

# Transnational Harmonization of Built Environment Assessment Systems: the CESBA Passport Principle

Andrea Moro

Markus Berchtold

Etienne Vienot

Interreg   
Mediterranean

 CESBA MED

Interreg   
Alpine Space

CESBA  
Alps

  
Sustainable  
Territories

European Regional Development Fund



Organisers:



International Co-owners:



# 60+ ASSESSMENT SYSTEMS IN EUROPE....

1990

breeam

1995



2000



MINER GIE-ECO®

Protocollo  
ITACA

2005



2010



NATURE



Organisers:



International Co-owners:



# Too many differences...results not comparable !

Physical boundaries

Time boundaries

Scoring and weighting systems

Number of criteria

Issue taken in account

Priorities

Labels



# PHYSICAL BOUNDARIES




 BUILDING



 BUILDING +  
OUTDOOR AREA



 BUILDING +  
OUTDOOR AREA +  
QUALITY OF SITE

   = LEVEL OF COMMON APPROACH (HIGH/MEDIUM/LOW)

# TIME BOUNDARIES

 IN USE

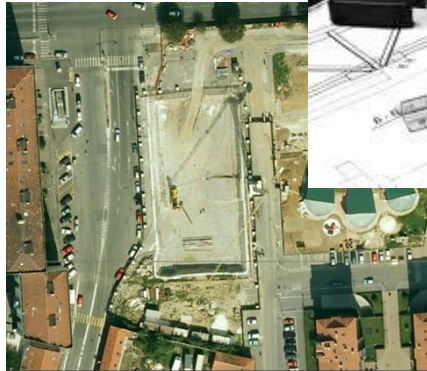


 CONSTRUCTION



AS BUILT 

 PRE-DESIGN



DESIGN 



Organisers:



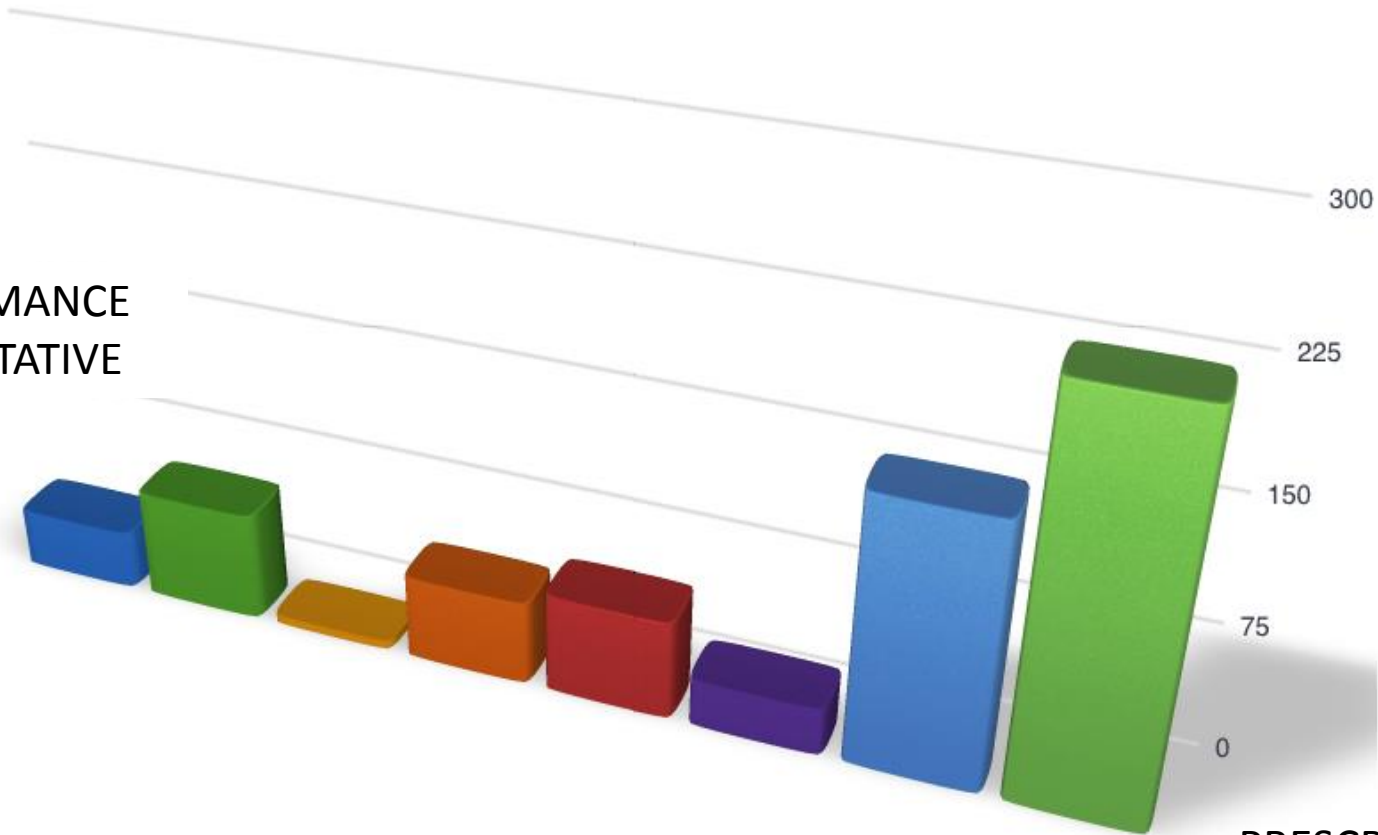
International Co-owners:



■ P.Itaca 
 ■ LEED 
 ■ Casaclima N. 
 ■ DGNB 
 ■ Total Quality 
 ■ BDM 
 ■ HQE 
 ■ Minergie Eco

# NUMBER OF CRITERIA

PERFORMANCE  
QUANTITATIVE



PRESCRIPTION  
QUALITATIVE



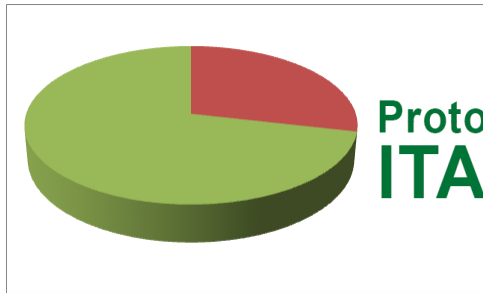
Organisers:



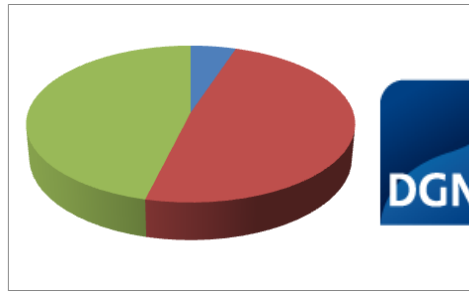
International Co-owners:



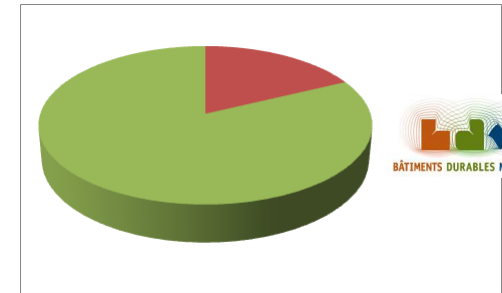
Global Alliance  
for Buildings and  
Construction



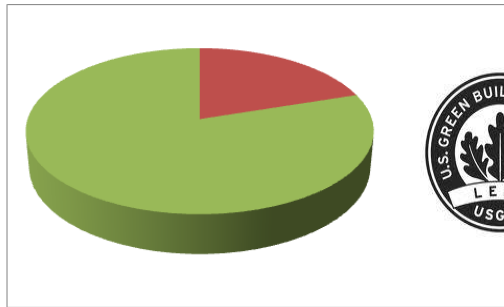
**Protocollo  
ITACA**



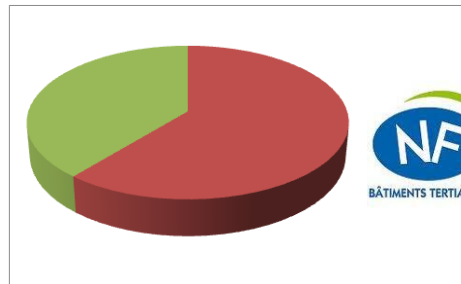
**DGNB**



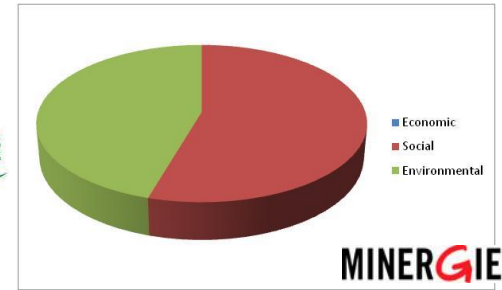
**BÂTIMENTS DURABLES MÉDITERRANÉENS**



**U.S. GREEN BUILDING COUNCIL  
LEED  
USGBC**

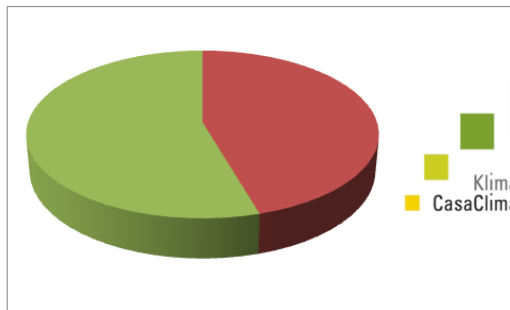


**NF  
BÂTIMENTS TERTIAIRES**  
DÉMARCHE  
HQE

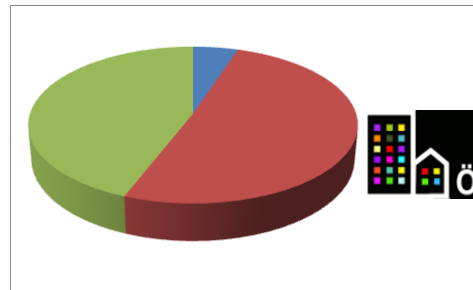


■ Economic  
■ Social  
■ Environmental

**MINERGIE-ECO®**



**KlimaHaus®  
CasaClima**



**ÖGNB**

**CRITERIA DISTRIBUTION**

- ENVIRONMENTAL
- SOCIAL
- ECONOMIC

Organisers:

International Co-owners:

# WHY TO HARMONIZE ?

- To understand each other talking the same language
- Common understanding about key sustainable built environment issues in Europe
- Measurement of the progress towards common sustainability objectives
- Best practice transferring
- Easier to learn from each other
- Facilitated transnational activities and processes
- More effective common regulations and directives



Organisers:



International Co-owners:



Sustainable Buildings and Climate Initiative  
Promoting Policies and Practices for Sustainability





# COMMON ISSUES AND CHALLENGES COMMON STRATEGIES AND POLICIES

NEED

## A COMMON WAY TO MEASURE AND ESTABLISH SUSTAINABILITY TARGETS FOR THE BUILT ENVIRONMENT

TO AVOID

UNCERTAINTY AND CONFUSION



Organisers:



International Co-owners:



Sustainable Buildings  
and Climate Initiative  
Promoting Policies and Practices for Sustainability





## A Collective Initiative for a New Culture of Built Environment in Europe

### Main Objectives:

- Harmonization of assessment systems in Europe
- Facilitate the adoption of assessment tools in policies
- Increase the number of certified buildings



Organisers:



International Co-owners:



Sustainable Buildings  
and Climate Initiative  
Promoting Policies and Practices for Sustainability



# Harmonization strategy

- CESBA doesn't intend to develop a new tool. The objective is to harmonize the existing and new ones.
- Global system not possible: contextualization principle
- No possible to merge the existing systems

Solution: a common denominator composed by **a core set of criteria** to allow the transnational comparison of performances concerning key issues.



Organisers:



International Co-owners:



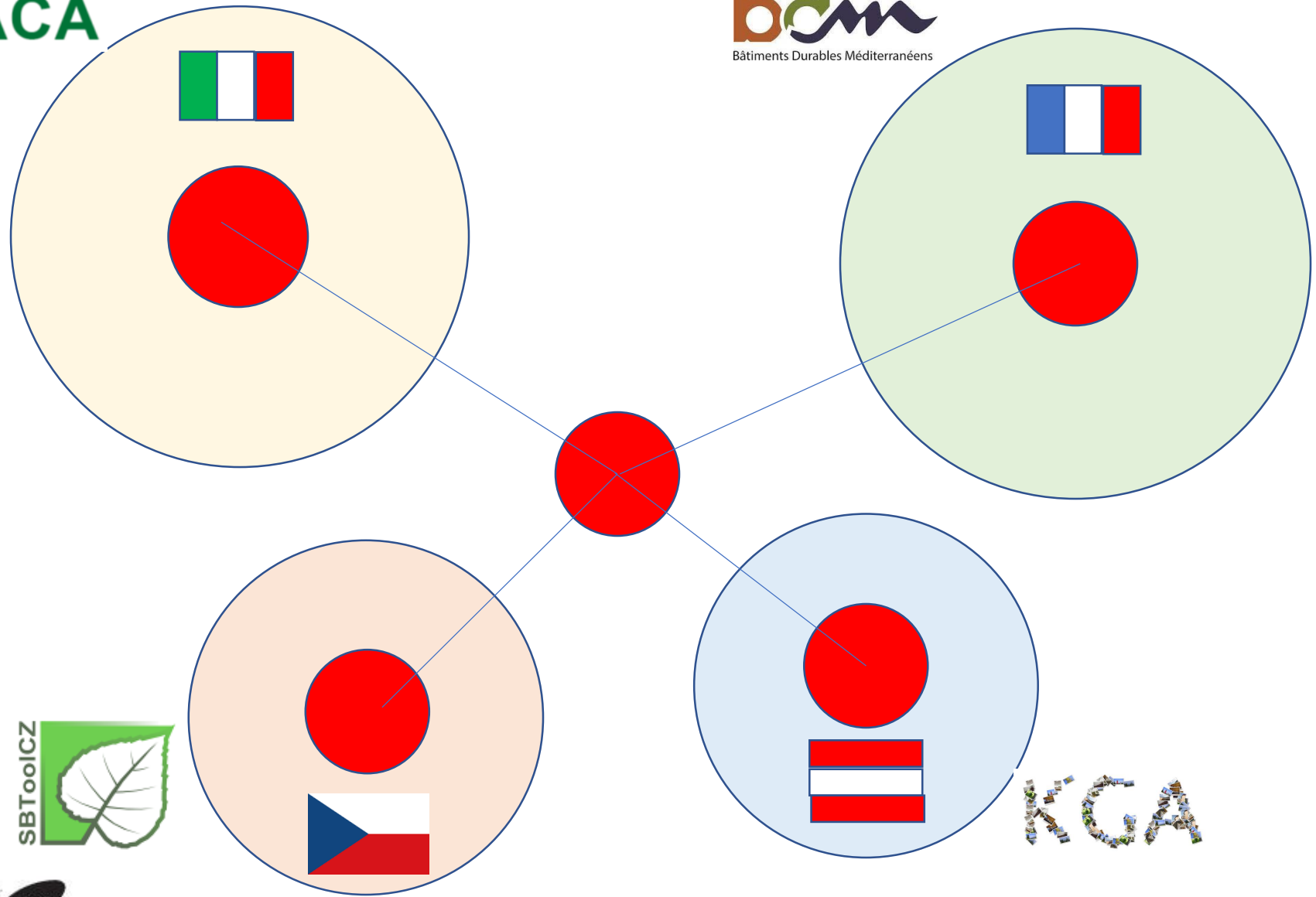
Sustainable Buildings and Climate Initiative  
Promoting Policies and Practices for Sustainability



Global Alliance  
for Buildings and  
Construction

# Protocollo ITACA

**bcdm**  
Bâtiments Durables Méditerranéens

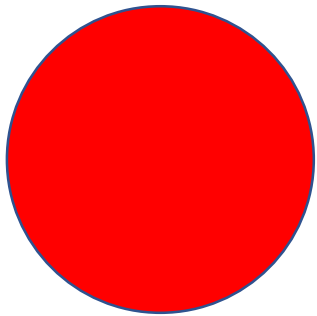


Organisers:

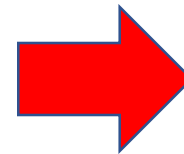


International Co-owners:





Energy  
Water  
Natural resources  
Waste  
GWP  
Thermal comfort  
Eco Toxicity  
Human Toxicity  
Operation Cost



COMMON  
METRIC=  
COMPARABLE  
RESULTS



Organisers:



International Co-owners:



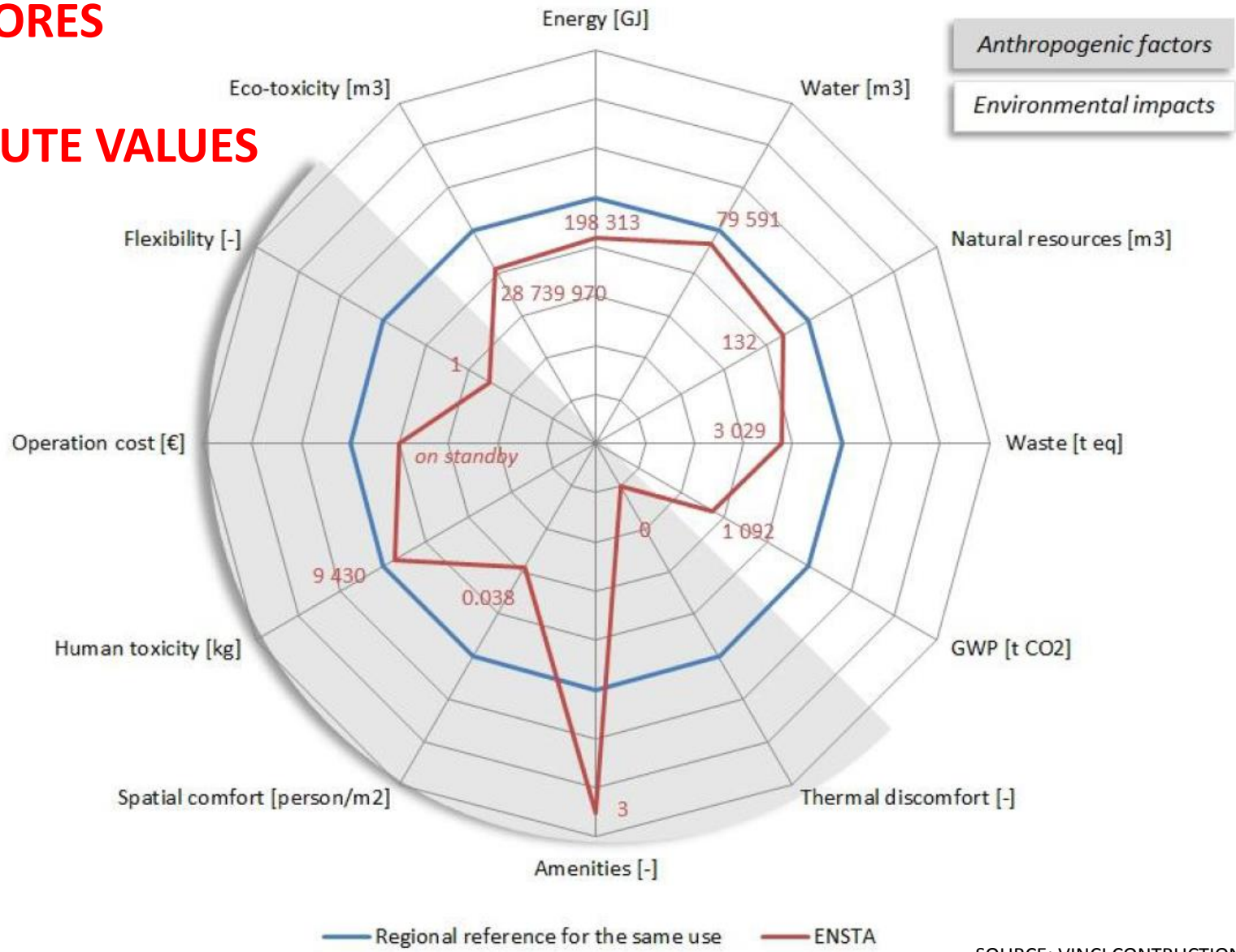
Sustainable Buildings and Climate Initiative



Global Alliance for Buildings and Construction

**NO SCORES**

**ABSOLUTE VALUES**

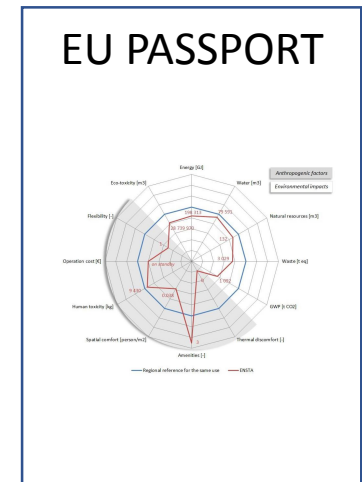


SOURCE: VINCI CONSTRUCTION FRANCE

# EU PASSPORT

COMMON INDICATORS  
SHOWED IN A  
TRANSNATIONAL  
DOCUMENT

SCHEME OPERATORS  
WILL ISSUE A  
CERTIFICATE + PASSPORT



System A  
Germany  
60 criteria  
Building+Site  
Process/Design/As Built  
Environmental, Social and  
Economic criteria  
DIN Standards  
German weights

System B  
Italy  
35 criteria  
Building+Site+Location  
Design/As Built  
Environment and Social  
criteria  
UNI Standards  
Italian weights

SCORE 85  
LABEL GOLD

SCORE 2.5  
LABEL VERY GOOD

**RESULTS NOT COMPARABLE !**



Organisers:



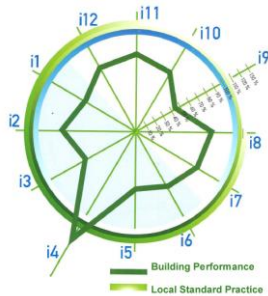
International Co-owners:



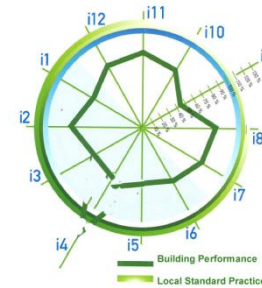


System A  
 Germany  
 60 criteria  
 Building+Site  
 Process/Design/As Built  
 Environmental, Social and  
 Economic criteria  
 DIN Standards  
 German weights

System B  
 Italy  
 35 criteria  
 Building+Site+Location  
 Design/As Built  
 Environment and Social  
 criteria  
 UNI Standards  
 Italian weights



Comparable !



Organisers:



International Co-owners:



# ANALYSIS OF INDICATORS

## Jobs



Vorarlberg reaches **8.9** / 10 points in **Jobs**.



This puts the region in position **1** / 9 regions in Austria.



Compared across all OECD regions, the region is in the **top 11%** in **Jobs**.



### Indicators

Employment rate: **75.3** %

Unemployment rate: **3.3** %

## Community

Vorarlberg reaches **8.2** / 10 points in **Community**.



This puts the region in position **7** / 9 regions in Austria.



Compared across all OECD regions, the region is in the **top 42%** in **Community**.



### Indicators

Perceived social support network: **92.2** %

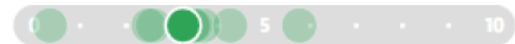
## Environment



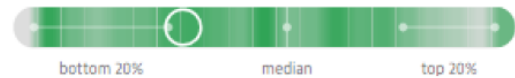
Vorarlberg reaches **3.2** / 10 points in **Environment**.



This puts the region in position **6** / 9 regions in Austria.



Compared across all OECD regions, the region is in the **bottom 24%** in **Environment**.



### Indicators

Average level of PM2.5 in the region experienced by the population: **14.5** µg/m³

SOURCE: OECD REGIONAL WELL BEING



Organisers:



International Co-owners:



## **CESBA MED: SUSTAINABLE CITIES**

**Start: November 2016**

**End: October 2019**

**Total budget: 3.190.375 euro**

**12 Partners**

**7 Countries**

Assessment systems and  
Passport at urban and building  
scale. 9 Cities involved.

**City of Torino - Italy**

**iiSBE Italia R&D - Italy**

**City of Udine – Italy**

**EnvirobotBDM - France**

**Rhonealpi nergie Environment - France**

**M tropole d' Aix-Provence-Marseille – France**

**Government of Catalonia - Spain**

**Municipality of Sant Cugat del Vall s - Spain**

**University of Malta – Malta**

**National Observatory of Athens – Greece**

**Energy Institute Hrvoje Po ar – Croatia**

**CESBA – Austria**

1. Development of an integrated multi-scale assessment system connecting the urban and building scale to support decision making processes for sustainable public buildings.
2. Improving the effectiveness and impact of policies, action plans and planning activities for more sustainable alpine territories (by application of CESBA STT)
3. A CESBA Passport with common key performance indicators (CESBA KPI) allows the comparison of different regions.

**Start: December 2015**

**End: December 2018**

**Total budget: 2.818.739 euro**

**11 Partners**

**6 Countries**

Assessment systems and  
Passport at territorial scale. 9  
regions involved.

**Regione Piemonte - Italy**

**Regione Lombardia - Italy**

**Regione Veneto - Italy**

**iiSBE Italia R&D - Italy**

**RAEE - France**

**EnviroBAT-BDM - France**

**MUAS - Germany**

**Regionalentwicklung Vorarlberg – Austria**

**CESBA - Austria**

**LISD - Liechtenstein**

**E-zavod - Slovenia**

1. Development of an integrated transnational assessment system at territorial scale (CESBA STT)

2 - Training system for decision makers, public administrations and professionals

3 – Certification label for territorial marketing

4 – Guide for the Implementation of assessment systems in policies and planning activities

# CESBA PRINCIPLES

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



# Protocollo ITACA



Bâtiments Durables Méditerranéens



**SBTOOL**<sup>®</sup>  
ferramenta para a construção sustentável

FRANCE  
ITALY  
GERMANY  
SPAIN  
AUSTRIA  
CZECH REPUBLIC  
PORTUGAL



Organisers:



International Co-owners:





# EU COMMON INDICATORS

EC COMM 445 (2014):  
Resource Efficiency  
Opportunities in the Building  
Sector

WG to study to identify an EU  
common framework of  
indicators to assess the  
environmental performance of  
buildings



JRC TECHNICAL REPORTS

Summary findings and indicator  
proposals for the life cycle  
environmental performance, quality  
and value of EU office and  
residential buildings

*Draft for public consultation*

Nicholas Dodd, Shane Donatello,  
Miguel Gama-Caldas (JRC-IPTS)  
Ighor Van de Vyver, Wim Debacker,  
Marianne Stranger, Carolin Spirinckx (VITO)  
Oriane Dugrosprez (ALTO Ingenierie)  
Karen Allacker (KU Leuven)

July 2016



Organisers:



International Co-owners:



Sustainable Buildings  
and Climate Initiative  
Promoting Policies and Practices for Sustainability



# Thank you



Organisers:



International Co-owners:



Sustainable Buildings and Climate Initiative  
Promoting Policies and Practices for Sustainability

