

CESBA MED - Sustainable MED Cities

CESBA MED Guide

October 2019 - Version 3



CESBA MED - Sustainable MED Cities

The objective of the CESBA MED Guide (deliverable 5.3.2) is to become a methodological guide with specific recommendations to facilitate the implementation of the results of the CESBA MED project in policies, plans and regulations for the improvement of sustainability in the built environment.

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Part 1: Introduction and overview

1.1. Foreword

The CESBA MED Guide is an output of the project entitled ‘CESBA MED - Sustainable MED Cities Project’ developed under the Interreg Mediterranean programme and co-financed by the European Regional Development Fund (ERDF). The project aims at developing and testing a common and harmonised sustainability assessment framework at building and urban scales.

The overall objective of the CESBA MED project, which is described in this Guide, is to reinforce the capacities of public administrations through the provision of a CESBA MED transnational methodology and tools to optimise sustainability planning measures in the built environment.

The production of this guide has been the result of the activities developed during the project implementation between 2016 and 2019, the discussions held by the project partners, and the feedback received by the Co-creation workshops and the Local Committees organised in each of the nine participant territories.

The concept and practice of sustainability in urban planning have since the early 2000s gained global significance and become increasingly mainstream in policy-making. In Europe, the use of voluntary schemes, certificates and labels (BREEAM, HQE, BDM, DGNB, Protocollo ITACA, VERDE, GBTOOL, DISTINTIU, LEED, Green, etc.) to assess and certify sustainable practices at building scale is raising. But, the use of such instruments at urban scale is today still fairly limited (Protocollo ITACA, Quartiers Durables Méditerranéens). For this purpose, CESBA MED has brought together information from a number of transnational projects and public assessment systems to develop a harmonised assessment methodology and tools to measure monitor and compare the sustainability of the urban environment across the Mediterranean region.

Common European Sustainable Built Environment Assessment CESBA is a movement that was triggered by the finding of European actors in 2011 that the current profusion of sustainable building assessment systems will not lead the built environment of Europe towards sustainability.

The CESBA MED Guide advocates for a new culture of the built environment in Europe. As a living document, it will be continuously enhanced and adapted to the changing conditions as the network of experts, and projects working on it, will grow. All the ongoing results will be continuously published on the CESBA Wiki (<http://wiki.cesba.eu/>). This wiki is the reference point for CESBA newcomers and experts where all the model assessments carried out in the project together with the study books are available for perusal and comments.

The EU goals to reduce greenhouse gas emissions and to adopt sustainability principles in the development of urban practices is a common obligation. As we join forces devoting our knowledge and time to finding new solutions and strategies together, we will get faster to our

common objective. The aims are so ambitious that it is impossible to reach all the planned results solely within a 3-year-long period of a project implementation. Hence, the CESBA initiative and the project partners will continue to pursue the consolidation of the project results, through a wide panel of experts and other running projects that have been established and that will be promoted further.

1.2. Guide credits

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Access to CESBA MED deliverable database:

<https://cesba-med.interreg-med.eu>

www.cesba.eu<https://cesba-med.interreg-med.eu>

www.cesba.eu

1.3. Who is it for and how to use this guide

The CESBA MED Guide represents a key component of the CESBA MED project, as it is crucial to ensure the correct use of the CESBA MED tools and methodology by the main target groups and its widest transfer across the Mediterranean area.

The CESBA MED Guide is a methodological document whose main objective is to facilitate the implementation of the results of the CESBA MED project, thus guaranteeing their durability, in policies, plans and regulations for the improvement of sustainability in the built environment. It aims to support public administrations in the definition of the best sustainability scenarios for small urban areas and buildings in the context of their urban environment.

This guide is not only addressed to technical professionals and managers that work in the urban environment field (SMEs technicians, urban planners, public officers, etc.), but also to other target groups (academics and researchers, decision-makers, urban promoters, etc.) interested in sustainable urban development practices. By using this document, the reader will learn how to use the CESBA methodology and tools, both in terms of technical and functional and operational aspects.

The CESBA MED guide, which has been developed in 6 languages, is a useful resource for the sustainable management of building stocks, for the formulation, revision and assessment of public policies related to the urban environment, and for the inclusion of sustainability principles in urban design and planning.

The CESBA MED methodology and tools are suitable and applicable to both existing and new urban areas. They include all stages of the life cycle, and support the planning of activities of the whole urban cycle, from definition of targets to the check-up of results for urban areas. As a multi-scale methodology, CESBA MED is an assessment framework that has been specifically designed for the building scale in the context of its surrounding area, the neighbourhood. But, adequately contextualized, and with the right information and data in place, it allows the measurement of sustainability performance of districts as well as small urban areas.

1.4. Executive Summary

a. Introduction

Local sustainability and energy efficiency measures at urban level are crucial to support the much-needed ecological and low-carbon transition in Europe. The Sustainable Development Goals and the Paris Agreement on Climate Change provide a framework and roadmap for long-term city planning and an opportunity to help cities target their urban development priorities, including how they work with the private sector, civil society, and other stakeholders in their communities. To achieve the objectives set in the global agenda, we need to untap the potential of improvement that lies in existing residential buildings and urban areas.

The building and housing sector accounts for 42% of Europe's final energy, 30% of the water consumption, 35% of the waste generation, half of all extracted materials and 36% of the carbon emissions (COM(2014) 445 final). The majority of the building stock in the residential segments has a very low energy performance level. Around 75% of the existing EU building stock was built when there were minimal or no energy and sustainability-related building codes. The majority of these buildings (up to 90%) will still be in use until 2050, year in which the EU envisions to become climate neutral.

In Europe, the building sector has become one of the most important sectors with respect to energy and resource efficiency policies, as well as the most challenging one given the complexity of aspects that play a role (economic, technical, environmental, social, etc.) and the number of existing linkages with other sectors (urban planning, mobility, waste management, water supply, etc.).

Recently, with the adoption of the Urban Agenda of the EU, the European Union recognizes the importance of involving cities more closely at all stages of the preparation of relevant policies, as well as in improving the impact of EU funds and EU regulations at the local level so that the EU can respond more effectively to the changes that towns and cities are undergoing. Bringing together the building, the housing, and the urban sectors will be key to ensure the progress towards a more sustainable built environment in our region.

b. Why do we need a Common Framework for Sustainable Built Environment Assessment in Europe?

Over the past few years, the European Union has recognized the importance developing a common EU framework of core indicators for the environmental performance of buildings and released the Communication on Resource Efficiency Opportunities in the Building Sector (COM(2014)445). This Communication identified the need for a common European approach

to assess the environmental performance of buildings throughout their lifecycle, taking into account the use of resources such as energy, materials and water.

A number of projects and other public or commercial programs and initiatives have surged in recent years, proposing different methods, tools and indicators. However, these are mainly following a building scale approach, which is not optimal in reaching significant and cost-effective improvements and do not fully exploit the potential for synergies that groups of buildings might offer.

The implementation of energy and sustainability measures at a broader scale (i.e. district heating, photovoltaic installations, etc.) are clearly showing that a neighbourhood level is a more effective approach to scale up results and secure the fulfilment of the European commitments on urban sustainability, energy and climate change. Therefore, sustainability measures and their implementation at district level allow to reach significant and cost-effective improvements compared to a building scale approach.

The adoption of an urban scale approach is frequently the most efficient one to address:

- synergies among buildings
- exploitation of wasted energy, water and other resources
- efficient use of renewable energy sources and cogeneration systems
- mobility and waste management
- achieve economies of scale

But, decision making at urban scale is usually challenging, given its high level of complexity, the large number of stakeholders involved, the complexity of the value chain and the number of variables that play a role (mobility and transport, energy generation and consumption, water supply and consumption, waste generation, air quality, etc.).

Responding to the Communication from the European Commission which defines the harmonisation of building assessment systems (COM 2014-445) as a crucial strategy in the Roadmap to a Resource Efficient Europe (COM 2011-571) and to the Urban Agenda of the EU, CESBA MED has been working on contextualization, in other words to adapt the assessment methodology and the performance indicators to the specific conditions of each local context.

c. What is CESBA MED? Objectives, Vision and Mission

The CESBA MED project is the result of the collaboration between 12 partners from 7 countries in the Mediterranean region. The project has been developed in the context of the CESBA initiative (Common European Sustainable Built Environment Assessment), launched in 2011. CESBA is a collective bottom-up initiative that provides knowledge on harmonised built environment assessment in the Europe.

CESBA MED main objective is to develop a common method for assessing the sustainable development of the built environment in the Mediterranean region.

To achieve this main goal, CESBA MED has worked during the period 2016-2019 to fulfil the following specific objectives:

- To reinforce the capacities of public administrations through the provision of a CESBA MED transnational methodology and set of tools, coming from the capitalization of several EU projects, able to optimise sustainability planning measures combining the building and urban scale.
- To develop an innovative decision-making model to support the definition and implementation of actions targeted to improve the sustainability of buildings in the context of their urban areas.
- To transfer the CESBA MED methodology and tools through training courses, seminars, workshops and publications.

CESBA MED tested previous EU projects supporting the development of energy efficiency plans for public buildings in the context of their urban areas. These previous EU projects are: CLUE (Interreg IV C), CAT MED (Interreg MED), CABEE (ASP), FASUDIR (FP7), EPISCOPE (IEE), ENERBUILD (ASP), CEC5 (Central Europe), IRH MED (Interreg MED), OpenHouse (FP7) and Superbuildings (FP7).

CESBA MED builds on the work undertaken by CESBA. CESBA envisions an Europe where a high quality living in a sustainable built environment is the common standard practice. To achieve this vision, CESBA's mission is to facilitate the diffusion and adoption of sustainable built environment principles among all the stakeholders of the building sector through the use of harmonized assessment systems in the whole life cycle of the built environment.

CESBA Nine Principles

1. The user first!
2. Sustainability
3. Regional contextualization
4. Comparability
5. Mass-oriented
6. Simple to use
7. Open source
8. Co-creation
9. Transparency

CESBA is a meeting point between top-down and bottom-up approaches. But CESBA is more than the assessment of sustainable buildings; it is also a process towards new building and neighbourhood standards in Europe.

d. CESBA MED contributions to building a sustainable urban environment

CESBA MED helps public administrations reinforce their capacities by developing an innovative decision making model, and affordable and operational solutions for the development of energy efficiency and sustainability plans at neighbourhood scale.

The main contributions of the CESBA MED project are:

Capitalization of existing knowledge: As mentioned, CESBA MED has exploited the results from the previous EU projects. This knowledge supports the development of sustainability plans for buildings and neighbourhoods. Next, the project identified the most appropriate and suitable assessment criteria and methodology for the Mediterranean region at building and neighbourhood scales focused specially on the built environment.

Development of the CESBA Tool: based on the evaluation of the test results of several EU projects' outcomes, a general framework and 8 contextualized assessment tools (CESBA SBTool and SNTTool) have been developed together with an application methodology. The tools are intended to support decision-makers and the managers of public building stocks in the implementation of sustainability retrofitting plans combining the building and the urban scale.

Development of the CESBA MED Passport: a set of common criteria, indicators and metrics to allow the comparison of the performance reached by buildings and urban areas in the different Mediterranean regions, and a common way to display the results have been identified.

Development of a Training System: a training system for transferring the CESBA MED tools and methodology to the main target groups has been developed, tested and validated. The Training system is basically targeted to tools users (technical profile) and decision-makers (political, management profile). The system includes programs, training materials and an e-learning platform.

Establishment of a CESBA MED Neighbourhood Award: to communicate on the CESBA MED methodology and promote regional retrofit projects, the CESBA MED Neighbourhood Award has been created to showcase and acknowledge best practices of good neighbourhood developments. The Award is a European section of the Global Urban Challenge 2020 of the Sustainable Built Environment (SBE) series.

e. CESBA MED learnings and conclusions

The CESBA MED methodology and tools have been piloted and implemented in 9 different urban contexts in 7 countries from the Mediterranean region. After reviewing the results of the application, several learnings and conclusions can be drawn:

- Using harmonised assessment systems fosters the reach of greater sustainability standards in the built environment. These systems facilitate the adequate measurement of sustainability performance, allowing regular monitoring and proper comparability of results against other scenarios and/or urban areas.
- Having access to reliable data and information is essential to adequately assess the sustainability performance of the urban environment. Ensuring regular access to data and information allows the adoption of good monitoring practices, resulting in better policy formulation and implementation.
- Using the neighbourhood scale is optimal to reach significant and cost-effective sustainability improvements. Between the building and the district scales, neighbourhoods allow the full exploitation of the existing potential synergies between the different urban scales.
- Each urban area has its own unique characteristics. For this reason, it is important to use disaggregated data and information and assessment systems that can be well adapted to the specific contexts, needs and priorities of the areas to be assessed.
- Consulting, discussing and involving citizens in the assessment of the built environment is key to ensure that local knowledge and priorities are adequately considered and integrated. This ensures an adequate adaptation of the assessment process to the local conditions.

Part 2: Method, tools and resources

2.1 Introduction

This section starts describing the key steps of the CESBA MED model of decision-making process. This model is intended to support public administrations in the definition of the best sustainability retrofit concept for:

- urban areas, districts, neighbourhoods (fewer than 50.000 inhabitants)
- public and other buildings for housing and no-residential uses

The process is based on the use of multicriteria assessment tools – Sustainable Neighbourhood Tool (SBTool, urban scale) and Sustainable Building Tool (SNTTool, building scale) developed by the CESBA MED project that will provide the necessary information to optimize the decision-making process.

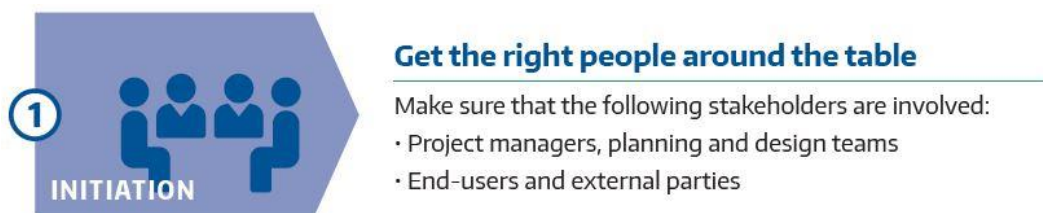
This process is articulated in the following six phases:

1. Initiation
2. Contextualisation
3. Assessment
4. Strategic definition
5. Decision making
6. Retrofitting concept

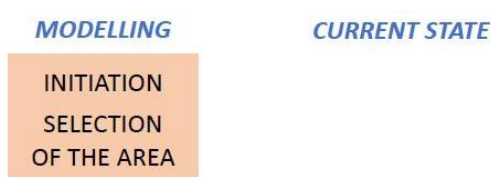
This part of the guide continues with the CESBA MED Passport, a transnational document that allows the comparison of results against potential retrofitting scenarios, or against the performance of other Mediterranean areas. The Passport is currently available in two versions: one for buildings and another one for neighbourhoods.

The last part explains the CESBA MED Wiki made by the partners of the project with useful information ordered in sections dedicated to the summary, partners, work packages, pilot regions, results, social media, project communication, project event reports, CESBA quiz and newsletters. And finally presents the CESBA SN Training courses and specific training programs for different users, including an e-learning platform and tailored training materials.

2.2. The CESBA MED decision-making process



Advance in the decision-making process



Selection of an urban area and the public buildings

Each project must select an existing small urban area and the buildings that are included in the area. It is necessary to set clearly the physical boundaries of the urban area and to decide which of the surrounding infrastructures are of relevance (e.g. district heating).

Physical boundaries of the urban area may be derived using the following criteria:

- geographical proximity
- property ownership
- occupier characteristics
- social and economic context
- legal /administrative boundary lines
- period of construction
- energy supply infrastructure

The urban area can have a neighborhood or cluster size and the recommended parameters for a neighborhood size are:

- square with a 200 – 800 m size
- can be crossed in 10 - 15 min walk
- between 200 and to 1.500 inhabitants

The reference parameters for a block/cluster size are:

- between 5 to 30 buildings
- traditional composition: few buildings (adjacent, separated forming a block, et.), with or without an internal courtyard

The relevant stakeholders that can have an influence on the project have to be identified. All involved stakeholders in the district retrofitting project shall be grouped into the main roles. For instance:

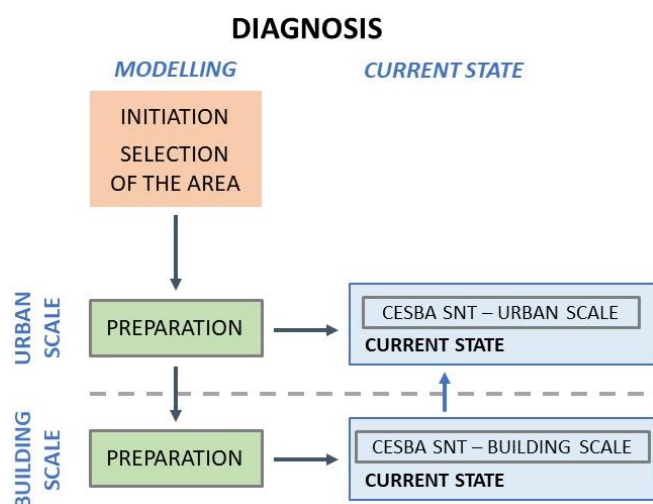
- project manager/coordinator (e.g. the responsible for the study)
- planning and design team (urban planners, municipality, architects, engineers, etc.)
- end-user (e.g. inhabitants, occupants)
- external parties (e.g. banks, neighbors)



Adapt the CESBA MED tools to your specific context

- Contextualize the CESBA MED tools by prioritizing criteria
- Find accurate information sources for the selected criteria

Advance in the decision-making process



This phase is the beginning of each urban retrofitting concept development and must provide the necessary information to create enough working basis for the use of the decision-making methodology.

CESBA MED Generic Framework contextualization

The first step consists in the contextualization of the CESBA MED Generic Framework to produce the local SNTool and SBTool. It consists in the selection of the active indicators, the weights setting for issues, categories and criteria and the benchmarks setting for each active indicator.

In the generic framework “CESBA MED GF-U” (urban scale) each project:

- selects the active indicator

- establishes the benchmarks taking in the account the city's context for each active indicator
- assigns the priority factor to the issues according to its specific ranking

In the SNTTool file (urban scale) each project should:

- deselect the indicator that is not applicable to the specific urban area
- adjusts the weight of the single criteria on the base of the local context
- adjusts the benchmarks on the base of the specific context

In the generic framework file SBTool A (building scale) each project:

- selects the active criteria
- establishes the benchmarks for each active criterion
- assigns the priority factor to the issues

Information sources identification

The assessment method associated to each indicator of CESBA MED SNTTool and SBTool requires specific information and data. It is necessary to identify, preliminary to the assessment activities, the sources of this information.

High quality and significance of the retrofitting concept can only be achieved if it is planned on a solid database. Collecting the information together from several data providers is comparable with putting together a puzzle and needs a structured process to be followed.

All projects shall define all needed data at building and urban level for the assessment activities. Potential data providers, data sources and most promising strategies must be identified to gather all the needed data

The use of software tools (GIS, energy simulation, cloud-based applications) may accelerate the collection and processing of the data collection process significantly.

Main data providers for district projects may be as followed:

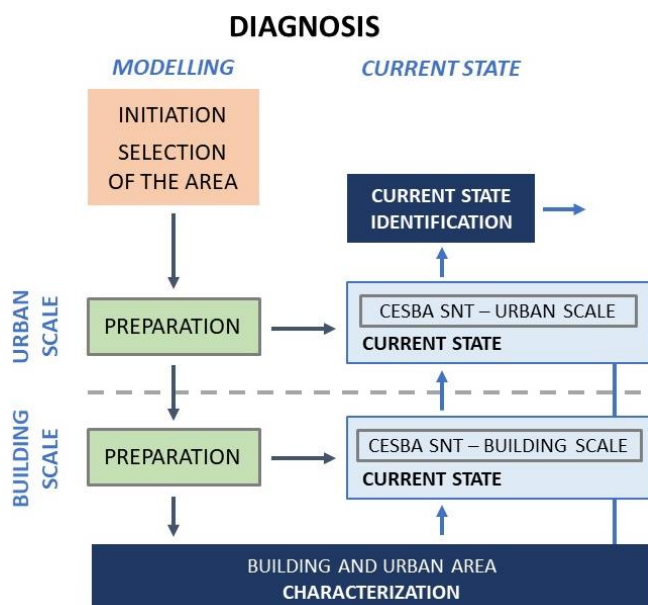
- administrative bodies of the municipalities and federal states (e.g. Building authorities, land surveying office, etc.)
- building owners
- building tenants
- existing energy performance certificates
- building technical inspection certificates
- energy supplying companies
- publicly accessible free source (e.g. Google Earth, Open Street Map)
- on-site inspection by the planners
- default data sources and databases (databases from R&D projects, etc.)



Evaluate the level of sustainability of your building or your urban area

- Get the current picture of your building or your urban area using the contextualized Sustainable Neighbourhood (SN) tool

Advance in the decision-making process



The assessment phase consists in the evaluation of the current performance and relative level of sustainability of the pilot urban area and the buildings by the SNT tool and SBTool. The objective of the diagnosis is to:

- set the basis for the definition of the performance targets for the retrofitting project of the urban area and public buildings
- identify the strengths and key weaknesses of the whole urban area and public buildings in terms of sustainability
- explore the potentials for renewable energies, rainwater, mobility optimization, etc.
- analyse and evaluate the energy, water, waste, communication, green spaces etc. infrastructure as well as existing synergies and interactions between buildings within the district or heating demand density map, including connected heat density, district heat load profiles, duration curves, hours of operation, district electricity load profile and district electricity balance

The CESBA MED Committees (local organizations working in the project and its continuity) or local technicians should be involved by having access to the results of the diagnosis phase. Especially, the municipalities as well as the owners and tenants will participate in this phase.

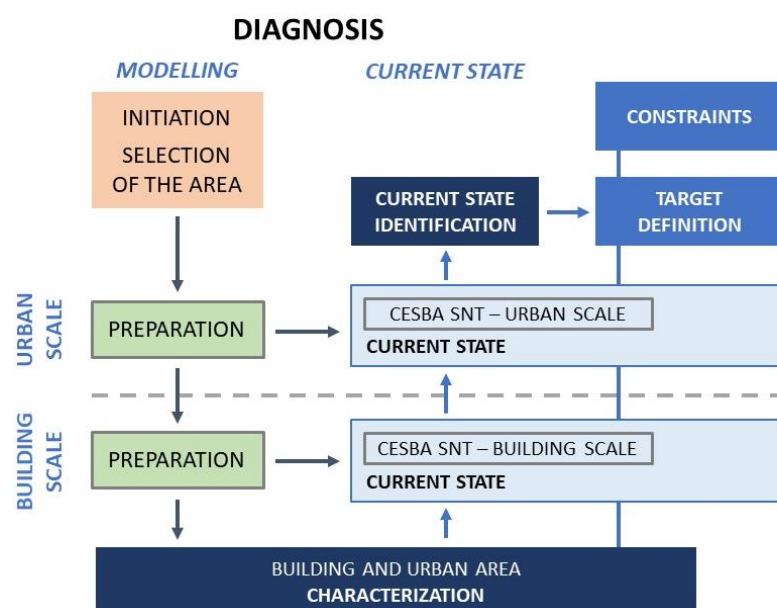
At urban level the information provided by the assessment systems allows to develop a SWOT analysis (identify its strengths, weaknesses, available opportunities, and possible threats).



Identify constraints and set targets

- List global and local constraints
- Set ambitious but achievable targets for each selected indicator

Advance in the decision-making process



The strategic definition phase is articulated in two steps: setting targets and setting constraints and restrictions. In the first one, following the diagnosis' outcomes, the performance targets for the urban area and the chosen buildings retrofitting projects are defined. In the second one, the constraints that could limit the range of possible retrofit strategies are identified.

Setting targets

Before starting to create a sustainability retrofitting scenario for the urban area and the buildings it is necessary to define clear and measurable targets that should be achieved by the retrofitting concept. Targets must address all fields of sustainability like environment, economy and social aspects.

Environmental targets may address the following fields:

- improve the energy performance
- reduce Green House Gas emissions
- increase the share of renewable energies used in the district

- foster the use of sustainable materials
- reduce soil sealing and increase available green spaces

Social targets may address the following fields:

- avoid gentrification caused by energy retrofitting of buildings
- improve district surroundings (green spaces, accessibility, heat island)
- improve transport infrastructure and mobility
- support participation and local activities (vs “dormitory” district)
- improve safety and security

Economic targets may address the following fields:

- increase the return on investment
- minimize the payback period
- fostering value conservation
- increase in property value

Targets need to be S.M.A.R.T. which means: Specific, clearly defined (as much as possible); Measurable, quantifiable; Attainable, realistic and achievable; Relevant, for retrofitting; Time-bound, referring when the result(s) can be achieved.

To get a clear direction in which the sustainability retrofitting projects for the urban area and the buildings should be developed, the target issues must be transformed into measurable performance targets. This means that each assessment team must establish a target value for each indicator in its SNTTool and SBTTool to reflect their environmental, social and economic objectives.

Setting constraints and restrictions

The main constraints that occur in district and building sustainability retrofitting project are:

- legal constraints (e.g. building codes, cultural heritage protection)
- technical (e.g. architecture, building or facility systems)
- financial (e.g. investment cost, ROI)
- environmental condition (e.g. climate conditions, district morphology)
- stakeholder based restrictions

Legal constraints may give restrictions to many retrofitting technologies that available on the market. For instance, keeping the cultural value of the buildings and districts could be a restriction that will not allow the achievement of improvements to insulation of the building envelope or to installations of photovoltaics. But in theory could be technically feasible.

Technical constraint can be a barrier for the use of technologies in building energy retrofitting projects. For example, if the planners want to use a geothermal heat pump with ground

collectors the property on which the building is located must have enough space for laying the ground collectors. Each technology needs special requirements for its specific implementation.

Financial constraints are often the largest obstacles in energy retrofitting projects on building and district level. Planners often must consider the financial situation of the building owners as well as the tenants in order to avoid negative social impacts like gentrification.

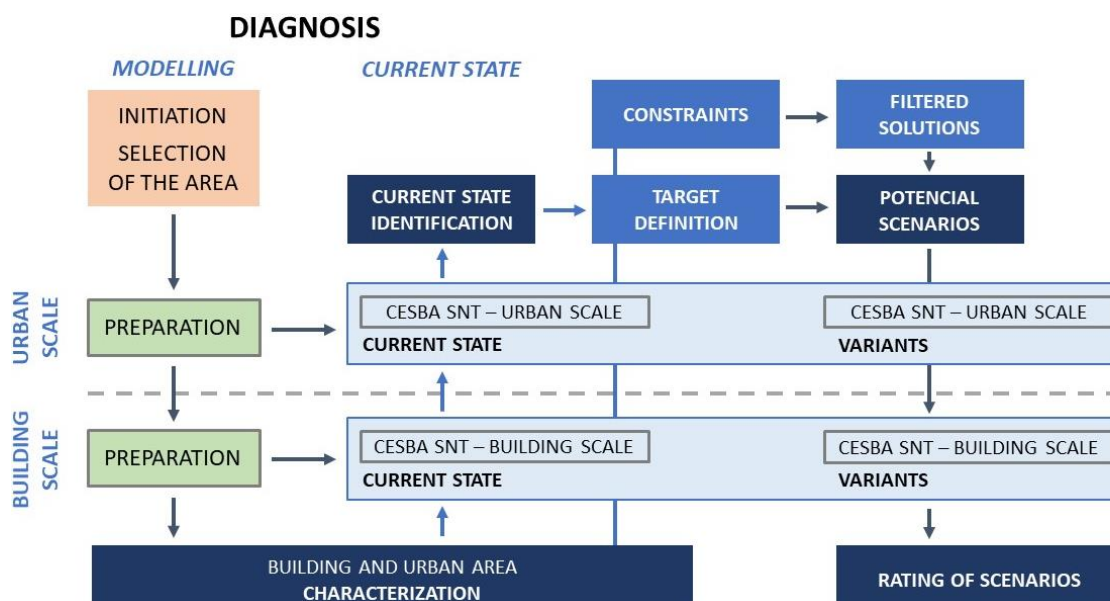
Environmental constraints like climatic conditions which are not suitable for the use of certain energy technologies (solar, wind...) can also be a barrier. It is needed to study each case in deep in order to be able to develop its specific solutions.



Build and rank scenarios

- Use the SN tool to compare various scenarios
- Rank them using a quantitative methodology

Advance in the decision-making model



This phase consists in the study of possible alternative retrofit scenarios for the pilot urban area and the chosen buildings and in the identification of the best one in terms of cost-efficiency. It is articulated in two steps:

- creation of retrofitting scenarios
- retrofit concepts assessment and ranking

Creating of retrofitting scenarios

The goal of each concept is to optimize the performance of the urban area, considering all buildings as a connected global system by the following process:

- selection and optimization of energy intervention package at urban level
- selection and optimization of energy intervention package on building level
- addition of non-energy related interventions (mobility, green spaces, infrastructure)
- inclusion of business models and financing schemes
- approval of design variant

There is a chronological sequence to create a complete energy retrofitting concept:

1. Reduction of energy consumption (consumer-driven): is the basis for the creation of sustainable energy concepts and to achieve the set sustainability goals. For that reason, the reduction of the energy consumption must be the priority for planners.
2. Increasing the efficiency of the energy supply. District solutions should be preferred over individual solutions.
3. Inclusion of renewable energy production, by increasing the share of climate-neutral and renewable electricity in a district the primary energy consumption can be reduced significantly.

The main steps for the analysis and evaluations to find the most optimum concepts for the district could be the following assessments:

1. Energy weak points of buildings. In order to prioritize different retrofitting measures to reduce the energy consumption and to increase the energy efficiency.
2. Feasibility of energy networks. The use of synergies between buildings is one of the most promising and useful key strategies for urban district retrofitting projects.
3. Electricity related synergies and interactions between buildings. Renewable energy sources are climate dependent, and the electrical consumption is not. Planners need to be able to predict the electrical demand and production by renewables energy systems for the investigated district, so to introduce appropriate energy storage systems and/or smart grids.
4. Financial planning and selection of financing mechanisms for implementation. For each retrofitting concept, adequate business models and financing must be selected in order to implement it in practice. Moreover, financial metrics like investment cost, return on investment and payback need to be calculated.

Main instruments for financial planning:

- Grants: may be available at all stages for feasibility studies, proposal development, capital investment and maintenance expenses. They offer a subsidy to the total costs but exist only because governments or other organizations wish to see innovating develop that would otherwise not be economically attractive.

- Loans: imply debts that must ultimately be repaid, and on-going interest charges. Retail and commercial banks will generally lend, but at a price that depends upon perceived risks.
- Loan guarantees: financial product that reduces the cost of debt. Essentially it involves a loan guarantor (usually a public body created to lower the cost of energy efficiency loans, back acting as a final guarantee that defaults will be avoided).
- Energy performance contracting: is usually undertaken by an ESCO, through a contractual obligation to implement the energy savings initiatives in return for a payment flow from the building owner or end-user.
- Co-investment: initiatives whereby municipalities or energy utilities assume the capital cost of retrofitting and place the charge on the property, to be recovered through the regular property tax or utility bill assessment and collection.
- Embedded revenue contributions: consumers organised to install renewable sources of electricity generation to reduce consumption of grid supplied energy and for sale back to the local distribution company. These feed-in tariff (FiT) arrangements vary according to technologies, vintage, length of term and size of connection.
- Tax benefits: reduced rate of imposts for the owners or contracting organisations, as well as specific tax and VAT benefits on the various cost or revenue elements.

Retrofit scenarios assessment and ranking

SNTool and SBTool allows the planners to compare the different retrofitting scenarios that have been created and to find the best suiting one for the local preferences.

CESBA MED Tools assessment system must be applied to each retrofitting scenario at urban scale and, interactively, at building scale.

On the base of the assessments' outcomes (scores) provided by the CESBA MED assessment system, it will be possible to rank the different retrofitting scenarios according to the preferences of different stakeholders and decision-makers (see an example below).

	Current state	Scenario 1	Scenario 2
Total score	0,0	2,1	1,4
A - Built Urban Systems	0,2	0,5	0,3
B - Economy	0,8	1,2	1,0
C - Energy	-1	3,2	1,5
D - Atmospheric	-1	2,5	2,0
E - Non-renewable sources	0,8	2,2	1,8
F - Environment	0,5	2,4	1,9
G - Social aspects	1	3,5	2,0

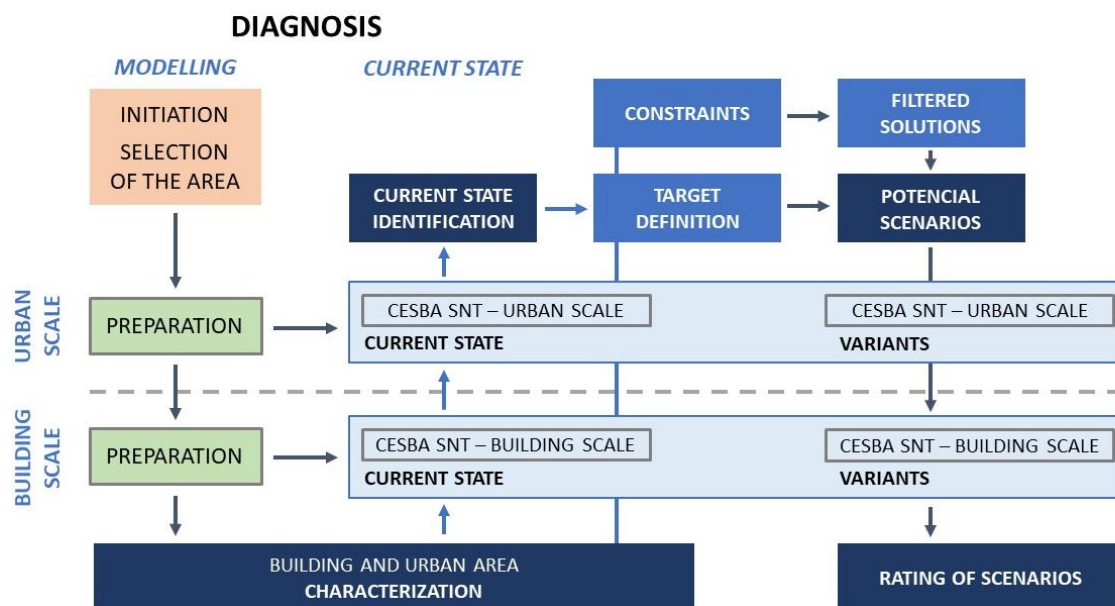
Example of scores from different upgrade scenarios



Transform the selected scenario into a concrete project

- Illustrate the strategies
- Specify the performance improvement
- Provide a cost/benefit analysis

Advance in the decision-making process



This phase consists in the description of the retrofit concept for the pilot urban area and the buildings based on the best ranked scenarios.

The concept will further specify the solutions taken in account by the best scenario and will be ready to be implemented in future when the conditions will allow to transform in a project.

It also will mainly illustrate the retrofit strategies, the performance improvement that will be achieved and the cost benefit analysis.

The CESBA MED Assessment System therefore will focus on supporting urban planners in the thematic fields of sustainability retrofitting concepts for small urban areas. Urban district regeneration interventions in the field of energy retrofitting are influencing other thematic urban regeneration fields like socio-cultural issues, architecture and design or spatial development.

Thus, CESBA MED will evaluate the impacts of sustainability retrofitting interventions on further related sustainability issues to foster an integral planning process between the different urban planning departments.

2.3. The CESBA MED free tools

a. Introduction

Separate tools are used to assess retrofit projects at urban or building scale. However, these tools are very similar as they follow the same logic and methodology. To be used, these tools need to be contextualized according to local issues and strategic local policies. In order to provide assessment tools which are both complete and user-friendly, a generic framework has been developed. After the selection of a limited number of the most relevant indicators using the “CESBA MED GF tool”, the user continues the assessment with a second tool called “CESBA SNTools” (for urban scale: CESBA MED SNTool A and CESBA MED SNTool B, for building scale: SBTTool_CESBA_A_Generic and SBTTool_CESBA_B_Generic) free for use and downloadable on <https://cesba-med.interreg-med.eu>

b. From the CESBA MED Generic tool to a local CESBA MED Tool

1. Rating the level of priority of all 7 issues on the chosen CESBA MED tool: for each of the 7 issues, the user sets the level of priority from 1 (less important) to 3 (more relevant).
2. Select relevant indicators on the CESBA MED GF tool: the user selects among the 180 indicators that are relevant according to the retrofitting project and local issues. Among these indicators the CESBA team selected 16 key performance indicators (KPIs) that should be selected by all users. They represent a passport using a common and limited set of indicators shared by all CESBA MED assessment tools. KPIs are represented with a red square in the tools.

206	Criteria (all are shown)
	A Built Urban Systems
	A1 Urban Structure and Form
❖	✓ A1.1 Concentration of land parcels.
■	✓ A1.2 Urban compactness
■	✓ A1.3 Building plot ratios

A Built Urban Systems			
A1 Urban Structure and Form	Active	Weight	Scale
A1.1 Concentration of land parcels.	❖	0,3%	N
Assessment criteria	Building lots per hectare	Score	
Negative	<10	-1	
Minimum practice	10,0	0	
Goal Practice	13	3	
Best Practice	15,0	5	

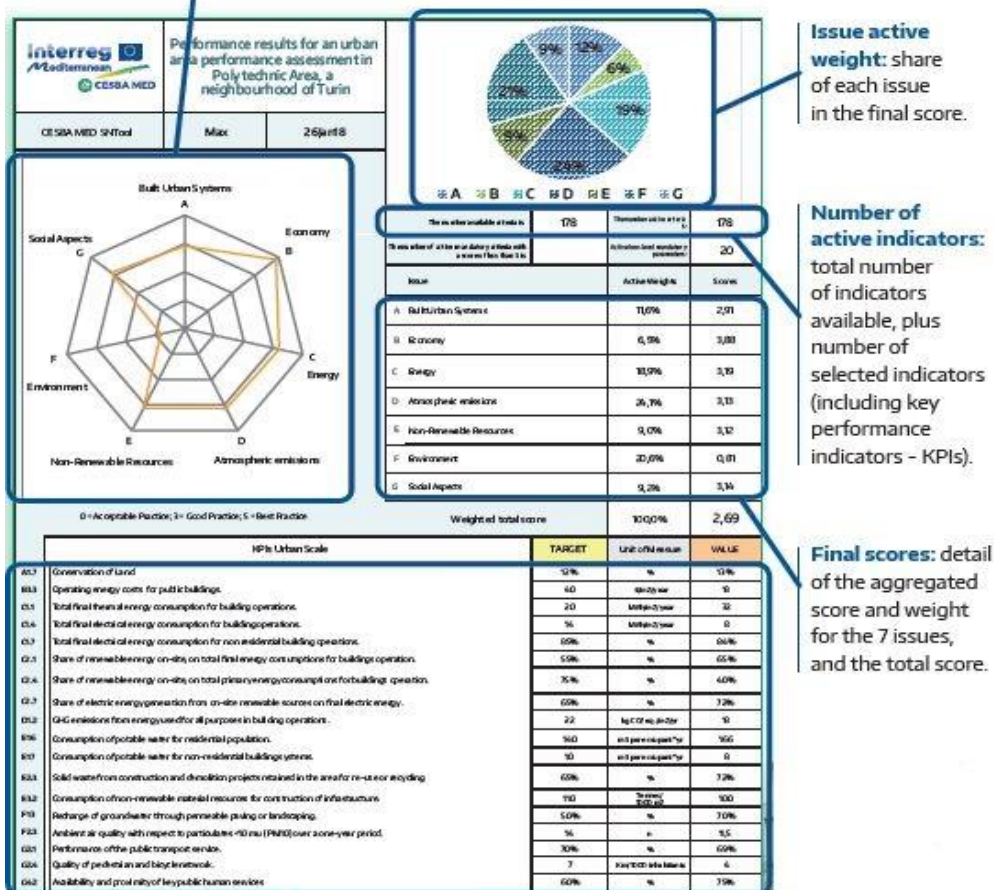
3. Rating the level of priority of all selected indicators using the CESBA MED GF tool: finally, each selected indicator is weighted according to additional factors. Primary issue or system affected (rating using a 1 to 3 points scale), impact of potential effect (rating using a 1 to 3 points scale), extent of potential effect (rating using a 1 to 5 points scale) and duration of potential effect (rating using a 1 to 5 points scale). As it could be a long and difficult process to fill in the values of the 4 factors for each indicator, this final step is not mandatory. Indeed, the CESBA MED team provides default values that can be changed if the user is willing to.
4. Benchmark of all selected indicators using the CESBA MED GF tool: for each selected indicator, the user provides 3 values representing the local best practice, the local minimum practice and the local unacceptable practice (see picture on above right). Thanks to these values, it is possible to benchmark the retrofitting project for each indicator with local practice.

Thanks to this benchmark, it is also possible to get a value without unit for each indicator on a 1 to 5 points scale. Then scores of indicators belonging to the same issue can be added to get an aggregated score for the whole issue.

	CESBA GF-U Tool 2017 Max 26Jan18 178 available criteria, 178 currently active criteria Do NOT change any text on this worksheet, go to CriteriaA to do so.		interreg Mediobanca EUROPEAN UNION		Weighting Factors											
					Punto	A		Punto	B		Punto	C		Punto	D	
						Primary issue or system affected (from BasicA, 1 to 3 points)	3		Impact of Potential Effect (1 to 3 points)	3		Extent of potential effect (1 to 5 points)	5		Duration of potential effect (1 to 5 points)	5
206	Criteria (all are shown)		100,0%													
	A Built Urban Systems		11,2%													
	A1 Urban Structure and Form		2,8%		SDG11											
◆	✓	A11 Concentration of land parcels.	◆	0,25%	1	Built Environment	2	Moderate	2	Neighborhood	3	10 to 30 years				
■	✓	A12 Urban compactness		0,52%	1	Built Environment	3	Major	2	Neighborhood	4	30 to 75 years				

c. Results chart

Spider chart: user-friendly representation of the score of the 7 issues on a 0 (acceptable practice) to 5 (best practice) scale.



KPIs description: target and actual value for each of the 18 KPIs in its unit of measure.

c. Passport

The score produced by a rating system is valid only for the geographical area where the building is realized, as it reflects the local priorities and construction practice. Therefore, it is impossible to set common performance benchmarks between regions. To be able to compare the performance of buildings at transnational level, it is necessary to use indicators expressed in absolute values, not scores. This is the key principle of the CESBA Passport.

Functionality of CESBA Building Passport: beyond the usual score typical of each rating system reported on the certificate, the CESBA Building Passport informs about the performance of the construction by providing the absolute values of the CESBA Key Performance Indicators KPIs (kWh/m², Kg CO₂/m², m³, etc.). In this way it becomes possible to compare the performance of buildings assessed by different certification systems in different geographical areas. In all CESBA harmonized systems, the CESBA KPIs have to be adopted and included in the certification system. This means that they will be calculated as part of the performance assessment of the building, and then be, on one hand, normalized with the other criteria to produce the building's rating score, and on the other, used in the CESBA Building Passport. The certificates issued by the different CESBA harmonized systems will have to include a transnational section with a common format to illustrate the CESBA Building Passport: to do so, the values of the quantitative and qualitative KPIs will be listed in the common CESBA part of the building certificate issued by the specific rating system. The results of the quantitative indicators will also be graphically represented on a radar chart (see an example of the passport document below).



http://wiki.cesba.eu/wiki/Building_Signature

2.4. The CESBA MED free resources

a. Wiki site

CESBA MED



The CESBA MED – Sustainable MED Cities Wiki is part of the CESBA Wiki. CESBA - Common European Sustainable Built Environment Assessment is an initiative towards promoting a harmonization of sustainable building assessments for public buildings throughout Europe. The CESBA Wiki offers information ordered in the sections of summary, partners, work packages, pilot regions, results, social media, communication, documents, project event reports, CESBA quiz and newsletters.

http://wiki.cesba.eu/wiki/CESBA_MED

b. Training

The CESBA MED Training System represents a key component of the project as it is crucial to ensure a correct use of the CESBA MED tools and methodology by the main target groups and the widest transferring in the MED area. To develop an appropriate training system to be tested during project implementation and continuing after its conclusion will ensure a balanced and sustainable development of MED area urban districts through the improvement of local policies. A roadmap approach demands constant learning, follow-up and continuous improvement in order to adjust to new conditions.

The CESBA MED Training System includes:

- the training material: manual, slides, technical documentation for the CESBA MED courses developed in six languages (English, Italian, Spanish, French, Greek and Croatian)
- the e-learning platform: an e-learning platform based on existing e-learning services that give access to training courses and materials for users and decision makers
- the training courses: pilot courses targeted to technicians and decision makers

The CESBA MED Training System will be tailored for two specific main target groups:

- Technicians: professionals, SMEs technicians, urban planners, public bodies' technical staff.
- Decision-makers: policy makers, investors, developers, and public bodies managers.

CESBA MED training activities will not only aim to improve technical and methodological competences of the target groups. They also will contribute to:

- analysing local challenges, seeking solutions and ultimately developing local urban plans to address these challenges
- supporting a holistic approach taking into consideration the physical, economic and social dimensions of urban development, from a sustainable perspective
- developing strong partnerships between public bodies, the private sector and civil society
- analysing the challenges and barriers to improve the collaboration among the various stakeholders that are involved and have to work together during a sustainable urban planning process
- improving communication and participative processes of all the involved stakeholders
- contributing to the transnational exchange and learning process taking place at network level
- communicating results at local level, and disseminating lessons learned to the wider community

Module 1	The CESBA MED Generic Framework concept and the multicriteria assessment methodology
Module 2	The decision-making process
Module 3	Case studies analysis (integration of building and urban scales): focus on decision making
Module 4	The assessment criteria of the contextualized CESBA MED SBTool – Building Scale
Module 5	Use of the contextualized CESBA MED SBTool – Building Scale
Module 6	Case studies analysis (integration of building and urban scales): focus on technical issues
Module 7	The assessment criteria of the contextualized CESBA MED SNTTool – Urban Scale
Module 8	Use of the contextualized CESBA MED SNTTool – Urban Scale

Training modules and their content: eight training modules compose the five courses above.

Courses implementation methodology

The pilot training courses are implemented in the eight regions mainly with a "face to face" approach. Some online/distance learning activities have to be included in this step to test the CESBA MED e-learning platform. For example, a webinar can replace a "face to face" seminar or practical exercises using CESBA SNTTools can be implemented online using shared tools in a "virtual classroom".

More information about the CESBA MED Training Program and download area at <https://cesba-med.research.um.edu.mt/>

c. Pilot cases testing

As a part of the CESBA MED project, each partner developed a pilot case test by using the methodology and contextualising the generic tools (SN, urban level, and SB, building level) in order to have its own local versions. This was done with the collaboration of technicians and other local stakeholders, organises in committees, who helped to select neighbourhoods and buildings as well as carry out the process of the contextualization of the tools.

In each project territory a CESBA MED Local Committee was established, meeting on a bimonthly basis to advise the project partners in the development of the activities and provide information on the pilot cases as needed. The committee was formed by representatives of the key target groups addressed by the project: public building stock managers/owners, local authorities, regional authorities, planners, etc.

Those local committees had the following objectives:

- to gather the main experts and local authorities working on the field of sustainable neighbourhoods and organize a place to exchanges experiences and tools.
- to determine a pilot urban area and buildings, agree on the mandatory and specific indicators to be calculated and determine its weights in the context of the tool's contextualization.
- to identify input data sources, valuate the CESBA MED Tools, assess the CESBA MED decision-making process and propose possible enhancements and future work.
- to make a sustainability analysis of the pilot area and building to be presented in local training to gain insight of the process of sustainability analysis and usefulness of conclusions.

The pilot cases tested are (neighbourhood, city, country): 1. Aurora district, Udine, Italy, 2. Parc des Calanques, Marseille, France, 3. Illa Eficient, Barcelona, Spain, 4. Monestir and Sant Francesc, Sant Cugat del Vallès, Spain, 5. Msida, University Of Malta, Malta, 6. Mravince, Solin, Croatia, 7. new underground railway area, Torino, Italy, 8. urban sector in Fylis, Greece, and 9. ZAC du Bon-Lait, Lyon, France.

It is considered these experiences can promote the project results to the local authorities and the political leadership in order to:

- provide technical support to other people working on the built environment
- introduce sustainability requirements for future public projects
- assess the maturity of projects applying for public funding
- monitor their progress in meeting their targets and objectives
- highlight and easily communicate their activities and progress to their citizens
- exploit the method, tools and training material for teaching and researching

1. Aurora district, Udine

Short description

Peripheral district in the north-east of the city of Udine.

With a population density per square meter equal to:

- Udine: - 0,0017 ab/mq,

- Experimental city: 0,0043 ab/mq

The main urban destination is residential with a military area (barracks) now no longer active.



Size

109,73 hectares

Residential population

5.246 (2011) and 4.445 (2018) inhabitants

Average building density (total/land surfaces)

0,17 m²/m²

+ Info

www.xxxxxxxx.xxx

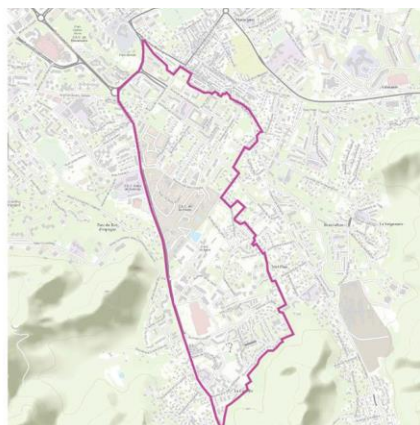


2. Parc des Calanques, Marseille

Short description

The pilot neighborhood Parc des Calanques is located south of Marseille, a city of 800.000 inhabitants.

The area is under urban renewal program since 2011 and recently joined the Eco-neighborhood national label under the name Parc des Calanques. The issues faced by the neighbourhood include connection to the rest of the city as it is located at the border with the National Parc of the Calanques hills, a protected area. The renovation of the numerous social housing is also on top of the agenda as well as the creation of public amenities including an urban parc, a theater, two sport facilities and a community.



Size

118 hectares

Residential population

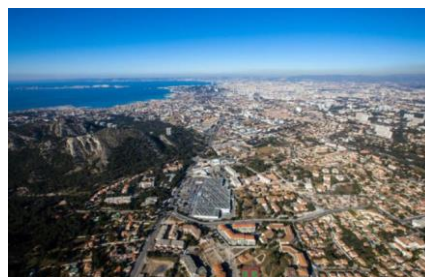
11.000 inhabitants

Average building density (total/land surfaces)

31 m²/m²

+ Info

<http://www.ecoquartiers.logement.gouv.fr/operation/>



3. Illa Eficient, Barcelona

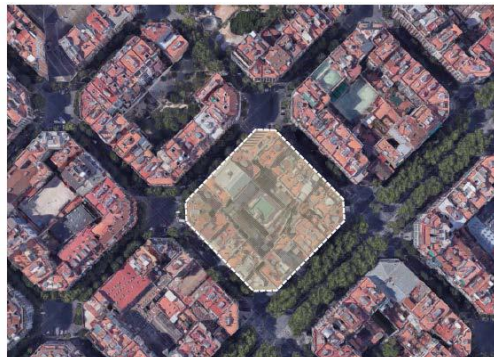
Short description

Barcelona is located on the northeast coast of the Iberian Peninsula, facing the Mediterranean Sea, on a plain approximately 5 km wide limited by the mountain range of Collserola, the Llobregat river to the southwest and the Besòs river to the north.

This plain covers an area of 170 km² of which 102 km² are occupied by the city itself.

It is 120 kilometers south of the Pyrenees and the Catalan border with France.

Experimental area is delimited by the streets Gran Via de les Corts Catalanes, Calàbria, Diputació and Viladomat. This block belongs to the Eixample district.



Size

1,3 hectares

Residential population

776 inhabitants

Average building density (total/land surfaces)

0,637 m²/m²

+ Info

WWW.XXXXXXXXXX.XXX



4. Monestir and Sant Francesc, Sant Cugat del Vallès

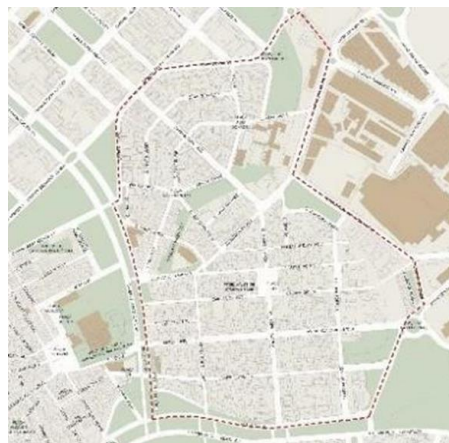
Short description

The neighborhoods of the Monastery and San Francisco have a strong identity.

For historical and social reasons, these neighborhoods have always been a benchmark in the local dynamics of Sant Cugat.

However, it is also true that the neighborhoods were born with some deficiencies and that, over the years, important improvements have been achieved to integrate the city as a whole.

The inclusion of the two neighborhoods within the CESBA MED pilot test in Sant Cugat del Vallès is based on the desire to respond to these deficiencies that have not yet been resolved.



Size

44 hectares

Residential population

11.000 inhabitants

Average building density (total/land surfaces)

0,05 m²/m²

+ Info

WWW.XXXXXXXXXX.XXX



5. Msida, University of Malta

Short description

The University of Malta is the highest educational institution of Malta. It also employs around 2,500 workers.

The UM has major infrastructures close to it: The 'Skatepark' junction and the newly renovated 'Kappara' Junction. The area is almost busy all the time and traffic can be found frequently.

The test area is the University of Malta (UM) with 11.78ha of land. The UM is composed of fourteen faculties.

The energy is supplied from Enemalta.

Size

27 hectares

Residential population

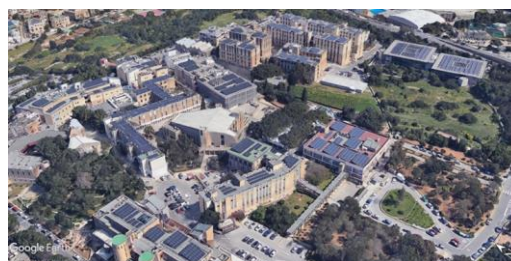
14.000 inhabitants

Average building density (total/land surfaces)

12.8%

+ Info

WWW.XXXXXXXX.XXX



6. Mravince, Solin

Short description

It is one of the five neighborhoods of the City of Solin and is strongly dependent on Solin and Split. Mravince is located on a hilltop and south oriented slope and is inhabited since beginning of the 20th century. Traditional style construction is still visible in the centre of the neighborhood. More intensive construction activities were in the first part of the 1970-ies and again after the year 2000. Local economy and management of spatial resource has a negative effect on the spatial development of the area. Lack of urban values and design standards is clearly noticed, in particular in public spaces i.e. streets, squares, pedestrian lines, public green areas, urban amenities.

Size

95 hectares

Residential population

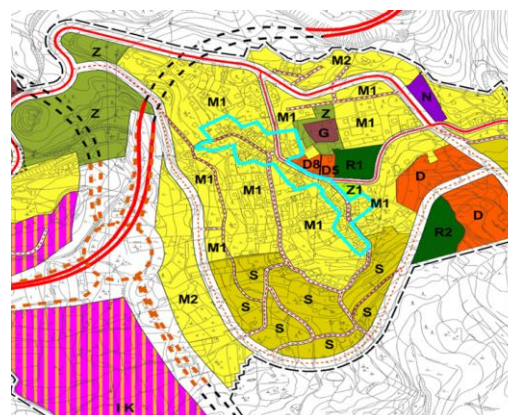
1.368 inhabitants

Average building density (total/land surfaces)

0,44 m²/m²

+ Info

WWW.XXXXXXXX.XXX



7. New underground railway area, Torino

Short description

Urban transformation: a) new underground railway (8km), b) new link between two parts of the city that have been separated by the railway from end of 1800, c) new main road with “low” circulation.

Presence of: a) public buildings, b) social housing, c) industrial areas (ex-Gondrand; Italian Railway company area; social housing areas; superintendency protected area (docks Dora).

General numbers: a) 1.069 968 m² surface, b) 194.208 m² built up area, c) 2.749.773 m³ buildings volume, d) 12.607 inhabitants

The selected area for the pilot test is located in the N-E part of the city.

Size

107 hectares

Residential population

12.607 inhabitants

Average building density (total/land surfaces)

0,18 m²/m²

+ Info

WWW.XXXXXXXXXX.XXX



8. Urban sector in Fylis

Short description

The selected area for the pilot is located in the center of the Municipal Unit of Ano Liosia, a moderately dense urban area of 3845 ha total area, 864 ha residential area and about 30000 residents.

The pilot area covers about 27.1 ha, 50% of which are covered by buildings and 33% of residential buildings. There are about 360 buildings, 55% of which residential, 23% mixed use and 22% non-residential buildings.

The specific area has relatively low rise buildings, the majority of which (75%) are one to two floors high.



Size

27,1 hectares

Residential population

1.330 inhabitants (residents)

Average building density (total/land surfaces)

0,5 m²/m²

+ Info

WWW.XXXXXXXXXX.XXX



9. ZAC du Bon-Lait, Lyon

Short description

Lyon, historically industrial city, has hosted in the south of the city many petrochemical industries along the Rhone, named the corridor of chemistry. After the departure and closure of the textile industries, Lyon has gradually refocused on the sectors of advanced technology, such as pharmaceuticals and biotechnology. Lyon is also the second largest student city in France, with four universities and several prestigious universities. Finally, the city has retained an important architectural heritage from the Roman era to the twentieth century through the Renaissance. Lyon is also rebuilding new neighborhoods, such as the ZAC du Bon Lait.

Size

4.800 hectares (Lyon city)

Residential population

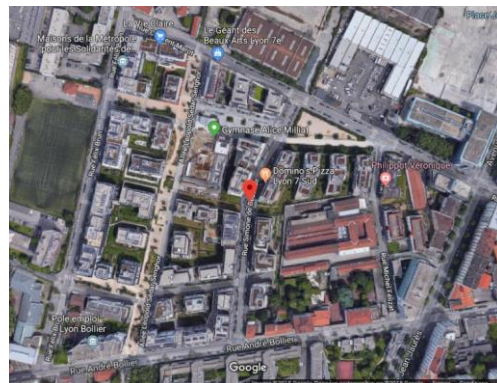
513.275 inhabitants (Lyon city)

Average building density (total/land surfaces)

NA

+ Info

WWW.XXXXXXXXXX.XXX



After having carried out the nine pilot tests of the methodology and tools of the CESBA MED project in six different countries, it can be stated that:

- it can manage different scales and the flexibility to handle small and large projects, considering the priorities of the different users and adapting the scoring system
- there is a compatibility of different projects in the same country and around Europe using the CESBA Passport (for more information see the point 2.3.c in this guide)
- a national version of the indicators and tools can be done, not only in terms of the language, but mainly in terms of the adaptation to local context (e.g. benchmarks, weights)
- it is desirable to work together to local technicians who help to contextualise the tools, and involve citizens in the public steps if the study becomes an intervention project
- the methodology and the neighbourhood / building tools are open source and free for use, so can be used for performance assessment of public projects and for educational purposes
- all these resources facilitate municipalities' or regions' urban and building departments for developing, updating and testing its sustainable action plans

Part 3: Recommendations and applications

3.1. Potential applications of the CESBA MED methodology and tools

The CESBA MED methodology and tools were developed for the assessment and improvement of sustainability in the built environment. The SBTool (building scale) and SNTTool (neighbourhood scale) and the passport can be used in a simplified or full basis and can be adapted to local conditions, objectives and requirements of different urban areas. The use of all these resources is generating information, so far scarce, about the state, reference values and types of intervention from real cases.

Therefore, the number of potential applications available is high, being the most important ones classified by category, and presented in continuation.

A. Building design and urban planning

This section is aimed at public administration technicians working in the areas of urban planning, rehabilitation and housing, who are in charge of urban renewal plans.

B. Visibility for good practices

This area is aimed to technicians, professors, researchers and members of non-governmental organizations dedicated to the study and promotion of sustainability in the building sector.

C. Economic and fiscal allocation

The potential applications of this section have been designed to help managers of economic, fiscal, financial, legal and urban areas in the development of instruments for promoting urban renovation actions under sustainability criteria. The accessible data provided by CESBA MED tools makes visible some opportunities that can promote new economic and social activity.

D. Training, motivation, awareness

The methodology, tools and other resources of the CESBA MED project can also be useful in educational purposes, for technicians as well as for students. Likewise, the information on sustainability produced by the SB and SN tools can be applied in awareness and motivation campaigns, built heritage recognition and quality of life increasing actions.

E. Generation and access to information, regulations

The continued use of the CESBA MED tools helps to collect data on environmental, social and economic evaluation and improvement of different buildings and neighbourhoods. This new information can be part of a database aimed to improve urban planning regulations, help to making decisions on urban planning, inform citizens and determine reference values.

CESBA MED POTENTIAL APPLICATIONS AND USEFULNESS

A. Building design and urban planning

1. Evaluation and upgrade existing buildings and neighbourhoods
2. Evaluation of new urban development projects and plans
3. Prioritization between alternative building and urban improvement policies
4. Exchange of information between different buildings and neighbourhoods

B. Visibility for good practices

5. Comparison of cases with different characteristics
6. Make visible good practices in the building sector

C. Economic and fiscal allocation

7. Granting financial aid for the renovation of buildings and urban areas
8. Instrument for the selection of investment alternatives in infrastructure
9. A tool to formulate fiscal policies for the development promotion
10. Definition and evaluation of green purchasing and contracting policies

D. Training, motivation, awareness

11. Integration of sustainability in the methodology of the urban planning technical teams
12. Support for knowledge and awareness in the educational and social fields
13. Supporting for the promotion of greater resilience to climate change
14. Technical support for a prize of best urban renovation

E. Generation and access to information, regulations

15. Creation of a building and urban data bank on sustainability
16. Improvement of sustainability in the building and urban regulations
17. Information for the decision making of government agents and politicians.
18. Support participatory decision-making process in public initiatives

01 Evaluation and upgrade existing buildings and neighbourhoods

Scope

☒ Planning | ☐ Visibility | ☐ Economy | ☐ Training, awareness | ☐ Information

Who is it for?

☐ Politicians | ☐ Citizens | ☒ Technicians | ☐ Teachers | ☐ Communicators | ☒ Others

Application description:

The concept and practice of sustainability in urban planning have since the early 2000s gained global significance and become increasingly mainstream in policymaking. The adoption of global frameworks like the Sustainable Development Goals (SDGs), and initiatives such as the Urban Agenda of the EU, the Covenant of Mayor for Climate & Energy, the Urban Development Network, and the Sustainable Cities Platform become an opportunity to build more sustainable, innovative and equitable towns and cities, and to use the natural resources more efficiently.

Implementing ideas:

Update urban planning standards: regulations at territorial and urban level lack sustainability parameters in many cases. Its incorporation requires consensus and institutional support, as they are essential to ensure its continuity.

Set achievable objectives: it is recommended that the incorporation of new requirements be done gradually. One way to start is to require the use of indicators for information purposes so that, once known, gradually require the fulfilment of goals.

Make a pilot evaluation: while progress is being made in updating and implementing the regulations, the analysis of existing buildings and neighbourhoods can be carried out. It is important to determine the improvement scenarios and its associated costs.

Carry out a real intervention: it is desirable that the pilot evaluation be carried out, for example making actions to improve the sustainability of existing buildings or urban areas. These cases provide desirable visibility and useful experience for the knowledge and process improvement.

Examples / references: EU project RELS - Rénovation Énergétique des Logements

The RELS project funded by the European Union is focused on energy and comfort in existing buildings. A model for renovation processes - which includes a common methodology for audit, measure selection, implementation and performance validation- was developed by the partners and tested in seven pilot buildings located in Tunisia, Italy and Spain. The main goal is to increase the quality of life of the inhabitants.

<http://www.enpicbmed.eu/>



02 Evaluation of new urban development projects and plans

Scope

☒ Planning | ☐ Visibility | ☐ Economy | ☐ Training, awareness | ☐ Information, regulations

Who is it for?

☐ Politicians | ☐ Citizens | ☒ Technicians | ☐ Teachers | ☐ Communicators | ☒ Others

Application description:

Some cities, or urbanized areas belonging to different local governments and related to different urban standards have areas under development that will foster urban expansion. The planning and design of these new neighbourhoods requires taking into account economic, environmental and social criteria to meet the sustainability demands. The CESBA MED framework can be adapted to different context situations and requirements in order to help define objectives determine evaluation criteria and verify compliance with the sustainability goals set.

Implementing ideas:

Choose a pilot or reference case: the implementation of new sustainable requirements in building design or urban planning becomes simpler if it is done by starting with a small-scale operation. It avoids the risk of possible large-scale errors and it builds up experience.

Determine sustainability requirements: among all the requirements that may be demanded, it is advisable to focus the effort on those that are of greater interest or are more appropriate. The implementation of the rest of them can be done gradually.

Train the technicians of the urban planning area: the processes that need the incorporation of new knowledge require training the personnel involved in them. It is desirable that such training is not only limited to the specific subject, but also of general scope.

Update the urban planning and contracting regulations: new requirements, indicators, objectives, processes, etc. required in the application of sustainability of new developments must be clearly expressed in the regulations.

Examples / references: New neighbourhood Turó Can Mates Sant Cugat del Vallès

The City Council determined evaluation criteria that come from the CESBA MED project. In the Strategic Environmental Study of the new sector Can Mates, some indicators of sustainability (energy, emissions, water, air quality, etc.), economic (costs, investment, etc.) and social (mobility, services, etc.) are used to evaluate the planned infrastructures. (image: Mariaalbatere CC BY-SA 4.0).

<https://www.santcugat.cat>



03 Prioritization between alternative building and urban improvement policies

Scope

☒ Planning | ☐ Visibility | ☐ Economy | ☐ Training, awareness | ☐ Information, regulations

Who is it for?

☒ Politicians | ☐ Citizens | ☒ Technicians | ☐ Teachers | ☐ Communicators | ☒ Others

Application description:

The number of resources (economic, technical, etc.) needed to renovate or develop the built environment and available by the public administrations are limited. Frequently, they are not sufficient to respond to the planning needs. Having tools that systematize the assessment and the improvement of sustainability, using a harmonised and common methodology, can help to establish urban local priorities.

Implementing ideas:

Determine what you want to evaluate or compare: the different building or urban planning policies can be evaluated according to the results expected from them. It is important to determine what indicators will be worked with and what weight they will have in the evaluation.

Study available data: the indicators need data in order to function and be useful in an evaluation process. Occasionally, basic information is not available, or it is not stated in the required format. So this is necessary to previously work with it.

Define what kind of analysis you want to perform: the modelling or evaluation of buildings or neighbourhoods is a complex process which involves a lot of information. It is convenient for the analysis system to be gradual, allowing the progressive activation of different indicators.

Base decision-making on foresight: the sustainability indicators will make it possible for the analysed model to be expressed in comparable results. These results will display a greater or lesser economic, environmental and social convenience of the studied alternatives.

Examples / references: SEMANCO semantic tools for carbon reduction in urban planning

The SEMANCO integrated platform was developed as part of a European project. It provides access to widely dispersed energy related data about cities stored by many different organisations. In this way the project platform supports improved energy analysis based on the assessment of existing data rather than estimates and provides different services for decision-making agents, politician and other potential users.

<http://www.semanco-project.eu/>



04 Exchange of information between different buildings and neighborhoods

Scope

☒ Planning | ☐ Visibility | ☐ Economy | ☐ Training, awareness | ☐ Information, regulations

Who is it for?

☐ Politicians | ☐ Citizens | ☒ Technicians | ☒ Teachers | ☐ Communicators | ☒ Others

Application description:

A number of buildings and neighbourhoods evaluated with a common methodology, criteria and indicators, generate information that is useful in each case. But these data acquire more value when considered as a whole. Compare different cases, find out common difficulties, detect some ways to act in front of the same problems, makes it possible sharing experience and information. This is an additional help.

Implementing ideas:

Define objectives and find partners: the comparison between buildings that have both similarities and differences can provide useful information to accelerate the processes of renovation and energy improvement. It is required to have institutions that provide information.

Analyse the available information: property records, energy certifications, technical inspections of buildings, etc. can be the main sources of information to compare and exchange data among different cases. Exchange creates knowledge.

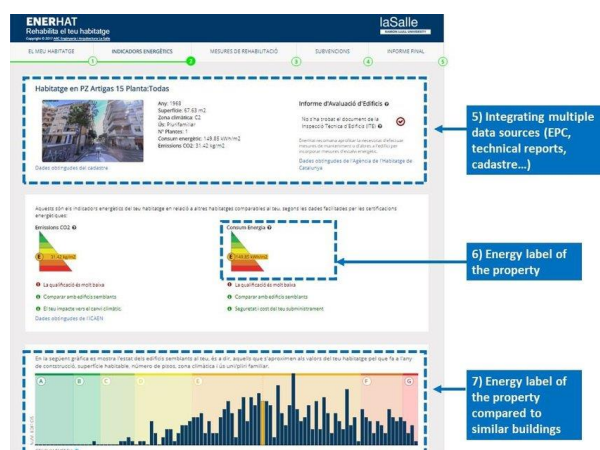
Determine services needed: The comparison between similar cases (for example, two similar houses with different energy efficiency) allows to detect differences between them. The analysis of these differences enables the suggestion of changes for improvement.

Create an information platform: the systematization of data collection and analysis allows the creation of standard services, such as the comparison of the quality of the enclosures. The more data there is and the more reliable it is, the better results will be achieved.

Examples / references: ENERHAT (Energy Housing Assessment Tool), ENERSI project

ENERHAT by the ENERSI research project is an application developed for the ARC research group of La Salle Architecture School - Ramon Llull University that enables tenants, owners and real estate agents to know the state of conservation of residential buildings and their energy label, to compare their energy efficiency with similar buildings, to assess the investment needed to improve them and to find subsidies to carry out the reform.

<http://enersi.es/en/enerhat>



05 Comparison of cases with different characteristics

Scope

☐ Planning | ☒ Visibility | ☐ Economy | ☐ Training, awareness | ☐ Information, regulations

Who is it for?

☐ Politicians | ☐ Citizens | ☒ Technicians | ☒ Teachers | ☐ Communicators | ☐ Others

Application description:

If two cases originate in different places, with different climates, regulations, usage patterns, etc., their comparison becomes very difficult. This prevents the exchange of information between them and makes it difficult to learn from different experiences. But it is possible to do so by using a system based on equivalences and what both cases have in common. CESBA MED Passports make possible to compare cases from diverse sites having different characteristics.

Implementing ideas:

Define the scale and the scope of the evaluation: sustainability improvement interventions could turn out to be limited. Occasionally, the correct scale to obtain better results according to the investment/ benefit relation is that of the neighbourhood or area of the city.

Determine the most relevant indicators: there are numerous economic, social and environmental factors that can be evaluated. Each region or city has its peculiarities and the selection of the aspects to be evaluated must be referred to them.

Contextualise the evaluation system: In addition to determining which indicators are most appropriate, range and values considered good practices at a local level must be defined. Finally, a relationship between them must be established for the overall assessment.

Create improvement scenarios and action plans: the first results obtained from the existing situation or the baseline scenario can be compared with different improvement alternatives. One of these alternatives can become an executive plan to be implemented.

Examples / references: CESBA MED Interreg Mediterranean

The European project CESBA MED capitalises existing knowledge from 14 previous EU-funded projects, Urban Scale Assessment Tools, and EU Common Framework Initiatives that support the development of sustainability plans for buildings and neighbourhoods. The methodology, tools for assessment and especially the passport sheet make possible to evaluate and compare different buildings and neighbourhoods from diverse cities. Free for use and downloadable from the web.

<https://cesba-med.interreg-med.eu/>



06 Make visible good practices in the building sector

Scope

☐ Planning | ☒ Visibility | ☐ Economy | ☐ Training, awareness | ☐ Information, regulations

Who is it for?

☒ Politicians | ☒ Citizens | ☐ Technicians | ☒ Teachers | ☒ Communicators | ☐ Others

Application description:

One of the ways to promote the implementation of evaluation and improvement processes in building and urban planning is to give visibility to good practices. To do this it is necessary to have technical systems capable to evaluate the improvements made, starting from a base state and comparing it with some sustainability objectives to be achieved. CESBA MED tools can help detecting good practices.

Implementing ideas:

Find reference cases: sometimes, the experiences of building rehabilitation and urban renovation are not sufficiently known. They should be discovered through a selective search but using common criteria.

Contact to the social actors: as important as finding the most interesting experiences is to establish regular contact with the people who have carried them out. It helps to present the case in the best way and to build a knowledge exchange network.

Evaluate with harmonized methods: sometimes the intervention in buildings and urban areas from different places may not be comparable. But using tools that are adaptable to local conditions and able to compare different situations can solve it.

Granting distinction and disseminating: receive recognition for the effort put into the improvement of buildings and neighbourhoods encourages its continuity and rewards people involved in. Communication makes knowledge available to other actors.

Examples / references: CESBA Neighbourhood Award (I)

The three French projects participating to this award decided to build upon this opportunity to learn from each other and to promote their own project. They organised a half-day meeting with professionals working on sustainable buildings to share their experience. The meeting was organised in the town of La Ravoire, one of the three participants, and was completed by a visit of the new neighbourhood.

www.cesba.eu/neighborhood-award



07 Granting financial aid for the renovation of buildings and urban areas

Scope

☐ Planning | ☐ Visibility | ☒ Economy | ☐ Training, awareness | ☐ Information, regulations

Who is it for?

☒ Politicians | ☐ Citizens | ☒ Technicians | ☐ Teachers | ☐ Communicators | ☒ Others

Application description:

To ensure the improvement of both renovation and new construction interventions, the granting of economic, financial or fiscal aid the public sector must take into account aspects such as the reduction of energy consumption, the optimisation of the material use, the cost / benefit relation of each alternative action and other aspects. These and other criteria can and should be measured with recognized evaluation tools, such as CESBA MED.

Implementing ideas:

Establish priorities for renovation: the demands which regulations provide for the renovation of buildings and neighbourhoods are numerous, and sometimes, expensive. Linking economic support with sustainability objectives allows to go beyond the minimum required.

Create an agreement on what it will be required: the new requirements for energy-saving methods, environmental quality, etc., involve further renovation operations. For these to be successful, it is advisable to previously make an agreement among the main participants.

Develop a protocol of gradual application: it is convenient that the new requirements that will be partially financed with public funds be of gradual application. You can start with the simplest and most implemented actions in the market.

Give assistance to renovation projects: it is also important that the technicians responsible for the renovation projects and works can rely on having help on how to use the subsidies and to implement the renovation actions in the building or neighbourhood to be intervened.

Examples / references: Protocollo ITACA, Calabria Region

Protocollo ITACA is an environmental label promoted by the Italian Regions for the evaluation and classification of buildings. It is based on the transnational SBTool methodology, developed by iISBE, the reference assessment methodology adopted by CESBA MED. In the Calabria Region since 2016 Protocollo ITACA is mandatory in building rehabilitation financed by public subsidies.

<https://cutt.ly/GwGSxFm>



08 Instrument for the selection of investment alternatives in infrastructure

Scope

☐ Planning | ☐ Visibility | ☒ Economy | ☐ Training, awareness | ☐ Information, regulations

Who is it for?

☐ Politicians | ☐ Citizens | ☒ Technicians | ☒ Teachers | ☐ Communicators | ☐ Others

Application description:

In front of the need to renew or provide new mobility infrastructures, energy services, etc., to different neighbourhoods, it is essential to have systems of weighting the utility, the benefit, etc., of the different alternatives that compete for a limited budget. Prioritize which of them provide the best cost / benefit ratio can be done with the help of evaluation systems that can compare different options.

Implementing ideas:

Identify infrastructure to be evaluated: although buildings concentrate an important part of the environmental impact of cities, infrastructure can help to reduce them. The focus is especially on mobility, energy, water and other services.

Determine the impact to be reduced: the construction and use of infrastructure consumes resources such as energy, materials, water, etc. It also generates solid waste, greenhouse gas emissions and other waste.

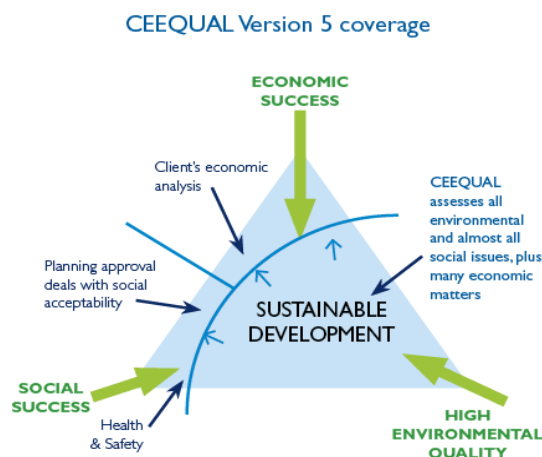
Establish incentives for improvement: one way of promoting the environmental impact reduction of infrastructure is to establish selectivity criteria in contracting mechanisms. For example: to implement an evaluation system in it.

Define improvement methods and indicators: one way of doing this could be to increase scoring to obtain a contract based on the decrease of the infrastructure's environmental impact that is proposed to be built or modified.

Examples / references: CEEQUAL sustainability rating scheme for infrastructure

CEEQUAL is the evidence-based sustainability assessment, rating and awards scheme for civil engineering, infrastructure, landscaping and public realm projects. The system rewards project and contract teams in which clients, designers and contractors go beyond the legal and environmental and social minima to achieve distinctive performance in their work. It also influences to project or contract teams.

<http://www.ceequal.com/>



09 A tool to formulate fiscal policies for the development promotion

Scope

☐ Planning | ☐ Visibility | ☒ Economy | ☐ Training, awareness | ☐ Information, regulations

Who is it for?

☒ Politicians | ☐ Citizens | ☒ Technicians | ☒ Teachers | ☐ Communicators | ☐ Others

Application description:

Sometimes it is very difficult to compare the positive impact of the implementation of different measures for social development. Which is better, extend the green areas or extend the bicycle lanes? In order to answer this and other questions, if the economic cost is the same, it is necessary to evaluate the environmental, social and economic repercussions of both measures with a harmonized and common methodology.

Implementing ideas:

Revise tax policy of building and urban planning: tax policies are not always aligned with sustainability demands. The majority of taxes were created before establishing environmental impact reduction commitments. Revision is required.

Determine improvements to be promoted: green taxes promote the reduction of greenhouse gas emissions as well as the increase in the use of renewable energy. There might be other sustainability objectives that should be defined.

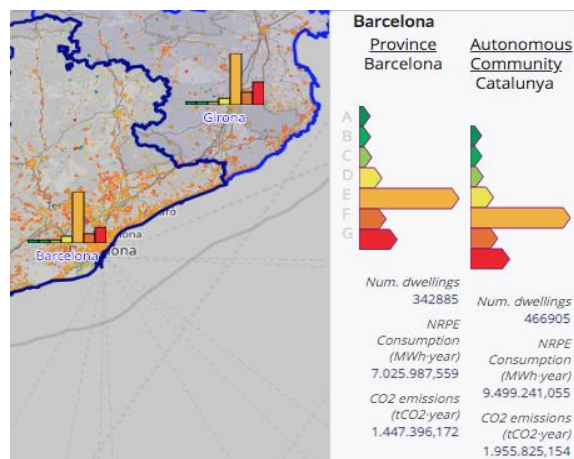
Establish tax promotion mechanisms: taxes on generation of impacts and economic aid to reduce them are the best-known mechanisms. Another way to promote change is to assign differential rates on credits.

Follow up and revise the implementation: tax changes, when passed from theory to practice, may not provide the expected results. The design or redesign of taxes, aid and differential rates must be linked to the verification of its real effectiveness.

Examples / references: ENERPAT (Energy Planning Assessment Tool), ENERSI project

ENERPAT by the ENERSI research project is an application developed for the ARC research group of La Salle Architecture School - Ramon Llull University that enables professionals in the building sector (architects, engineers, urban planners, builders, technicians and municipal managers) to assess the state of the residential building stock and define rehabilitation strategies to improve the energy efficiency of the buildings.

<http://enersi.es/en/enerpat>



10 Definition and evaluation of green purchasing and contracting policies

Scope

☐ Planning | ☐ Visibility | ☒ Economy | ☐ Training, awareness | ☐ Information, regulations

Who is it for?

☐ Politicians | ☐ Citizens | ☒ Technicians | ☐ Teachers | ☐ Communicators | ☒ Others

Application description:

The application of the environmental selectivity criteria in the purchase of materials and construction products, as well as in the contracting of services, requires a global view. The use of isolated criteria that make one product prevail over another does not ensure an optimal result. It is necessary to consider the performance of the products and services in the different phases of their life cycle and to do it in an integrated way, considering all criteria at the same time.

Implementing ideas:

Study the impacts of goods and services: harmonized criteria evaluation is effective in assessing the impacts that goods and services can produce throughout their lifetime. It is important to overcome the vision of their initial effects.

Study the advantages of the best alternatives: to determine which criteria of green purchase can be implemented, it is necessary to understand at what stage of development the supply of goods and services is; that makes it possible to demand what can be accomplished.

Establish green purchasing measures: when determining which products or services are favourable from the point of view of sustainability, it is necessary to use quantifiable parameters. The comparison of alternatives by means of indicators allows to rate the offer.

Determine the reduction of impacts and make it public: establishing green purchasing criteria, evaluating the market, rating the offer, etc., result in the improvement in terms of sustainability. Making this benefit public helps to intensify future action.

Examples / references: EU Outdoor Lighting life cycle costing tool and guide

The European Commission developed a series of sector specific LCC calculation tools. By applying LCC public purchasers can take into account the costs of resource use, maintenance and disposal, which are not reflected in the purchase price. The main potential for savings over the lifecycle of a good, work or service are use of energy, water and fuel, maintenance and replacement and disposal costs.

<https://cutt.ly/OwHiriS>

User Guide to the
Life Cycle Costing Tool
 for Green Public Procurement of
Road lighting & Traffic signals

11 Integration of sustainability in the urban planning teams

Scope

☐ Planning | ☐ Visibility | ☐ Economy | ☒ Training, awareness | ☐ Information, regulations

Who is it for?

☐ Politicians | ☐ Citizens | ☒ Technicians | ☒ Teachers | ☐ Communicators | ☐ Others

Application description:

Throughout the development of the CESBA MED project, it has been found that in the preparation of some existing intervention plans in the existing city in areas of urban expansion, the evaluation of aspects of sustainability is not as present as it should be. This is due to the lack of training in this area of knowledge, which can be answered with the educational resources developed, and the application of the evaluation systems available, in the CESBA MED project.

Implementing ideas:

Finding opportunities in cities: working with civil society to reverse decline in small and medium sized towns by restructuring public agencies and services, economic revitalization, developing civil society and integration of vulnerable population.

Play and grow: co-regeneration of urban spaces, for example the re-use of playful urban green areas, encouraging participatory methodologies and integration. Co-management of the green space is also important in order to assure use and coexistence.

Everyone's an innovator: any person could be a potential innovator if is stimulated to develop innovative projects to improve the neighbourhood's performance, for example reducing waste, valuing resources or generating new ideas for unused spaces.

Strategic local governments: upgrading municipal government in the areas of business and the environment by dialogue between the public sector and the private sector, innovation, entrepreneurship, reconversion / improvement, and sustainability.

Examples / references: URBACT Integrated Urban Development EU programme

Since 2004 URBACT has been the European Territorial Cooperation programme aiming to sustainable integrated urban development. It is an instrument of the Cohesion Policy, co-financed by the EU Regional Development Fund, the 28 Member States, Norway & Switzerland. The Association of Architects and Urban Planners, the European Urban Research Association and the Association of European School of Planning are partners of URBACT.

<https://urbact.eu/>



12 Support for knowledge and awareness in the educational and social fields

Scope

☐ Planning | ☐ Visibility | ☐ Economy | ☒ Training, awareness | ☐ Information, regulations

Who is it for?

☐ Politicians | ☐ Citizens | ☒ Technicians | ☒ Teachers | ☒ Communicators | ☐ Others

Application description:

Having information about the environmental, social and economic impacts of the different design alternatives of buildings and neighbourhoods can help. It promotes a greater social awareness about the need to renew the existing city under sustainability parameters. The CESBA MED tools can also be used in the development and evaluation of architecture and urban planning projects in schools and universities.

Implementing ideas:

Define target public: it is desirable that the people to whom the environmental awareness action is directed, whether they are students or citizens, have some type of organization that allows them to establish work with continuity.

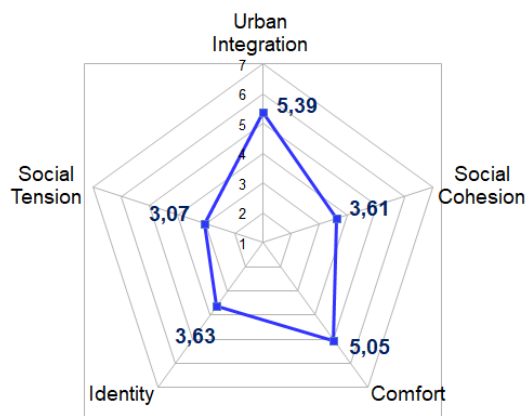
Create a collaborative network: the development and implementation of methodologies and tools to help create knowledge in design and sustainable evaluation are eased when experiences are shared and fed back.

Simplify and make the information attractive: to guide teachers and students in the design of buildings with high environmental performance and to facilitate the evaluation of projects in the most objective way possible.

Perform an experimental implementation: at the beginning of the training actions it is desirable to work with small groups in order to test methodologies, gain experience and be able to make the necessary adjustments before launching them to the general public.

Examples / references: ZAC Bon Lait district assessment comparison

The University of Lyon 2 and the French company Scope(s), two specialists in the assessment of perceived environmental performance, compared the assessment of the "ZAC Bon Lait" district using their methodology and the CESBA MED methodology. This project enabled to draw a parallel for some indicators between the inhabitant feelings about their neighbourhood and the score for the related indicator using the CESBA MED methodology.



13 Supporting for the promotion of greater resilience to climate change

Scope

☒ Planning | ☐ Visibility | ☐ Economy | ☒ Training, awareness | ☐ Information, regulations

Who is it for?

☒ Politicians | ☒ Citizens | ☒ Technicians | ☒ Teachers | ☒ Communicators | ☐ Others

Application description:

One of the challenges of global warming is the increase in the capacity of human beings and urban facilities to face the adverse consequences and to adapt to change in a positive way. The methodology, SBTool and SNTTool tools and other resources offered by the CESBA MED project, such as the training program, can help to select the most effective measures to deal with the effects of climate change.

Implementing ideas:

Study climate change risks: each environment in particular faces specific risks that need to be understood. In one location, it may be the effects of rising temperatures while in some other location it may be habitat loss due to flooding.

Define key factors: increasing resilience means not only performing technical work about the risk and how to deal with it. The role of local governments, social organization and collaborative participation are key factors.

Prepare to overcome barriers: frequently the climate change effects are not tangible enough and they create the feeling that they do not exist or that acting is not urgent. The most important barrier to overcome is cultural; it is the change in perception and action.

Be aware of real progress: in order to know if progress is being made in the right direction and the necessary speed, it is advisable to rely on a representative model of the reality in which information of the changes can be provided and future scenarios evaluated.

Examples / references: Level(s) EU building sustainability performance

Level(s) is a EU voluntary reporting framework to improve the sustainability of buildings. Using existing standards, Level(s) provides a common EU approach to the assessment of environmental performance in the built environment. Within the Level(s) framework, each indicator is designed to link the individual building's impact with the priorities for sustainability as circular economy and climate change resilience.

<https://cutt.ly/UwHU3pN>



14 Technical support for a prize of best urban renovation

Scope

☐ Planning | ☐ Visibility | ☐ Economy | ☒ Training, awareness | ☐ Information, regulations

Who is it for?

☐ Politicians | ☒ Citizens | ☒ Technicians | ☐ Teachers | ☒ Communicators | ☐ Others

Application description:

Recognising the best urban interventions from the point of view of sustainability can promote the renewal of neighbourhoods. The comparison and distinction of best practices should take into account sufficiently recognized and harmonized criteria. It is important to compare cases that may have different characteristics under common parameters. The CESBA MED neighbourhood assessment tool and the CESBA MED passport can be a great help in doing this.

Implementing ideas:

Assess the potential of transformation: cities and societies have different features to be known. It could be helpful to analyse closely not only the weaknesses and threats but also the strengths and opportunities that may arise.

Build up a collaborative social network: once the diagnosis is already outlined, the following point to be dealt with is building up a network of social actors able to take part in the desired transformation. It is expected to combine both public agents and citizens.

The city may be a laboratory: important information to boost the system in progress is obtained while taking action in reality. Taking small steps and observing their results enables the possibility to take on challenges to a higher extent.

Set each step in the assessment: it is important to set a model of assessment through harmonized parameters that will enable to assess their improvement between previous and future situations and will also help to exchange information among the cities.

Examples / references: CESBA Neighbourhood Award (II)

The CNA is an official recognition created to showcase and acknowledges best practices of good neighbourhood developments. The Center of Schnifis (Austria) was the 2019 winner in category: “Areas under a planned or project phase retrofitting”. To meet its high expectations the municipality is open to new approaches and deeply involves its citizens in relevant decision-making processes.

www.cesba.eu/neighborhood-award



15 Creation of a building and urban data bank on sustainability

Scope

☐ Planning | ☐ Visibility | ☐ Economy | ☐ Training, awareness | ☒ Information, regulations

Who is it for?

☐ Politicians | ☐ Citizens | ☒ Technicians | ☒ Teachers | ☐ Communicators | ☐ Others

Application description:

The assessment of the sustainability of buildings and neighbourhoods makes it possible to generate a set of data on their initial behaviour and its improvement scenarios. This information can be sorted and open through the creation of data banks. It is useful to compare different cases and also to obtain reference values that make possible to verify objectives. It also facilitates learning from the experience of other cases.

Implementing ideas:

Define the objectives of the system: before setting a database, it is important to define its use, that is to say, situations and purposes involved. This will help to define its outline, necessary information, actors that will intervene and the kind of services.

Collect available information: sustainability data regarding buildings and neighbourhoods tends not to be found in an appropriate format. In the first place, it is advisable to suit the existing data, to require new data afterwards.

Assure continuous access to data: a system of information constantly requires updated and increasing data (as regards numbers and representativeness). Information suppliers must keep on feeding the system permanently.

Specific services for each profile: a building technician, a dweller, a municipal agent, all of them have different needs and the system of information has to meet their specific situations in order to offer data analysis services with certain benefits.

Examples / references: Building Performance Database (BPD)

The Building Performance Database (BPD) is the US nation's largest dataset of information about the energy-related characteristics of commercial and residential buildings. The BPD combines, cleanses and anonymizes data collected by federal, state and local governments, utilities, energy efficiency programs, building owners and private companies, and makes it available to the public who can work with this information.

<https://cutt.ly/twHPpMY>



16 Improvement of sustainability in the building and urban regulations

Scope

☐ Planning | ☐ Visibility | ☐ Economy | ☐ Training, awareness | ☒ Information, regulations

Who is it for?

☒ Politicians | ☐ Citizens | ☒ Technicians | ☐ Teachers | ☐ Communicators | ☒ Others

Application description:

The regulations on building quality and urban planning are updated periodically. These modifications may include environmental, social and economic sustainability criteria based on evaluation processes and improvement of new or existing buildings. The scientific basis on which they must rely can come from the use of the methodology, the tools and other resources of the CESBA MED project.

Implementing ideas:

Study the effects of regulations: the analysis of regulations may be the first step for a sustainable change in building and urbanism in order to foresee the positive or contradictory aspects as regards environmental, economic or social goals.

Set new objectives to be reached: diagnosis is opposed to the desirable situation, defined by a final outcome or by indicators of progress. As a result of this showdown, main amendments to be carried out and their possible mechanisms may arise.

Detect and analyse reference cases: many regions or cities may have undertaken the same path before; therefore, it is advisable to collect such experience. Although what is needed in each situation may be different, it is important to detect what may be useful and how to apply it.

Adjust regulations gradually: changes require adaptations on behalf of the different actors involved. This means innovation, training, etc., and this takes time. A gradual change sets criteria that is kept over time and is gradually adjusted to its requirements.

Examples / references: Brussels' regulation based on the Passive House Standard

With its new Energy Performance and Indoor Environment in Buildings Regulation, the Brussels Capital Region has adopted the targets of the European Energy Performance of Buildings Directive that calls for all buildings to be Nearly-Zero Energy Buildings (NZEB) by the end of 2020. Brussels' new regulation is based on the Passive House Standard, making it mandatory for all new buildings as well as all retrofits initiated after January 2015.

<https://cutt.ly/cwHOMhl>



17 Information for the decision making of government agents

Scope

☐ Planning | ☐ Visibility | ☐ Economy | ☐ Training, awareness | ☒ Information, regulations

Who is it for?

☒ Politicians | ☐ Citizens | ☒ Technicians | ☐ Teachers | ☐ Communicators | ☒ Others

Application description:

Agents of local governments need information to help them decide on the advisability of implementing urban renovation measures. The tools for evaluation and improvement SBTool and SNTTool can provide specific data, or methods of presentation of information, those provide greater clarity for decision making. This allows the use of the CESBA MED methodology to be independent of government changes, facilitating the continuity of the urban policies.

Implementing ideas:

Define decision-making parameters: decisions taken in policies and building, and urban planning can rely on parametric information on their environmental, economic and social effects, gaining effectiveness and coherence.

Implement information systems: in order to decide based on parametric information it is necessary to have basic data and an information system. This system must be able to relate a large amount of diverse data, it must be multicriteria and harmonized.

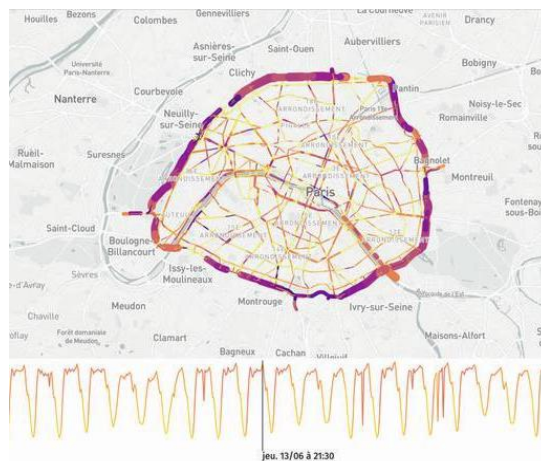
Contextualise according to local conditions: another important condition of the system is its adaptation to specific situations, without losing the ability to exchange information with other systems from other locations. The exchange of experiences is essential.

Monitor building and urban planning: once the parametric information is applied in the decision-making process and an action is carried out, it is important to get a feedback on the results that are being achieved. This is useful for system revision and updating.

Examples / references: Open platform of French public data

In France, the availability of data is possible thanks to the Law no. 2015-992 on Energy Transition for Green Growth. Improved access to local energy data is one of the contributions of the Law, which obliges Distribution System Operators and Transmission System Operators to publish data on energy consumption and production. This data is publicly available through the Open Platform of French Public Data (image: Paris traffic June 2019).

<https://www.data.gouv.fr/fr/>



18 Support participatory decision making process in public initiatives

Scope

☐ Planning | ☐ Visibility | ☐ Economy | ☐ Training, awareness | ☒ Information, regulations

Who is it for?

☒ Politicians | ☒ Citizens | ☒ Technicians | ☐ Teachers | ☒ Communicators | ☐ Others

Application description:

Inclusive participation of all stakeholders in designing and implementing urban renewal measures is key to success. Recognising all stakeholders' expertise is essential. The evaluation process for buildings and neighbourhoods can support the discussion between stakeholders by providing and presenting specific data in an easy way and implementing a dedicated local committee of stakeholders to discuss related issues.

Implementing ideas:

Why decide in a participatory way: a well-informed participatory process allows people to give a responsible opinion about a project or activity and to obtain justified answers to their observations. It supports the consistency of decisions.

Contact people and institutions: debate and contrast of arguments occur between different actors or citizen institutions, or between citizens and the people responsible for decision making. It should be clear how results will be implemented in decisions.

Establish a working agreement: participatory processes can be organised according to the phases of information on the subject, debate with the participants, return or communication of results and monitoring of the actions decided.

Rely on the sustainability assessment: agreed environmental, economic and social assessment tools, as well as the contrasted data, provide independent information on the positions of the parties. Their complexity can be reduced without losing accuracy.

Examples / references: French approach Quartiers Durables Méditerranéens

The French local assessment approach Quartiers Durables Méditerranéens is a certification based on peers' participation. It praises inclusive governance for urban projects. As a partner of CESBA MED, it developed a dedicated indicator to support inclusive citizen governance. Combined with the CESBA local committee that the system proposes, it supports consistent participative decision-making process.

<https://www.envirobatbdm.eu/>

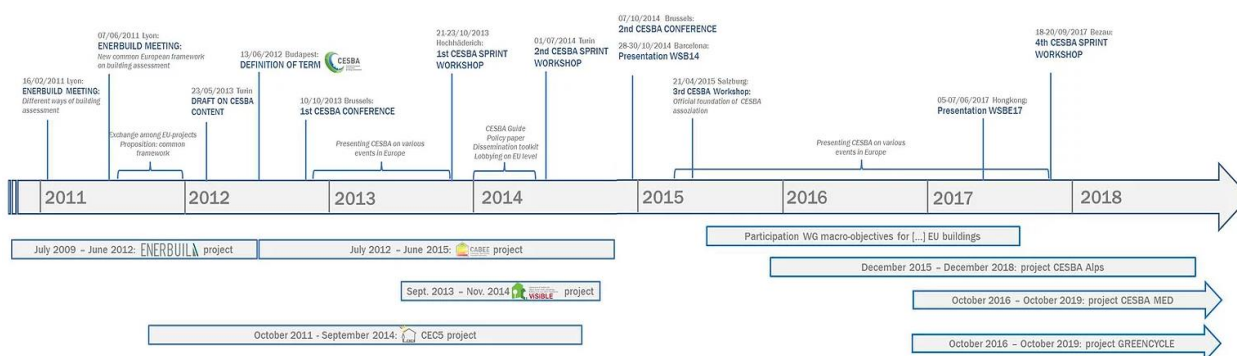


3.2. What is the CESBA initiative?

Common European Sustainable Built Environment Assessment CESBA is a movement that was triggered by the finding of European actors in 2011 that the current profusion of sustainable building and neighbourhood assessment systems will not lead the built environment of Europe towards sustainability. In this context, several studies carried out by EU funded research projects (CABEE, CEC5, Enerbuild, IrH-MED, opEnHouSE, SuperBuildings or ViSiBLE, CESBA Alps) showed that dozens of different building assessment systems have been implemented in Europe at international, national and regional levels. These systems differ in methods, frameworks, physical and temporal boundaries, issues considered, number of criteria, priorities and so on and so forth. This lack of conformity makes the comparison of results impossible, which brings up the issue of creating a harmonization process at the European level. Therefore, the first objective of CESBA is to create a common approach to built environment in order to ensure the implementation of certification processes. This will serve to improve the standard practice toward a better sustainability.

A sustainable built environment is not defined merely by the value of quality indicators. Its other significant processes are certification, training and assisting services along the whole building life cycle. A new built environment integrates not only experts but also all stakeholders ranging from users to politicians, from big companies to single family house owners. This leads to the second objective of CESBA: to establish a mass-movement toward near-zero emission built environment in Europe.

The CESBA initiative aims at achieving these two objectives. Launched with the involvement of more than 30 public and private European organizations from Austria, France, Italy, Spain, Czech Republic, Germany, Hungary, Poland, Slovenia, Slovakia, Switzerland and the UK, CESBA is more than the assessment of sustainable buildings; CESBA is a process towards new built environment and standards in Europe.



The CESBA evolution scheme

The CESBA initiative started in 2011 (see the previous figure) as a non-profit, bottom-up process by stakeholders closely linked to the public sector (European regions and cities). Meanwhile it got attention from many organizations, including the European Commission (DG Environment). Among the several EU projects that address understanding, definition and implementation of sustainable built environment, the aforementioned projects support CESBA and promote a common platform.

3.3. The CESBA MED Policy Paper

Concept

One of the main planned outputs of the CESBA MED project is the policy paper, which is a relevant document to disseminate the project's main contributions and recommendations in the field of urban sustainable development.

This document is intended to provide valuable inputs to policy-makers and key decision-takers at various levels (local/regional, national and at EU-level) concerning energy and sustainability retrofit plans, programs and actions for the built environment.

Link

add URL to the publication when this is available

3.4. CESBA MED project credits

Project overview

Full title of project: CESBA MED – Sustainable MED Cities

Project acronym: CESBA MED

Programme priority: Priority 2 - Fostering low-carbon strategies and energy efficiency in specific MED territories: cities, islands and remote areas

Programme priority specific objective: efficiency in specific MED territories: cities, islands and remote areas

Start date: 2016-11-01

Closure date: 2019-10-31

ERDF Co-Financing Rate: € 2.711.818,75/ 85%

Total Project Budget: € 3.190.375,00

CESBA Budget: € 200.750,00

CESBA Co-Financing Rate: € 170.637,50/ 85%

Project partners

Lead Partner: City of Torino

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