

TEMPLATE FOR THE GOOD PRACTICE

What is a good practice?

A good practice is not only a practice that is good, but a practice that has been proven to work well and produce good results, and is therefore recommended as a model. It is a successful experience, which has been tested and validated, in the broad sense, which has been repeated and deserves to be shared so that a greater number of people can adopt it.

Please follow the instructions included to fill in the template. You can replace the guiding questions for each element with your description.

Mandatory fields are defined by *

Element	Description
Title*	Photovoltaic Electric Sunflower - Solar Sunflower
Name of the VET Provider	Regional VET Centre DSU RCSOO Kole Nedelkovski, Veles, North Macedonia
Thematic domain	<p>What is the thematic domain covered by this good practice? More than one domain can be indicated</p> <ul style="list-style-type: none"> <input type="checkbox"/> Innovation <input type="checkbox"/> Digital <input type="checkbox"/> Green <input type="checkbox"/> Inclusion <input type="checkbox"/> Entrepreneurial <input type="checkbox"/> Career guidance <input type="checkbox"/> Lifelong learning <input type="checkbox"/> Creating partnerships/skills ecosystems
Introduction*	<p>Within the project "Challenge for young researchers", electronics / electrical engineering students worked with both a teacher at school and a mentor at a photovoltaic company. They investigated - How to create photovoltaic cells for the production of electricity in the school, compare two photovoltaic cells, one of which is in static mode of operation, and the other - dynamic, on a sunny day and a cloudy day, and tried to discover whether dynamic Photovoltaic sunflower increases efficiency.</p>
Stakeholders and Partners	<p>The school, the electronics/electrical engineering students, teachers of electrical engineering vocational subjects, mentors from the photovoltaic company.</p>
Impact*	<p>Students have acquired skills relevant to the labor market and society in terms of school resources, additional energy was provided that the school would use free of charge as well.</p>

Innovation and Success Factors *	Regarding the research process, the dynamic photovoltaic solar panel increases the efficiency by 20.9%. Regarding teaching process, it was a great opportunity with personalization of learning in small group, Emphasis on STEM topics and competencies, contextualization of STEM teaching.
Constraints*	Automatic regulation of the dynamic cell entails additional costs on which the profitability of using these dynamic photovoltaic solar panels depends.
Lessons learned *	-Taking advantage of the meteorological conditions, sunny days in our territory. The static cell will produce 439kWh of energy per year -The photovoltaic solar panel or dynamic cell produces about 531kWh of energy per year. -Use of Inquiry Based Science teaching method was well received by the students
Replicability and/or up-scaling	The study can be repeated using different panel rotation systems.
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URL of the practice	https://shorturl.at/9x8ij
Related resources that have been developed	 Solar Sunflower.pdf
