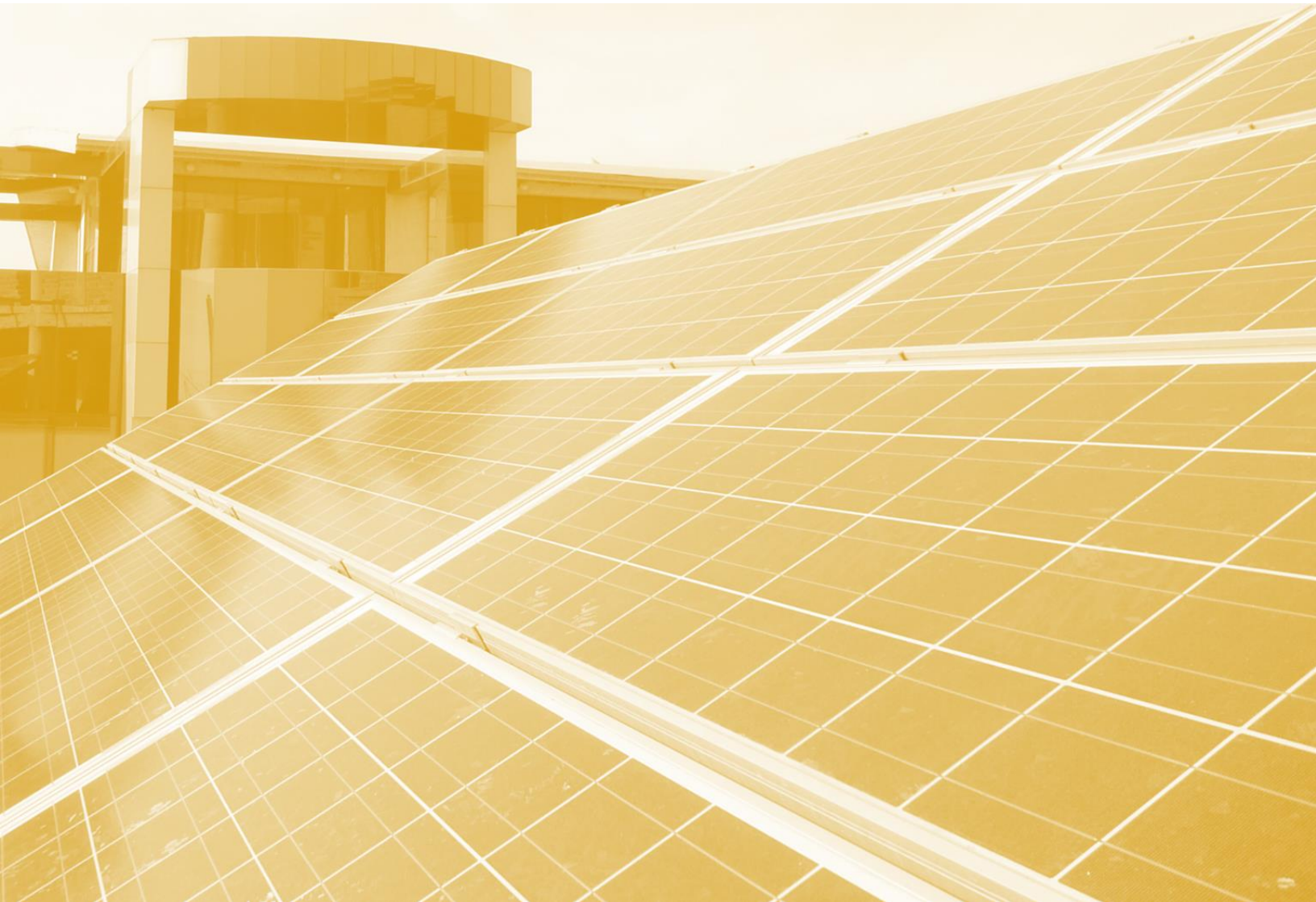


**VET partnership For  
Green and Smart  
Electricity in Buildings**



**WP 3 / D3.2  
Curriculum for Training Trainers of Specialists  
in PV & Smart Electrical Systems in Buildings**



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# Curriculum for Training Trainers of Specialists in PV & Smart Electrical Systems in Buildings

## D3.2 Training Program

### 1. Introduction

At the application stage, the creation of 1 training program was planned:

- ✓ Curriculum for training Trainers of Specialists in PV & Smart Electrical Systems in Buildings

Surveys were conducted in the partner-countries (Albania, Armenia, Bulgaria, Georgia, Turkey and Ukraine) to examine the opinions, needs and expectations of companies and professionals involved in the renewable energy market on the state of this market and in particular the issues related to the efficiency and quality of installation and maintenance of systems, and the skills needed to achieve efficiency and quality, as well as to identify the needs of theoretical knowledge and practical skills of technicians and installers of geothermal and solar installations, for the purpose of tackling the identified gaps and needs by improving training curricula for the target groups and upskilling trainers.

Also, the best teaching practices of innovative teaching methods in vocational training were investigated in order to be able to identify and select the best ones, and the obtained conclusions will feed the definition of the needs, dynamic and strategies of learning that may be supported by new technologies and pedagogical methodologies. The selected best practices will be used as a model for the creation of the training under the current project.

Over 10 practices and case studies have been collected from different countries by using a standard template for all countries, and the best ones have been selected.

The main objective of the VET4GSEB project is to transfer the experience and good practices in the field of VET from the 2 European countries to 4 other countries participating in the project. To supply the national VET providers with adapted solutions, training materials, case studies, tools and guidelines, which will allow them to update their training practices and programs in order to meet the skills needs of the labour market in the building and RES sector.

It was decided that a flexible hybrid method of teaching will be adopted for the Project VET4GSEB using an e-learning platform, with integrated different digital technologies, such as videos, screencasts, interactive presentations and quizzes.



## 2. Methodology

According to these preliminary results, the final Curriculum was created, following the subsequent methodology:

A template was designed by the task leader to allow the following:

The definition of core skills and competences that a trainer should develop (based on the needs analysis);

- The definition of corresponding sub-competences;
- The weighing of those competences into 3 categories:
  - Basic;
  - Important;
  - Essential.

Corresponding “teaching time” for each competence, and sub-competence respectively, was allocated;

Corresponding ECVET-equivalent points were allocated, according to the previous weighing of competences, giving a coefficient of 0.5 for basic competences, 1 for important competences, and 2 for essential competences. We have used the term ECVET-equivalent

The duration of the whole training was determined and planned.



### 3. CURRICULUM FOR TRAINERS OF SPECIALISTS IN PV & SMART ELECTRICAL SYSTEMS IN BUILDINGS

<b>Title of the course</b>	<b>Trainers of Specialists in PV &amp; SEB</b>
<b>EQF level</b>	<b>5, 6 &amp; 7</b>
<b>Target group</b>	<b>Trainers who wish to upgrade their competences in VET</b>
<b>Learning Hours</b>	<b>60</b>
<b>ECVET-equivalent Points</b>	<b>40</b>

<b>MODULE 1: INTRODUCTION</b>					
	<b>LEARNING HOURS</b>	<b>THEORETICAL</b>	<b>5</b>	<b>ECVET-equivalent points</b>	<b>4,00</b>
		<b>PRACTICAL</b>	<b>0</b>		
<b>RESPONSIBLE PARTNER: SEC</b>		<b>DIDACTIC NEEDS</b>		<b>ECVET –equivalent points</b>	
<b>1.1. Information about the Project</b>				<b>0,50</b>	
The trainee is familiar with the ideas and main objectives of this Project		Theoretical learning in classroom / learning online	<i>BASIC</i>	0,50	
<b>1.2. Information about the training course</b>				<b>0,50</b>	
The trainee is familiar with the basic concepts and ideas of the training under this Project		Theoretical learning in classroom / learning online	<i>BASIC</i>	0,50	



<b>1.3. EU Directives on Nearly zero energy buildings</b>				1,00
The trainee is acquainted with the EU Directives and trends	Theoretical learning online	IMPORTANT	1,00	
<b>1.4. National legislation related to energy efficiency and RES in buildings</b>				1,00
The trainee is acquainted with the local legislation regarding energy efficiency and RES in buildings	Theoretical learning online	IMPORTANT	1,00	
<b>1.5. National legislation related to VET training</b>				1,00
The trainee is acquainted with the local legislation on VET training	Theoretical learning online	IMPORTANT	1,00	
<b>MODULE 2: SOFT SKILLS</b>				
LEARNING HOURS	THEORETICAL	5	ECVET-equivalent points	10,00
	PRACTICAL	5		
RESPONSIBLE PARTNER: SUDEAS, CISB & PIF		DIDACTIC NEEDS	ECVET –equivalent points	
<b>2.1. Change Management</b>				2,00
The trainee is familiar with the concepts of management and leadership and the differences between the two. They are also acquainted with change management. The trainee is aware of how to apply them in their work so as to boost training outcomes	Theoretical learning in classroom / learning online	ESSENTIAL	2,00	
Quiz or case-study	Practical (online) training			
<b>2.2. Emotional intelligence &amp; Networking</b>				2,00
The trainee is familiar with the concepts of emotional intelligence and networking; key factors/steps and relevance in the context of VET	Theoretical learning in classroom / learning online	ESSENTIAL	2,00	
Quiz or case-study	Practical (online) training			
<b>2.3. Media literacy and social influence</b>				2,00



The trainee is familiar with importance of medial literacy, how the media can be used as part of social learning and social influence in the context of VET	Theoretical learning in classroom / learning online	<i>ESSENTIAL</i>	2,00
Quiz or case-study	Practical (online) training		
<b>2.4. Active Learning &amp; Learning Strategies</b>			2,00
The trainee is familiar with the concepts of social learning and micro-learning and is able to apply them in their work	Theoretical learning in classroom / learning online	<i>ESSENTIAL</i>	2,00
Quiz or case-study	Practical (online) training		
<b>2.5. Adult training and working with young adults</b>			2,00
The trainee is familiar with the specifics of working with young people and adults in VET, and is able to tailor their lessons accordingly.	Theoretical learning in classroom / learning online	<i>ESSENTIAL</i>	2,00
Quiz or case-study	Practical (online) training		
<b>MODULE 3: DIGITAL SKILLS</b>			
<b>LEARNING HOURS</b>	<b>THEORETICAL</b>	<b>10</b>	<b>ECVET-equivalent points</b>
	<b>PRACTICAL</b>	<b>5</b>	
RESPONSIBLE PARTNER: EECG		DIDACTIC NEEDS	<i>ECVET –equivalent points</i>
<b>3.1. Using LMS (learning management systems) &amp; other online tools (3 hours) in VET training &amp; VET4GSEB Project</b>			2,00
The trainee is familiar with LMS and other online tools that are invaluable in VET (Padlet, Zoom, Google Classroom, etc.) – Responsible partner: CISB	Theoretical learning in classroom / learning online	<i>ESSENTIAL</i>	2,00
Practical training on the platform used for the VET4GSEB project.	Practical (online) training		
<b>3.2. DigComp 2.2 (version 2022)</b>			2,00
The trainee is familiar with the proficiency levels; examples of use applied to learning and employment	Theoretical learning in classroom / learning online	<i>ESSENTIAL</i>	2,00



Quiz or case-study	Practical (online) training		
<b>3.3. Use of 3D CAD systems</b>			2,00
Examples of PV design and calculations – Pvcase, PVsyst, PV Sol, Open Solar	Theoretical learning in classroom / learning online	ESSENTIAL	2,00
Quiz or case-study	Practical (online) training		
<b>3.4. BIM (Building Information Modelling)</b>			2,00
Application of BIM in support of the integrated design for architecture, engineering and construction (AEC) teams.	Theoretical learning in classroom / learning online	ESSENTIAL	2,00
Quiz or case-study	Practical (online) training		
<b>3.5. The smart home electricity system</b>			2,00
The trainee is familiar with smart home electricity systems and their contribution to energy efficiency	Theoretical learning in classroom / learning online	ESSENTIAL	2,00
Case study – the monitoring of a smart solar system	Practical (online) training		





<b>MODULE 4: NEW TECHNOLOGIES FOR SMART AND PV SYSTEMS IN BUILDINGS</b>				
LEARNING HOURS	THEORETICAL	15	ECVET-equivalent points	10,00
	PRACTICAL	5		
RESPONSIBLE PARTNER: NUBIP & SEC		DIDACTIC NEEDS		<i>ECVET –equivalent points</i>
<b>4.1 New technical solutions for smart electrical low-voltage systems in buildings</b>				2,00
The trainee is acquainted with new technical solutions for smart electrical low-voltage systems in buildings (3 hours)		Theoretical learning in classroom / learning online		ESSENTIAL 2,00
Case studies (1 hours)		Practical online learning		
<b>4.2. Energy management in buildings</b>				2,00
The trainee is acquainted with the concept of energy management in buildings and various energy management tools (3 hours)		Theoretical learning in classroom / learning online		ESSENTIAL 2,00
Case study (1 hours)		Practical online learning		
<b>4.3. Building applied PV systems</b>				2,00
Concepts and designs (3 hours)		Theoretical learning in classroom / learning online		ESSENTIAL 2,00
Quiz and case-study (1 hours)		Practical online learning		
<b>4.4. Building integrated PV systems</b>				2,00
Concepts, specifics and design (3 hours)		Theoretical learning in classroom / learning online		ESSENTIAL 2,00
Quiz and case-study (1 hours)		Practical online learning		
<b>4.5. Storage systems – Batteries. Innovative storage systems.</b>				2,00
The trainee is acquainted with the common storage systems and the latest innovative storage solutions (3 hours)		Theoretical learning in classroom / learning online		ESSENTIAL 2,00
Quiz and case studies. (1 hours)		Practical online learning		



MODULE 5: NEW METHODS & PRACTICES IN VET				
LEARNING HOURS	THEORETICAL	10	ECVET-equivalent points	6,00
	PRACTICAL	0		
RESPONSIBLE PARTNER: CISB & PIF	DIDACTIC NEEDS		<i>ECVET –equivalent points</i>	
<b>5.1. The enriched virtual classroom</b>			2,00	
The trainee is acquainted in detail with the so called ‘enriched virtual classroom’ and its invaluable role in VET (1 hour)	Theoretical learning in classroom / learning online		<i>ESSENTIAL</i>	2,00
Case studies (1 hour)	Practical online learning			
<b>5.2. The future of VET. Entrepreneurship Competence in VET</b>			2,00	
The trainee is acquainted with projected future of VET and with the importance of entrepreneurship competence in VET (1 hour)	Theoretical learning in classroom / learning online		<i>ESSENTIAL</i>	2,00
Case study (1 hour)	Practical online learning			
<b>5.3. Neuroscience in education</b>			1,00	
The trainee is acquainted with the importance of neuroscience in learning, especially in VET	Theoretical learning in classroom / learning online		<i>IMPORTANT</i>	1,00
Quiz or case-study (1 hour)	Practical online learning			
<b>5.4. European transparency and recognition</b>			1,00	
Directives, requirements, etc. ECVET & Europass (1 hour)	Theoretical learning in classroom / learning online		<i>IMPORTANT</i>	1,00
Quiz (1 hour)	Practical online learning			
<b>FINAL TEST (2 hours) consisting of a multiple cloze test and a case study</b>				



#### 4. CONCLUSION

Thanks to the methodology described above, a comprehensive curriculum have been created, which paves the way for WP3 and WP4, namely the creation of the training contents, the Guidebook and the 'Train-the-trainer' training.





Contact and information at [www.vet4gs eb.eu](http://www.vet4gs eb.eu)

**VET4GSE B Partners:**

The Project is realised by a consortium of 9 partners from: Bulgaria, Albania, Armenia, Georgia, Turkey and Ukraine

Sofia Energy Centre,



coordinator



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