BEM Micro-credential

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| **BEM content (for all partners)** | Title/name of the credential | **Photovoltaic panel installer** |
| Function of themicro-credentials / purpose | The purpose of the microcredit program is to train participants to independentlyperform tasks related to the installation, maintenance and dismantling of photovoltaic panels. |
| Possible target groups | unemployed, people who want to retrain. |
| Branch/sector of application | Production of electricity |
| Fields of application / work environment | residential, business, industrial, public space, sports facilities |
| Typical work/professional tasks | * Installation, maintenance and dismantling of photovoltaic systems according to technical documentation.
* Assembly and disassembly of the photovoltaic panel support structure,
* Selection of equipment (cables, connectors, charging regulators, solar accumulators/batteries, inertors, DC/AC protection)
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| Learning outcomes (personal and job related) | *Knowledge** defines the term photovoltaic panel
* knows the electrical characteristics of the photovoltaic panel;
* specifies the division of photovoltaic systems according to the method of supplying consumers;
* explain the influence of shading on the output power of the inverter and the production of electricity;
* states the effects of panel aging;
* defines the concept of string and central inverter;
* lists different types of supporting structures;
* defines the switching and protective equipment of photovoltaic systems;
* lists the characteristics of AC and DC cables in photovoltaic installations
* explains the basic procedures of mechanical assembly of elements and photovoltaic systems;
* explains the procedures for the electrical connection of elements of the photovoltaic panel system
 | *Skills** installs and mounts the photovoltaic panel (depending on the material of the building's roof);
* selects the place of installation of the photovoltaic panel (the relationship between the building and the outside world);
	+ connects the photovoltaic panel to the inverter
	+ carries out winding of various types of supporting structures for the installation of photovoltaic panels;
	+ connects the switching and protective equipment of photovoltaic systems;
	+ connects AC and DC cables in photovoltaic systems;
	+ assembles and dismantles the structure for carrying the panels
	+ makes electrical connections of elements and

equipment of | Competences* lifelong learning working with data and information;
* Implementation of safety and health protection measures at work and environmental protection
* Preparation and installation and maintenance of photovoltaic systems
* Business communication in work with clients, colleagues and superiors
* aesthetic competence;
* entrepreneurship and entrepreneurial competence;
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|  |  |  | photovoltaic systems that are connected to the distribution network (On-grid) and systems that are not connected to the distribution network (off-grid);* performs battery maintenance (off-grid);
* reports malfunctions in a timely manner and performs

maintenance ofphotovoltaic solar systems |  |
| Validation | *Criteria** suitability - reliability; (compliance of the assessment with established, public and precise assessment criteria);
* validity; (evaluation shows the effects of learning - achievement of results, engagement and progress of participants;
* diversity of assessment methods: (choice of appropriate and application of different assessment methods and techniques in order to ensure validity, reliability and objectivity of assessment);
* evaluation without discrimination and selection on any basis;
 | *Procedures** formation of the examination committee;
* determining the list of tasks for the exam;
* extracting work tasks;
* checking competence by creating tasks;
* examination records;
* awarding of certificates;
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| Recognised/accepted (documented by MoU) | Company name: "Envidome" doo Niš |
| Provider(s) | Vocational secondary schools - Publicly recognized organizers of educational activities (JPOA) |
| **Additional information (if needed)** | Entry level / prerequisites | NOKS level 1 - primary educatin and upbringing, primary adult education, primary ballet education and upbringing and primary music education and upbringing125 hours |
| Possible duration (recommendation) |
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| **Specific content (national) (if needed)** | Position in the chain of educational programmes | Non-formal training3rd level of NOKS; 3rd level EOK 5 |
| Reference to NQF |
| Credits |