number of investors involved in the production of RES and led to the recent success in exploiting PV and onshore wind power.

The increase in the rates of support and profitability are the result of political decisions rather than the result of a reaction to changes in economic factors. However they seem to be driven also by the recent surge in fossil fuels costs, although the main factor of change is the uncertainty created by the instability of oil prices rather than their increase. The role of external economic forces in increasing energy efficiency in residential housing is of minor importance: the recent increases in electricity and heating prices for households are far lower than the increases in oil prices.

6. COSTS, PUBLIC SUPPORT AND PRICES

Renewable energy

As mentioned above, CEER's estimate of **national policy support** for RES amounted to approximately EUR 2,673 million in 2009; the total allocation of ERDF and national co-financing, estimated at EUR 2,200 million for the 2007-2013 period should be added to this.

It is difficult to find average figures for the cost of producing electricity from renewable energy, since costs depend heavily on site-specific factors (e.g. more hours of sun in the South than in the North, difference in wind potential between regions). Table D shows the cost estimates for electricity production from a study by the University of Padua, based on interviews with firms and industrial associations.

Table D -Costs of producing electricity from various RES

Technology	Power capacity (MW)	Expected life (years)	Working hours (hours/year)	Investment costs (EUR/kWh)	Operation +maintenance costs (EUR/kWh)	Fuel costs (EUR/t)	Total costs (EUR/kWh)
Wind power grid connected, 2007	8 (wind park)	20	1,900	0.0782	0.0230	-	0.10102
Wind power grid connected, 2007	30 (wind park)	20	1,900	0.0868	0.0180	-	0.1048
Small hydro, 2007	0.4	30	4,000	0.1042	0.0700	-	0.1742
PV (small), 2007	3 kW (domestic)	20	1,300 (sun hours)	0.4201	0.0805	-	0.5006
PV (large), 2007	0.3 (commercial)	20	1,300 (sun hours)	0.3641	0.0463	-	0.4104
Biomass, 2007	17	15	7,500	0.0600	0.0500	0.950	0.2050
Average production cost of Italian electrical energy at 1st April, 2010 (mainly traditional)							0.0770

Note: Sun hours relate to the situation in central Italy

Sources: First six rows: Lorenzoni and Bano; seventh row: Autorità per l'Energia Elettrica e il Gas, 2010

Energy efficiency in residential housing

The relationship between energy efficiency of housing and price and rent levels in Italy has not been analysed as yet and there is no evidence on how far the former affects the latter.

7. CONCLUSIONS

As Italy is vulnerable to energy shocks, reducing dependence on external energy and diversifying energy sources is a policy priority. National policy has, therefore, supported RES and energy efficiency in housing with a resulting growth of green energy production, especially from PV. Support for RES is based on a complex system of incentives, feed-in tariff schemes and TGC, while fiscal incentives are the main types of support for EE.

The ERDF plays an important role in reinforcing and complementing national energy policy. In financial terms, the amount of ERDF allocated to energy is more than three times that in the previous programming period.

Some main points arising from the above analysis are:

- National policy for RES and EE is based on generous incentives which have raised the production from RES, especially from solar plants. However, the current level of support has become difficult to sustain and a reduction is likely in the next few years. Such evolution of the support policy may slow down the growth of energy produced from RES implying that 'grid parity' will not be reached in the medium-term[10]. The main challenge will be to counter the negative impact of the future reduction in RES incentives, in order to maintain an adequate level of investment. Cohesion policy in the next programming period could help through well-targeted interventions. However, it cannot substitute national resources, as the financing need is too high to preserve the current level of incentives.
- Cohesion policy is to a large extent complementary to national policy. Although small in comparison with national resources, ERDF support to RES and EE is strategic, as it extends the scope of national intervention and covers additional policy areas (research on energy, EE in public buildings, supply side intervention). This additional role should be maintained while overlapping with national policy should be avoided.
- Implementation of ERDF co-financed energy measures has been slow, though this reflects general delays in Italian programmes. Some changes to simplify tenders and access to ERDF support as well as ensuring national co-financing for local

10 'Grid parity' refers to a situation where the cost of energy produced by PV is the same as that produced from fossil fuels. The consequence seems particularly problematic if the estimates of Greenpeace and European Photovoltaic Industry Association are true (Greenpeace and EPIA, 2011); according to these Italy will achieve grid parity by 2015. Technological improvements, economies of scale and product optimisation are all factors making PV systems less costly.

administrations would be useful. Achievements are still limited and evaluation of energy support measures has not been carried out. In particular, it is important to verify the effectiveness of the interventions targeted at developing an industry around renewables and to assess the relevance of additional support for RES which is already subsidised by national policy.

- National schemes for RES are not defined or adjusted according to changes in the profitability of the use of different energy sources. Political considerations and the desire to boost RES have driven national policy more than profitability considerations. In the same way, according to available evidence, ERDF measures pay little attention to profitability and the market impact of interventions. More awareness of these aspects might improve the quality of interventions.

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INTERVIEWS

Dr. Oriana Cuccu –Ministry for Economic Development, Directorate for Development and Economic Cohesion;

Ing. Fabio Fior –Regional Secretary for the Environment (Unità Progetto Energia) – Regione Veneto;

Dr. Lucio Pesetti – Managing Authority – Regione Marche;

Dr. Claudio Tiriduzzi – Regional Directorate for Programming, Innovation and Competitiveness – Regione Umbria.

TABLES

Annex Table A – Support to various RES under different support mechanisms of national policy in 2009

Source	Support scheme name	Type of scheme	RES support EUR million	Energy receiving support (MWh)	Unit support level (EUR/MWh)
Biogas	All-inclusive tariff	Feed-in tariff (incentive only)	52.10	290,163	179.54
Biomass	All-inclusive tariff	Feed-in tariff (incentive only)	13.16	80,297	163.92
Wind (onshore)	All-inclusive tariff	Feed-in tariff (incentive only)	0.06	298	217.45
Landfill gas	All-inclusive tariff	Feed-in tariff (incentive only)	4.66	41,222	113.07
Sewage gas	All-inclusive tariff	Feed-in tariff (incentive only)	0.01	67	114.00
Hydropower	All-inclusive tariff	Feed-in tariff (incentive only)	42.59	316,635	134.52
Photovoltaic	Conto Energia	Feed-in premium	302.78	696,225	434.88
Hydropower	Green Certificates	Green Certificates	556.63	6,957,915	80.00
Geothermal	Green Certificates	Green Certificates	66.87	928,815	72.00
Wind (onshore)	Green Certificates	Green Certificates	442.91	5,536,325	80.00
Landfill gas	Green Certificates	Green Certificates	48.33	755,085	64.00
Other Biogases	Green Certificates	Green Certificates	36.01	450,131	80.00
Biomass	Green Certificates	Green Certificates	55.93	388,423	144.00
Biofuel	Green Certificates	Green Certificates	155.14	1,939,238	80.00
Biomass (waste)	Green Certificates	Green Certificates	7.63	73,324	104.00
Waste	Green Certificates	Green Certificates	31.78	305,610	104.00
Photovoltaic	Green Certificates	Green Certificates	0.34	4,311	80.00
Hydropower	CIP6 incentives	Feed-in tariff (incentive only)	34.80	455,011	76.48
Biogas	CIP6 incentives	Feed-in tariff (incentive only)	84.10	540,923	155.47
Biomass	CIP6 incentives	Feed-in tariff (incentive only)	305.37	1,971,605	154.88
Urban waste	CIP6 incentives	Feed-in tariff (incentive only)	271.62	2,232,193	121.68
Wind (onshore)	CIP6 incentives	Feed-in tariff (incentive only)	55.37	880,231	62.90
Geothermal	CIP6 incentives	Feed-in tariff (incentive only)	69.33	763,641	90.79
EVALUATIONS OF THE TOTAL FIGURES			2,637.52	25,607,690	103.00

Source: CEER, 2011

Annex Table B – Support mechanism through all-inclusive tariffs according to the technology used

Technology used	Support (EUR cent/kWh)
Wind power (<200kW)	**30**
Geothermal	20
Wave and tidal power	34
Hydraulic power (other than that of the previous point)	22
Biogas, biomass and pure vegetables oils	Regulated by Council Regulation (EC) No 73/2009
Landfill gas, residual gases and liquid biofuels (other than pure vegetable oils)	Regulated by Council Regulation (EC) No 73/2009

Source: Law No 244/2007

Annex Table C – Multiplication coefficients for Tradable Green Certificates according to the technology used

Renewable Energy Sources	Multiplication coefficients
Wind power (>200 kW)	1.00
Offshore wind power	1.50
Geothermal	0.90
Hydro	1.00
Wave and tidal power	1.80
Biomass and biogas (from agriculture and forestry)	1.80
Biodegradable waste and Biomass (not included in the item above)	1.30
Landfill gas, residual gas and biogas (not included in the item above)	0.80

Source: Law N.244/2007