IRH-MED Guidelines for Innovative Responsible Housing

MEMORANDUM

Innovative Residential Housing for the Mediterranean
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Most of the Med construction market is related to the residential sector, including new building and retrofitting actions. Therefore, the development of a methodology to support and to rate sustainable residential buildings is clearly a priority in the MED space.

In this regard, the main objective of the IRH-Med project during the last two years (2010-2012) has been to design the basis for the future development of an innovative Housing Sustainability Assessment model (HSA), suitable to MED traditions, climate and society. It is expected that the results of the IRH-Med project will affect approximately 16 million dwellings, and more than 28 million inhabitants.

The final project output proposes a common framework for residential buildings sustainability assessment in MED areas that can be used as a basis for the implementation of future regional initiatives.

1. IS A COMMON FRAMEWORK FOR HOUSING SUSTAINABILITY ASSESSMENT IN THE MED SPACE POSSIBLE?

1.1. The IRH-MED process and output

The IRH-Med project has facilitated an open debate and collaborative work between MED experts, regional public authorities and trade support agencies around the definition and implementation of HSA in the MED space.

It has been led by the Agency to support Catalan companies - ACC1Ó - and the Secretariat for Housing and Urban Improvement (Ministry of Town and Country Planning and Sustainability - Government of Catalonia).

Partners were public and private institutions from France, Italy, Greece and Croatia, more specifically:

- France: Association Bâtiments Durables Méditerranéens, PRIDES BDM; Chambre de Commerce et d’Industrie Marseille-Provence;
- Italy: Provincia de Ravenna; Consorzio Nazionale Casaqualita; Regione Sicilia;
- Greece: Centre for Renewable Energy Sources and Saving; Municipality of Rhodes;
- Croatia: Energy Institute Hrvoje-Pozar, EIHP.
The IRH-Med process is based on R&D work (analysis of the current situation, development of an assessment tool, pilot tests of the tool and guidelines preparation), the results of which have been constantly submitted to group discussions. The methodology that has been adopted is summarized in Figure 1.

![Figure 1. IRH-Med process.](image)

These group discussions have allowed the production of progressive outputs and can be considered as a multi-filter system to progress towards the construction of a transnational and shared approach.

Hereby the main output of this process is a common framework for HSA in the MED space. In order to facilitate real market movement towards a better level of sustainability in housing more synergic actions and initiatives in all MED regions and cities will be required.

1. **IS A COMMON FRAMEWORK FOR HOUSING SUSTAINABILITY ASSESSMENT IN THE MED SPACE POSSIBLE?**

MED public and private stakeholders have, with the IRH-Med guidelines, an opportunity to evaluate the sustainability (HSA) of their current investments, housing developments and policies. The real improvement of housing sustainability will ultimately depend on the proposed framework acceptance and implementation in each MED region and city.
1.2. Shared insights among partnership

An analysis of the current situation in terms of conceptual framework, regulations, labels, certification procedures and technologies has been developed, to help build the main results of the IRH-Med project.

One of the important conclusions of this analysis is that residential buildings’ lifecycle cost should also be considered. Considering lifecycle costs of a building allows a deep analysis and balanced approach (comparing costs and benefits) throughout the entire building life.

For the majority of residential buildings, the main aspects of their life have not been registered: their history is, normally, lost. Therefore it is very difficult to avoid mistakes and errors in new buildings or refurbishment. Registering and assessing the entire lifecycle and costs of residential buildings is a good practice usually not developed.

The first lesson learnt from this analysis was that housing sustainability assessment is still a very incipient concept and process, demanding mainstream understanding and acceptance. So a stable consensus still remains to be reached about its definition and implementation.

The IRH-Med project proposes a definition:

“The purpose of sustainability assessments is to gather and report information for decision-making during different phases of the design, construction and use of a building. The sustainability score or profile, based on indicators, results from a process in which the relevant phenomena are identified, analyzed, and valued.”

Four lines of future action to enforce the common framework have been identified by IRH-Med partners:

- The need for a common, clear and practical conceptualization of Housing Sustainability Assessment: a detailed definition would be necessary in order for HSA to become a democratic concept, as well as a widely shared and accepted concept;
- The need for a strong common methodological approach balanced with sufficient flexibility for good adaptation to local conditions: the homogenisation of indicators and calculation methodologies — including regulatory ones — must contribute to the common approach while the weighting system and/or the selection of the requirements enable adaptation to local conditions;
- To seek strong and sustainable agreement with all stakeholders, either public or private: housing sustainability is a complex, manifold concept; its actual implementation requires decision making and the involvement of many actors with competing agendas;
- The need for updated, flexible and compatible models of building sustainability in each country, region and city: to get greater convergence on the legal framework, evaluation units and methods and certification processes, might require an EU Directive related to sustainable building.
The IRH-Med Guidelines are a helpful tool to develop a common framework for residential buildings sustainability assessment in the MED space.

2.1. Why is it interesting?

Four main typologies of benefits can be generated through the IRH-MED Guidelines use:

- Prevent “green washing” (false or exaggerated claims) and use of inadequate assessment tools for MED identity;
- Promote whole-building, integrated design processes and affordable housing;
- Define “sustainable housing” by providing a basis for measurement in MED area.

2.2. Use for the main target groups

The IRH-MED contribution gives local and regional public authorities a preliminary model that can be used as a sound and solid basis for starting the detailed formulation phase, during which housing promoters, designers, managers and users should be involved, in order to reach regional start up agreements.

2.3. For what was it created?

The IRH-MED guidelines were created to facilitate housing sustainability assessment. Two main versions can be developed: the first one related to new housing construction projects (single/multifamily buildings) and the second one in relation with housing renovation projects.
3. THE IRH-MED HOUSING SUSTAINABILITY ASSESSMENT SCHEME

3.1. Structure proposed

The proposal of IRH-MED partners is simple, adaptable and with a flexible structure to local needs and innovation. It includes seven assessment areas subdivided in thirty six criteria and one hundred and twenty eight indicators, as referred in Figure 2 below.

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**Figure 2. IRH-Med structure.**
Two important assumptions have been agreed by the IRH-MED consortium:

- The energy consumption and the associated CO2 eq are the criteria with major weighting in all labels (25-40%). This reflects the dominant understanding of housing sustainability, often mainly focused on energy conservation. This may be far from owners’ and users’ concerns which undoubtedly will also consider health, comfort and other social dimensions.

- Each national or regional official scheme will need specialized adaptation in order to integrate the sustainability assessment scheme. A 100 points scale is considered; 50% of the assessment value should go for resources (materials, energy and water). The system can include one bonus point for each area (innovation) and compulsory measures. But at the end each MED region or municipality may change or adapt the general proposed scheme to their specific conditions.

3.2. How to measure housing sustainability?
The IRH-Med project has concluded that the right level for efficient and reactive decision making, regarding the development and management of a sustainable building assessment tool is regional, as long as it is also inter-professional.

The regional level enables local institutions and professionals, involved in housing building and management, to program, implement, manage and evaluate their own Region’s sustainable projects with quick response capacity. This is consistent with the EU rules about subsidiarity (article 3B of the Maastricht treaty).

Beyond the general framework agreed upon for the IRH-Med assessment scheme, many other decisions need to be made in order to effectively implement it. This means that some governance issues have also to be addressed.

As we may expect that the IRH-Med assessment scheme will be closely linked with issues like eco-conditionality, investments in public buildings, ruling and promulgating laws, some strategic questions must be answered so as to give it a firm legal base, wide approval and market effectiveness.

4.1. Principles of Governing

The governing bodies must be based upon the following principles:

a. Development, management and updating by the professionals of each region, who are to integrate the economic, social, ecological, cultural, climatic and other relevant aspects of their Region which is the most coherent politico-economic level.

b. Composition of the regional committee or committees, which must be strictly guarantors of being representative of the whole building sector.

c. Obligation to follow-up the projects on at least 3 stages:
   1. Design and, if possible, upstream programming;
   2. Construction;
   3. Building life (after 2 years of operation at least, the first months being often not representative of what really happens in the long term).

These principles are resumed in the following Figure 3.
4.2. Stakeholders involvement

Any assessment system cannot operate without stakeholders’ involvement. This is a common basis for many standardization and certification systems (link with the greek study). One reason for this is that an assessment is often considered to be a judgement in some ways. And if there is a judgement, there is a need for a legitimate judging process and judge.

This legitimacy should be sought for by the initiator of the assessment system and a good way to do so, as sustainability in building is an interprofessional process, is to make sure that all the different stakeholders contribute to the implementation and management of it. In the building industry, four types of stakeholders can be identified:

- project owners (either public or private);
- project designers and managers, including engineering companies and other technical advisors;
- building construction companies;
- users.

Because they may also be involved in the marketing of the assessment system, other stakeholders could be added to the previous ones:

- local authorities that may change their requirements/policies so as to favour sustainable projects;
- banks involved in financing sustainable buildings;
- insurance companies dealing with professional and with building insurance.

These groups of stakeholders may be represented either collectively, or individually. The collective representation of professionals is usually done through syndicates or unions whose delegates may often be salaried employees (instead of overbooked elected representatives of the professionals). This is why we recommend that actual professionals also sit in the steering committee of the assessment systems, so as to bring their invaluable field experience.

Association Bâtiments Durables Méditerranéens

**COMPOSITION OF THE BOARD**

There are 27 members:

- 12 are direct members
- 9 are professional organizations
- 6 are members of a sustainable building association.

This last group enables a good balance between the two other ones.

The projects evaluation commission is composed by 5 members of the board and 10 direct members of the association, all elected for one year. Its meetings are public and anyone can attend them.
5. MAIN STEPS FOR IMPLEMENTATION IN MED REGIONS

5.1. Proposed steps

In order to develop and implement this approach in MED Regions several steps can be considered, as it is shown in Figure 4:

**ANALYSIS**
Overview of rules and real experience in sustainable housing assessment

**Decision**
Creation of the Housing Sustainability Assessment

**Adaptation**
Adapt the IRH MED Assessment scheme to regional specificities

**Legalization**
Modification of the regional legal framework

**Implementation**
Constitution of the Regional Committee

Figure 4. Steps for implementation in the MED region.
5.2. How to analyse the regional context?

Within the IRH-Med project, an Integrated Transnational Benchmark Analysis (http://www.irh-med.eu/pdf/integrated-transnational-benchmark-study.pdf) has been elaborated, including the legislations and labels related to sustainable housing assessment schemes operating in the MED EU area. Such analysis could be very useful for regions that aim to have a clear knowledge of their own current situation.

However the main questions to consider in this review are:

- Which are the current regional regulations related to HSA?
- Which labels are operating more widely in housing?

5.3. Taking the first decision

After analysing the current regional situation, regional stakeholders should agree to start the process of creating the HSA system in their region. This first decision is very important and needs a first proposal and a first consensus over this proposal.

Normally the competent Regional Public Administration considering the public interest could elaborate the first proposal in order to reach a first consensus. The first proposal should contain at minimum several aspects:

- **Identification of actors** to be involved in the process (at minimum representation of public and private owners, project managers, building companies, final users should be considered);
- **Assessment phases proposal**: Architectural concept, Design stage, Construction stage, Building life;
- **Assessment Scheme pre-definition**: Structure (Areas and criteria) and rating system (mandatory criteria, weighting by area and by criteria);
- **Procedures**: Relation with promoter, relation with manager, relation with other procedures;
- **Organization**: Role and position of the stakeholders, committees, working groups, etc.

The process to reach the first decision/agreement will be focused on the stakeholders’ debate over the first proposal in order to reach a consensus in actors, phases, assessment scheme, procedures and organization.
5.4. Adapting the IRH-MED Scheme to regional specificities

One of the most important tasks to develop after the initial decision is the definition and adaptation of the IRH-MED scheme for HSA to regional specificities. Two main questions should be answered:

- **Which changes in IRH-MED structure?** Changes in the name of the areas, review of main criteria. A wide range of environmental parameters and criteria have been incorporated within the proposed IRH-MED structure, with the aim to address a number of aspects related to the environmental impact from Mediterranean housing. However, where additional regional/local issues exist which are thought to be important to consider within a sustainability assessment, then these may be incorporated within the IRH-MED regionally adapted system. When considering the headings of areas and criteria, integration with regional regulations/policies and their requirements should also be considered.

- **How to specify the weighting system?** Mandatory criteria, weighting of areas and criteria, final rating system. The adaptation of the areas/criteria weightings to the regional specificities should take into account the importance of the different environmental issues within each regional context and the priorities in terms of achieving environmental targets. For example for a particular region, the scarcity of water resources and the prolonged drought periods may be a more significant issue than in another region. Therefore the water-related aspects within the IRH-Med system may be given a higher priority by increasing the relevant areas/criteria weightings, so as to promote housing developments which favour water conservation.

5.5. Modifying the legal framework

When all the five main aspects (actors, phases, scheme, procedures and organization) have been agreed by all the regional stakeholders involved, normally the regional legal framework should be modified or adapted to establish the new rules. All actors should be involved in this modification process however competent public authorities should lead the process.

One of the main characteristics of the modified regulation should be the flexibility. Normally the sustainability criteria and indicators can be adapted progressively because as said before housing sustainability is a concept in evolution.
5.6. Main aspects of the implementation phase

After the effective modification of the regional legal framework, stakeholders involved should start the implementation phase. Three main aspects could be considered in this phase: marketing, responsibilities and accreditation.

In relation with marketing, keep in mind a few tips:

- playful systems are more successful than boring ones,
- down to the earth systems are easier to implement than abstract ones,
- make things happen rather than only make plans,
- collective emulation can be more effective than bore some certification,
- collective intelligence is more efficient than individual technical solutions.

Responsibilities and roles of different stakeholders is an aspect for implementation. The role of the competent public authority can vary depending on the region. For example for BDM (http://www.polebdm.eu) the competent authority does not have a direct role in the assessment committee. However in other cases such as ITACA (http://www.itaca.org/valutazione_sostenibilita.asp) and Minergie-Eko (http://www.minergie.com) the competent regional authority has participated actively in the label development.

The official accreditation of the assessment committee is another very important aspect especially considering costs but also considering the official value of the final certificate obtained by each promoter.
Finally the decision to develop a scheme of HSA in the MED regions depends on manifold variables and possibilities but, in general, an increase in the sustainability of new and existing housing is a strategic and win-win issue: why?

First of all for owners, incorporating HSA schemes in the MED space is a structured and strong answer to the progressive loss of value of the constructed heritage. The Mediterranean housing stock was constructed before 1980, with low performance levels in the majority of sustainability criteria included in the IRH-Med scheme. Considering also the low rates of refurbishment (more than 60 years in the Mediterranean) the economic value of MED housing stock has a negative trend. The only form to recuperate value, in the current context, is increasing their levels of sustainability.

Secondly for professionals, the development of HSA schemes in the MED space is a significant opportunity to create new jobs and to develop professional skills in something interesting for all.

In third place, users will also greatly benefit from the development of HSA schemes, especially increasing their own comfort and health conditions, but also through innovative social and cultural initiatives development.

Finally, for public administration, it is imperative to improve the social, environmental and economic conditions of housing and living conditions of citizens. To establish a common, clear, practical and feasible HSA Scheme is a key step in the progress towards a more equilibrated and efficient society.
This activity has received funding from the ERDF through the Med programme