

RATING SYSTEMS IN THE PUBLIC AND FINANCIAL SECTORS

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1 Argomento di riferimento: building rating systems, economy and finance

A modern approach to reducing the environmental impact of buildings tends to involve a broad multi-issue approach, and is usually referred to as a sustainable building model that is the focus of much theoretical and practical activity in both design and performance assessment.

The field of performance rating and labelling is proving to be a very cost-effective way to improve the performance of new and retrofit buildings, since it can induce the industry to raise performance standards. Researchers and government agencies consider performance rating and labelling systems as one of the best methods of moving the marketplace towards a higher level of performance. By means of these systems it is not only possible to assess the energy performance and the use of renewable sources but also the performance with regard to other environmental issues like the water and material consumptions, the solid waste and the effluents, the indoor environmental quality, the quality of service.

Systems that assess the environmental performance of buildings and provide a certification offer an approach that can induce the private sector to raise performance standards and that allows in the same time the public administration to develop effective policies in the field of sustainable building. Consequently, several are the potential users of a building environmental assessment tool: public bodies, investors, customers, designers, construction companies.

Concerning government agencies and public bodies, the availability of a building environmental assessment tool would improve the policies aimed to promote sustainable building. It means that a clear definition of the green building requirements and the possibility to measure the performance would force the construction industry toward a higher level of sustainability. Regulations could be enforced including this tool and financial incentives could be fixed using the assessment tool to grant the green designs. In the market a financial inducement is likely to be effective in an environment where financial return is a primary objective. Using the core elements of a building environmental assessment tool, the government agencies and the public bodies would have a method to control in a objective and complete way the performance of new constructions and refurbishments. The core elements of the assessment tool could be used as part of building codes, regulations, urban plans or as a basis to grant high performance buildings with financial incentives or tax reductions.

The availability of a building environmental assessment tool in the market could allow the investors, real estates purchasers and tenants to choose the higher performance buildings. A building that has undergone a design process that results in a high level of

energy efficiency is likely to be of higher quality, and will have lower operating and maintenance costs. Capital cost and design time increases are modest, and such buildings have been shown to attract desirable tenants. All these factors are very likely to combine to result in a higher long-term asset value.

A significant number of other actors should become users of the assessment tools. These include real estate brokers, major development companies with an interest in high performance; banks, architectural and engineering associations. There is also a growing realization that a major jump in performance levels, at least in market economies, will depend on changes in market demand, and that such change cannot occur until building investors and tenants have access to a relatively simple method that allows them to identify buildings that perform to a higher standard. Engineers and architects can also use the system to predict the environmental performance of their designs, before contract documentation is finalized.

2 The GBC rating system

Green Building Challenge (GBC) is an international process to develop and test a new method of rating the sustainable performance of buildings, and SBTool is the software implementation of the method developed in the process. The GBC process was begun with **Natural Resources Canada**, but in 2002 responsibility was handed over to the **International Initiative for a Sustainable Built Environment (iiSBE)**, an international non-profit organization. In the GBC process, the basic method and software has been developed in consultation with participating national teams, which then modify the generic system to suit their local conditions, and test it on case study buildings. Currently several countries are involved in the process.

The GBTool is a second-generation assessment system; one that is designed from the outset to allow adaptation to the very different priorities, technologies, building traditions and even cultural values that exist in various regions and countries. In order to use the system, national teams must adjust the values and weightings embedded in the system, thereby assuring results that are relevant to local conditions, and then test the assessment system on case study buildings in each country.

SBTool provides approximate assessments of a broad range of potential environmental performance parameters, all related to performance benchmarks that are relevant to the region and building occupancy. GBTool is primarily designed to act as a framework for scoring and weighting, using data that is generated in external models that perform detailed studies or from other similar sources. The final result of the assessment is a score that express the potential environmental performance of the building compared to the minimum acceptable performance for that use and geographic area (benchmark).

One of the most important characteristics of the GBTool is that it is the result of a wide international process, and is designed to be adaptable to specific regional conditions. This means that it is a methodology that could be validly applied in different countries, while maintaining an overall consistency in structure and method. The advantages of having a global standard for building performance assessment are very strong. If meaningful information about performance is to be exchanged between countries, then a uniform definition of performance parameters must be developed, even if the calculation tools providing data on, for example, energy consumption and emissions, vary between

countries. Further, the rapid growth of global corporations, and their desire to work to a recognized international standard, give to SBTool a significant commercial importance in the medium term that could help to move the market toward a better sustainability.

3 Protocollo ITACA

In 2001, a working group on green building was established by ITACA, Federal Association of the Italian Regions. One of the main objective of the association is to promote and disseminate the good practices for the environmental sustainability and to develop common policies. The aim of the working group on green building was to establish an objective set of requirements to define “what is” a green building and to study an evaluation method to measure “how green” a building is. The need was expressed by the Public Administration: to improve the green building practice, through different incentives, it is necessary to fix requirements and a rating system. The ITACA working group was composed by the representatives of the Italian Regions, by Environment Park and iiSBE Italia, .

The working group decided to base the ITACA new rating system on GBTool. The Green Building Challenge (GBC) method and its software tool (GBTool) is a unique rating tool in that it has followed an approach that places gives local authorities the ability to adapt the tool to their own conditions and priorities. In this respect the needs of Italian Regions is similar to the international pressures that led to an adaptable SBTool framework; a necessity to have a tool that could be adapted to regional characteristics. For this purpose, the weight and benchmark approach has proven to be useful. The result has been the “Protocollo ITACA” that has been officially approved by the Conference of the Presidents of the Italian Regions on January 2004. Actually the “Protocollo ITACA” is the reference rating system of the regional authorities in Italy.

As a consequence of these factors, the “Protocollo Itaca” is strongly based on GBTool, with few modifications. It is hierarchically structured in the same way, with Performance Issues, Performance Categories, Performance Criteria, Performance Subcriteria. The weighting system is the same of the GBTool as the scoring system. All performance criteria and sub-criteria are set within performance scales ranging from –1 to +5, where 0 is the minimum acceptable performance in the industry practice. Performance scores refer always to an explicitly declared benchmark. The final result of the application of the protocol is a score ranging from –1 to +5 for the whole building.

4 Economic incentives for SB and Protocollo ITACA

An innovative system based on financial and economic incentives to promote green building has been launched in Italy, involving public institutions, banks and assurance companies. The core of the incentives system is Protocollo ITACA.

Economic incentives are an important mean to encourage stakeholders in the building sector to adopt more sustainable approaches in design, construction and operation

The Protocollo ITACA has an institutional and public value, considering that it is the reference building environmental assessment tool for the Italian regions. Since 2004 the Italian public administrations have at disposal a tool to implement new policies to promote

sustainable building, having the possibility to “measure” in an objective way the environmental quality of buildings.

By means of an agreement with ITACA, iiSBE Italia has taken the responsibility to update and maintain the Protocollo ITACA, acting as scientific support to the association of the Italian regions. In this way it is assured the connection between the national level (Protocollo ITACA) and the international one (Green Building Challenge), fact that gives scientific accreditation to the Italian rating system.

Many Italian Regions have already adopted the Protocollo Itaca (Piemonte, Lombardia, Friuli Venezia Giulia, Marche, Toscana, Basilicata, Calabria, Liguria) for different scopes. The most recent development concern the use of Protocollo ITACA in both public and private funding programs for sustainable building.

A compact and simple version has been developed (12 criteria) for the institutional applications, to facilitate the application of the rating system and its diffusion.

The most important application of Protocollo ITACA is in the framework of the “Social Housing Plan 2006-2012” of the Regione Piemonte.

For the first time in a public funding program, it is mandatory for all the building to reach at least a score of 2 (new construction) or 1 (renovated building). Considering the extra construction costs connected to a better environmental performance, the Region will give an economic incentive of 5.000 euro per apartment. The incentive could be higher in the case of scores superiors to 2 (new constructions) or 1 (renovated building). The “Social Housing Plan 2006-2012” of the Piemonte Region foresee the construction of 10.000 apartments.

The total amount of funds for sustainable buildings is 54.000.000 euro. The total public funds available in the social housing plan is 750.000.000 euro.

A similar approach has been followed by the Marche and Liguria Regions in their Social Housing Plans. Also in this case it is requested a minimum performance to be included in the plan. The funds for sustainable buildings are 20.000.000 euro per region.

On the private side the Intesa San Paolo Group bank (the major bank group in Italy) has launched in January 2007 a new bank product concerning green building, “Aedifica Bioedilizia”. The purpose is to promote sustainable building by means of funds available for construction companies.

Intesa Sanpaolo Group offers preferential rates and conditions reserved to high performance buildings:

- for the company, during the construction stage, euribor 6 months spread range between 0.80 % and 1.75 % on installment rates depending on the rating expressed by the company
- for private purchasers at loan contracting stage: depending on the specific type of loan
- credit check fees amounting to 0.20 % of funding with a minimum 300,00 Euros
- exemption from penalty on installment plan refunds

To obtain the reduction of the interest rate, it is necessary to have the building (that has to be funded) reaching a rating score of at least 2 (for new buildings) or 1 (for renovated buildings) as a result of the application of Protocollo ITACA. If the score is lower, the building is considered not “green” enough to obtain the reduced interest rates from the bank. Should the original eco-sustainability criteria not be complied with, a one-off fee

shall be due, amounting to 0.40 % of the granted loan and all previously refunded installments.

To further improve this approach, the Piemonte Region has stipulated an agreement with the Intesa San Paolo Group and other 6 banks concerning the possibility for users to obtain reduced home loans. In this case the construction company asks for the interest rate reduction in the name of the future tenants. The Protocollo ITACA has to be applied to assess the environmental performance of the buildings that contains the apartments to be funded.

Also the assurance companies have been involved in the incentives system.

The RAS company is now proposing reduced cost for different kind of policies:

- - for builders: construction risk policy and post-built policy;
- - for tenants: fire policy and public liability policy.

The discounted policies can be obtained only by buildings rated by Protocollo ITACA (minimum score of 2 for new constructions and of 1 for renovated buildings).

Considering the role of unique scientific support for ITACA on rating systems, iiSBE Italia will act as certification body in the framework of these funding programs. iiSBE Italia is requested to assess the consistency of the assessments carried out by the construction companies that apply for the interest rate reduction or for the economic incentives.

References

- [1] COLE, R. et al. 2002, *Analysis and summary of GBC 2002*. In Proceedings of Sustainable Buildings 2002, pp.1
- [2] COLE, R. et al. 2002, *GBTool User manual* – www.iisbe.org
- [3] LARSSON, N. 2000, *Green Building: an Overview* – www.iisbe.org
- [4] Protocollo ITACA – www.itaca.org
- [5] MORO, A et al. 2006, *Architettura Urgenza Sostenibilità*. Proceedings, Empirica

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