European Commission

European Construction Sector Observatory

Policy Fact Sheet

Slovakia

StavEDU – BUILD UP Skills (BUS) II Slovakia

Thematic objective 2

January 2020

In a nutshell

Implementing body	Association of Construction Entrepreneurs of Slovakia
Key features & objectives	Set up of a framework for a national qualification and training scheme for on-site workers with the support of a national network of employers.
Implementation date	2014-2017
Targeted beneficiaries	Blue collar professionals in the construction and energy sectors
Targeted sub-sectors	Energy efficiency and use of energy sources in buildings
Budget (EUR)	EUR 841,923[1] including EUR 631,400 of Intelligent Energy Europe funding
Good practice	★★★★☆
Transferability	★★★★☆

Construction quality has a significant impact on the energy consumption of buildings. Therefore, it is crucial that construction workers are adequately skilled to achieve low energy targets for new buildings and refurbishments.

In this context, the European Commission launched BUILD UP Skills, an initiative aiming to boost continuing education and training of on-site workers in the construction sector. Its ultimate objective was to increase the number of qualified and skilled workers across Europe in high energy performance. Phase I of the programme ran from 2011 to 2014 and funded projects that were designed to develop national roadmaps in 30 countries. During Phase II, 22 projects were funded with a view to contribute to the implementation of these national roadmaps[2].

In Slovakia, a consortium led by the Association of Construction Entrepreneurs decided to take advantage of the BUILP UP Skills programme to enhance the trainings and skills of construction sector professionals, aligning them with the climate and energy target needs of the country.

Slovakia committed to achieve the 2020 EU climate & energy saving targets, which include a 20% improvement in energy efficiency, a 20% increase in the share of renewable sources and a 20% reduction in greenhouse gas emissions[3]. In its efforts to achieve these objectives however, the country had to tackle a number of challenges, including the need to upskill 47,000 on-site workers and craftsmen on energy efficiency and renewable energy, such as bricklayers, insulators, HVAC installers and others[4].

With the numbers of construction sector apprentices and vocational school graduates declining significantly, there was a similar trend in the number of skilled craftsmen and specialised workers[5]. Another identified barrier to achieving the 2020 targets was the lack of cooperation between schools, professional organisations and entrepreneurs[6].

As part of the first phase of the BUILD UP Skills (BUS) initiative (Pillar I), the Slovakian skills roadmap was developed. It recommended the development of a national vocational education, training and certification scheme on energy efficiency and the use of renewable energies in buildings. As part of the second phase of the BUS initiative (Pillar II), the 'Setting up Qualification and Training Scheme on Energy Efficiency and Use of Renewables for Craftsmen and On-Site Workers in the Sector of Buildings in Slovakia' (StavEDU) project undertook the implementation of the Slovakian roadmap.

It addressed the training needs of over 30 blue-collar professions in the construction and energy sector in relation to energy efficiency and use of renewable energy sources in buildings. It also developed a qualification standard to certify those skills. In addition, StavEDU facilitated investment in skills and set up a network of companies underpinning the qualification and further training scheme[7].

StavEDU was completed in 2017, having successfully achieved its training and energy efficiency objectives.

1.

General description

The 'Setting up Qualification and Training Scheme on Energy Efficiency and Use of Renewables for Craftsmen and On-Site Workers in the Sector of Buildings in Slovakia' project, otherwise known as StavEDU, ran from 2014 to 2017.

It was implemented by a consortium led by the Association of Construction Entrepreneurs of Slovakia (hereinafter ZSPS). The other project partners were the Institute for Education and Services, the Slovak Innovation and Energy Agency and the Institute for Lifelong Learning. All of the partners are local associations with significant experience and knowledge in continuous education and/or the Slovakian construction sector.

The StavEDU project set up a framework for a national qualification scheme for on-site workers with the support of a national network of employers

The project created a set of qualifications for energy efficiency and the use of renewable energy sources, that would ultimately be translated into a reduction of emissions and a higher production of renewable energy[8]. The objectives are outlined in Table 1.

Table 1: StavEDU objectives / performance indicators

Area	Objectives
N° of training courses	38
N° of people trained	209
N° of hours taught	262
Cost per qualified trainee	1,299.5 EUR
Ren. energy production triggered	280 toe[9]/year
Primary energy savings	400 toe/year
Reduction of greenhouse gas emissions	1,030 tCO_2e[10]/year

Source: BUILD UP Skills Slovakia Factsheet[11]

The framework designed included specific types of qualification standards for nine groups of blue-collar professions, as shown in Table 2. The project identified skills related to energy efficiency and the use of renewables that were relevant to these groups of professions, defined qualification standards to certify those skills, and developed training programmes and curricula to acquire them, including teaching materials[12].

Table 2: Qualification standards of StavEDU

Crafts	Beneficiary professions
Bulk production	Bricklayer; insulator; plasterer; concrete worker; scaffolding assembler;
Auxiliary production	Auxiliary production bricklayer (including dry mounting and wooden structure assemblers and installers of fillings for building openings); chimney expert; carpenter/joiner; electrician; plasterboard fitter;
Concrete and steel structures	Assembler of concrete and steel structures, and building envelopes; steel structure specialist;
Roofs and hydro-insulation	Roofer; carpenter; tinsmith; slater; hydro-insulator;
Finalisation	Painter; paperer; tiler; floorer; paver; mason;
Installations	Plumber; sanitary equipment installer; heating, cooling and water preparation equipment installer; construction locksmith;
Machinery	Crane and construction machinery operator;
Energy	Energy equipment in buildings;
Lighting	Lighting systems in buildings.

Source: stavedu.sk[13]

A joint workshop gathering the main stakeholders in the sector was organised to co-validate key parts of the initiative, including the groups of professions, their respective training frameworks, pilot course curricula, draft qualification standards, project objectives and the expected outcomes of the qualification and training scheme. Consulted stakeholders included the Integrated Trade Union,

the Slovak Chamber of Civil Engineers and the Ministry of Transport and Construction (hereinafter MINDOP), among others[14].

Post-validation, pilot training courses were organised to test the training courses and refine their curricula. Upon completion of the training programmes, the trainees were able to sign up for pilot training programme and were able to obtain a certificate of partial qualification in energy efficiency and the use of renewable energy sources in buildings. A Memorandum of Understanding was signed with several employers in Slovakia to ensure their recognition of the certificates.

The project received approximately EUR 631,400 of its overall budget from EU funds from Intelligent Energy Europe (IEE fund), now part of Horizon 2020[15].

2.

Achieved or expected results

The results of StavEDU were generally positive. The project achieved almost all of its objectives / performance indicators.

By the end of 2017, nine qualification standards for each of the defined groups had been produced, included in the National Qualification Framework and linked to the European Qualification Framework. Additionally, nine corresponding curricula were developed along with a complete set of accompanying documentation, including training content.

Pilot training courses were organised and used to evaluate the content and refine the proposed curricula. Generated content later resulted in new inputs into the national curriculum or changes to national training programmes. A network of companies that officially recognise the national qualification and further training scheme was successfully set up, to encourage and support the growth in demand for the new certificates[16].

As part of the project, the 'Building Future' initiative was launched, supporting sustainable construction activities in the sector, such as reducing the carbon footprint of buildings, and promoting education and training on energy efficiency and use of renewable energy sources in buildings[17].

Overall, StavEDU achieved or overdelivered on most of its indicators, as shown in Table 3. The only deviated indicator was the number of training courses delivered.

Data shows that 23 fewer training courses were delivered than were originally planned. However, this is counterbalanced by the fact that nearly 100 additional hours of training were delivered in the 15 training courses that took place, beyond the original number of hours planned. Targets to be achieved by 2020 were also set; however, these went beyond the boundaries of StavEDU and there are no results available on them yet.

Table 3: Results of StavEDU programme

Indicators	Results	Target 2020
No. of training courses	23	540
No. of people trained	227	11,700
No. of hours taught	341	7,740
Cost per qualified trainee (EUR)	1,299.5	200
Renewable energy production triggered (toe/year)	284.49	3,702
Primary energy savings compared to projections (toe/year)	405.84	6,030
Reduction of greenhouse gas emissions (Tco2e/year)	1,033.26	13,560

Source: BUILD UP Skills Slovakia Factsheet[18]

Environmental targets – renewable energy production, energy savings and reduction of green gas emissions linked to the new skills developed in the trainings – were also attained. This represents a significant achievement, as most BUS II projects have been overly ambitious in their predictions for delivering environmental impacts. This was the case especially for renewable energy production, with an average completion rate of only 32%[19].

A StavEDU conference and workshops, in collaboration with other BUS projects – ingREeS, Train-to-nZEB and CrossCraft – were organised during the Coneco/Racioenergia 2016 exhibition in Bratislava, Slovakia, to disseminate the outcomes of the projects[20].

3.

Perspectives and lessons learned

In line with the completion of the project's objectives, stakeholders had a positive perception of the project and the results achieved[21].

Feedback from institutions and participants was positive[22]. Partners of the implementing consortium point out that the initiative could not have been carried out without EU public funding[23]. The textbooks and materials created were rated highly by the training institutions, and some have been incorporated into their vocational education programmes.

Based on the experience of the StavEDU project, a number of lessons learned are identified that could help to maintain and further improve the achieved results[24].

Promoting and channelling training through workers' associations rather than employers seems to be the most effective option.

In Slovakia, construction companies usually hire most of their on-site workers on short-term employment contracts. As a result, companies tend not to invest in training[25].

Indeed, the promotion of the training might be more effective when it targets craftsmen through other means. The perspectives of both the Association of Construction Entrepreneurs (ZSPA) and the MINDOP support this idea. They highlight that, while Slovak craftsmen are often self-employed and financially vulnerable, they are interested in attending training courses that deliver relevant skills and knowledge, as long as it is free[26,27].

It was expected that creating interest in the training would require considerable effort, but interest among craftsmen reached via their guilds and professional associations was overwhelmingly higher than the capacity of the courses[28].

Both organisations also highlight that employers that subscribed to the training and qualification scheme were nevertheless pivotal to the success of the project in a different way. They helped to reduce the costs by providing training sites, working tools and know-how on energy efficiency and the use of renewable energy sources in buildings.

Although specialised training might be the objective of the project, foundational skills upon which its success depends should not be taken for granted.

The project scope was limited to further education and training of craftsmen in energy efficiency and the use of renewable energy sources in buildings. However, some of the craftsmen lacked basic skills and knowledge due to limited vocational education. This consequently impacted the effectiveness of the specialised training provided[29].

Further awareness-raising activities among companies would help reinforce the positive results of the project.

Despite the recognition of the network of companies, the qualifications have had limited impact in increasing remuneration. Naturally, this represents a key factor for new craftsmen to sign up for future training or continuing further developing their skills and knowledge after completed the StavEDU training. The fact that nano-degrees and cross-craft or partial qualifications are still very new in Slovakia remains a significant hurdle for recognition[30].

4.

Conclusion and recommendations

StavEDU has delivered on almost all its original objectives. It has had significant impact on the provision of continuous education in the construction sector, having set up the first recognised training and qualification scheme in Slovakia. Additionally, it has initiated a conversation between stakeholders on the value and importance of training in the sector[31].

Looking forward, five recommendations are suggested to help build on the successes of StavEDU and to benefit future training initiatives and projects:

- The promotion of training activities and opportunities in future projects or schemes should be done through professional organisations and guilds, until companies express an interest in supporting training activities;
- Similar projects should require a minimum level of skills among participants to ensure they can fully benefit from the training provided;
- Solutions are needed to address the lack of foundational skills among some craftsmen, which prevented them from taking full advantage of the StavEDU training programme. These may include the creation of short, free preparatory courses channelled through vocational schools or a further screening of qualifications prior to accepting trainees;
- Similar projects should carefully study the local industry structure to determine how craftsmen could be reached most effectively;
- Further investment in awareness-raising among companies is advised, to create demand and increase the remuneration of qualified craftsmen. Some initiatives are already tackling this issue by conditioning subsidies for energy efficiency improvement works to using certified contractors[32]. As was the case for StavEDU, similar projects could benefit from a network of collaborating companies that recognise the qualifications and help lower the costs of the programme through provision of materials and training infrastructure.

Overall, StavEDU is rated as a '4-star good practice measure' on a scale of 1 (low) to 5 (high).

This score is based on the fact that the project successfully achieved nearly all of its objectives within the planned timeframe. In addition, the project has achieved considerable impact in the construction sector by establishing the first recognised training and certification scheme in Slovakia. This will deliver long-term benefits to the sector and is reinforced by the work done to bring a number of construction sector companies on board to recognise the scheme. However, more needs to be done to help companies change their mindset and encourage them to engage with the scheme.

StavEDU is rated as a '4-star transferable measure' on a scale of 1 (low) to 5 (high).

StavEdu is potentially transferable to countries with underdeveloped continuing education systems and a lack of training in energy efficiency in the construction sector. However, some of the defining features of the project are specific to the Slovak case, such as its construction market structure. This may have an impact on e.g. deciding whether to target workers, companies or associations/trade unions when promoting the training or the quality certification.

Interestingly, the CraftEdu project has been set up in the Czech Republic based on the results obtained in StavEDU, as well as BUS II projects in Austria and Bulgaria[33]. CraftEDU developed a qualification and education scheme for the country based on the development and dissemination of curricula created in these projects and expanded the 'Building Future' initiative started in the framework of StavEDU, expanding its geographical scope to the Czech Republic[34].

Endnotes

1 Grant Agreement for an Action, Agreement Number - IEE/13/BWI/698/SI2.680183, 2013: http://www.crz.gov.sk/index.php?ID=603&doc=1556765&text=1

2 Build Up Skills, The European Portal for Energy Efficiency in Buildings: https://www.buildup.eu/en/skills/about-build-skills

3 Build Up Skills Slovakia Roadmap 2013: https://ec.europa.eu/energy/intelligent/projects/sites/iee-projects/files/projects/documents/build_up_skills_sk_roadmap_en.pdf

4 Build Up Skills Slovakia Factsheet, 2017: https://www.buildup.eu/sites/default/files/bus_factsheets/factsheet_slovakia.pdf

5 Analysis of the National Status Quo – Slovakia – Build Up Skills, 2013: https://www.buildup.eu/sites/default/files/bus_projects/bussk-sqa-slovakia_0.pdf

6 Ibid

7 Build Up Skills SK, Projects Database, Intelligent Energy Europe, 2019: https://ec.europa.eu/energy/intelligent/projects/en/projects/build-skills-sk

8 Build Up Skills Slovakia Factsheet, 2017: https://www.buildup.eu/sites/default/files/bus_factsheets/factsheet_slovakia.pdf

9 Toe refers to tonne of oil equivalent.

10 tCO_2e refers to tonnes of carbon dioxide equivalent.

11 Ibid

12 Ibid

13 National Scheme of Qualification, Further Education and Training for Craftsman and On-site Workers in the Sector of Buildings (StavEDU) website: http://www.stavedu.sk/eng.html

14 Ibid

15 Build Up Skills Slovakia Factsheet, 2017: https://www.buildup.eu/sites/default/files/bus_factsheets/factsheet_slovakia.pdf

16 Ibid

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18 Build Up Skills Slovakia Factsheet, 2017: https://www.buildup.eu/sites/default/files/bus_factsheets/factsheet_slovakia.pdf

19 Final report on the assessment of the BUILD UP Skills Pillar II, 2018: https://www.buildup.eu/sites/default/files/content/bus-d4.4finareport_on_assessment_april_2018_0.pdf

20 Ibid

21 Build Up Skills SK, Projects Database, Intelligent Energy Europe, 2019: https://ec.europa.eu/energy/intelligent/projects/en/projects/build-skills-sk

22 Interview with Frantisek Doktor, Association of Construction Entrepreneurs of Slovakia (ZSPS), 2019.

23 Final report on the assessment of the BUILD UP Skills Pillar II, 2018: https://www.buildup.eu/sites/default/files/content/bus-d4.4finareport_on_assessment_april_2018_0.pdf

24 Interview with Frantisek Doktor, November 2019.

25 Analysis of market barriers towards cross-craft training schemes, Jean Paul van den Haspel, Newcom, 2018: https://www.energyagency.at/fileadmin/dam/pdf/projekte/gebaeude/NEWCOM_report_31-1-18.pdf

26 Interview with Frantisek Doktor, Association of Construction Entrepreneurs of Slovakia (ZSPS), 2019.

27 Interview with Anna Bäulm, Ministry of Transport and Construction, (MINDOP), 2019.

28 Ibid

29 Ibid

30 Interview with Frantisek Doktor, Association of Construction Entrepreneurs of Slovakia (ZSPS), 2019.

31 Ibid

32 Final report on the assessment of the BUILD UP Skills Pillar II, 2018: https://www.buildup.eu/sites/default/files/content/bus-d4.4finareport_on_assessment_april_2018_0.pdf

33 Build Up Skills Slovakia Factsheet, 2017: https://www.buildup.eu/sites/default/files/bus_factsheets/factsheet_slovakia.pdf

34 Craftedu.eu website: https://www.craftedu.eu/