

Paper session on Sustainable Construction

“Energy skills as a driver to sustainable construction: current status, needs and proposed actions” - Project **SEetheSkills** insider view

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SEetheSkills' - actions toward sustainability of construction

Topics covered:

- ✓ Energy skills and Sustainable construction
- ✓ The novel 3V SEetheSkills' approach related to energy skills
- ✓ State-of-the-art research of the best practices in the field of energy skills on EU level
- ✓ Inter-regional survey on energy skills
- ✓ Planned further actions

Rationale

- Energy efficiency
- Sustainable use of resources
- Waste reduction
- Environment preservation
- Designing efficiency



Energy skills

- Competent workforce
- Skilled and trained workers
- Qualified professionals
- Embraced innovations

Sustainable construction

State-of-the-art research on energy skills - Methodology for research



The key areas the research were focused on:

- Skills defined in national roadmaps
- Skills developed as part of previous BUS projects
- The developed training schemes
- The number of trained workers and professionals
- Companies who design and produce EE materials
- Status of Recognition of Previous Learning (RPL)
- Status of demand for energy skills
- Level of awareness of energy skills
- Available certifications
- Legal obligations promoting use of energy skills and their timelines
- Predictions for future development of energy skills

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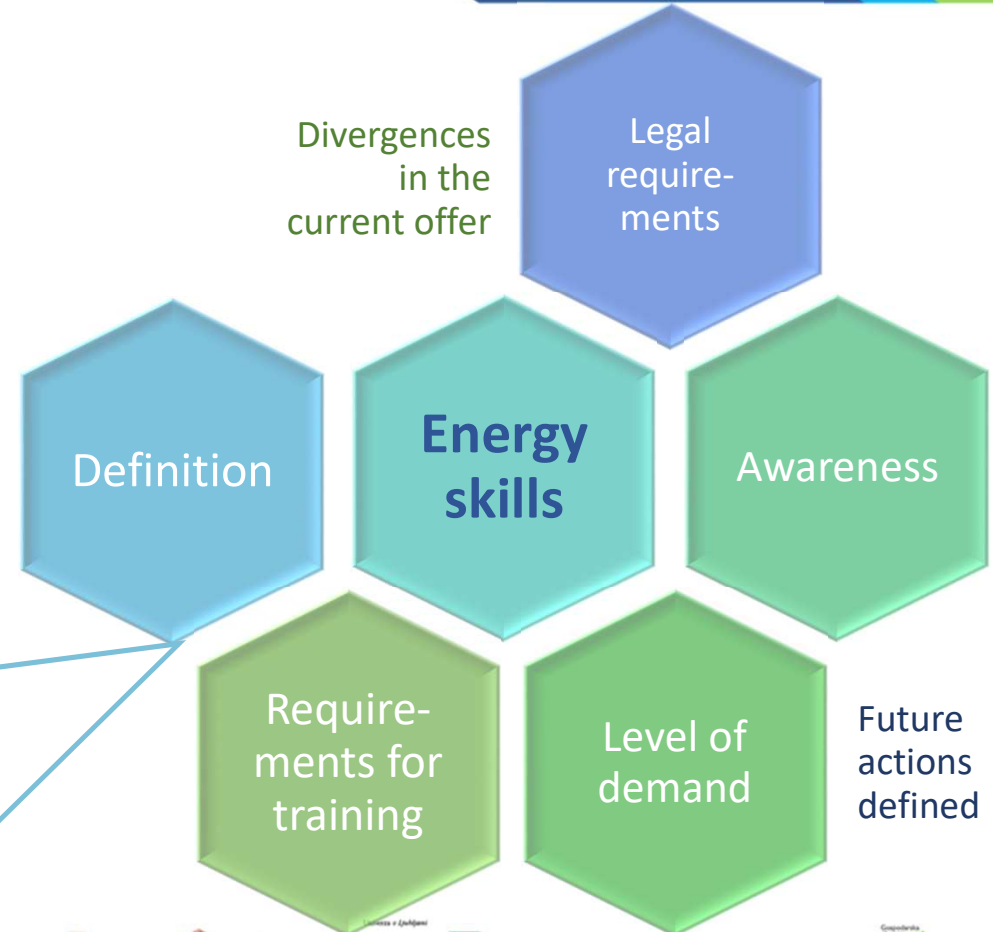
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State-of-the-art research on energy skills

- The Results

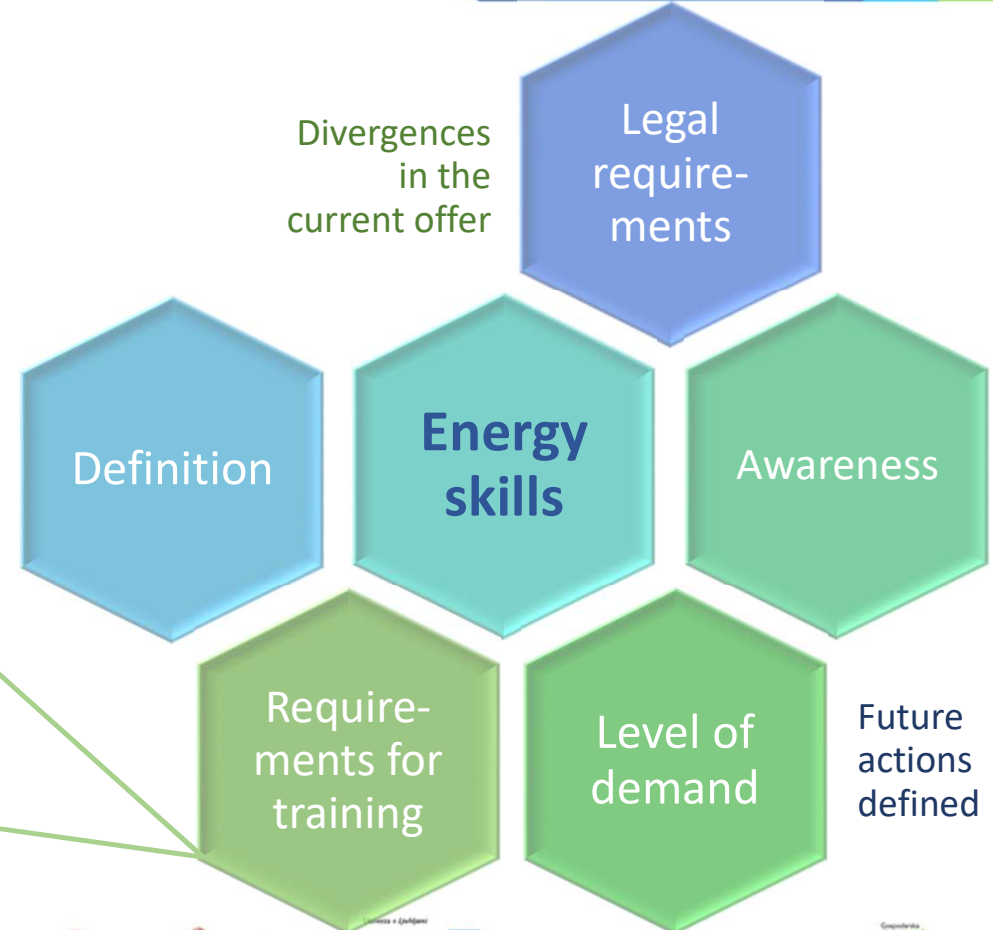
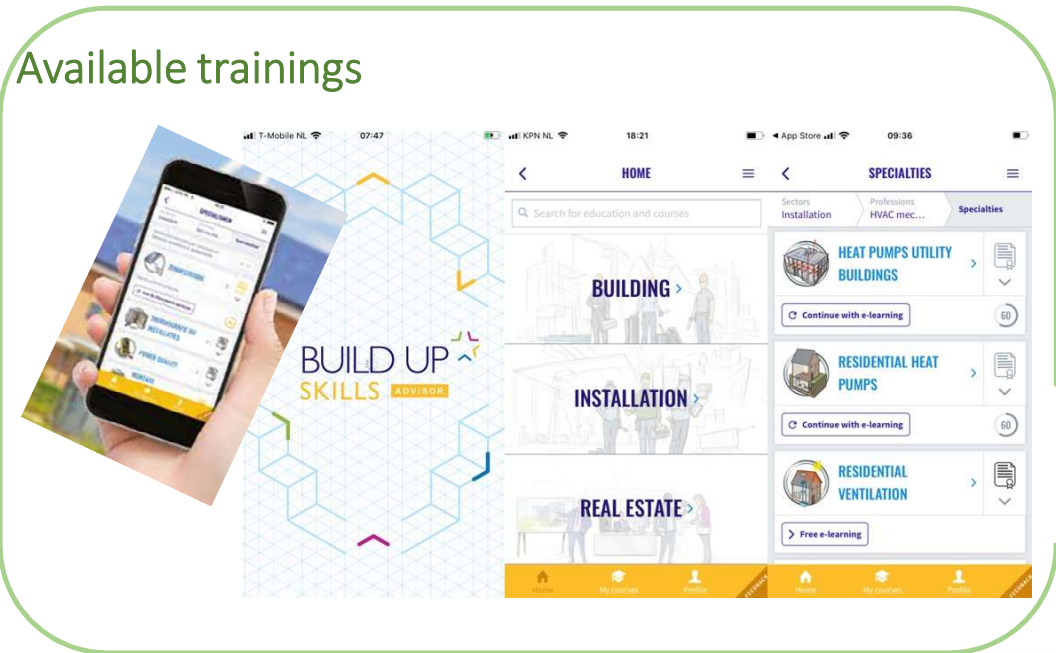
Identified 5 skills' categories:

- **BUILDING FABRIC** (façade workers/plasterers, roofers, carpenters, bricklayers, concrete workers, window installers, craftsmen, glazier, flooring, carpentry, chimney builders etc.)
- **BUILDING SERVICES** (electrical installers, duct fitters installation, ventilation, air conditioning installation, lighting installation, control systems, heating systems installation, HVAC installers)
- **ENERGY SOURCES** (skills in energy efficiency, installation of Renewable Energy Systems – RES)
- **BUILDING MANAGEMENT** (foremen)
- **MISCELANEOUS** (skilled across-the-craft workers)



State-of-the-art research on energy skills

- The Results



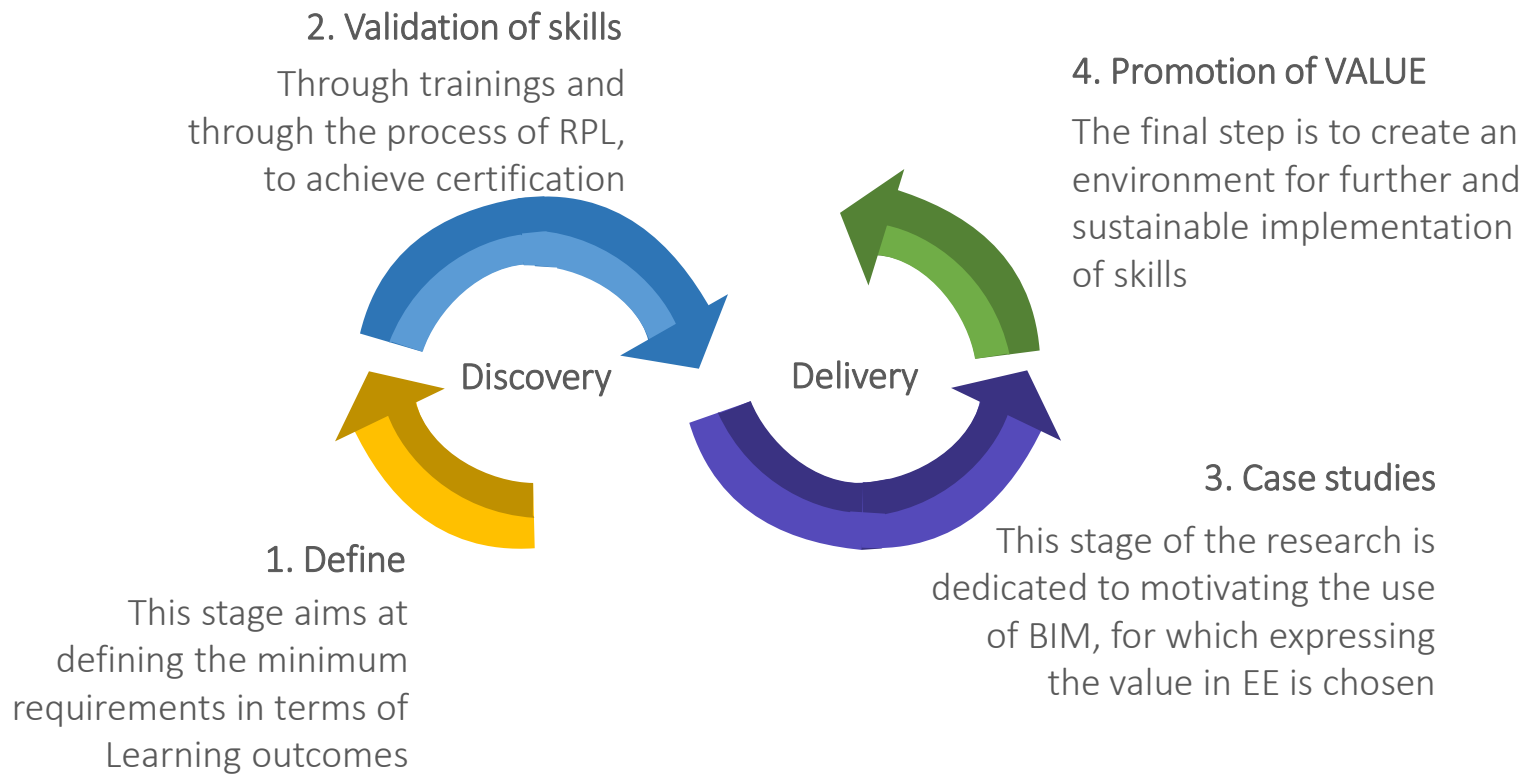
Lessons learned from surveying EE skills

- Will be presented in the following conference paper to be published by [ORE](#) in a [specific collection dedicated to Sustainable Places 2022](#).

Two different approaches for skills validation

- **e-learning platform**, that will include the following e-trainings in form of webinars created by project partners:
 - 2 webinars on RES qualification
 - 2 webinars on BIM qualifications for blue collars
 - 2 webinars on BIM qualifications for white collars
 - 2 webinars on cross-craft skills qualifications
- **Creation of e-RPL tool**. The process of recognition of previous learning RPL, based on defined steps of identification, documentation, evaluation and certification adjusted as on-line process, including:
 - communication to identify the necessary skills
 - submitting documentation for evaluation
 - evaluation of submitted documents and
 - issuing certificationrealized through web-based platform for e-learning. Besides the necessary documents to be filled by the applicants, the tool will include guidelines for explaining the process to ensure successful applications.

Further actions: The link between energy skills and the quality of construction



Further actions: The value of energy skills through performance gap

The tools used to express these benefits are usually digital tools like BIM

By using BIM modelling, different scenarios for reduction of performance gap while implementing EE measures can be proposed.



Further actions: The value of energy skills recognized by the owners – POE tool

Post-occupancy evaluation is based on the idea that better living space can be designed by asking users about their needs. Many people associate POEs with a one-time online survey provided to occupants.

- A complete POE includes hard data as well as occupants' satisfaction with the space and comfort. A full post-occupancy evaluation usually examine:
 - energy and water performance
 - performance of the indoor environment—air quality, thermal comfort, acoustics, lighting, and ventilation
 - usability of systems and spaces
 - occupant behavior

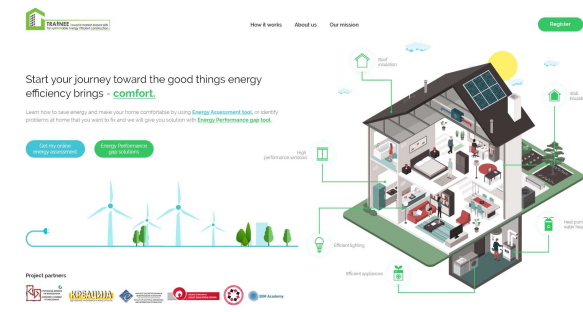
Start your journey toward the good things energy efficiency brings – **comfort.**

Learn how to save energy and make your home comfortable by using **Energy Assessment tool**, or identify problems at home that you want to fix and we will give you solution with **Energy Performance gap tool**.

Get my online energy assessment

Energy Performance gap solutions

<http://kh.trainee-mk.eu>

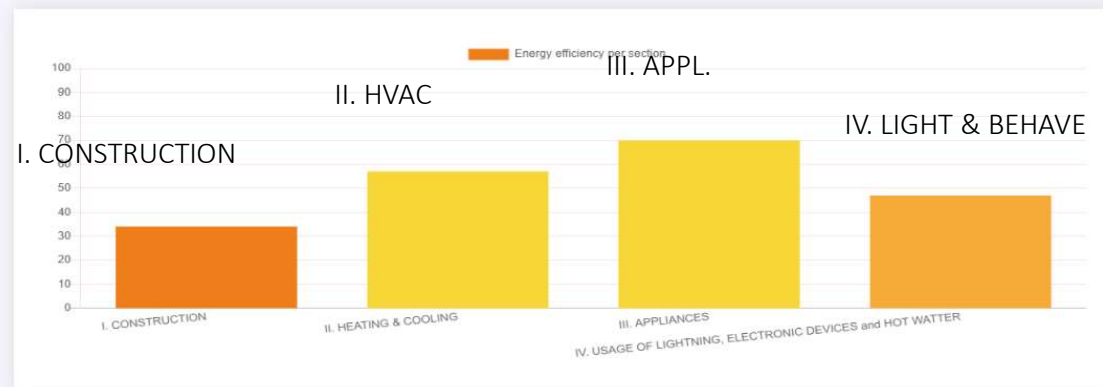
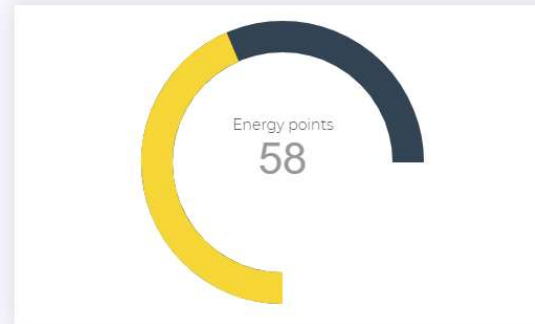


Further actions: The value of energy skills recognized by the owners – POE tool

You might be able to save money by making your home more energy efficient

The energy efficiency of your household is on a medium level and there are a lot of opportunities to increase it.

Companies



Residence Type:
Apartment
Address:
Jane Sandanski
City:
Skopje
Year of construction:
1980
Size in square meter:
90
Occupants:
4
Certification Mark: B

POE tool - Benefits for different type of beneficiaries

New features

Occupants

- Self-assessment of different systems;
- Early and easy detection of issues
- Connection with "Find my craftsman" database of trained/certified professionals
- Connection with other tools and databases



Design team

- Improvement of the comfort level
- Adjustment possibilities
- New technologies testing



Investors and construction companies

- Building satisfaction
- Comparing with similar buildings
- How and what to improve



Local and national authorities

- Database with building characteristics and occupants behavior;
- Detection of issues in certain buildings and interventions;
- Policy and financial instruments development;



Conclusions



Sustainable construction



"This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101033743"

Let's change the workforce to change the sector !!

Thank you



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