

# The Sustainable MED Cities Assessment System

The SMC Assessment System is a tool for measuring the sustainability of Mediterranean buildings, neighbourhoods, and cities. It is useful to support decision making processes for the development, implementation and monitoring of measures and plans for a more sustainable built environment. The SMC Assessment System can be contextualized and adapted to any Mediterranean region. The SMC Assessment System is based on the transnational methodology SBE Method of iiSBE.

The SBE Method implements the “**think globally, act locally**” concept, acting as a common “language” for assessing the sustainability of the built environment. The tools composing the SMC Assessment System, SBTool (Building scale), SNTool (Neighbourhood scale) and SCTool (City scale) can be adapted to any context reflecting local priorities and peculiarities. The use of the SMC Assessment System allows to evaluate, compare and aggregate the results of sustainability measures deployed in different cities (act locally) and, at the same time, to evaluate the progress towards the global sustainability targets (think globally).

The SMC assessment system is freely available for the development of sustainability assessment tools at building, neighbourhood, and city scale. The use of SNTool contributes to the achievement of the objectives of the Mediterranean Strategy for Sustainable Development.

## Assessment Tools



### SBTool MED

Sustainable Building Tool

SBTool MED is an assessment tool for measuring the sustainability at the building scale. It supports decision-making processes from the initial design phase to retrofiting stages of the building.



### SNTool MED

Sustainable Neighbourhood Tool

SNTool MED is an assessment tool for measuring the sustainability of neighbourhoods and small urban areas. It is a tool useful to support decision-making processes for the development, implementation and monitoring of urban plans and action plans for more sustainable neighbourhoods.



### SCTool MED

Sustainable City Tool

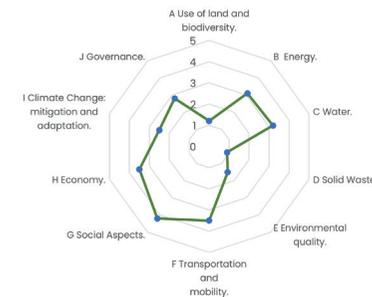
SCTool MED is an assessment tool for measuring the sustainability at city level. The tool is useful to enhance the capacity of public administration in delivering, implementing and monitoring efficient measures, plans and strategies to improve the sustainability of cities.



## Results of a Sustainability Assessment at the neighbourhood scale

### Spider Chart

Easy-to-read representation of the 10 issues score on a scale from 0 (minimum acceptable performance) to 5 (best performance).



### Number of Active Indicators:

Total number of indicators available in the SNTool and number of indicators selected (including KPIs) in the assessment.

# of available criteria	92	# of active criteria	83
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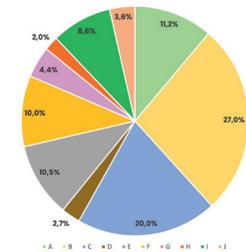
### Description of the KPIs

To compare the sustainability among the Mediterranean regions.

KPIs at neighbourhood scale		Value	Unit of measure
B2.1	Total final thermal energy consumption for building operations.	26	kWh/m <sup>2</sup> /yr
B2.4	Total final electrical energy consumption for building operations.	18	kWh/m <sup>2</sup> /yr
B2.7	Total primary energy demand for building operations.	8	kWh/m <sup>2</sup> /yr
B3.1	Share of renewable energy generated on-site, relative to final thermal energy consumption for building operations.	65	%
B3.4	Share of renewable energy generated on-site, relative to final electric energy consumption for building operations.	72	%
B3.7	Share of renewable energy generated on-site, relative to the total primary energy consumption for building operations.	72	%
C2.3	Consumption of potable water in residential buildings.	18	L/occupant/yr
D2.2	Access to solid waste and recycling collection points.	66	%
E1.2	Particulate matter (PM <sub>10</sub> ) concentration.	3	days/yr
F1.1	Performance of the public transport system.	70	%
F2.3	Bicycle network.	100	m/inhabitant
G3.1	Availability and Proximity of Key Services.	70	%
I1.1	Greenhouse Gas emissions.	11.5	t CO <sub>2</sub> eq/ inhabitant /yr
I3.1	Permeability of land.	21	%

### Pie Chart

Percentual contribution weight of each issue to the overall score.



### Final Score

Detail of the scores and weights for the 10 issues and overall score.

Issue	Score	Weight	Weighted scores
A Use of land and biodiversity.	1,2	11,2%	0,13
B Energy	3,1	27,0%	0,83
C Water	3,2	20,0%	0,64
D Solid Waste.	0,9	2,7%	0,02
E Environmental quality.	1,5	10,5%	0,45
F Transportation and mobility.	3,5	10,0%	0,15
G Social Aspects.	4,2	4,4%	0,18
H Economy.	3,5	2,0%	0,07
I Climate change: Mitigation and adaptation.	2,5	8,6%	0,21
J Governance.	2,8	3,6%	0,10

100% 2,78/5  
Total weight Total score

# Decision-Making Methodology

## The 7 Key Phases



### 1. Initiation

Select the urban area and the buildings for which the retrofitting concept will be defined, collect key information, identify the stakeholders to involve and set the SMC working group responsible for the decision-making process.



### 2. Preparation

The beginning of the urban and building retrofitting concepts development. The preparation phase will provide the necessary information to create a sufficient working basis for the next phases.



### 3. Diagnosis

Analyse the current state of the buildings and the urban area. The current state is to be analysed using SBTool, SNTool, and SCTool.



### 4. Strategic Definition

Set meaningful targets for the retrofitting project by identifying the main constraints and restrictions which may limit the retrofitting design.



### 5. Retrofit Scenarios

Develop alternative possible retrofitting scenarios for the urban area and the buildings that fulfill the defined sustainability targets in the Strategic Definition phase.



### 6. Decision-Making

Select the best scenario in terms of energy and cost efficiency as well as the overall sustainability among the ones created in the previous phase



### 7. Retrofit Concept

Detail the best scenario in a retrofitting concept. The retrofitting concept is a report containing the description of the interventions foreseen by the scenario following the issues of SBTool, SNTool, and SCTool.

## Info

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### Associated Partners



United Nations Environment Programme - Mediterranean Action Plan

<https://www.unep.org/medmap/>



MedCités Association

<https://medcities.org/>



<https://enicbcmcd.eu/projects/sustainable-med-cities>



Sustainable MED Cities

## SMC Sustainability Assessment System for the Mediterranean Built Environment

A tool to support cities in defining their own way towards an integrated and sustainable urban development