



Dedicated to stimulate demand for sustainable
energy skills in the construction sector
Strategies to improve the energy skills of blue-collar workers

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Report:	Strategies to improve the energy skills of blue-collar workers
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Summary

The report “Strategies to improve the energy skills of blue-collar workers” is the result of the activities of the BUSLeague project related to the challenge of proving and validating the practical skills of construction workers. This process is considered important in the overall efforts within the BUILD UP Skills initiative to support the progress towards mutual recognition of the competences of the construction workforce, which is often obstructed by outdated and time- and cost-intensive evaluation methods.

The report studies the development of methodologies and tools to evaluate the energy skills of blue-collar workers adapted to small construction businesses around Europe, including worksites related to small and medium-sized residential projects. It starts with a review of the construction sector dynamics in the participating countries, focusing on the role of SMEs in the construction sector throughout the EU. Further on, various examples for tested, proven and, as in the case of France and Ireland, already established practices for proving and evaluating the practical skills are described. An example is examination programmes based on mobile training equipment, which are designed for testing the energy-related skills directly at the worksite.

These methodologies are based on both pre-evaluation training modules, refreshing the theoretical insight, practical skills and proficiency of the trainees, and on post-training evaluation exercises, resulting in on-site certification of the workers. To allow for the adjusting of training contents to the needs of the workforce, the training modules are designed in a short and attractive manner with a strong prevalence of practical training components; and they cover key issues related to the current trends of energy efficiency in buildings as airtightness, thermal bridge minimisation, and ventilation with heat recovery.

To contribute to the recognition of the energy skills of the workers, a variety of tools for supporting the on-site training and evaluation methodologies are discussed. These tools show a great extent of diversity, ranging from the above-mentioned mobile training and evaluation units, through dedicated training centres with practical training equipment operational in Bulgaria and Ireland, airtightness testing-related on-site training practices in Austria, demonstration mock-ups from Practee Formation in France, to gamification equipment in various EU countries developed under the more recent nZEB Roadshow project.

Based on the current situation, the available methodologies and tools, and the training traditions in the project countries, strategies for skills development and evaluation on small worksites are defined, outlining the opportunities for market recognition and integration in the national qualification system and practices. As operational examples of the above-described process, the report discusses in detail the establishment of a validation training scheme in Ireland, a practical training scheme in the Bauhaus chain of stores in Spain, and a training scheme developed to support skills-based procurement in Bulgaria. These examples demonstrate the added value of the described methodologies and their potential for upscaling.

Methodology

The report examines the work done at National level over 2 years (2021 and 2022) and is easily structured into content which includes in depth analysis of:



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- Energy renovation at small work sites.
- Experiences with skills development and evaluation at work sites.
- Strategies for skills development and evaluation at work sites.
- Market recognition possibilities.

Each section has a country-by-country breakdown and description with all 6 countries participating in the BUSLeague project.

The case for upskilling in a practical setting like a small work site may not seem immediately intuitive. Either, when one considers the high proportion of small and medium sized businesses operating in the construction sector in some European countries, the lack of opportunities for taking site workers away for training, and the intricacies of small work sites, the case is here reflected upon here with interesting results.

Experiences with skills development and evaluation of workers amongst the partner countries have almost universally the same themes and needs:

- Understanding the importance of energy efficiency and nearly zero energy building standards.
- Understanding of the interplay of the trades.
- Avoiding the most common construction faults and errors and their impact on the building.

In Austria, the BUSLeague project focused entirely on the upskilling of a subset of construction workers - the energy advisors – which leads to impressive results.

Work-integrated Training (FIT - its French acronym) was launched in 2017 France to provide training to SME enterprises with theoretical and practical tools as the training platforms are brought directly to the work site, diminishing the transportation costs.

Currently, in Ireland the assessment recognised is the NZEB and airtightness training delivered at the Education and Training Board (ETB) centres. There are some equipment suppliers with training rigs that are visiting sites, public authorities and hardware stores to deliver training and give those in the sector a hands-on view of their equipment and systems for both retrofitting and new builds.

In Spain, one of BAUHAUS' regular activities is to organise on-site trainings in cooperation with product suppliers. These trainings are mainly aimed at the installer network but also at private customers. It is a win-win solution as both BAUHAUS and the partner company increase their sales and customer loyalty and the attendee appreciates the time spent learning and the human contact with the team behind the product to whom he/she can then turn to for after-sales service.

In line with the BUSLeague project, and with the growing demand for *micro-training*, to acquire *micro-competences*, which can be recognised through *micro-credentials*, Spain decided to test an on-site evaluation scheme where the professional would perform real manual work in front of an assessor.



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Currently, no framework for upskilling construction specialists in energy efficient building methods exists in Bulgaria in line with the national qualification system. This naturally precludes a lack of current onsite training with the same focus. The lack of CPD adds to the low rate of educated individuals. While building site training has been neglected in Bulgaria, it is known that hands-on experience provides an opportunity for a relatively quick and efficient way of knowledge distribution as direct examples and practical training improve the learning experience. Therefore, the Bulgarian team would attempt to create the preconditions necessary for the establishment and development of an appropriate certification process related to upskilling SME workers on small building sites in energy efficient building methods. The approach is to propose training strategies suitable for a wide range of construction professionals in a variety of building projects in flexible conditions, and consistent with perceived methodologies for mutual recognition of acquired skills.

Like a lot of countries participating in the EU LIFE funded Build up Skills roadmaps, the Netherlands is looking at labour shortages in the construction industry, new requirements wherefore craftsmen should be upskilled, such as for heat pumps and air tightness while the current workforce have less access to paid training or leave for training time.

The 6 countries worked hard on these challenges and through collaboration came up with creative, innovative and helpful practical solutions.

Conclusions

While it is clear that the construction sector needs to address multiple challenges related to the energy efficiency and renewable energy skills of the construction workforce, the current report convincingly demonstrates that there not only are tested opportunities to deliver upskilling courses according to the needs of the industry (and especially of the SMEs), but also that practical realisations are proving the interest of the key target groups of the training. The described examples of different training methodologies provide evidence of an established culture of addressing the needs of the construction companies for short, practical, and cost-efficient training, assessment and certification of the workforce. At the same time, the experiences show that the quality is not necessarily compromised with the decreasing of the duration and the scope of the training activities; on the contrary, the proposed approaches demonstrate excellent results, which are proven by the market uptake and continued demand for the described training services. In this respect, the examples from the BAUHAUS chain of DIY stores in Spain and Practee Formations in France are utterly convincing, showing that the private markets are well in advance of the mainstream educational practices.

On the other hand, certain experiences closely related to the national qualification frameworks also gain pace. The most obvious examples are the Irish nZEB Fundamentals training expected to be adopted by the Educational Training Boards and the Austrian training for energy advisers based on airtightness testing, delivered in close connections with the responsible authorities, which have the potential for immediate integration in the national qualification frameworks. Somewhere in the middle, the flexible training schemes delivered by the Building Knowledge Hub in Bulgaria and via the BUILD UP Skills Advisor App in The Netherlands, provide a direct link to the market in a way that provides coherence with the national training and education specifics.



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In this regard, with the strive towards mutual recognition of energy competences being one of the key features of the BUSLeague project in general, the collected examples for methodologies and tools for on-site upskilling are the perfect addition to the BUSLeague qualification framework. They provide not only direct reference to the tasks defined in this cornerstone document of the project but also support for the achievement of the learning outcomes for the different professional occupations in an attractive, straightforward and cost-efficient manner. At the same time, they also guarantee coherence with the national qualification discussed above and the quality needed for the sustainable market uptake of innovative training services. It is believed that the report and the included examples should be of interest to any vocational training institution and authority considering energy efficiency and renewable energy technologies as a strategic priority and developing its training services in this direction.

MORE INFORMATION

The full version of this deliverable can be found on the BUSLeague project website at the following link: <https://busleague.eu/outcomes/>



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