



Demonstration of energy efficiency and utilisation of renewable energy sources through public buildings.

21st OSCE Economic and Environmental Forum
EU-Project CEC5 - Presentation

Welcome

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This project is implemented through the CENTRAL EUROPE Programme co-financed by the ERDF.

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Presentation Contents

- EU Project CEC5
- CEC5 Demonstration Buildings
- CESBA Initiative
- Next event: CESBA Sprint Workshop



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CEC5 Project

Partnership and Duration

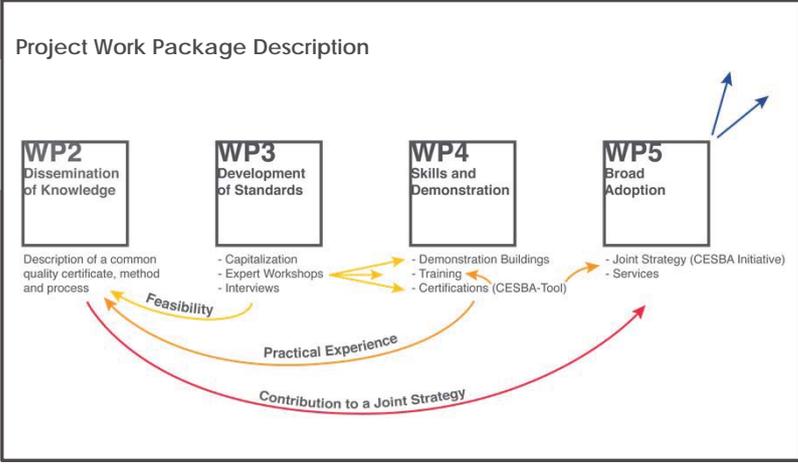
- Project Duration**
 - October 2011 – October 2014
- The strategic approach was to cover a range of organisations involved in developing sustainable buildings using EE and RES
 - Cities and Regions as the owners of buildings:** Vysocina Region (CZ), Municipality of Udine (IT), Ludwigsburg (DE), Bydgoszcz (PL), Trnava Self Governing Region (SK)
 - Regional Development Organisations to push innovation in their regions:** Regionalentwicklung Vorarlberg (AT), Soca Valley Development Centre (SI)
 - Energy Institutions as experts in the field of EE and RES:** Energy Agency of Zlin (CZ), Building and Civil Engineering Institute ZRMK (SI)
 - Architects who face the effects of EE and RES building:** Czech Chamber of Architects (CZ)
 - Ministries who have the power to make changes in the regulations towards EE and RES:** Ministry of National Development (HU), Ministry of Agriculture and the Environment (SI)

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CEC5 Project

Project Work Package Description



WP2 Dissemination of Knowledge
Description of a common quality certificate, method and process

WP3 Development of Standards
- Capitalization
- Expert Workshops
- Interviews

WP4 Skills and Demonstration
- Demonstration Buildings
- Training
- Certifications (CESBA-Tool)

WP5 Broad Adoption
- Joint Strategy (CESBA Initiative)
- Services

Interconnections:
 - Feasibility (WP2 to WP3)
 - Practical Experience (WP3 to WP4)
 - Contribution to a Joint Strategy (WP4 to WP5)

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CEC5 Demonstration Buildings in seven countries

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Demonstration Buildings

Sustainability

- On a transnational level the demonstration buildings are certified and comparable to other buildings by the CESBA tool
 - 23 model assessments in Central Europe area, 46 in Alpine Space area
 - Regional tools harmonized with CESBA criteria and indicators also get comparable
- A visitor program of good practice buildings including the demonstration buildings will be done nationally and promoted via the CESBA initiative
- Demonstration Buildings are open to public for replication of ideas and solutions
- Training materials on CESBA are useable OpenSource for continuous development
- The Joint strategy on sustainable building will be defined beyond project borders
- Transnational group of Experts exchange knowledge

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LCT ONE, Demonstration Building Vorarlberg (AT)

State of Implementation – Opening 20.06.2013

- Construction: **8 stories wood hybrid system construction** (30 stories possible)
- Materials: measures to achieve an ecological and a departmental and CO2 reduced building
 - recycled materials were used for facade and floors
 - in general untreated materials (main part is wood) were used
 - 90% of the building components were regional pre-fabricated
- Facilities: **Building facility management system** with automatic shading and lighting adjustment, CO2 controlled ventilation system,
- Heating: **Passive-House** connected to the local heating system (wood pellets)
- Exhibition on 3 floors: Floor 1 on sustainability of construction and regional economic cycles, Floor 2 informs on facility management, Floor 3 informs on the role model public building

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LCT ONE, Demonstration Building – Vorarlberg (AT)

Implementation 2012



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Social Care Institution Lidman – Vysocina Region (CZ)

State of Implementation – Finalization July 2013

- ❑ Insulation: composed of warming system on the basis of mineral insulation and of windows with triple insulation glass
- ❑ Floor: equipped with a three-layer thermal insulation
- ❑ Heating: ensured by means of two air-water heat pumps
- ❑ Roof: hydro insulating photovoltaic foil which generates electric power from solar energy and functions as the roof itself

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Social Care Institution Lidman – Vysocina Region (CZ)

State of Implementation – Finalization July 2013



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Demonstration Buildings

Buildings in building phase

- (DE) Ludwigsburg, Primary school cafe and gym, 2013
- (IT) Udine, Social and Cultural Center, Redevelopment 2013
- (PL) Bydgoszcz, RES Demonstration Center at mechanical school complex, 2013

(DE) Ludwigsburg

(PL) Bydgoszcz

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Demonstration Buildings

Building in building phase

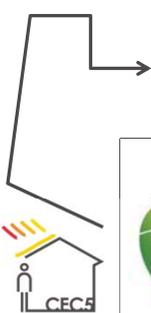
- (SI) Tolmin, Office Soča Valley Development Centre, Redevelopment 2013-14 Implementation Autumn 2013
- (SK) Senica, Secondary Technical School, Redevelopment 2013-14

(SI) Tolmin

(SK) Senica

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CESBA



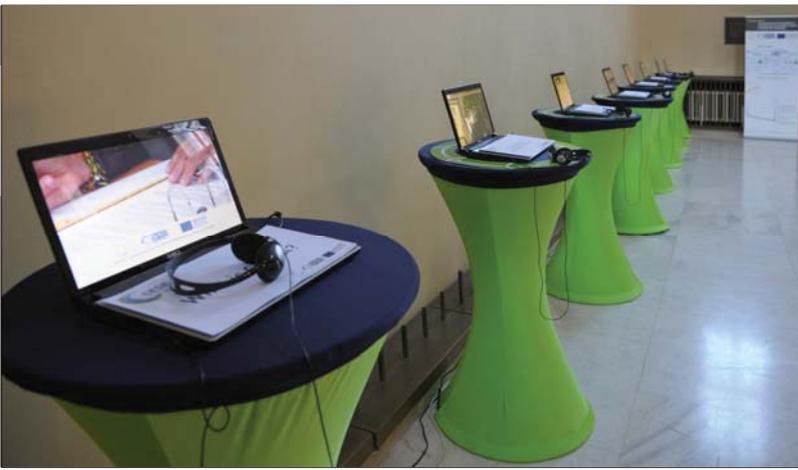
What is CESBA?

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CESBA



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CESBA

Projects in co-operation towards
a Common European framework for Sustainable Building Assessment




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CESBA – Towards a Common European framework for Sustainable Building Assessment

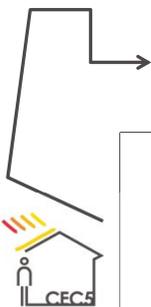
History

- 11/2011: The framework started with joint working session
 - to find a collective agreement for a common framework for assessing sustainable building
 - to contribute to the European Union ambitious climate protection targets for 2020
- 05/2012: CEC5 experts enlarged and detailed the assessment tool in the main fields „Energy Supply“ and Location Quality and Facilities“
 - The assessment tool is the main part of the CEC5 course materials
- 07/2012: The term CESBA (Common European Sustainable Building Assessment) is defined
 - CESBA will be used for the Framework and the assessment tool
- 10/2012: CESBA as term is confirmed by the involved projects at the joint conference in Brussels
- 12/2012: common information platform www.cesba.eu is online and ready to be filled
- 01/2013: Expert-WS2 Udine, Application of the CESBA-tool
- 10/2013: CESBA Sprint-Workshop

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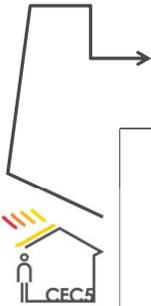


CESBA – Towards a Common European framework for Sustainable Building Assessment

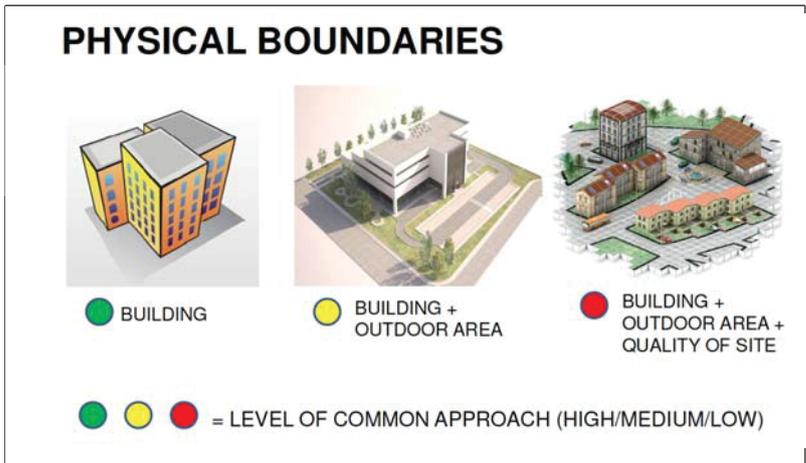


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TIME EXTENDS

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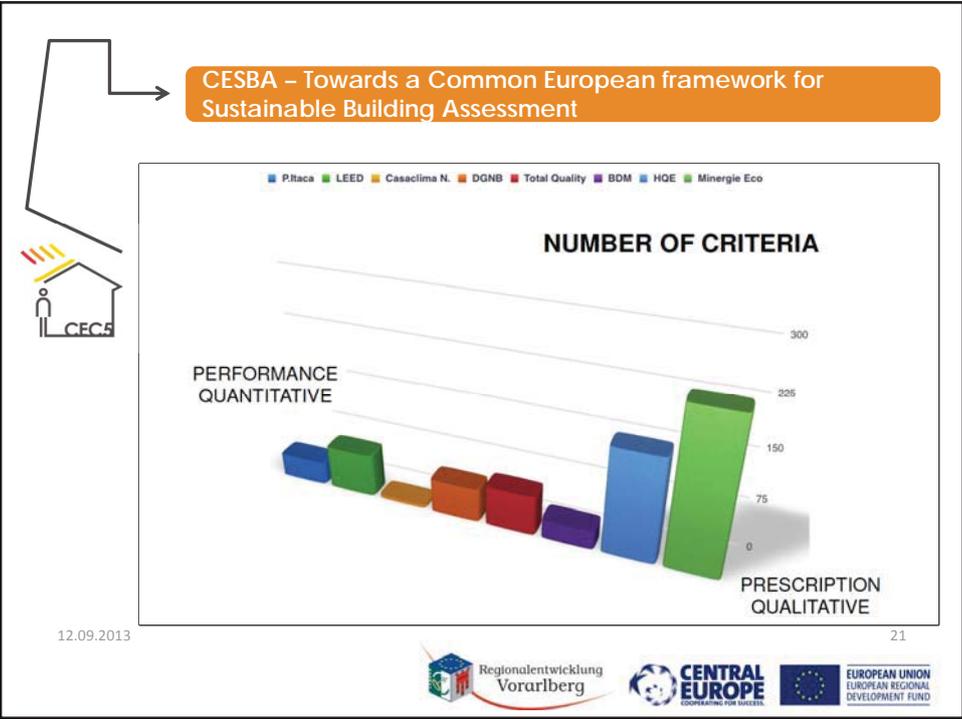
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BUILDING USES

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two types of assessment systems		
Public origin	vs	Market origin
Open source	vs	Close system
Mass certification	vs	Elite buildings
Low cost	vs	Expensive
Base technical standards	vs	Advanced technical standards
National/Regional		International

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Regionaleentwicklung Vorarlberg | CENTRAL EUROPE COOPERATION FOR SUCCESS | EUROPEAN UNION EUROPEAN REGIONAL DEVELOPMENT FUND

CESBA – Towards a Common European framework for Sustainable Building Assessment

HARMONIZATION

Too many differences: users / stakeholders disoriented

KEY ROLE OF CESBA

Project outputs

- Enerbuild Tool
- IRHTool,
- Superbuildings indicators
- OpenHouse indicators

Existing processes

- SB Alliance
- iiSBE SBTool
- UNEP SBCI

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The aim of CESBA is harmonisation of tools and processes

Indicators
Basis for Services and Tools

Services and Tools
Useable for all process steps of building life-cycle

Building life-cycle
From the definition of the target to the usage of the building.

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CESBA TOOL: COMMON INDICATORS

A Quality of location and facilities			max. 100
A 1	Access to public transport network		50
A 2	Ecological quality of site		50
B Process and planning quality			max. 200
B 1	Decision making and determination of goals		25
B 2	Formulation of verifiable objectives for energetic and ecological measures	M	20
B 3	Standardized calculation of the economic efficiency	M	40
B 4	Product management - Use of low-emission products		60
B 5	Planning support for energetic optimization		60
B 6	Information for users		25
C Energy & Utilities (Passive house)			max. 350
C 1	Specific heating demand (PHPP)	M	100
C 2	Specific cooling demand (PHPP)	M	100
C 3	Primary energy demand (PHPP)	M	125
C 4	CO ₂ -emissions (PHPP)		50
D Health and Comfort			max. 250
D 1	Thermal comfort in summer		150
D 2	Ventilation - non energetic aspects		50
D 3	Daylight optimized (+ lightening optimized)		50
E Building materials and construction			max. 200
E 1	OC _{total} ecological index of the thermal building envelope (respectively OC3 of the total mass of the building)		200
Sum			max. 1000



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CESBA – Towards a Common European framework for Sustainable Building Assessment

Innovative buildings have to be maintained differently!
A modern, well-planned technical system requires a well-informed user in order to actually use the potential to save energy.

A series of measurements reviews the first defined goals.
A good result is directly related to the used building materials.

Craftsmen are especially important!
They serve as intersection between planning and implementation. Special trainings support the use of the right building material.

CESBA aims at a high standard!
A high score goes along with additional subsidies in Vorarlberg/Austria.

Sustainable building can be realized more economically
when frame conditions and goals of sustainability are carefully determined already for the architectural competition.

Energy experts help the architect, the electrician and the in-house technician to achieve optimal energy efficient goals.

A quality manager checks and revises tender documents according to ecological criteria.



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CESBA Sprint Workshop

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CESBA – Towards a Common European framework for Sustainable Building Assessment

CESBA Sprint Workshop

- Session 1: Training and Education on sustainable building
- Session 2: Building and Neighbourhood assessment
- Session 3: Certification Process
- Session 4: Political implementation (here the OSCE could contribute)
- Session 5: Usage and monitoring of buildings
- Session 6: CESBA process (here the OSCE could contribute)

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Thank you for your attention

Thank you for your attention

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