

RES-e Regions

Regional report on transposition

Introduction

The Italian legislative framework on renewable energy sources adopted European Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources in the internal electricity market by means of Legislative Decree no. 387/2003.

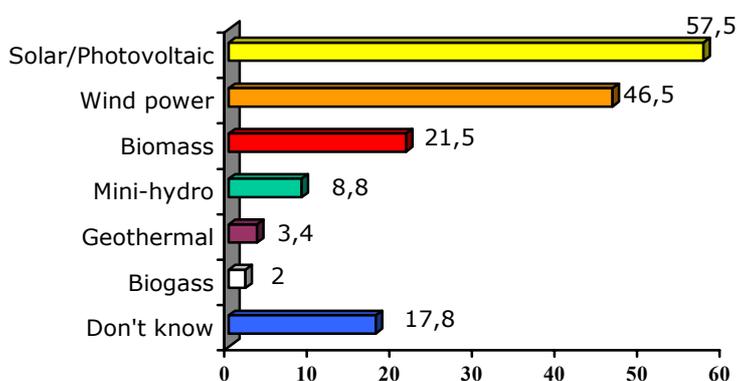
In addition to indicating the main domestic objectives with regard to renewable energy, this decree promotes the consumption of electricity from renewable energy sources, introduces the guarantee of origin and clarifies a series of technical and regulatory aspects concerning the injection into the market of “green” electricity. Moreover, it introduces specific provisions for harnessing forest biomass as well as economic incentives to facilitate the diffusion of small-scale plants, i.e. those with rated power not exceeding 20 kW; the law also includes certain types of waste among the energy sources eligible to benefit from the regime reserved for renewables and, lastly, provides for the issue of specific regulations in favour of (photovoltaic) solar energy.

This paper contains information on the current procedures for access to the distribution system (in particular connection to the low/medium voltage grid) and for authorisation for RES-e installations in Italy. It also presents an analysis of the interviews carried out with the main institutional and industrial stakeholders, including the Regional Administration, GRTN (the Italian Grid Authority) and Enel Distribuzione (the incumbent electricity utility), the main electricity distributor in Liguria. Finally, some information is given concerning the system of so-called green certificates.

Public Opinion

According to the findings of the representative survey conducted in May 2005 as part of this project, the renewables with which the public are most familiar are photovoltaic solar energy, wind power and geothermal energy, as shown in the following table. As far as concerns the possibility of producing electricity from renewable sources, over half the people interviewed believe it would be advisable to invest in photovoltaic solar energy, almost half mention wind power and just over 20% indicate biomass; a fair way behind – all with less than 10% – come mini-hydro, geothermal energy and biogas.

SOURCES OF ENERGY	YES	NO	TOT
Solar/Photovoltaic	96.3%	3.7%	100%
Wind power	83.9%	16.1%	100%
Geothermal	61.8%	38.2%	100%
Biogas	34.8%	65.2%	100%
Biomass	28.0%	72.0%	100%
Mini-hydro	20.4%	79.6%	100%



Planning

On the subject of energy from renewable energy sources, at Regional level the reference document is the PEAR (Ligurian Regional Environmental Energy Plan). The Plan lays down the procedure for the restructuring of the energy supply in the Region, namely the promotion and gradual setting-up of a widespread system of production based on small to medium-sized high efficiency plants with reduced environmental impact.

The general energy policy objectives that the Regional Administration intends to pursue are:

- 1) increased energy efficiency;
- 2) stabilisation of greenhouse gas emissions at their 1990 levels;
- 3) coverage of 7% of energy demand from renewable sources by 2010

According to the Plan, the harnessing of biomass can be used as the final stage of a process implementing a policy to safeguard the land.

The annual theoretical energy potential from biomass in Liguria is estimated to be 463 ktep. The Regional Administration plans over the next ten years to reach installed power



from wood biomass amounting to 150 MW_t.

The energy objectives to be achieved by 2010 for the other renewables are 40 MW_t installed power for solar thermal, 8 MW_e for wind farms and a few MW_e for solar photovoltaic applications.

The main energy resources which lend themselves to technological and economic development in the Region of Liguria are:

- biomass (forest resources, agricultural and zootechnical residues);
- solar (solar thermal and photovoltaic) resources;
- wind power resources;
- hydro resources;
- urban solid waste.

Conditions for grid access

Article 13, paragraphs 2 and 3 of Legislative Decree no. 387 of 29 December 2003 lays down specific guidelines regarding the procedures for feeding electricity produced from RES-e installations into the national grid. These procedures differ for installations of at least 10 MVA, as opposed to plants of lesser capacity as well as those of any capacity provided they are supplied by wind, solar, geothermal, wave, tidal or hydro power. In the former case, the energy is put on the market in compliance with the dispatching rules defined by the Grid Authority for implementation of the provisions of Legislative Decree no. 79 of 16 March 1999. In the latter case, on the other hand, the energy produced is collected, at the request of the producer, by the operator of the network to which the plant is connected. It is the *Autorità per l'Energia Elettrica ed il Gas* (Independent Energy Regulator) which determines the methods of collection, with reference to the market conditions. A network operator who, at the request of the producer, collects electricity as per Article 13, paragraphs 3 and 4 of Legislative Decree no. 387/2003 is subject to the constraints laid down by the regulations in force for distributors and for GRTN with regard to the supply and sale of electricity.

The collection of electricity by network operators rather than by the Grid Authority (*Gestore della Rete di Trasmissione Nazionale S.p.A.* GRTN), the sole national licensee, has been incorporated in the legislation partly on account of the need to establish commercial relations between energy sellers and buyers which are more closely linked to the local conditions in which such energy is produced and distributed; at the same time, the new legislative provisions have also taken the opportunity to simplify the administrative requirements for GRTN with regard to the large number of producers connected to the distribution networks (several hundred), channelling them in the direction of relations solely with network operators (there are several dozen, notably one – Enel Distribuzione Spa – which is located throughout most of the country).

It is noted that where plants issued with green certificates do not allocate the energy generated to customers on the free market, they are still eligible for the economic conditions laid down by Article 13 of Legislative Decree no. 387/2003, insofar as such certificates merely constitute an incentive and plants are entitled to them for their first eight years of generation.

As far as concerns connection of the plants to the grid, Article 14 of the aforementioned



Decree lays down general guidelines on the directives that the Regulator is obliged to issue in relation to the technical and economic conditions for the delivery of the grid connection service for plants fed by renewable energy sources and networks with rated voltage exceeding 1 kV, whose operators are required to ensure third party access to interconnection facilities. For example, the issue of technical standards is foreseen for plants and their connection, and provision is also made for the determination of the procedures, timeframes and costs (to be paid by the producer), and for the investigation and identification of the means of connection, as well as general rules and criteria for the allocation of connection costs, to be shared between the new producer and the network operator.

As regards the photovoltaic sector in particular, on 28 July 2005 the Ministry of Productive Activities in conjunction with the Ministry for the Environment and Protection of Natural Resources issued a decree implementing Article 7 of Legislative Decree no. 387/2003, with definition of the criteria for provision of incentives for the production of electricity by photovoltaic plants.

It is confirmed that the plants to be set up will be divided into three separate categories based on their size: output from 1 to 20 kW, 20 to 50 kW, and 50 to 1000 kW. The incentive feed-in tariffs per kWh will be issued for 20 years and will differ according to the capacity of the plant: for plants with output from 1 to 20 kWp the tariff will be 0.445 €/kWh, for installations from 20 kWp to 50 kWp it will be 0.460 €/kWh, while for plants from 50 kWp to 1000 kWp the figure will be 0.490 €/kWh (in any event, the tariff ceiling will be subject to tender).

The incentive feed-in tariffs will be updated on 1 January every year in line with the rate of inflation (official figure provided by ISTAT – Central Statistics Institute) for the previous twelve months.

Authorisation procedures

Article 12 of Legislative Decree no. 387 of 29 December 2003 lays down the authorisation approval procedures, which have been streamlined and simplified compared to the previous requirements. The process can be summarised as follows:

1. the building and operation of “renewable” plants are subject to a single authorisation, issued by the Regional Administration in compliance with the current regulations on protection of the environment, the countryside and the historical-artistic heritage;
2. the foregoing authorisation is issued following a single procedure involving all the relevant levels/departments of the Administration;
3. no authorisation is required for certain types of plants, for example installations generating electricity with total output not exceeding 3 MW_t, located within waste treatment plants, fed by landfill gas.

Guarantee of origin of electricity produced from renewable energy sources

Electricity generated by plants using renewable sources and production attributable to



renewable sources in hybrid plants qualifies for issue, at the request of the producer, of a “guarantee of origin of electricity produced from renewable energy sources”. The Grid Authority (GRTN) is the body appointed to issue such guarantee, as well as green certificates. The guarantee of origin is issued for annual production of at least 100 MWh; the guarantee states the location of the plant, the renewable energy source in question, the technology used, the rated power of the plant, the net production of electricity and, subject to fulfilment of the requirements and at the request of the producer, the fact that the latter has obtained green certificates. The guarantee of origin may be used by the producer to whom it is issued solely in order to demonstrate that the electricity guaranteed in this way has been produced from renewable sources. Guarantees of origin are valid both nationally and across the European Union, insofar as the system states that guarantees of origin of electricity produced from renewable energy sources issued in other EU Member States are also recognised in Italy. Finally, it should be pointed out that in formal terms, the guarantee of origin replaces the certificate of origin defined within the framework of the directives issued by means of Legislative Decree no. 79 of 10 March 1999.

Grid connection and the current state of play

The process of grid connection in Italy is still in the start-up phase. Indeed, the directives intended to regulate the system in accordance with the measures presented above have only been issued recently. As things stand at present, therefore, it is not possible to gather enough data to obtain a sufficiently accurate picture of the situation regarding the national grid connection process and the main problems arising from it.

It is widely felt, however, that the capacity of the network is sufficient to support the process of connection of new producers, partly because this process is planned over a period of time long enough to ensure that the present system will be able to cope. Should serious problems arise, above all in relation to the integration of large-scale producers, no doubt the legislation will be amended to further regulate the process by introducing more restrictive procedures.

Analysis of the interviews

The interviews commenced in May and ended in August 2005. The answers given to many of the questions in the questionnaire have already been dealt with in the points discussed above. The following is a summary of the replies given during the interviews.

1. What's your role with regard to RES-e?

The people interviewed were from the local Administration, specifically the Energy Policy Service of the Ligurian Regional Administration, the main Ligurian distributor, namely the utility Enel Distribuzione, and they also included several renewable energy experts.

The local authorities are in charge of incentives stimulating renewable energy projects in the Region; the Energy Policy Service of the Ligurian Regional



Administration is the body that promotes RES-e policies locally and provides funding; Enel Distribuzione has the task of managing the distribution system in accordance with the current rules and regulations. The experts provide consultancy services in the field of renewable energy.

2. Which company/organisation is in charge of authorisations for grid connection in your Region?

Enel Distribuzione, which is virtually the sole distributor in Liguria.

3. Have the authorisation procedures been simplified over the last two years?

As already stated, the process is still very new, so the answer to this question cannot be backed up by practical examples. However, it should be stressed that the authorities are doing their utmost to fast-track the approval procedures for grid connection; this is apparent in Article 12 of Legislative Decree no. 387 of 29 December 2003, which streamlines and simplifies the procedures compared to pre-existing requirements. In particular, this Article stipulates that building works for plants using renewable energy sources are in the public interest, urgent and cannot be postponed; the construction and operation of plants which produce energy using renewable sources, as well as alterations, upgrades, revamping and reactivation are subject to a single authorisation, issued by the Regional Administration or by another body delegated by the former.

4. What method is used to calculate the economic benefit obtained from the production of energy from renewable sources? How is it attributed?

The economic advantage for producers of “clean” energy is guaranteed by the mechanism of green certificates, the value of which is established by the green certificate market. In any event, GRTN sets a fixed offer price when it places the certificates on the market each year. This price, which was 9.739 €cent per kWh for the year 2004, is based on the difference between:

- the average purchase cost paid by GRTN the previous year for the electricity in question, limited to that produced by plants still benefiting from the incentive rate, calculated using the advances as advised by the Electricity Board Adjustment Fund, and
- the revenue from the sale of the same electricity the previous year.

For photovoltaic plants – as already explained above – the incentive feed-in tariffs, which are not cumulative with green certificates, are issued for 20 years and vary according to the rated output of the installation.

5. What are the conditions necessary to guarantee grid access for photovoltaic, biomass, biogas, wind power and mini-hydro plants?

The conditions to be fulfilled have already been illustrated and, in any case, they vary depending on the type and output of the plant (greater or less than 10 MWA).

6. What's the cost of connection?

The cost of connection depends mainly on the installed power and on the distance from the existing network, on whether it is a low-voltage or a medium-voltage line, and on the need to arrange auxiliary devices to regulate and control the current injected.



- 7. Who incurs the cost of grid connection?**
According to the regulations, the cost of grid connection is borne by the producer or, at any rate, by the party that proposes the investment.
- 8. Are the various costs incurred shared between the producers and the Grid Authority? How?**
In general all the costs are borne by the individual producers.
- 9. What are the main problems with grid connection for “renewable” plants?**
As already stated, the process is still in the start-up phase, so it is not possible to determine precisely what grid connection problems there will be once the procedure is well established. However, it is assumed that for output greater than a few MW the local network may be subject to overload. Again, as pointed out above, though, if this occurs it will be up to the Authority to issue additional regulations to resolve such difficulties.
- 10. Who issues the guarantee of origin? What about green certificates?**
Both are issued by the Grid Authority (GRTN).
- 11. What’s the period of validity of the certificates?**
8 years from the date of issue.
- 12. Who are they issued to?**
To producers, who can then trade the certificates on a special exchange set up for this purpose.
- 13. How much are they worth in terms of €/kWh?**
As already mentioned in reply no. 4, there is a fixed price that is set annually by GRTN. In 2003 (the first year of trading of the certificates) this price was 8.240 €cent per kWh, in 2004 the corresponding figure was 9.739 €cent per kWh, while the forecasts for 2005 indicate a further constant increase in value. Law no. 239 of 23 August 2004 (the so-called “Marzano Law”) reduced from 100 MWh to 50 MWh (of electricity generated from renewables) the denomination of each green certificate.
- 14. Who’s in charge of the register?**
As far as concerns the guarantee of origin of electricity produced from renewable energy sources, the Grid Authority is responsible for setting up an information system with controlled access, which serves partly so as to enable verification of the data contained in the guarantee itself.
The register of green certificates is administered by GRTN. On the other hand, the supervisory function is performed by GME (Electricity Market Management Company), which has access to the records and verifies the ownership of green certificates so that potential buyers are assured that sellers do effectively possess the securities they are offering.



15. What's the procedure for trading in the certificates?

Green certificates can be traded on the facility ("Power Exchange") set up by the Electricity Market Management Company (GME) or freely with bilateral contracts between operators. The certificates traded on the GME Power Exchange are based on wattage and refer to the previous year's production from renewables, or to the foreseeable quantity of energy that will be produced during the current or the coming year. Those eligible to operate on the exchange (as buyers or sellers) are domestic and foreign producers, wholesale customers, consumers' and end-users' associations, environmental associations, trade unions and employers' organisations, electricity importers and GRTN. Only qualified market operators are allowed access to the exchange. Those who are eligible and wish to take part in trading, possess the necessary IT capability (ECC and associated security systems) and fulfil the ethical requirements of integrity defined in the Electricity Market Rules & Regulations must sign the Contract for participation in the market and register at the GME website.

Having done so, market operators may then use the GME website to access the system and participate in the trading of green certificates.