

INDEX

Preface	2
Angelantoni Industrie s.p.a.....	3
Archimede	4
Solarlight	5
Energy Partner	7
I.E.T.....	9
T.C.S.....	11
A.S. Technology.....	13
Gulini L. & C. s.a.s.....	15
Second part: a view on new plants	17
Biomasse plants	17
Strongoli (Kr)	17
Biomasse Plant, CaViRo	19
Faenza (RA).....	19
Wind Energy.....	21
Tocco da Casuarina (PE).....	21
Sa Turrina Manna	23
Photovoltaic plants	25
Busca (CN)	25
Third part: Renewables in middle size companies	27
History of Energy Bill	31
The first Energy Bill.....	31
The second “Energy Bill”	32
The Third Energy Bill.....	33
Bibliography	35

Preface

The first part of this report concerns some companies in the region Marche and Umbria that have emerged in the field of renewable energy, exploiting the positive years given to government incentives for renewables, as well as a new sensitivity towards this kind of energy.

The second part deals with some newly plants built in Italy, which use biomass, wind and sun; we omits the traditional geothermal energy because no new energy can be extracted, and hydroelectric, which is also saturated. Plants built in the twentieth century have exploited the maximum production capacity and now only small improvements can be obtained.

The third part is a report prepared at the end of 2009 about the amount of alternative energies in manufacturer and mechanical companies.

Angelantoni Industrie s.p.a.

Denomination	Angelantoni industrie s.p.a.	06056 Massa Martana	(PG) - Italy	
No. of employees	200			
No. of designers	100	Engineers, physicians (60)	Earning	1.800€ per month
		Graduates from high school (40)	Earning	1.300€ per month
No. of installers	70		Earning	1.100€ per month
Years of activity	30	5 years in R.E.S.		
Revenues	1,5M €			
International partnership and projects	Plant in Sahara desert			

Archimede

Denomination	Archimede			
No. of employees	60			
No. designers	25 - 30	Engineers, physicians (18)	Earning	1.700€
		Graduates from high school (12)	Earning	1.250€
No. of installers	-----			
Years of activity	2 in R.E.S.			
Revenues	2 M€			
International partnership and projects	-----			

Solarlight

Denomination	Solarlight			
No. of employees	20			
No. designers	8	Engineers, (2) economists (2)	Earning	1.700€
		Graduates from high school (4)	Earning	1.250€
No. of installers	-----		Earn	-----
Years of activity	1 in R.E.S.			
Revenues	1 M€			
International partnership and projects	-----			

HISTORY

Angelntoni is a company placed in Umbria (Massa Martana), a region of central Italy, with a background in cold technology. Only in the last years, it approach to renewable energy and now it has a very important place in thermal solar plants, whose it develop an high temperature tube, capable to operate at 500-600° Celsius. The fluid used to exchange heat is made up of molten salts.

Since 1952 and under the ACS brand, Angelantoni Industrie has introduced world-wide environmental test chambers for all types of tests on materials, components, and finished products. ACS brand has always been associated with vast experience and flexibility in customized solutions, with undisputed expertise in technologies, gained also through tight cooperation with research institutions, universities, and industrial partners. ACS brand has now a strong leadership in the aerospace sector, the most challenging environment for simulation: after the first space simulator in 1988, Angelantoni Industrie became one of the three leading international manufacturers, and a supplier for the most important space research centers testing satellites and satellite parts. With the acquisition of two companies, in France and in Germany, the testing sector currently consists of 3 Business Units:

- Environmental test chambers (ACS brand)
- Electrodynamic shakers (TIRA brand)
- Test benches and crash test systems for the automotive and aerospace (BIA brand)

LIFE SCIENCE

The cold equipment for healthcare and biotechnology has received a considerable boost thanks to Research & Development activity. In 1961 Angelantoni introduced in Europe's the first mechanical freezer capable of running below -100°C. Angelantoni Industrie, under the AS brand name, has marketed some extremely innovative systems, such as HEMOSAFE® for preserving and remotely distributing blood bags and SMARTFREEZER® a robotic cryobank operating at -80°C and -180°C. In 2008 with the acquisition of STERIL®, the Group has entered in the field of laminar flow cabinets and non – contamination equipment.

RENEWABLE ENERGIES

In the Solar Concentration technology, the subsidiary Archimede Solar Energy SpA produces 550°C molten salts receiver tubes for thermodynamic solar power plants (Archimede project), based on ENEA technology. Angelantoni Industrie is working also in the concentrated photovoltaic field and Kenosistec in the thin film coating equipment for the production of CdTe photovoltaic panels.

Energy Partner

Denomination	Energy partner	S.Angelo in Vado	PU – Italy	
No. of employees	15		200 kW in PV panels (year 2010)	
No. designers	5	Engineers (2)	Earning	1.600€
		Graduate from High school (3)	Earning	1.050€
No. of installers	3	Installer	Earning	950€
Years of activity	6 years			
Revenues	3 M €			
International partnership and projects	-----	Plant's design and construction	Managing the entire life cycle of the plant.	
Partnership in Italy	Authorized dealer Sunpower Affiliate Enel Si Authorized installer Enerpoint Authorized installer ProInso			

Energy Partners is a small company, located in S. Angelo in Vado, along Metauro river It made six years ago by Marcello Rossi. Initially it was involved in electrical engineering installations (domestic and industrial plants) and then taking the new field opened by the law 296/2006 also known as "Energy Bill", a government incentive to reward producers of electricity by alternative sources.

The company is active in the country and the core business is the installation of photovoltaic panels, both on land and on the roofs of houses. This company can provide a finished product to the customer, both in the design, installation and laying operation; it provide also maintenance and disposal at the end of the production cycle.

In our area has occurred in recent years, great attention to the implementation of PV systems, and many small businesses have benefited from government incentives for renewable sources.

2 of 3 designers working there, with graduate level of study, come from I.T.I.S. "E.Mattei", and collaboration with the Technical Institute continues also during this year as they have been installed on the roof of the institute, photovoltaic panels up to 36kW peak.

I.E.T.

Denomination	I.E.T. impianti s.r.l.	61030 Calcinelli	(PU) - Italy	
No. of employees	15			
No. designers	2	Engineers (1)	Earning	1.550€
		Graduate (high school) (1)	Earning	1.100€
No. of installers	9		Earning	970€
Years of activity	30	3 in R.E.S.		
Revenues	2 M € (2010)			
International partnership and projects		1 MW of PV panels		

I.E.T. is a small company based in Calcinelli, a few km from Fano, along the valley of the River Metauro, initially its activities related to electrical and telephone plants, with domestic and industrial use. Dates back to 1980, the year of its creation.

The small size and dynamism of the components , have allowed to take the opportunity made up during 2006, with Law 296/2006 on the " Energy bill " ,and began the activity of design and installation of PV systems from 2007 .

The company is highly innovative and is also involved in home automation installation, for which also organizes training courses for electricians.

This company has provided material for the construction of the High Automated House, inside a loft in our Institute, which will be used to show the characteristics of a home automation system, and also as laboratory training for electricians. It currently works with I.T.I.S. "E. Mattei" in a learning program addressed to electricians in the field of home automation.

T.C.S.

Denomination	T.C.S. s.r.l. (Belfiore Michele: CEO)		Pesaro - Italy	
No. of employees	10			
No. designers	2	Engineers (1)	Earning	1,500€
		Graduate (high school) (1)	earning	1,200€
No. of installers	3		Earning	1,000€
Years of activity	30	10 in R.E.S.		
Revenues	2 M €			
International partnership and projects		Main fields of application: Thermal solar, PV (300kW), wind mini plant (55kW)		

Not all factories in renewable energies mean pv plants; although the best place for big wind plants are the 2 italian islands (Sicilia and Sardegna), mini and micro wind plants are built in our rural area. In fact Montefeltro area (whose Urbino in the main town) is well exposed to nord-east winds for at least 200 days per years and although this amount of wind isn't enough for a big plant, it is important for a mini wind plant (with tower high to 20m and blades up to 8-10m).

T.C.S. is a small company placed in Pesaro, that began with thermal plants for domestic and industrial; next it join renewable energies since 2006 when Italian government received an E.U. law about renewables.

Michele Belfiore, C.E.O. of TCS said : “As photovoltaic plant aren't suitable for farms and little villages placed in Montefeltro area, because sell energy to Enel isn't easy, as lines are small, it is better to produce a part of annual energy needs with wind; a wind plant cost much less than a photovoltaic plant with same power. This is the reason why we enter in thermal solar plants and wind plants”.

A.S. Technology

Denomination	A.S. Technology	Dogana	Republic of San Marino	
No. of employees	40			
No. designers	3	Engineers (1)	Earning	2,000€
		High school (2)	Earning	1,500€
No. of installers	----		Earning	
Years of activity	8 in R.E.S.			
Revenues	16M€			
International partnership and projects		Manufacturer of PV panels.	8MW /year	

This company is based in the neighboring Republic of San Marino, which is very interesting for Italian entrepreneurs, as the taxation is about half of the Italian.

Currently there is a dispute between the Italian state and the RSM, as a result of belonging to the blacklist for tax-havens compiled by the European Union. However, this is an internal situation (between Italy and RSM), as for the EU, now RSM's banks meet the criteria of transparency taken by other European countries.

This led AS Technology to invest and seek new development opportunities in European markets, rather than the Italian one.

The main activity isn't the design of plants, but the construction of the panels from poly silicon cells, mono-silicon, amorphous silicon, with a production of panels for 8MW / year (= 80 000 m² /year of panels).

The company is quite young and employs cutting-edge technologies, being able to offer the finished panel at a price of around 2000 € / kW peak, thus making it competitive with Asian producers.

In fact this is one of the few manufacturers of technology products present in our area, and intensive use of automatic machines, allow to remain competitive with emerging countries even in a state as rich as the RSM.

Gulini L. & C. s.a.s.

Denomination	Gulini Luca & C. s.a.s.	Urbino	PU - Italy	
No. of employees	20			
No. designers	4	Engineers (1) geologist (1)	Earn	1,400€
		Graduate (high school) 2	earn	1,100€
No. of installers	10		Earn	990€
Years of activity	20 in thermal solar	4 years in PV plants and heat pumps		
Revenues	0,8M€		Thermal power: 100kW /year	
International partnership and projects	-----			
Italian partnerships	Consorzio GEOHP	geothermal		

Gulini is an installer of heating systems based in Urbino and an activity of about 30 years. Before dealing with RES has developed thermal and electrical systems for homes and businesses.

The government encouragement of renewables was the reason to start dealing with renewable sources, with particular emphasis on the heat pumps and low-enthalpy geothermal.

The collaboration with the University of Urbino has allowed to study and implement a low-enthalpy geothermal system with collection of cold thermostat up to 100 m depth in the soil, installed at the former headquarters location in Sogesta - Crocicchia, 4 km from Urbino . This collaboration and the experience gained, places in the primary position among the companies of the Marche region.

Second part: a view on new plants

Biomasse plants

Strongoli (Kr)

The current structure of the two production plants has a capacity of 60 Megawatt (Strongoli - 40 MW and Crotone - 20 MW) produced by biomass. Biomasse Italia, the owner of the plant is one of the largest European companies in the production of electricity from biomass fuel. The production started in 2001 in Croton and that in Strongoli in 2003.

The annual production is about 500 GWh with a revenues of approximately 100 million € per year

The raw material is represented mainly by biomass consisting of wood chips from forest maintenance and agro-residues coming from the local market and abroad. The annual consumption of biomass of 450,000 tonnes in Strongoli and 250,000 tonnes in Crotone central.

The new agreement, already approved by the City Council of November 4, 2010, was signed by the mayor Luigi Arrighi and Biomasse Italia represented by the General Director Guido Castelluccio.

Going into details of the document, the new Convention provide the biomass contribution of € 0.516 plus VAT for each megawatt of electricity produced in the Central in Strongoli, from 1 July 2008 to December 31, 2008, no later than 16 January 2009, recognize an additional contribution of € 1 per megawatt of electricity produced from 1 January 2009 to July 16, 2011 up to a maximum of € 600,000. A contribution of € 0.51 for each megawatt of electricity produced from biomass in the Central in Strongoli with effect from 17 July 2013 until July 16, 2023.

Name	Biomasse Italia s.p.a.
Place	Strongoli (Kr)
Type of fuel	Wood fuel
Power	46 MW
Production per year	260 GWh

Strongoli

Name	Biomasse Italia s.p.a.
Place	Crotone (Kr)
Type of fuel	Wood fuel
Power	20 MW
Production per year	130 GWh

Crotone.

Biomasse Plant, CaViRo

Faenza (RA)

In the field of development of environmental issues aimed at the recovery of waste of their work, Caviro has created technologies that minimize the dependence on conventional energy sources, typically methane. Caviro has, in fact, a power plant fueled by solid fuel (food waste and wood), biogas (produced from the purification of waste stillage) and methane to produce steam at high pressure and temperature and is equipped with two turbo-alternators for the production of electricity.

The electricity produced in-house allows Caviro the almost total independence from energy by the national network, while the thermal point of view, the company is already fully self-sufficient.

The CEO of Caviro Distilleries, Sergio Dagnino, said: "This is a cogeneration plant, able to simultaneously produce heat (up to 50 tons / hour) and electricity (13 , 7 MW) using the same current fuel: 120,000 tons per year of biomass. Of these, we already withdraws to 80,000 tons and 15,000 tons of grape pruning than 13,000 tons of WDF, ie, the fraction of dry waste. L 'increase in biomass will cover pruning that is already abundantly available in the territory, and for years we are provided by municipal and not, as has been written, the WDF, which will cover a share of 10.8% . "

-Dagnino when the new power plant will start?

"Given that this boiler will provide 100% of the energy needs of the establishment that employs over 130 employees, the 400 Group, and existing boilers are running out, we plan to shut down the old boilers and start the new plant by 2010."

-Caviro has invested tens of millions of Euros in new plant. Was it really necessary?

"The high amount of investment, about € 40 million, is due to attention to the technologies with high energy efficiency. The emission treatment are the best on the market today, with values of smoke abatement well above the law limits. "

-What has changed in terms of emissions compared to current thermal power plant?

"The project involves the installation of a plant capable to break down emissions, with an extremely advanced technology, with the same characteristics as those that are adopted in power fuels much more polluting than by us. The main pollutants emissions (dust, nitrogen oxides, etc..) will decrease by the replacement of old systems with the new boiler; the amount will be reduced an average of 30% compared to the current authorized limits."

-The plant will burn mainly agro-industrial wastes, reducing the costs for the disposal or not?

Having said that without a new boiler plant would be forced to close, the territory needs to improve the disposal of agro-industrial wastes, whose Faenza and Romagna, have high production. Caviro has always

assured its members, and will continue to do so, a service through the withdrawal of their waste. Not only that, with this solution will greatly reduce the costs and other charges relating to the disposal of wastes. "

-This step represents the final "green" engagement of Caviro or, as critics claim (city committee and the opposition), it's all a farce and the plant will pollute more?

“Our plant, producing energy from renewable sources, helping to significantly reduce CO₂ emissions, in line with national and global reduction targets of the Kyoto Protocol. Caviro has long chosen to produce electricity from biomasses (90%), not only to achieve autonomy in terms of energy consumption, but to contribute to the environment of which we see more and more risk protection. I want to emphasize that Italy moves within a context established by the Kyoto Protocol and by the directives of the European Community. Following the Kyoto agreements that require a 5% decrease in emissions of greenhouse gases by 2012, EU Member States have established, for the same period, collectively reducing their emissions by 8%. Unfortunately, Italy has not been successful and will have to pay a fine, which will fall to the Italian citizens by higher cost in the bill for the supply of electricity, amounting to 555 million of €.”

Name	Biomass CaViRo
Place	Faenza (RA)
Type of fuel	Wood chip, farina vegetale sansa di oliva
Power	22,9 MW
Production per year	152 GWh

Wind Energy

Tocco da Casuarina (PE)

“Tocco is one of the Italian municipalities that produce more green energy than it consumes, ” says Edoardo Zanchini, head of the environmental energy. "When the NYT contacted us - remember - they were very impressed by the fact that the answer to energy problems could come from a small company and not with great solutions, such as mega nuclear power or coal. " One thing that apparently is not here in Italy, fairly valued. "I think there is a media overexposure against wind power - underscores Zanchini - but the problem of how to integrate these systems in aesthetics exists because so far it has been all out by national rules. The challenge is to try to get it right, choosing the best areas to avoid excessive pressure on the part of businesses. In this sense, Tocco di Casauria is the example that is possible: the plant is in an area of great delicacy, at the entrance to a gorge near a national park, but what has been done is difficult to argue that it was a slaughter.”

Substantial areas of environmentalism, however, are skeptical, and remain convinced that the business of wind can make only a marginal contribution to energy problems, represents an unnecessary injury to the landscape and a wedding invitation to speculators and criminal interests. Among the most pugnacious there are the "Committees for the beauty. " "We are not opposed to whatever, but Italy does not have a suitable habitat and even the right wind, that is not very strong and steady, " said one of the leaders of the association, the journalist and RAI former board member Vittorio Emiliani. "Instead - he adds - the plants have sprung up everywhere, even in restricted areas. The problem is that companies offer little money to indebted municipalities to build plants noisy, harmful for insects and birds. It is not chance that an association such as the WWF is pulling back, and if a community like Urbania, Marche, called upon to decide in a referendum voted overwhelmingly against. "

A visit to Tocco seems to contradict this pessimism. "Discomfort not damage, but we have not seen the benefits, "he told the elders for a walk in the town. The problem is that the population expected reductions in the bill, while money walk a different path. "With the two new blades from 800 KW produce about 7200 MWh per year, exactly twice the total consumption of all users of Tocco, but the gain is not the savings in electricity bills.

“For the 112 000 € annual coming from rent of land of the first two blades I must add that we estimate will reach 35000€ by the percentage on the sale of green certificates for electricity produced by the two new blades. In all, nearly 150 000 €, or approximately 7% of municipal revenue. To make the importance of this think that ICI revenues are 400000€ and Tarsu 220000€ “ clarifies the mayor resigned Riziero Zaccagnini. He resigned because, despite the success the administration has entered into crisis.

Yet paradoxically, the benefits were felt even on tourism. "People come to see the plant and many have called us to congratulate us by announcing a visit in the spring, " says Louis Stromei, owner of the La Torretta, 46 acres of woodland and olive groves placed just below the four wind turbines.

Name	Tocco da Casuria Nord
Place	Viario (Casuria) PE
No. of generators	1
Type	Enercon E 48
Tower Height	55 m
Blade lenght	48 m
Power	0,8 MW
Production per year	1600 MWh

Sa Turrina Manna

Consists of 55, 1.5 MW wind turbines in the towns of Tula and Erula in the province of Sassari, bringing to 84 MW total installed capacity of wind farm, named Sa Turrina Manna, which became the largest wind farm to Italian Enel Green Power, the subsidiary of Enel, which develops and operates facilities from all renewable sources in Italy and around the world.

The new wind farm is able to produce about 126 million kilowatt-hours per year, enough to cover the needs of approximately 46,000 households, avoiding the emission of 94,000 tonnes of carbon dioxide (CO₂) and consumption of about 47,000 tonnes of oil equivalent per year.

Now 3 wind turbines farms by EGP are in operation in Sardinia, for a total capacity of 161 MW, producing over 240 million kWh/year, and is scheduled for 2010 start of the work of the wind farm at Portoscuro, which will have a total capacity of 100 MW planned.

Enel Green Power is the Enel Group company dedicated to the development and management of power generation from renewable sources at the international level, in Europe and the Americas.

It is an european leader in the field, with 17.2 billion kWh/y of power generated from water, sun, wind and geothermal, can meet the needs of some 6.5 million households each year and prevent 13 million tons of emissions of carbon dioxide. With an installed capacity of approximately 4,700 MW is the first Italian company with an integrated international business in the field of renewable energy. The operating plants are over 500 around the world and the generation mix includes wind, solar, hydro, geothermal and biomass.

Name	Sa Turrina Manna
Place	Ilva (SS)
No. of generators	28
Type	WTG
Tower Height	55 m
Blade lenght	52 m
Power	23,8 MW
Production per year	42.300 MWh
Manufacturing company	Enel Green Power (ENEL group)

Photovoltaic plants

Busca (CN)

Name	
Place	Busca (CN)
No. of modules	288
Type	Poly silicon
Module's power	170W
Motion kinematics	Pursuit type
Power	49 kW
Production per year	80000 kWh

The main difficulty of photovoltaic systems is the exploitation of land for agricultural use rather than use the roofs of houses and industrial buildings.

Some entrepreneurs, in fact, to circumvent the procedural requirements of the Environmental Impact Assessment, has different plans for less than one megawatt plant on land adjacent, in fact circumventing the rule that stipulates that the Province to examine these practices in conference services. The plants less than megawatts, in practice, must be authorized by the municipalities without any evaluation.

"If the province - the Mayor has proposed - with an administrative act defining a minimum distance between a plant and another, it might solve the distortion. We do not intend to prohibit anything that is not provided for by law but not to allow circumvention of rules and procedures. "

Agreeing on the comments of the mayor, the provincial councilor for the Environment, Luca Colombatto, said the province plans to speak in terms that will soon be made public.

Both Gancia both Gosso , in fact,are very concerned about the new rules, which may allow a serious disfigurement of the landscape in Cuneo province, with the grounding of large expanses of plants on cultivated lands today.

Third part: Renewables in middle size companies

Renewables energies is for Italy a strong possibility for development and growth of jobs, thanks to the 100 billion € investment in 12 years. The target to be followed is that indicated by the climate and energy package known as "20-20-20. "

The potential employment could reach 250 thousand jobs in 2020. These are the conclusions of the study of I.E.F.E. (Centre for Research on Energy and Environmental Economics and Policy), of the Bocconi University on "Prospects of development of renewable technologies for electricity generation, " addressed to the Manager of Electrical Services (GSE) and presented in Rome.

Research photographer Italy energy of 2020 analyzing different scenarios.

It starts from the premise that the European energy policy will ensure "a business opportunity and employment development for our country" if the efforts will focus on the domestic industry. Our country has "a good level of attractiveness of the investment, but we need to remove some barriers: an" uncertain and unstable regulatory framework "and "the structure of the electricity system and the difficulties of managing electricity flows in the face of congestion and some rigidity of the transport networks. " Then there is the industrial front. Plants using renewable energy in our country are in strong growth, particularly wind and solar, but the chain does not capitalize industrial segments with higher profit margins.

Three scenarios for 2020.

The ability of our industry, to meet the challenge of technology, research and development, innovation, and cooperation between public and private sectors, will configure three different perspectives based on the "exploitation of the opportunities. " In the case of "low use" in continuity "with that of the last five years, " the turnover is 30 billion € with an annual average of 2.4 billion and employment of 100 thousand people. With an average use, covering 50% of market share by domestic production, it will create a turnover of 50 billion with an annual average of 4 billion and employment of 150 thousand people. If the exploitation is high, the domestic industry will achieve a turnover of 70 billion (70% market share) with an annual average of 5.6 billion (2.4 billion in imports of technological equipment) and reach 175 thousand jobs in Italy and 75 thousand abroad, a total of 250 thousand people in total. The wind farm will occupy 77 500 (31%), biomass 65,000 (26%), solar photovoltaic 27,500 (11%), up to 10,000 (4%) involved in the incineration of municipal solid waste.

Italy and EU legislation

As for Italy, the new European regulatory framework provides for the achievement, in 2020, a share of renewable energy to cover the total energy consumption by 17% (including 10% in bio-fuels) and a reduction in emissions gas by 14% compared to 2005. This means for Italy to achieve 25% -30% of production by renewable energy on total electricity consumption in the country in 2020 starting from 17.7% in 2008, depending on whether or not they also aim to reduce emissions.

The achievement of both objectives can, in fact, reduce the overall share of renewable energy use (go to the different possible scenarios given by the Italian Government and by the IEA). The result is that if you were to achieve the dual objective (increase renewables and emission reductions following law's limits), the share of clean energy to cover the consumption should be doubled. The industries with the greatest potential for investment are the bioenergy, solar and wind energy.

Manufacturing companies

The Italian manufacturing companies spend, on average, 7% of business costs to energy costs. In fact, virtually all have at least considered ways to reduce consumption and costs by switching, improving efficiency of production processes and buildings or installing facilities to produce renewable energy (11%). One solution, this last, which will grow by 50% within a year and that was at least considered by almost 80% of the industry with over 50 employees.

The level of satisfaction of companies that have adopted these solutions is moderately high and is very high for companies that have installed systems for renewables. One thing, this, very interesting even if the level of satisfaction is not based on "proven experience since these technologies have been installed only 1-2 years ago.

Larger companies, but also those which have less energy costs, are the most active to reduce the costs of energy.

90% of the companies that installed a plant to produce renewable energy said to be very attentive to these costs and the research shows that many companies have yet to decide how to act. There is therefore a vast potential market for the supply of plants for renewable composed of 26.7% across the sector in question.

Photovoltaics, installed from 6% of the "entire industry, is the technology with the most potential for development, because its installation was considered by at least 60% of the sample. Biomass is used by 3% of the sample, and at least considered only 5%. Thermal Solar has installed a very low (1.3%) but was considered at least by 11%. The micro wind generators and geothermal power are

still not present (0.7%) and only 3% reported having taken them into account. The systems have been installed by an average of 2 years and cover a third of the energy needs by companies.

In general, manufacturers believe it is important to reduce energy consumption especially for financial matters (savings and tax incentives). Immediately after is evident the social responsibility / ethics indicated by 75% of the sample. This fact, among the companies that have installed or plan to set up plants for renewables rises to 90% by overcoming the best interests to take advantage of incentives and reaching the interest in the savings. Among the companies that have installed or planned the "installation, it is also very strong the" idea that the reduction of consumption can support innovation and improve the corporate image.

The main brake to "adopt solutions to reduce energy consumption are particularly financial (70% say they have other priorities of a financial nature, while 57% say they have difficulty in accessing finance), bureaucratic (55%) . Also is evident a widespread difficulty in assessing the economic returns on investments (48%), concerns about the quality of the facilities (42%) and their usefulness to the environment (39%). While few concerns about how the technology works (34%) are present. Among the companies that have facilities to produce renewable energy, the problem of access to finance (cited by 76%) are more pronounced. This is true also for the bureaucratic problems: 66% of the companies that have already installed a system, complains this problem, while among these companies, unlike the other, are not so common problems with installations and products.

To promote the dissemination of useful solutions to reduce energy consumption in "industry, companies that offer renewable solutions, will have to reduce what appears to be the main brake, namely financial lever. A further reduction in prices is unlikely to be decisive if any help will be given to companies to assess in a concrete way the benefits from investment in renewable energy.

As for the "Italy, by 2020, renewables will have to cover at least 17% of total energy consumption (it was 5.2% in 2005) and should be reduced by 14% compared to 2005 emissions of the greenhouse gases. With 58.2 TWh in 2008, "Italy is in 5th place - after Germany, Sweden, France and Spain - in real gross output of energy from renewable sources. These are mainly hydropower (41,623 GWh in 2008); Biomass and waste (almost 6000 GWh, +9.7%) and Geothermal (5520 GWh a slight decrease: -0.9%). The "Wind is the fourth (4861.3 GWh), but strong growth: 39 new plants only in 2009. And, even though to the last place, solar is the renewable energy source to the fastest growing (394% compared to 2007) with a gross production of 193 GWh, with gross power of 431 megawatts. In Europe, "Italy is in 7th place for the production of wind and 3rd in solar.

Thanks to incentives under existing law - in particular, "Energy Bill" for Photovoltaics, the "Italy has, however, high levels of attractiveness of investments in technology and production facilities for renewable energy. The 2008 Budget provides strong incentives for renewable and extending until December 2010, the tax relief for taxpayers (individuals, enterprises, institutions and buildings) that invest to save energy. In 2009 is precisely the "Italy, to be considered one of the most promising markets in the world in Photovoltaic, together with Greece and the United States. While Germany is now a mature market and Spain, which in 2008 produced almost half of photovoltaic systems in the world (2.5 GW), is forced to slow down because of cuts in funding and incentives operated by the Government.

According to a study-GSE-Bocconi-IEFE in Italy the investment in renewable technologies in the electricity sector - scenario influenced by the policies of so-called "climate-energy package" - will reach a total value of approximately 100 billion € over the next twelve years, with an annual average of more than 8 billion and total employment potential fallout could reach 250 thousand people in 2020. While, according to another recent study by Bocconi-Centrobanca ("Investing in renewable energy - The cost-effectiveness for enterprises "): "the initiatives related to renewable energy investments are confirmed as very attractive in terms of economic returns, but above all characterized by low financial risk. "

History of Energy Bill

The Energy Bill is the incentive system that has allowed the development of photovoltaic technology in Italy. Born as a very faithful copy of the incentive system for photovoltaic use in Germany has been a great success and allowed us to beat every record on the goals. It is important to know how the incentive system was developed over the years for each Energy Bill (today we are already at Third), the factors that can affect us more as individuals who may benefit the incentives, the technical requirements of the plants and the determination of the incentives.

The first Energy Bill

It dates back to 2006 and was created to implement the European directive 2001/77CE on the promotion of electricity produced from renewable energy sources. Essentially following the targets set by Europe, it became necessary to establish an incentive system to promote the installation of photovoltaic systems that allow it to produce clean energy, along with other renewable energy sources, to arrive in 2020 to constitute 20% national demand of electricity.

According to the D.M. of 28 July 2005 (implemented by the D.M. of 02.06.2006) the characteristics needed to access the incentive system are:

- 1) People who can benefit from promotion are "natural persons and legal entities, including public buildings and condominiums, managers of such plants, designed, developed and exercised in accordance with 'the provisions of the ministerial decree. "
- 2) The technical requirements of the plants that can access encouraging the production of electricity through photovoltaic conversion, are a minimum of 1 kWp (kilowatt peak) of power and a maximum of 1000 kWp. The facilities must comply with certain characteristics of PCC (DC power at the outlet of the photovoltaic generator) as defined in the Ordinance but which substantially all the manufacturing photovoltaic modules comply.
- 3) The first "energy bill" divided the amount of the incentive into two parts: the first level is for installations of less than 20 kWp entitled to an incentive fee of € 0.445 per kWh of electricity (a plant 1 kWp in central and northern produces about 1200 kWh per year), the second band is for installations of more than 20 kWp entitled to an incentive rate of no less than 0.460 € per kWh produced, in particular plants power over 50 kWp putting the power into the power grid, are entitled to a fee of € 0.490 per kWh produced.

To access the incentive first step was to build the facility and then the GSE (manager of Energy Services) could decide whether or not to grant the incentive.

These data from the First Energy Bill which, as we see tends to increase incentives to large systems by giving them an incentive rate better than small plants.

The second “Energy Bill”

Enter into force by Ministerial Decree of 19/02/2007, just a year after the release of the first Energy Bill. Essentially seeks to balance a bit the picture and give greater certainty to an area where the "discretion" in deciding whether to assign the GSE or less the incentive was acting as a strong deterrent to its development. They were then introduced new power bands, and it turned over the situation giving an incentive per kWh higher for small plants, was also introduced low differentiation in the type of incentive system (integrated plant, semi-integrated, non-integrated).

The criteria were:

- 1) People who can benefit from promotion, as in the previous decree, are a) individuals, b) legal persons; c) the public; d) the condominium units and / or buildings
- 2) The technical requirements that need to have the facilities to access the tariffs do not change substantially. Remains the minimum of 1 kWp of power but is removed the maximum limit (giving the final go-ahead to major investments in PV with plants that also came to the power output of 68 MWp in Veneto)
- 3) Here are the main changes: the incentive rates are broken down by age and by type of facility (integrated, semi or otherwise) and decreased by 2% year on year. Further bonuses are introduced.

Here are the rates:

- For plants 1 to 3 kWp: € 0.40 per kWh for systems not integrated (that is installed on the ground), € 0.44 per kWh produced by semi-integrated plants and 0.49 € per kWh produced by integrated plants in buildings.
- For systems of 3 to 20 kWp: € 0.38 per kWh for systems not integrated (that is installed on the ground), 0.42 € per kWh produced by semi-integrated plants and € 0.46 per kWh for plants built in buildings.
- For systems larger than 20 kWp: € 0.36 per kWh for systems not integrated (that is installed on the ground), 0.40 € per kWh produced by semi-integrated plants and 0.44 € per kWh for systems integrated in buildings .

A bonus of 10% is added to these rates for systems installed on buildings on which they are carried out renovations that reduce energy needs.

Now just send a communication to the GSE within 60 days to ensure the installation's incentive.

According to this Energy Bill is the one that brings in so soaring demand for photovoltaic systems in our country. Very lucrative incentives that are a great investment for families but especially for large investors.

The Third Energy Bill

Enter into force this year, in 2011 and theoretically should be the case until 2013 included (but are already talking about fourth energy bill), was established with the aim of providing a stop to the heavy speculation in recent years when so many acres of lands were destined to become solar farms (much more profitable than crop) and reward those implemented in order to really improve the energy sustainability of a building. The rates are reviewed, there is the introduction of new power bands but also new bonuses. Let's see in detail the characteristics:

- 1) As always, those who can benefit from promotion are a) individuals, b) legal persons; c) the public; d) the condominium units and / or buildings
- 2) In this third decree the technical requirements that must have facilities to access tariffs remain the same with a minimum of 1 kWp of power and no maximum limit.
- 3) Here are the main novelty: three power bands is introduced, and become the only two categories of plants, plant built on buildings and other photovoltaic systems. In addition, the average price decreased by 2% every four. They also introduced new bonus. The fees for the facilities brought into operation by April 30, 2011:
 - For plants 1 to 3 kWp: 0.402 € per kWh for systems on buildings and 0.362 for other PV systems.
 - For systems of 3 to 20 kWp of power: 0.377 € per kWh for systems on buildings and 0.339 for other PV systems.
 - For installations from 20 to 200 kWp power: 0.358 € per kWh for systems on buildings and 0.321 for other PV systems.
 - For installations from 200 to 1000 kWp of power: 0.355 € per kWh for systems on buildings and 0.314 for other PV systems.
 - For installations from 1000 to 5000 kWp of power: 0.351 € per kWh for systems on buildings and 0.313 for other PV systems.
 - For installations of more than 5,000 kWp: 0.333 € per kWh for systems on buildings and 0.237 for other PV systems.

Apart from these bands was introduced the rate for systems with innovative features (ie plants that can replace the roofing continue to carry out his duties) which start from € 0.44 per kWh for plants up to 20 kWp , 0.40 € for systems with up to 200 kWp and 0.37 € for systems over 200 kWp of power.

Bonuses introduced are a lot: remains the bonus for buildings that reduce their energy needs and one of the most important introductions is a bonus of 10% for the systems installed in replacement of asbestos roofing or otherwise containing asbestos.

As you can see this Third Energy Bill seeks to make investment less attractive for photovoltaic systems on the ground and fits substantially lowering the costs of photovoltaic systems.

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Ciao Massimo,

Scusami se ti ho sembrato un po strana ma ero molto molto stanca dopo il viaggio e matrimonio di Jessica.

Adesso sono in ufficio e un po meglio.

T'invio il mio cellulare: 00-31-623561545 - Casa: 00-31-71-3647281.

Mi puoi dire le date ancora una volta.... .

Spero che state tutti bene.... Un abbraccio grande - Rita