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UNBUNDLING OF ENERGY UNDERTAKINGS AND MULTI-UTILITY STRATEGIES IN ITALY

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Since the liberalisation process has taken place in Italy, the energy players have been subject to a number of restrictions, both at the legislative and regulatory level. Many of such restrictions are exclusively applicable to major undertakings, some others have a general relevance.

I shall focus this presentation on those restrictions which may have a direct impact on the undertakings' strategies, i.e. the mandatory unbundling of the energy activities and the antitrust ceilings, as provided for under the current Italian legislation.

Furthermore, a recent case law will be analysed, in order to clarify the interpretation of some energy provisions, as made by the antitrust regulator and by the supreme administrative court.

1. Unbundling of energy undertakings

1.1. Corporate and administrative unbundling

There are two possible forms of unbundling: a stricter unbundling, requiring that certain activities are not performed by the same company, and a "light" one, limited to the accounting separation of the various activities carried out by a given company.

The obligation to separately manage certain activities, even only for accounting purposes, is aimed at avoiding any cross-subsidy among such activities. So that each cost is clearly related to the activity it pertains to and it is not hidden by the integration.

With respect to the unbundling issue, the gas and the electricity regimes are quite different in Italy.

While the gas sector is interested by the two forms of unbundling described herein above (i.e. both the corporate and the accounting unbundling), the electricity sector knows only the corporate one. In other terms, no obligation to keep separate accounts applies to the electricity players.

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Moreover, while in the former sector (gas) the unbundling is established as a *general obligation*, in the latter (electricity) there is only a corporate unbundling *referred to Enel*, the former monopolist. One could ask whether the obligation to manage the power activities by way of different corporate vehicles, as established for Enel, may apply also to other power undertakings having similar characteristics.

I would say that such an extensive interpretation is not allowed, since the obligation established under law makes explicit reference to Enel. Moreover, the position of the former monopolist may not be "assimilated" to that of any other power undertaking operating in Italy.

However, to a certain extent the case law we are about to analyse has given a positive answer to this question, at least with respect to the major undertakings. And by use of the instruments made available under the antitrust law.

Before analysing such case law, I shall summarise the unbundling provisions currently applicable.

As anticipated above, the corporate unbundling applies both to the electricity and gas sectors.

Pursuant to Article 13 of Legislative Decree No. 79/99 of March 16 1999, liberalising the electricity sector, Enel had to incorporate a number of companies, for the management of its activities:

- Erga (*Energie Rinnovabili Geotermiche ed Alternative*) S.p.A.: power production;
- ENEL Distribuzione S.p.A: distribution and sale to non-eligible customers (*i.e.* for those who are not allowed to select the electricity supplier);
- ENEL Trade S.p.A.: sale to the eligible customers;
- Terna (*Trasmissione Elettricità Rete Nazionale*) S.p.A.: property rights concerning the transmission grid (including the transport lines) and any connected development and maintenance activity;
- Sogin (*Società Gestione Impianti Nucleari*) S.p.A.: dismantling of nuclear power plants.

As for the gas sector, pursuant to Article 21, paragraphs 1 and 2 of Legislative Decree No. 164/00 of May 23 2000 (liberalising such sector), the following activities are subject to corporate unbundling:

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- starting from January 2002, *transport and dispatching* must be separated from any other gas activity, with the exception of storage;
- starting from January 1 2002, *storage* must be separated from any other gas activity, except for transport and dispatching;
- starting from January 2002, *distribution* must be separated from any other gas activity.
- starting from January 2002, *sale* may be performed only by undertakings which do not perform any other gas activity, except for import, export, exploitation and wholesale activities.

The administrative unbundling is applicable only to the gas sector. In this respect, article 21, paragraphs 1 and 2 of Legislative Decree No. 164/00, establishes that since January 1 2002 gas *transport and dispatching* accounts must be separated from those concerning storage.

1.2. Antitrust ceilings

The antitrust ceilings are a second instrument which has been introduced for liberalisation purposes, i.e. in order to support competition on the supply-side.

Again there are some differences between the two energy sectors.

The electricity field is interested by "stable ceilings", i.e. by antitrust ceilings with an unlimited duration. Namely, starting from January 31 2003, no undertaking may produce or import, directly or indirectly, more than 50% of the whole amount of electricity generated and imported in Italy. Such threshold is calculated as an average, on a three-year basis (Article 8 of Legislative Decree No. 79/99).

In order to meet the above ceilings, Enel had to put on sale 15,000 MW of its generation capacity. To this end, Enel incorporated the so-called Gen.co.s. (Elettrogen, Eurogen, Interpower).

As far as the gas sector is concerned, there are only "temporary ceilings", applicable until 2010. Such ceilings are the following:

- 75% for gas injection into the grid. Since January 1 2002 and up to December 31 2010, no gas undertaking may convey into the national grid domestic or foreign gas, with purposes of sale in Italy, either directly or by means of controlled, controlling companies or by means of companies controlled by the same controlling company, for an amount exceeding 75% of the domestic yearly gas consumption. Such percentage shall be reduced by 2 percentage points for each year subsequent to year 2002, until the achievement of the 61% target (Article 19, paragraph 3 of Legislative Decree No. 164/00), which is due by 2008.

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- 50% for the sale to end-users. As of January 1 2003 and up to December 31 2010, no gas undertaking may sell to end-users, directly or by means of controlled or controlling companies, nor by means of companies controlled by the same controlling company, more than 50% of the domestic yearly gas consumption (Article 19, paragraph 2 of Legislative Decree No. 164/00).

2. Multi-utility strategies

The mandatory unbundling, as well as the antitrust thresholds, gave a significant impulse to multi-utility strategies. Such strategies seem to be a possible way to re-establish the economies of scale that energy undertakings were used to, and that had been hindered by the obligations summarised above. For instance, such strategies may allow an undertaking to keep its size although it is forced to reduce its share on the core-business' market.

In addition to major energy players, also local services' providers have started to implement the same strategies of diversification of their core-business.[1] As a consequence of that, water, electricity and gas distribution services are often carried out by the same company. In broad terms, one could say that this strategy was accelerated by the privatisation of entities supplying public services. But I won't go further on the reasons for the diversification, since this analysis is more based on economic than legal grounds.

Are these strategies fully allowed under the current legislation? And, namely, are these strategies in line with the applicable legislation either when performed by major undertakings or by distributors of merely local relevance?

Being Enel far ahead with this process, we shall hereinafter analyse a case concerning it, trying to come to some general conclusions. The starting point shall be the decision rendered by the Council of State, the supreme administrative court, last October 1.

2.1. The Enel case: Council of State, Decision No. 5156 of October 1, 2002

Enel had requested the EU Commission's clearance on the projected merger between its controlled Wind Telecomunicazioni (which is jointly controlled by Enel SpA and France Telecom) and Infostrada. The merger would have resulted in a new company: New Wind.

The projected merger, of European relevance, obtained the clearance of the EU Commission with respect to the telecommunication services' market. On the other hand,

[1] Most of local services' providers in Italy may be qualified as a small or medium enterprise.

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the Commission (decision of January 19 2001) deferred to the Italian Antitrust Authority the analysis of the impact that the deal could have on the Italian market of the power *supply*.

The Antitrust started an investigation (pursuant to Article 16 of the Antitrust Act – adopted with Law No. 287/1990) and authorised the merger (decision of February 28 2001), provided that Enel would have transferred at least 5,500 MW of its productive capacity, in addition to the 15,000 MW to be sold under Legislative Decree No. 79/99. This in order for Enel Trade not to strengthen its dominant position. The sale of additional capacity was re-baptised like the sale of the "Forth Gen.co."

Enel appealed the Antitrust deliberation before the Administrative Court of the Lazio Region (TAR Lazio) which, with decision No. 9534 of November 14 2001, upheld Enel's claim. In particular, the administrative court stated that the pool market would have created a barrier between the *generation* and the *supply* markets and that Enel had not a dominant position in the former one.

In bringing its appeal before the Council of State, the Antitrust claimed that, according to European case law, a 50% market share may imply a dominant position. Due to the position that the Enel Group has in the power market, Enel Trade could pay high energy costs to Enel Produzione and to Erga (which are active in the power *generation* market), and then it could transfer such costs on the *supply* market. Moreover, the pool market has not yet started in Italy and, in my view, the starting of such market might not have an impact on the matter.[2] The deal would strengthen the dominant position enjoyed by Enel Trade in the *supply* market, since it could play strategies which may attract a high number of clients, by offering a single package including electricity and telecommunication services. Therefore, in order to avoid that Enel, as a consequence of the merger, would strengthen its position in the supply market, the Antitrust deemed it necessary to limit the Enel's position in the generation market: i.e. to sell further 5,500 MW.

Enel reproduced its reasons before the Council of State, insisting that the Antitrust provisions may not apply to a deal involving players of different markets, so-called "conglomerate" deal.

The Council of Stated repealed the TAR's decision, on grounds hereinafter summarised.

The TAR did not make a control on the coherence and logic of the act appealed, but directly verified the existence of a dominant position. Therefore it substituted its assessment to that expressed by the Antitrust. Namely, the court of first instance made an

[2] The authorities are currently discussing how to limit, once the pool market will have started, the Enel's capacity to influence (or even to fix) the electricity price on the wholesale market.

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evaluation on the merit of the Antitrust statement, thus performing a strong control which resulted in an "excess of jurisdictional power", where the judge's will substituted that of the administrative body[3]. To assess a dominant position is a complex technical evaluation, which is made on the basis of undetermined juridical concepts and may not be considered as a factual verification. Therefore the TAR is not entitled to perform any merit evaluation concerning a domain which is reserved to the administrative authorities. This principle, already expressed by the Council of State (No. 2199/2002), is coherent with the EU system and with the trend expressed by the EU Court of Justice according to which, where complex economic evaluations are carried out by governmental authorities, the judge may merely verify that: (i) the procedure has been respected, (ii) the facts are exactly represented, (iii) there is not a clear evaluation mistake and (iv) there is no "deviation of the power". The EU Commission had already ascertained the Enel's dominant position, when deferring the merger's proposal to the Antitrust. Therefore, the judge was not allowed to question it.

A second statement made by the Council of State refers to Enel Trade's dominant position in the *supply* market. According to the Supreme Administrative Court, such dominance arises from many elements. I would focus on two of them: Enel Trade enjoys a significant market's share, and Enel Trade belongs to a former monopolist group, which was integrated throughout the power stream and which is still dominant in the supply activity.[4] To make reference to the mere market's share of Enel Trade, as the TAR did, is not enough. Enel Produzione and Erga are dominant in the power generation market, not only because of their huge market's share (53.4%), but also thanks to the composition of the generation capacity they have. In particular, the two companies mentioned above have the ownership of many modulation and peak plants which are able to adapt to the hourly and seasonal modulations of the demand, and therefore may allow Enel to influence the wholesale price of electricity. Moreover, the three Gen.co.s sold must be re-powered and, in the short-term, they shall not be able to produce at full capacity. Finally, such Genco.s include base-load plants, with a limited capacity to affect the market's price. Enel Trade, which is dominant in the supply market, is able to bear high costs for power purchase in the wholesale market, while its competitors (which are similar to Enel Trade with respect to the power supply but not with respect to the power generation) shall sell the electricity at costs lower than those incurred for electricity purchase in the wholesale market.

By means of the merger with Infostrada, at least 25%-45% of the future eligible clients (which are still linked to Enel Distribuzione), may purchase electricity from Enel Trade and telecom services from New Wind (arising from the merger between Wind and Infostrada).

[3] See Supreme Court, No. 7261 of August 5, 1994.

[4] Moreover, the Council of State has underlined that the market's structure is highly concentrated, and that there is a size asymmetry with respect to the other competitors.

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And therefore Enel may implement an attractive strategy, including a joint offer of services of public interest.

As for the nature of the deal, the Council of State concluded that "conglomerale" deals may be syndicated by the Antitrust: EU Commission's cases may confirm that such deals are relevant in order to control the mergers. In other words, the merger may be made conditional not only upon the measures relating to the market affected by the deal, but also upon those concerning other markets, connected to it.[5] The Council of State agrees that the supply and the generation markets are closely connected and that to order a measure affecting the up-stream market (generation) is reasonable in order to guarantee competition in the downstream market (supply).

The Council of State upheld in part the Enel's claim concerning the lack of proportionality between the effects of the merger and the measures imposed by the Antitrust. Enel had claimed that there was no proportionality and that the Antitrust measure breached Legislative Decree No. 79/99. According to the Council of State, there is no breach of law, since the decree liberalising the electricity sector has not reserved to the law the power to fix the quantity of MW to be disposed by Enel. Such decree only fixes a minimum quota to be sold (15,000 MW) in order to start the liberalisation process.

On the other hand, the Council of State agreed with Enel that the proportionality principle was not implemented by the Antitrust.

According to the proportionality principle, the less severe measure must be preferred to any possible alternative. This principle requires not only to demonstrate that the measure is *eligible* to reach the purpose, but also that it is *adequate*, i.e. it does not exceed what is strictly required in order to achieve the target. First of all, the implementation of such principle requires an exam of the possibility to identify eligible measures in the supply market. Only in case of negative evaluation the authority may implement other measures concerning connected markets, including the generation one. Pursuant to the Council of State, the Antitrust would not have taken in adequate account the above considerations. Lacking an evaluation about the proportionality, the decision is illegimate. The Council of State deems not appropriate the reference, made by the Antitrust in order to justify the measure, to the fact that the amount of generation capacity to be sold is correspondent to the size of a new competitor which would be able to compete with Enel Produzione. In the Antitrust's view, such competitor would have a generation capacity between that of the actual Enel's main competitors (Edison – Sondel) and that of the possible competitors (the two Gen.co.s -

[5] See the decision rendered by the EU Commission (decision of February 7 2001, case COMP/M 1853, EDF/EnBW), concerning a merger in the power sector. Edf was dominant in the *supply* market, while EnBW was a player in the *supply and transport* markets. By means of the merger EDF would have controlled a possible competitor (EnBW) for the French market, thus strengthening its position in such market.

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Eurogen ed Eleettrogen). According to the Council of State, the above may refer to the eligibility but not to the adequacy (sacrifice corresponding to what is necessary).

The Antitrust was therefore requested to adopt a new decision, duly grounded on the proportionality issue. On October 24 2002, the Antitrust started the investigation aimed at adopting the final decision and on December 5 licensed it[6] (see Paragraph 4. herein below).

3. Possible impact of the Enel case law on multi-utility strategies

The Antitrust position, as well as the Courts decisions on the matter, are of crucial relevance for dominant players, which are likely to re-draft their strategies in order to take into account the principles summarised above.

I would conclude that, in order to prevent any risk of an Antitrust stop, the dominant players are likely to focus on their core-business.

Needless to say that not only the dominant undertaking may be affected by the above, but also the entire group to which it belongs to. In particular the former monopolist's groups. As the Council of State underlined, these players may have a dominant position even irrespectively of the market's share. Moreover, these groups may be prevented from "shopping" outside the domestic borders, to the extent that such shopping is aimed at incorporating possible competitors (the EU Commission already took this position).

In the light of the above, there will be room for small and medium enterprises to carry out multi-utility strategies. As a matter of fact, many undertakings carrying out local services in Italy have a small or a medium size. These operators are more than ever likely to go on with their multi-utility strategies, since the large enterprises are no longer their competitors in such strategies.

As a final comment, I would focus on another provision, which shall be applicable once the pool market will be operating. Pursuant to Article 6, paragraph 1 of Legislative Decree No. 79/99, from that date on, any sale of electricity outside the pool market shall require clearance by the Authority for Electricity and Gas (the Italian Regulator). In doing that, the regulator shall deny authorisation to those out-of-the-market sale contracts *"which may seriously prejudice competition"*. Although this provision was not mentioned by the case law analysed herein above, it may be used for antitrust purposes and represent a further obstacle to major groups' strategies of diversification.

[6] The Antitrust issued such decision while this paper was being finalised. A final paragraph has been therefore included, in order to take into account the Antitrust position on the matter.

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4. The Antitrust final decision on the merger between Wind-Enel and Infostrada[7]

On December 5, 2002, the Italian Antitrust Authority gave a final green light to the merger analysed, and cleared it without conditions.

It is important to stress that such a decision was taken further to a deeply change in the Enel's industrial strategy. With respect to late 2000-early 2001, where the first evaluation was made, the Antitrust assessed that Enel has planned a new strategy, no longer based on the integration between the sale of electricity services and that of telecom ones.

Therefore, in this changed scenario, no measure was requested to Enel in order to finalise the merger.

I would conclude that the Regulator's final assessment confirmed the above comments about the possible strategies of major undertakings, since only a change in strategy (no more multi-utility) allowed Enel to go on with the merger, without being subject to any mandatory transfer of power in its core-business market.

[7] This paragraph was not included in the presentation made on November 15 2002, during the conference at LUISS.

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ENERGY AND PROTECTION OF THE ENVIRONMENT: REGULATION AND DEVELOPMENT OF WASTE-TO-ENERGY IN ITALY

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1. Renewable sources of energy

Our society can surely be considered as "energy-dependent". Most of all, last summer, during which most of the industrialized countries have had actually pick of use of energy and several problems connected thereto (as for instance periodical black outs), it has been clear to all of us how high is the dependence of the daily living to the existence and use of energy[8].

Only in the last few years the humankind started the exploitation of the huge energetic power of the deposit of organic materials and fossil fuels accumulated from the prehistory. However, the use of these resources achieved modalities and timing so strong and quick to be time to time completely absorbed. Based on certain statistic studies, the organic sources of energy will be available (according to the current rhythms of use and figuring out an increase in the use also by the developing countries) just until 2010.

Furthermore, the use of such resources has a strong impact on the environment. For instance, it has been verified that the cycle of carbons is altering the equilibrium of the components in the air, increasing the range of Co2 in the atmosphere. Further consequences of the overuse of organic materials, as source of energy, are the climate change and the reduction of the ozone in the atmosphere, both dangerous for the environment and for the health and safety of the humankind.

For the above reasons, fossil fuels are called "traditional sources of energy" or also "non-renewable sources", that is, they draw on finite resources that will eventually dwindle, becoming too expensive and too environmentally damaging to retrieve.

In the light of the foregoing, recently the research of new sources of energy, as an alternative to the organic energy and fossil fuel is increasing, and the Governments are promoting it.

These new sources, which can be sustained by the environment, are called "renewable energies" ("REs"). Indeed, as opposite to fossil fuel, the REs are those sources which are not connected with the organic and combustible materials, they found their source in the natural

[8] According to the Italian grid operator (*Gestore della Rete di Trasmissione Nazionale*, hereinafter "GRTN") in Italy, on July 17, 2003, there has been an historical record in the use of energy (53,105 MW). It is the first time that during summer time there is a pick of energy's use superior to the wintertime one. The deficit in available energy is by now considered as structural, and does not exclusively depend upon contingent causes such as, for example, the increase in the use of energy which occurred this summer.

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world so that they are constantly replenished and will never run out. REs allow producing electric energy solely by the use, as primary energy sources, of solar energy, wind energy, waste resources, biomass resources, geothermic resources, or any combination thereof.

On November 7, 2000, the Italian grid operator (*Gestore della Rete di Trasmissione Nazionale*, hereinafter "GRTN".) has instituted the IAFR Commission (*Impianto a fonte rinnovabile* - plant from renewable sources) which task is, *inter alia*, to approve and qualify plants from REs and issue a register of such plants.

According to the IAFR Commission, the following are qualified as REs:

- wind
- hydro-electric
- CDR (*combustibile da rifiuti* – fuel from waste)
- waste
- biomasses
- biogas
- geothermic
- photovoltaic.

To date, the more common is still the hydroelectric energy but waste-to-energy is having a significant increase.

In 2001 the gross production of energy from plants recovering REs achieved the value of 55,088 GWh. The main contribution derives from the hydroelectric energy (46,810 GWh) whilst the main variation has been registered in the wind generation which have had an increase of 109.3% relating to 2000, and in biomasses and waste (increased by 35.7%). Considered as a whole, the percentage of energy produced by plants using REs achieved 19.7% in 2001. The goal of Italy, to be achieved according to EU regulation by 2010, is 25%[9].

2. What is waste-to-energy

Waste-to-energy is the process of generation of energy from the combustion of waste.

Subcategories of waste-to-energy can be considered Biomass and CDR.

[9] Source: "*Rapporto Ambiente Italia 2003*"

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Biomass[10] specifically deals with the organic waste, whilst the general category of waste-to-energy involves all other type of waste, mainly solid urban and industrial waste. CDR is the material deriving from the process and recycling of waste.

Modern waste-to-energy facilities differ significantly from old-fashioned municipal incinerators. The waste-to-energy process recovers the heat value of combusted trash to generate steam and electricity, to power homes and industry. Modern pollution control systems ensure a cleaner-burning power plant. Combustion reduces the volume of trash by approximately 90% and the remaining ash may be recycled in landfills as daily cover or used in road building materials.

Waste-to-energy technology is divided into three basic categories:

- Mass burn facilities generate energy by feeding mixed municipal waste into large furnaces dedicated solely to burning trash. The resulting energy produces steam or electricity. Many mass burn facilities have nearby material recovery facilities, or “MRFs”, that separate and recycle trash prior to processing.
- Refuse-derived fuel or “RDF” plants remove recyclable or unburnable materials and shred or process the rest of the trash into a uniform fuel. Sometimes, RDF powers a generating plant on site, and sometimes the fuel is burned off site for energy.
- Modular facilities are similar to mass burn plants, but these smaller plants are prefabricated and can be quickly assembled where they are needed.

The quantity of energy recovered in such a way mainly depends on the heating power of the organic materials which are heated and, secondly, on the efficiency of the waste-to-energy plant.

It is the fourth source of energy of the heart. The major combustible used from the three/quarter of the global population. The energy produced by incinerator of waste can be exploited in different ways. The most evident is the use of the heating produced from the combustion, either directly or through vapor to generate electricity.

[10] The waste specifically indicated as biomasses are the following: waste of wood, residual from agriculture or forestry, waste of varies crops, animal waste, organic component of municipal and industrial waste, agricultural-food waste from industrial processes. Even the fumes from landfills can be used as a biomass energy source. Biomasses can produce energy in a unit of co-generation (combined production of heating and electricity) and the residual heating can be used in a industrial process for instance.

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The environmental benefits and impacts of using waste-to-energy plants vary across Europe and, sometimes, also across the same country.

The major advantages of waste-to-energy plants can be summarized as follows:

- Limitation of greenhouse effects. The generation of energy by waste incineration prevents the release of greenhouse gases such as methane carbon dioxide, nitrogen oxides, and volatile organic compounds. Indeed, the combustion of waste does not produce more Co2 than the plant takes out of the atmosphere during the growth. Specifically, biomasses generate about the same amount of carbon dioxide as fossil fuels, but every time a new plant grows, carbon dioxide will be zero as long as plants continue to be replenished for biomass energy purposes.
- Help in treatment and elimination of waste produced (this is a problem becoming time to time bigger) and the relatively low cost for their production[11].

In the end, waste-to-energy contributes to sustainable development.

3. Building and operation of waste-to-energy plants in Italy

3.1 Brief Overview of the Italian Regulatory Framework

In Italy the use of RE started to be promoted in 1991. Indeed, following the nationalization of the Italian electricity industry in 1962, a special public body (ENEL) was established as the sole entity responsible for electricity generation.

Law No.9 of January 9, 1991 ("Law No.9/1991"), in order to promote the use of REs and natural gas as an alternative to fuel oil in power generation, granted exceptions to the monopoly regime in force, in case of power generation from renewable and assimilated sources (i.e. waste-to-energy and co-generation facilities). Such regulation introduced special incentives for power generation from renewable and assimilated sources, the so-called "CIP6" regime.

Article 22 of Law No. 9/1991 obliged generators intending to produce energy from renewable sources to sell the power produced to the former monopolist (ENEL) under terms and conditions established by the Ministry of Industry (now, Ministry for Productive Activities). The purchase price of the power had to be fixed by the *Comitato Interministeriale Prezzi* ("CIP"), in an amount

11 According to the "Report on the Condition of the Environment", 2001, Waste section, the total production of waste in Italy is of 63 million ton/year, among which 26 million are solid urban waste. To date the major part of waste produced is still treated in the landfills (more than 70%) and only 8% of them is destined to incineration. The Italian situation is in full contrast with the other European countries where between 35 to 75% of waste produced are destined to incineration to produce energy.

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adequate to foster the use of renewable sources. In 1992, the CIP awarded its decision No. 6, which named the CIP6 regime.

This regime is no longer in force. However, projects that were started under CIP6 regime will continue to benefit from it. Pursuant to Article 3.12 Legislative Decree No. 79 of March 16, 1999 (the "Bersani Decree"), the rights and obligations arising under the power purchase agreements entered into by independent producers with ENEL have now been assigned by to the GRTN by means of a Decree of the Ministry of Industry dated November 21, 2000. The GRTN must sell on the market the energy purchased from CIP6 producers. Currently the GRTN sells such energy by means of special auctions.

The second, and main, phase of the liberalization process in the electricity market was set forth by the aforesaid Bersani Decree, enacting EU Directive 96/92/EC of December 19, 1996 concerning common rules for the internal power market.

Bersani Decree provided for the gradual liberalization of the market by requiring the different entities involved to implement its provisions. Furthermore, Bersani Decree highly encourages the generation from renewable sources (and certain assimilated sources). The two main modalities are as follows:

(i) Priority access to the transmission network

The dispatch of power by the GRTN must "give priority" to power produced in power plants using, in this order: (a) renewable sources; (b) co-generation systems; and (c) domestic sources of commercial fossil fuels up to 15% of all commercial fossil fuels annually used to generate the power consumed; and

(ii) 2% obligation

Generators employing non-renewable sources (other than co-generation systems) are held to feed into the transmission network a certain percentage of power produced from renewable sources. More specifically, generators and importers of power produced from non-renewable sources, which annually produce or import power for more than 100 GWh net of co-generation, internal consumption and exports, have an obligation to convey into the transmission network 2% of the power production exceeding 100 GWh with power generated from renewable sources. In order to comply with such provision, generators and importers of electricity produced from non-renewable sources are entitled either to:

- produce and directly feed into the transmission network the 2% quota of power to be generated from renewable sources; or
- buy titles the GRTN issues to plants generating power from REs for an equivalent amount (so-called "green certificates". More details below).

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Eventually, on July 17, 2003, the Lower Chamber of the Italian Parliament (*Camera dei Deputati*) approved a new bill (the so called "Marzano Bill"), which aims at reshaping the energy market regulation as set forth by the Bersani Decree. As far as generation from REs regulation is concerned, the Marzano Bill provides, *inter alia*, as follows:

- starting from 2005 and up to the end of 2007, the minimum quota of power produced from newly built or refurbished renewable sources qualified plants is increased every year by 0.35% (currently 2%); furthermore, the Minister of Productive Activities can provide for further increases of such minimum quota for the periods 2008-2010 and 2011-2013;
- starting from 2003, generators and importers of power produced from non-renewable sources which do not fulfill the obligation to feed into the system the above minimum quota are sanctioned by the Energy and Gas Authority ("AEEG") with a fine equal to one time and a half the amount which would be necessary to comply with the obligation by purchasing green certificates on the market. The same penalty applies to generators that fail in certifying to the GRTN the amount of energy produced or imported from conventional sources. For the purposes of the above sanction, the green certificates reference price is the higher between (a) the highest priced recorded in the green certificates trading platform and (b) the GRTN's green certificates price.

Once fully implemented[12] the above decree will allow Italy to achieve the goal of increase of the generation of energy from REs from the to date 50 TWh about up to 75 TWh in 10 years time.

3.2 Procedure and Permitting

Bersani Decree does not provide for a specific regulation of the authorization to build and operate power generation facilities using REs. As a consequence, the construction and operation of a new plant using renewable sources is still governed by laws No. 9 and No. 10 of 1991.

Based on the above legislation, no *ad hoc* authorization is required in order to carry out power generation activity but just a specific notification to the Ministry of Productive Activities must be sent. Nonetheless, under the legislation[13] currently in force, the construction of a waste-to-

[12] To be finally enforced as a law, Marzano Bill shall now be approved by the Senate (Higher Chamber of the Italian Parliament).

[13] The examined legislation is destined to be significantly modified one Italy will implement the Directives 2000/76/CE, dated December 4, 2000, on the incineration of waste. Eventually, on July 25, 2003, the Ministries approved a specific

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energy plant is subject to a lengthy and cumbersome procedure and a number of permits and authorizations covering separate aspects of the project relating to which several different authorities are competent.

Specifically, the building and operation of a waste-to-energy plant in Italy requires the following permits:

- the building permit, to be issued, according to the town planning regulations, by the Municipality where the plant will be located;
- the permits concerning waste management, to be issued by the Region/Province where the plant will be located;
- the decree ascertaining the environmental compatibility of the plant, to be issued by the Ministry of Environment;
- the other permits required pursuant to the applicable legislation on environmental matters and, *inter alia*, the permit for the air emissions from power plants, to be issued by the MPA.

3.2.1 The Notification of Construction and Operation of Power Plants

Since a waste-to-energy plant falls under the definition of a co-generation plant (i.e. producing both heating and energy), before the construction and operation of the same the applicant must file with the Ministry of Productive Activities a specific notice pursuant to article 22 of Law No. 9/1991, establishing a simplified permitting framework for energy plants powered by renewable sources.

Legislative Decree in order to fulfill EU Directive 2001/77/CE on the promotion of energy from REs. According to said Decree:

a. the procedures for the grating of the authorizations needed for the construction of the related plants will be simplified and focused in a unique procedure having a maximum duration of six months;

b. the unique procedure will provide for a specific attention to the protection of the environment an the landscape;

c. a new simplified procedure for the acceleration of the timing for the connection of the plants to the electric line;

d. adoption of specific financial measures to sustain certain REs (among others, solar energy and waste-to-energy);

e. specific advertisements at a national levels to inform and make aware the public opinion to the REs and the strict connection between energy and protection of the environment.

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3.2.2 Zoning and Building

Similarly to any other building intended for industrial uses or any other activity entailing a modification in the territory, the construction of a waste-to-energy plant requires a building permit. The building permit shall be granted by the competent Municipality, in compliance with the provisions contained in the Decree of the President of the Italian Republic No. 380 of June 6, 2001, providing for the new Consolidated Act of building activities, which came into force on July 1, 2003.

With regard to the zoning and building situation in Italy, it must be kept into consideration that every building activity requires a special, individual permit to be issued by the competent municipal authorities in compliance with the municipal general zoning plan and super-municipal town-planning rules governing the global territory arrangement.

3.2.3 Environmental Impact Assessment ("EIA")

The EIA was introduced in Italy by Law No. 349/1986 (establishing the Ministry of the Environment), which implemented EU Directive No. 337/85 of June 27, 1985.

The EIA procedure for obtaining the Compatibility Decree is made either at national or regional level, depending on the extent of the environmental risks related to the proposed project.

The main provisions for the national EIA are set forth under DPCM 1988, which supplemented Law No. 349/1986, introducing for the first time in Italy the EIA regulation as well as creating the Ministry of the Environment, and DPCM 377/1988.

The regional EIA is governed by Presidential Decree of April 12, 1996 ("DPR 1996"), as enacted and integrated by each relevant Regional legislation. In Particular, such provided general criteria for establishing whether a project is subject to regional EIA or not.

Pursuant to article 1, point 6), and Annex B, paragraph 2, point e) of DPR 1996, wind powered energy plants are subject to mandatory EIA procedure at a regional level only if they are meant to be constructed within environmentally protected areas. In all other cases, the competent regional Authority must carry out a preliminary "screening" in order to assess, on a case-by-case basis, whether to initiate the EIA procedure. Should the competent Authority ascertain the need for a regional EIA procedure, then the latter must be carried out according to the rules provided for under DPR 1996. The procedure for both regional EIA, where required, and preliminary screening are regulated by regional laws, in compliance with the framework procedure set forth by DPR 1996. So that rules and procedures governing the regional EIA are likely to vary from Region to Region.

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3.2.4 Permits for Waste Management

Anyone intending to construct a plant for the treatment or recovery of waste, either dangerous or not, must obtain from the Region where the plant will be located a construction permit and an operation permit (collectively referred to as the "Waste Management Permits") (articles 27 and 28 of Legislative decree February 5, 1997 No.22, the "Ronchi Decree").

Ronchi Decree promotes the development of waste-to-energy plants. Indeed, according to article 5, paragraph 4 establishes that, starting from January 1, 1999 "the building and management of new incinerators plant can be authorized only if the related combustion process provides for the conversion of a minimum quota of waste into energy".

There are two kind of procedures for the obtainment of Waste Management Permits: the ordinary and the special one.

- The ordinary procedure[14]

The applicant files with the competent Region an application for the Waste Management Permits. Such request shall include, *inter alia*:

- technical documentation, including the documentation related to the local twon planning, the environmental protection, the health protection as well as the safety at work; and
- the application for the obtainment of a decree ascertaining the absence of negative impact of the plant on the environment (the "Compatibility Decree"). The Compatibility Decree is issued by the Ministry of the Environment pursuant to the regulation governing the Environmental Impact Assessment (the "EIA", please see paragraph below).

Within 30 days from the filing of the request, the Region convenes the so-called *Conferenza dei Servizi* (i.e. the meeting of the Authorities involved in the administrative procedure) in order to resolve all administrative issues through a unified process. Representatives of the Region, the Province and the Municipality where the plants will be located, as well as by the applicant and its representatives compose the Conferenza dei Servizi. Within 30 days from the conclusion of the activities of the *Conferenza dei Servizi*, the Region awards its decision on the project, and in case of approval, authorizes the construction of the plant and its operation. The operation permit is issued for a five-year term, renewable.

- Simplified Procedure (non-dangerous waste)

[14] The ordinary procedure is mandatory with reference to dangerous waste. Ministerial Decree of February 25, 2000, no.124 – implementing EU Directive 94/67/CE – specifically deals with limits and obligations for the management of the incinerators of dangerous waste.

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With respect to plants for the treatment or recovery of non-dangerous waste through one or more of the activities set out in the Schedule C of the Ronchi Decree (which expressly mentions waste recycling and conversion of waste into energy), the obtainment of the Waste Management Permits benefits of a simplified procedure, allowing the applicant to initiate the operation of the recovery plant after 90 days from simply submitting a communication to the Province where the plant will be located (articles 31, 32 and 33 of the Ronchi Decree).

As a general rule, plants aiming at benefiting from simplified procedures must:

- employ only fuels from urban or special waste collected separately;
- have emissions levels not exceeding those currently established by the EU Directives and the national legislation for incineration plants;
- ensure that a minimum amount of energy from waste is annually produced. Such minimum amount is calculated basing on the calorific value of the waste, by means of algorithms to be provided for by enacting Ministerial Decrees.

The permit to initiate the operation of the recovery plant is valid for 5 years, on expiry of which it needs to be renewed. Earlier renewal is required in case substantial modifications in the plant occur. Furthermore, article 33 of the Ronchi Decree specifies that, in order to apply for a simplified procedure, the plant must comply with the requirement set forth by applicable legislation with reference to air emissions (please see below).

- Special procedure (treatment of animal waste)

In order to prevent the spreading of diseases originating from animal carcasses, Legislative Decree no. 508 dated December 14, 1992, and following modification, laid down a set of rules governing animal waste treatment activities. Animal waste is grouped into two main categories: “High Risk Waste” and “Low Risk Waste”.

Broadly speaking, High Risk Waste category includes all carcasses of (i) animals which were not slaughtered for human consumption (ii) dead or aborted animals (iii) animals for which veterinary checks have detected symptoms of diseases transmissible to man or other animal species (iv) animals having not undergone after-slaughtering checks. In addition, local health authorities are entitled to classify any other animal waste item as High Risk Waste on a case-by-case basis, if required by the circumstances.

All other kinds of animal waste are classified as Low Risk Waste, unless specific measures taken by local health authorities establish that specific waste lots show risks of disease spreading. High Risk Waste must be either transformed in facilities acknowledged by the Ministry of Health, in order to neutralize pathogens, or incinerated or buried. Ministerial authorization is then required only for plants hosting transformation activities, i.e. treatments the

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outcome of which is still a product that can be circulated (e.g.: powders). Such authorization is issued only provided that the facility complies with the requirements set forth under the Technical Annexes to Legislative Decree no. 508/1992, and needs to be obtained by the plant operator before the commencement of the activities.

As a waste-to-energy plant does not transform, but destroys animal waste by means of incineration, it is reasonable to believe that a bio-mass power station, as such, does not need Ministerial acknowledgement. However, any treatment of animal waste, other than incineration for energy production purposes, that might be possibly performed by the plant operator, should be assessed in the light of Legislative Decree no. 508/1992, in order to identify the necessity, if any, of a Ministerial authorization.

3.2.4 Air Emissions

Generally speaking the applicant for a permit to construct and operate a plant producing air emissions must also file a specific request in order to obtain an air emission permit, according to Presidential Decree No. 203/1988 which is the main regulation in force on air emissions.

With specific reference to power plants (and, according to the Ronchi Decree, also in case of waste-to-energy plants), the competent Authority for the issuance of air emission permits is the Ministry of Production Activity rather then the Region. Therefore, according to article 17 of Presidential Decree No. 203/1988, the applicant applies for the air emission permit directly to the Ministry of Production Activity, also attaching all the relevant documents. Subject to the verification of the project of the plant and the level of emissions to be allowed, the permit is issued by the MPA, which acts with the consent of the Ministry of the Environment and after consultation with the relevant Region.

4. Incentives for generation from renewable sources

4.1 The Green Certificates

Green Certificates are year titles recognized to the electric energy produced by renewable sources through power plants which “went into operation” (i.e. have been built, expanded, rebuilt or reopened) after April 1, 1999.

The creation of green certificates is aimed at promoting the use of REs. Indeed, generators and importers of electricity produced from non-renewable sources must deliver to the GRNT a number of green certificates corresponding to, or exceeding, the quantity of electricity produced from renewable sources which they were obliged to feed into the transmission networks.

Ministerial Decree dated November 11, 1999 (the so called MICA 11/11/1999, as amended by Ministerial Decree of March 18, 2002) set forth detailed regulation in order to enforce the duty Bersani Decree regulations. According to MICA 11711/1999, green certificates are issued by

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the GRTN upon request by the interested renewable sources energy producers, and are meant to be freely marketable among non-renewable energy producers.

Only the plants using the REs according to the definition established by article 2 of Bersani Decree[15] are allowed to request the emission of the green certificates. For each renewable source producer, certificates can be issued only for an eight-year period from the beginning of the activities of the relevant generation plant, and must mirror the actual quantity of renewable sources' energy produced by the latter. Eligible renewable sources energy producers aiming at obtaining the qualification of their plants as "renewable sources-powered Plants" for the purposes of the green certificates system, must file an *ad hoc* request with the GRTN, specifying the details of the relevant producer, the location of the plant as well as its technical features (type of renewable sources exploited, output of the plant, etc.). In case the plant has not been constructed yet, the application must include a copy of the final project.

The GRTN publishes an annually updated bulletin, listing all plants, either existing or under construction, which have already been qualified as "RS Powered Plants".

On the other side, non-renewable sources producers availing themselves of green certificates in order to fulfill their obligation under Bersani Decree, must submit to the GRTN the certificates acquired from REs producers, in proportion to their overall energy production in the previous year.

In addition, by means of Ministerial Decree dated March 14, 2003 the Ministry for Productive Activities approved a set of procedural rules governing the electrical market activities with exclusive regard to the green certificate trading. Said rules concern, among others:

- the technical and personal requisites operators must hold in order to access the green certificates market;
- the practical procedures for carrying out the certificates' trading (information duties, proposals, negotiations, payment of considerations);
- sanctions and other implication of breaches of the market rules;
- disputes settlement procedures.

Eventually, based on Legislative Decree newly approved on 25 July 2003 – implementing Directive 2001/77/EC - the adoption of specific financial measures to sustain certain REs (among others, solar energy and waste-to-energy) is foreseen.

[15] The list of plants which have been already qualified as Iafr (*impianti a fonti rinnovabili*, i.e. plants using REs) according to article 10 of MICA 11/11/1999 are published in the web site of the GRTN and it is available in the Bulletin of the Qualified Plants. The qualification follows a specific procedure provided by the GRTN.

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To be precise, according to article 2, paragraph b, of Directive 2001/77/EC only the biodegradable sections of urban and industrial waste can be considered as REs at financial purposes and most of all at the purpose to evaluate the amount of Green Certificates each plant has right. This specification caused several discussions among the EU Commission since it obliges the member States to carry out a strict selection of waste before their incineration.

With reference to the Italian situation, to date the value of the green certificate is calculated as difference between the average cost of energy acquired from the GRTN in 2002, produced from the plants exercising at REs, and the earning from the sale of the same energy in 2002. But this seems to be fully in breach of Directive 2001/77/EC since it is covering also the "not renewable" part of the waste. To date, in order to comply with the EU Directive also Italy is obliged to strictly verify which are the parts effectively renewable of the waste and only on the bases of the related results it shall be calculated the quota at the emission of Green Certificate purposes.

4.2 EU'S INCENTIVES

The development of renewable energy – particularly energy from wind, water, solar power and biomass – is a central aim of the European Commission's energy policy. Indeed, renewable energy has an important role to play in reducing Carbon Dioxide (CO2) emissions, which is a major Community objective mainly in order to comply with Kyoto Protocol provisions. Furthermore the promotion of renewable can have the effect to reduce the Community's growing dependence on imported energy sources. Eventually, REs are expected to be economically competitive with conventional energy sources in the medium to long term.

For all the above reasons the interests of Community to support the development of RE is clear.

The European Commission's White Paper for a Community Strategy sets out a strategy to double the share of REs in gross domestic energy consumption in the European Union by 2010. The related action plant provides, *inter alia*, the *Campaign for take-off for Renewables*[16].

[16] The Campaign for Take-Off forms an integral part of the Community Strategy and Action Plan for Renewable Energy Sources by 2010. It is designed to kick-start implementation of the Strategy and is expected to have reached its goals by 2003. Focusing on certain key sectors, the Campaign for Take-Off sets out a framework for action to highlight investment opportunities and attract the necessary private funding which is expected to make up the lion's share of the capital required. The Campaign also seeks to encourage public spending to focus on the key sectors, and, in the process, to complement a trigger private investment. The Campaign is a highly visible vehicle, involving key sectors (solar, wind energy and biomass), for the drive towards a significant increase in renewable use and penetration. The Key Sector Actions of the Campaign are:

- 1,000,000 PV systems
- 15 Million m2 solar collectors
- 10,000 MW of wind turbine generators

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The Campaign aims to facilitate the success of the strategy for promotion of renewable sources of energy as a whole by stimulating the necessary trend towards increased private investment in renewable in a visible manner, with an emphasis on near-market technologies - solar, wind and biomass.

4.2.1 The ALTENER Programs[17]

In order to foster the EU strategy of promotion of renewable energies, the European Commission launched a past two five-year integrated program called ALTENER. This is the only Community program exclusively focusing on the renewable energy sources. The first section expired at the end of 1997 and has been followed by ALTENER II, covering the 1998-2002 period and completed in December 2002.

Within the aforesaid Campaign, the third section of ALTENER program is foreseen.

The program's objectives can be summarized as follows:

- to implement and complement Community measures designed to develop the renewable energy resource potential;
- to support the development of an infrastructure that will increase investor confidence, stimulate the take-up of renewable energy technologies and improve the sector's competitiveness;
- to improve information dissemination and co-ordination at the international, Community, national, regional and local level, thereby increasing investor confidence and market penetration;
- to increase operational capacity for the production of energy from renewable energy sources;
- to implement the Community's renewable energy strategy.

Among the others, the program envisages the possibility for REs energies developers to have their projects financed for up to 50% by the Commission. Operators aiming at benefiting from such possibility must file specific documented applications, provided with technical and

- 10,000 MWth of combined heat and power biomass installations
- 1,000,000 dwellings heated by biomass
- 1,000 MW of biogas installations
- 5 Million tons of liquid biofuels
- 100 communities aimed at 100 % RES supply

[17] For a full overview of the program please see http://europa.eu.int/comm/energy/en/pfs_altener_en.html.

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economical details, pursuant to the periodical publishing of calls for proposals by the Commission.

ALTENER II specifically deals with biomass-energy, solar energy, wind project and geothermal energy.

The deadline for the 2002 funding expired last April 3, 2002. Nevertheless, similar programs are rather likely to be launched in the future, provided that the overall trend of the EU electric policies aims at fostering and strengthening the development and use of renewable energies. On June 26, 2003 the European Parliament and the Council has recently approved the decision for adopting the multi-annual program "Intelligent energy – Europe" (2003-2006)[18]. The same entered into force on 4 August 2003. As first step after entering into force the Commission will establish a work program defining the priority areas and the criteria for selection of the project, specifying the third phase of the funding program. A new term for the ALTENER program is included among the proposed measures.

5. Final considerations

On June 2003 the Italian Presidency of the Council of the European Union commenced. Among the major goals, which Italy already indicated in the General Guidelines of July 2002, the Italian Prime Minister mentioned the protection of the environment. Specifically, following the outcomes of the Meeting of Johannesburg, Italy pointed out the "Environment as Opportunity" as a main topic of its Presidency. Furthermore, among the different aspects on which Italy undertook to specifically deal and direct all the efforts (water, climate change, Kyoto protocol, agriculture and forest) an important step is represented by the promotion of REs.

It must be underlined that the real sustainability for the environment of the REs is under discussion. In some cases, and most of all with reference to biomasses, it has been pointed out that these procedures could have a negative impact on the environment (due to, for instance, the toxic emissions and the water discharges connected with the burning of waste). However, it is sure and clear to everybody that the damages that the REs can cause to the environment are lower than those produced by the overusing of energy and further forms of exploitation of the environment. In the end, one could say that the environment needs (also) the waste to be protected.

[18] Official Journal of the European Union on 15 July 2003 (OJ, L 176, p29-36).