Summary

The construction sector is fundamental for the Italian economy. However, because of current uncertainties surrounding both the Italian and global economies, investments trends in the sector have been negative for the past two years, although less so for the residential maintenance/renovations segment which is receiving a boost from incentives aimed at energy saving. This, along with other factors that will be outlined in this report, explains why the trend towards green building in Italy remains positive.

Research reveals that, over the past four years, a few key drivers (legislation, certification, active role of trade associations and green building clusters) have increased the interest and demand for green building products and services in Italy. Currently, best prospects for the Italian green building market include:

- Photovoltaic panels (for domestic use)
- Solar thermal panels for building heating and hot water production
- Insulation products and energy saving systems for residential and industrial applications
- Wood construction
- Geothermal energy for building heating applications

Recently, some Italian trade show organizers have been trying to highlight the “green building” component among the categories of products they feature at their events. A major challenge for green builders in Italy is compliance with the Italian legislation that regulates green building, which is starting to be implemented in a uniform manner at the national level only now.

Market Demand
Construction in general is fundamental for the Italian economy, both in terms of investments and number of employees. In 2007, the sector accounted for 11.1% of Italy’s GDP and 8.4% of the Italian workforce. During the nine years from 1998 to 2007, investments in construction in Italy grew by 29.4%, twice as much as the country’s overall GDP.

However, the growth trend stopped during the second semester of 2008, mainly because of uncertainty surrounding both the Italian and global economies and because of cyclical factors. As a result, the national association of Italian contractors had to revise its estimates for 2008 to reflect a 1.1% decrease in units constructed for the whole year (whereas previously it had forecast modest growth). New residential construction projects and public works (a segment that had been suffering already for a few years) were particularly hard hit, while the trend for residential maintenance (renovation) and nonresidential private construction projects remained positive.

In 2009 overall investments in construction are expected to decrease by 10.9% vs. the previous year. The decrease is expected to be even larger (-19%) for what concerns new residential construction. Renovation activities are also expected to slow down in 2009 (-4.6%). Fortunately, some of the major infrastructural works planned by the Government of Italy are now being started. Also, there is hope that the stimulus plan named “Piano Casa”, which was agreed upon by the Government and the Regions and aims at revitalizing the construction sector by giving for instance homeowners the possibility to enlarge certain buildings up to 20%, will put many of the small contractors, distributors, architects, and building materials manufacturers back to work. For instance, the “Piano Casa” could slightly improve the -10.9% figure quoted above for the decrease in investments in construction for 2009, bringing it “up” to -8.5%.

But it is estimated that only 10% of construction activities generated by “Piano Casa” will take place in 2009, so there is much room for growth in the next few years. It is worth noting that one of the objectives of the “Piano Casa” is to improve the energy efficiency of buildings. In addition to “Piano Casa”, other tax incentives (including those towards the use of energy efficient and renewable sources) are also expected to sustain residential renovation activities. This, along with other factors that will be outlined in this report, explains why the trend towards green building in Italy is still positive.

By way of background, in Italy, discussion of green building issues evolved not in academic and political circles, but rather among architects concerned about the sustainability of an environment whose health is increasingly affected by the choice of building materials. In turn, the architects are trying to promote green building among policymakers. In any case, the debate around green building in Italy only started in the early 1990s, well after the concept had gained a foothold in other European countries, especially the Northern ones. As a consequence, the building sector in Italy lags behind that of other countries for what concerns the awareness of green building issues among sector professionals, the number of green buildings actually erected and the availability of green building materials.
An important step towards the promotion of green building issues in Italy was the publishing in 2004 of a “White Paper on Energy, the Environment and Buildings” jointly by FINCO, the Italian Federation of Building Products and Services Manufacturers (www.fincoweb.org) and ENEA, the Italian Agency for New Technologies, Energy and The Environment (www.enea.it). The publication was sponsored by the Italian Ministry for the Environment. The purpose of the White Paper was to demonstrate the benefit of regulating the energy consumption of buildings. The Paper proved that the combined construction, renovation and management of buildings make up 45% of Italy’s primary energy needs (and it is worth noting that Italy imports 84% of the energy it consumes). The Paper also highlighted how “building envelopes” (i.e. the foundations, roofs, walls, doors and windows of buildings) in Italy generally are usually not energy efficient because of the lack of adequate thermal insulation, especially for those buildings constructed before a 1976 law that set heating guidelines. Therefore, the Paper advocated a number of measures for increasing the energy efficiency of buildings and the use of freely available and renewable energies, including:

- Large scale renewal of the “envelopes” of buildings, both new and existing
- Regulation of summer air conditioning
- Promotion of the use of renewable energies on a larger scale
- Increase in the use of building automation systems.

From our research it seems that in the past four years a few key drivers have increased the interest and demand for green building products and services in Italy, as follows:

1) Legislation and Incentives

Until recently, Italy lacked countrywide legislation and incentives to steer building activities towards sustainability. The only laws at the national level regulating the energy efficiency of buildings were:

- Law 373, from 1976, which regulated the heating process of buildings
- Law 10, from 1991, which regulated the rational use of energy in general, predating the guidelines of a subsequent EU Directive. Unfortunately the law was never fully implemented.
At the same time, certain local (Regional, provincial and town) authorities were autonomously drafting green building legislation and including green building techniques in their regulatory plans. For instance, a 2004 Decree from the Province of Bolzano set the maximum values for the yearly heating consumption needs of new buildings and categorized buildings according to their heating consumption. The neighboring Province of Trento was also an early proponent of green building norms. Almost all of the other Regional incentives for green building and energy saving have only been adopted during the past 5 years, sometimes transposing EU Directives into local legislation before this was done at the national level. Other Regions and Provinces that have been active in drafting local legislation promoting green building are: Calabria, Emilia Romagna, Friuli Venezia Giulia, Molise, Tuscany, Veneto and, most recently, Lazio, Marche and Puglia. As for the types of measures adopted, they range from allowing increases in the volume of buildings, provided that such increases meet energy saving criteria, to granting incentives for the production of energy through renewable sources or solar panels.

The good news is that in recent times the Government of Italy has finally taken more steps to promote energy efficiency and the use of renewable sources in construction at a countrywide level, as follows:

**a) Legislation** on energy efficiency in construction: EU Directive 91/2002, which mandated that starting on January 2006 EU member countries certify the energy consumption of building through rules defined at the national level, was transposed into Italian Law by Law Decree 192/05, which also established the criteria, conditions and means for improving the energy performances of buildings. The Law Decree became effective on 10/8/2005 and established that within a year from that date all new buildings and all existing buildings with surfaces exceeding 1,000 square meters (approx. 10,764 square feet), for which an integral renovation of the elements of the “building envelope” is planned, must possess energy certification. Law Decree 311/06 broadened the scope of Law Decree 192 and, among other things, mandated that for new buildings or in case of installation of new heating systems or of renovation of existing heating systems, the systems must be able to generate at least 50% of the yearly requirements for sanitary hot water through renewable sources; the Decree also mandated the energy certification for existing buildings with surfaces inferior to 1,000 square meters. It should be noted that the Italian Government recently eliminated a requirement within Law Decree 192/05 to attach an energy certificate to the contract when selling or renting whole buildings or single housing units (one theory is that the Government wanted to make sure it could sell or rent more easily its own real estate properties, most of which do not meet the energy performance guidelines established by the Decree). Sector experts are still debating whether this recent decision impacts such regulations implemented by the individual Italian Regions (see more in the “Certification” section of this report). In any case, it is still mandatory to issue an energy certificate for every building to be sold (with very few exceptions), effective July 1st, 2009.

Although the above Law Decrees have not yet been fully executed, noticeable progress has been made recently through a series of Implementing Decrees issued by the Italian Government.
- The first Implementing Decree was issued on April 2, 2009 by the Government and sets the general criteria, the calculation methods and the base requisites for the energy performance of buildings and heating systems and for the systems for hot water production for sanitary uses.

- The second decree was issued on 6/26/2009 and consists of the procedures for the application of energy certification of buildings and includes the “Italian Guidelines for Energy Certification of Buildings”. These became effective on 7/25/2009 and mandate the use of a “green report card” that calls for detailed analyses of the energy performance of a building in the Winter and Summer. The green report card is mandatory in the following cases: sale of a home, building of a new home, total renovation of a home, request of the 55% tax deduction for energy efficient renovation, signing of an energy supply contract on behalf of a condominium.

- A third decree is still missing. That decree is expected to set the criteria for approval of the individuals and organizations that will be allowed to perform energy certification.

On April 1st 2009 the Italian Government and the Italian Regions (which have the ultimate jurisdiction over urban planning) agreed on a stimulus plan, labeled as “Piano Casa” (“House Plan”), aimed at revitalizing the construction sector. Some of the main issues on which the Government and the Regions found an agreement were:

- Possibility to enlarge certain buildings by up to 20%
- Possibility to demolish, rebuild and enlarge certain buildings by up to 30%

It is worth noting that one of the objectives of the House Plan is to improve the energy efficiency of buildings. Again, the means to achieve this latter goal differ among Regions, ranging from very strict measures (e.g. the Region of Piedmont mandates that the enlargement of buildings be accompanied by a 40% reduction in the primary energy consumption needs of a building) to very liberal ones (e.g. in the Region of Veneto the enlargement of buildings is not subject to any energy need reduction requirements).

**b) Incentives** towards the use of energy efficient and renewable sources: the following are available:
- For photovoltaic systems: a measure called “conto energia” rewards electricity produced by homeowners and businesses through photovoltaic panels with a special rate guaranteed for 20 years. In addition to that, users can either sell the excess energy they produce to third parties or feed it to the grid and then withdraw it from the grid when they need it. For all PV systems that will start functioning on or after January 1, 2010, incentive rates will be reduced by 2% (i.e. the Government will pay users less for the energy their PV systems produce). In 2011 further reduction in incentive rates are expected. In any case, depending on when users decide to install a PV system, the incentive rates that are in force at that time will apply to those systems for the next 20 years.

- For solar thermal panels: there is a tax deduction of up to 55% of the expenses incurred in the installation of solar thermal panels, including the expenses incurred for installation-related engineering and masonry works.

- For wind power and all other renewable sources: a special, fixed all-inclusive rate is available for wind power up to 200kW and other renewable energies up to 1MW (excluding photovoltaic).

- For energy efficient renovation: it is possible to deduct 55% of the expenses incurred for the energy efficient renovation of existing buildings, both in their entirety and in their single components. This includes works on the “building envelope” and the substitution of heating systems. There are very precise guidelines for doing this. For energy “re-qualification” for instance, it is necessary to meet certain objectives for the energy performance for the winter heating of buildings, in order to avoid exceeding specific values indicated in Attachment A of a 3/11/08 Decree by the Ministry of Economic Development. Also, for works on the “building envelope” it is necessary to meet the values of thermal transmittance indicated in Attachment B of the above mentioned Decree. Also, for the substitution of heaters for winter time, those heaters have to meet certain energy efficiency parameters indicated in a 2/19/07 Decree, which was later modified by a 10/26/2007 Decree and coordinated with a 4/7/2008 Decree. Also, Law Decree 115/08 allows increases in the volume of buildings, provided that such increases are for energy saving purposes.

- For home appliances: the 2008 budget law allows for incentives for the substitution of home appliances with energy saving models in the amount of 20% of the expenses incurred. Except for what concerns refrigerator upgrades to class A+ and above, the incentives are limited to homeowners who are already performing renovation works and only until 12/31/2009.

- In addition to the above national incentives, certain Regions have also been providing local incentives for energy efficient construction by using EU funds that are destined towards regional development plans (FESR). Such incentives differ in size, scope and time span and they are usually accessible only to companies or individuals based in those Regions.
2) Certification:

Demand is increasing for the following types of mandatory and voluntary certification that, in turn, reward and foster the building of energy saving residential and commercial units:

a) Certification of Building Products (mandatory):

In order to be marketed in Italy, building products must possess the CE mark. This is in accordance with EU Directive 89/106, which was transposed into Italian national law by Presidential Decree 246/93 and other subsequent decrees. It applies to hundreds of building products and calls for a Declaration of Conformity from the manufacturer, placement of the CE Mark on the product and granting of a CECertificate of Conformity from a notified body.

b) Certification of the Energy Efficiency of Buildings (mandatory):

In the Summer of 2009 the Italian Parliament approved the “Italian Guidelines for Energy Certification of Buildings”. These became effective on 7/25/2009 and mandate the use of a “green report card” that calls for detailed analyses of the energy performance of a building in the Winter and Summer. The green report card is mandatory in the following cases: sale of a home, building of a new home, total renovation of a home, request of the 55% tax deduction for energy efficient renovation, signing of an energy supply contract on behalf of a condominium. The average cost of the “green report card” for an average size apartment (100 square meters, i.e. approx 1,076 square feet) is estimated to be 300 Euros, which is not too different from other European countries. As noted previously, the Italian Government recently eliminated a requirement within Law Decree 192/05 to attach an energy certificate to the contract when selling or renting whole buildings or single housing units. Sector and legal professionals are debating whether this recent measure is also valid in those Regions that had already regulated this issue: in the case of Lombardy for instance it has been established that the requirement to attach the energy certificate to the sales contract is still in force and that violators will be fined. In any case, it is still mandatory to draft an energy certificate for every building to be sold (with very few exceptions), effective July 1st, 2009. Also as noted previously, there are still no national criteria for approval of the individuals and organizations that will be allowed to perform energy certification, therefore at the moment there are still noticeable differences among regions in terms of which categories of professionals are allowed to perform energy certification in each region. It is hoped that these inconsistencies will be resolved soon.

c) Other types of certification (voluntary):

- LEED: LEED certification is now available in Italy and is granted by the US Green Building Council, which has a chapter in Italy (www.gbcitalia.com). An example of this is the Porta Nuovareal estate project in Milan, which will obtain the LEED certification. The Milan project is being developed by US firm Hines, jointly with a firm from Bologna named Galotti. It will consist of 356,000 square meters of residential, commercial and office buildings. In particular,
within the project, the first building to obtain LEED certification will be the HQ of the Region of Lombardy, which will have zero emissions thanks to a system of heat pumps that will generate heating and air conditioning from groundwater. The building will also feature solar panels and ventilated walls. The building is expected to consume 37% less energy versus traditional office buildings.

- Casaclima: the local government of the Province of Bolzano, located in Northeastern Italy, and the administrators of the towns located in that Province, have created an agency named Casaclima, whose aim is to encourage the construction of low energy consuming homes through consulting, design and certification services. Since the objective of the agency is to combine environmental best practices and cost saving measures, the project has become very popular among builders and homeowners in the area and has noticeably driven the local demand for homes whose heating consumption needs are below 3 liters of gas oil per square meters per year. “Casaclima” buildings are now being erected in other parts of Italy as well.

“SB 100”: ANAB, the Italian association of architects promoting green building awareness has developed a voluntary certification system based on sustainability parameters that meet the following objectives:

- Limiting the waste of natural resources.
- Paying attention to the quality of the environment and to the health of those who spend most of their time inside buildings.
- Considering the social implications of buildings and how they impact the growth of the community.

The above referenced certification system is called SB100 (which stands for “sustainable buildings with 100 actions). The system includes a list of objectives grouped by themes (bioenvironmental, social, economic, etc.) and lists 100 possible actions to be accomplished in order to reach those objectives. SB 100 also allows for certification of the energy performance of the building in accordance with EU Directive 2002/91/CE.

- “Marchio Bioarchitettura di Qualità energetico ambientale”: INBAR, another non-profit association of professionals, technicians and other experts, grants its own “Marchio Bioarchitettura di Qualità energetico ambientale”, which verifies the achievement of certain energetic and environmental performance levels in the construction of new residential buildings. The aim is to evaluate the impact of a building during its whole life cycle.

- “Sistema edificio”: ICMQ SpA, a well-known certification body that operates mainly in the building sector, offers a comprehensive certification framework for buildings that includes mandatory energy efficiency certification but also other forms of voluntary certification for light, water, acoustic and thermal parameters that contribute to the value of a building.
3) Associations and green building clusters:

In Italy there are both associations of professionals that have been very active in promoting green building topics among the Italian public, as well as a few visible examples of technology districts that group firms involved in green building and of model “zero emissions” residential communities.

- The first Italian association of architects promoting green building awareness, which goes by the name of ANAB (acronym for Associazione Nazionale Architettura Bioecologica), was founded in 1989. ANAB has been particularly active in trying to develop green building guidelines aimed at the public sector. www.anab.it

- INBAR (which stands for Istituto Nazionale di Bioarchitettura) is another non-profit association of professionals, technicians and other experts, which for the past decade has been promoting the awareness, information, and education of future generations of professionals on green building issues. INBAR together with the Italian federation of construction cooperatives has launched a network of construction cooperatives named “La Casa Ecologica”, whose aim is specifically to promote sustainable building. www.bioarchitettura.org

- The Green Building Council now has a chapter in Italy as well (GBCI). It aims to promote sustainable construction in Italy, mainly by granting certification according to U.S. LEED standards. Its 150+ members include several businesses, local administrations, professionals and foundations. GBCI is headquartered within the aforementioned Habitech “Energy-Environment Cluster”, near Trento, in Northern Italy. www.gbcitalia.org

As for technology districts that group firms involved in green building and renewable energies and model “zero emissions” residential communities:

- As noted, Habitech, the “Energy-Environment Cluster”, is located near Trento, in Northern Italy. It owes its existence to an initiative of the local provincial government and is recognized by the Ministry of University and Research. It is based on collaboration between the University of Trento, research laboratories, private companies, and local authorities aimed at creating joint ventures specialized in the following sectors: sustainable construction, production of energy from renewable sources, and intelligent rural and urban planning technologies. The district also houses the headquarters for the Green Building Council in Italy

- The whole town of Angeli di Rosora in the Marche Region in Central Italy, is set to become the first Italian zero emissions community, with a school, a research center and electric vehicles soon to be added to what can be considered the first zero emissions house in Italy. The house was
inaugurated in Angeli in June 2008. The building is three stories high, houses six apartments and was built by Loccioni, an engineering company that is now focusing on energy and environmental issues. The building is known as the “Leaf House” (an acronym for “Life energy and future”) and produces the whole amount of energy that it consumes. Common green building practices were used, such as wall and casing insulation, photovoltaic panels, heat pumps, diaphragm cell electrolysis (to extract hydrogen from water and turn it into electricity for nighttime and overcast days), and collection of rainwater. (The first zero emission non-residential building in Italy instead was completed in July of 2008 in the town of Bolzano. It is built entirely from renewable materials and according to the latest insulation techniques and entirely meets its own energy needs from locally available resources through geothermal and photovoltaic systems).

By Federico Bevini

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