BUILD UP Skills EnerPro: Energy Training for Professionals in the Building Sector in Bulgaria

BUILD UP SKILLS 10TH EU EXCHANGE MEETING, 30-31 MAY 2017, ROTTERDAM

PARALLEL SESSION 2
BUILD UP Skills: The Roadmap

- Analysis of the current training schemes
- Analysis of the situation of the construction sector
- Identification of training needs, barriers and gaps
- Discussions within the National Platform
- Development of a Roadmap to 2020 with 6 priority areas
- Broad endorsement campaign
BUS EnerPro: The Programmes

- Training frameworks and materials developed on 10 programmes:
  - Building envelope, Building systems, and Building market and products
  - PV installations, Solar thermal, Mini-wind generators, Biomass installation, Heating, ventilation and AC, Thermal pumps, Integrated systems
- Focus on practical trainings
- Broad consortium of training institutions

www.busenerpro.com
BUS EnerPro: The Trainers

- Online Train-the-trainer platform developed by Passive House Institute
- 5-day training course conducted by Art McCormack, MosArt / Passive House Academy
- Participation of trainers from EnEffect, Bulgarian Construction Chamber and 5 professional high schools and vocational training centers
BUS EnerPro: The Trainers

- Access to the online training platform by Passive House Institute for all participants
- Teams of project partners (high schools and VTCs) joined by local experts
- 8 training sessions covering the whole territory of the country
- Special focus on MVHR, airtightness and thermal bridges
BUS EnerPro: Results

- 12 new training programmes (40-60 hours)
- 6 new programmes for professional high schools and VTCs (120 hours)
- 29 training courses conducted;
- 433 building specialists and workers trained;
- 6 active training centers;
- 42 MoUs with external partners;
- 2 new projects on Horizon 2020: Train-to-NZEB and Fit-to-NZEB.
BUS EnerPro: Training Courses

- Pazardzhik: 71 trainees, own demo model, minority workers
- Ruse: 75 trainees, focus on “Building Market, Products and Technology”
- Pleven: 26 trainees, focus on “Building Systems”
- Sofia, Henry Ford: 48 trainees, focus on heating and ventilation
- Sofia, John Atanasov: 102 trainees, focus on PV, solar thermal, heat pumps, mini-wind
BUS EnerPro: Monitoring

5. The training session duration was realistic and appropriate
6. The training is customized to the needs of the Bulgarian trainees
7. The modules achieved their objectives and provided good understanding
8. The presentations were well structured and logical
BUS EnerPro: Monitoring

9. The theoretical content is comprehensive and sufficient
10. The trainers presented the ideas and concepts of the training clearly and in organised manner
11. The trainers stimulated valuable debates among the participants
12. The trainers were very well prepared
13. The demonstration and practice workshops were well equipped
BUS EnerPro: Monitoring

14. The necessary demonstration facilities and practice rooms enabled active participation
15. The exercises were sufficient to learn how to apply the theory in practice
16. The trainers demonstrated the equipment, tools and methods effectively
17. The trainers provided detailed guidance and facilitated the course

www.busenerpro.com
Needs of the construction companies

22% of the construction companies plan to hire managers with specific knowledge in the area of sustainable building, 27% – highly qualified specialists, and 42% will look for construction workers.

Self-defined training needs

<table>
<thead>
<tr>
<th></th>
<th>Needs training</th>
<th>Doesn’t need training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialists</td>
<td>66%</td>
<td>34%</td>
</tr>
<tr>
<td>Workers – 3rd degree</td>
<td>63%</td>
<td>37%</td>
</tr>
<tr>
<td>Workers – 2nd degree</td>
<td>58%</td>
<td>42%</td>
</tr>
</tbody>
</table>

Previous participation in trainings

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialists</td>
<td>9%</td>
<td>91%</td>
</tr>
<tr>
<td>Workers – 3rd degree</td>
<td>5%</td>
<td>95%</td>
</tr>
<tr>
<td>Workers – 2nd degree</td>
<td>3%</td>
<td>97%</td>
</tr>
</tbody>
</table>

Data base: specialists – 201, workers 3rd degree – 73, workers 2nd degree – 129

www.train-to-nzeb.com
## Content of the trainings

<table>
<thead>
<tr>
<th>Topic</th>
<th>Specialists</th>
<th>Workers - III degree</th>
<th>Workers - II degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>New building products, components and technologies</td>
<td>67%</td>
<td>54%</td>
<td>68%</td>
</tr>
<tr>
<td>Insulation</td>
<td>62%</td>
<td>59%</td>
<td>67%</td>
</tr>
<tr>
<td>Windows and doors</td>
<td>54%</td>
<td>50%</td>
<td>60%</td>
</tr>
<tr>
<td>Heating systems suitable for NZEBs</td>
<td>47%</td>
<td>50%</td>
<td>29%</td>
</tr>
<tr>
<td>Comfort of habitation</td>
<td>47%</td>
<td>26%</td>
<td>33%</td>
</tr>
<tr>
<td>Successful practices for NZEBs and passive buildings</td>
<td>46%</td>
<td>17%</td>
<td>15%</td>
</tr>
<tr>
<td>Concepts and solutions for airtightness</td>
<td>45%</td>
<td>41%</td>
<td>36%</td>
</tr>
<tr>
<td>EU, national and local NZEB policies</td>
<td>45%</td>
<td>17%</td>
<td>25%</td>
</tr>
<tr>
<td>Economic performance of NZEBs</td>
<td>42%</td>
<td>33%</td>
<td>17%</td>
</tr>
<tr>
<td>Eliminating thermal bridges</td>
<td>42%</td>
<td>22%</td>
<td>40%</td>
</tr>
<tr>
<td>Solutions for RES in buildings</td>
<td>41%</td>
<td>41%</td>
<td>33%</td>
</tr>
<tr>
<td>Ventilation systems with heat recovery</td>
<td>38%</td>
<td>24%</td>
<td>36%</td>
</tr>
</tbody>
</table>

NB! Relation between theory and practice
Success factors

- **Quality and qualification of the trainers**: pedagogic skills, practical experience, sufficient expertise

- **Practically oriented training programmes**: well balanced, with the right distribution between theoretical and practical sessions

- **Demonstrations** and attractive representation with use of new ICT

- Change of the attitudes and **generating demand** -> attractive, up-to-date, understandable information

- **Challenges in the legislation** targeted to more strict obligations related to energy efficiency in buildings
The Building Knowledge Hub

- Cooperation agreement with Sofia University of Architecture and Civil Engineering
- Agreements with EnerPro partners for RES training courses
- A number of supporters attracted from all relevant areas
- Opening ceremony on 16th May
- Still popular in professional circles only

[Images of people and documents]

www.train-to-nzеб.com
The next step: FIT-TO-NZEB

- Training programmes on deep energy retrofit for all qualification levels (under EQF)
- (relatively) Innovative concepts as step-by-step renovation, renovation passports and smart buildings considered
- Strong team of 4 universities, 3 VTCs and energy efficiency experts
- Cooperation with the national and local authorities
- Starting in May 2017
Communication

It’s never gonna be enough...

- Web:
  - www.busenerpro.com
  - www.train-to-nzeb.com

Facebook:
- https://www.facebook.com/Train-to-NZEB-1669763673298669/

Twitter:
- https://twitter.com/Train2nZEB
The road ahead

**Challenges**

- Securing quality
- Trusted certification schemes and flexibility
- Mutual recognition
- Validating knowledge and skills

**Solutions**

- One-stop shops for trainings & demonstration
- Involving decision-makers and influencers

www.train-to-nzeb.com

[Image of a building model]
COORDINATOR OF THE PROJECT

Center for Energy Efficiency EnEffect
1, Hristo Smirnenski Blvd, fl.#3
1164 Sofia, Bulgaria
Tel: +359 2 963 17 14
Fax: +359 2 963 25 74
Email: eneffect@eneffect.bg
Web: www.eneffect.bg

Contact person:
Dragomir Tzanev
Email: dtzanev@eneffect.bg

Contact Information

Web
www.busenerpro.com
www.train-to-nzeb.com

Facebook:
https://www.facebook.com/Train-to-NZEB-1669763673298669/

Twitter:
https://twitter.com/Train2nZEB