



**Name of the Activity:** **Renewable Energy Coding Project**

|                                        | Outcomes                                                                          | Teaching and Learning activities                                                                                                | Assessment                                                                                                              |
|----------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
|                                        | Having taken this activity, the participants will be able to:                     | The participants will be taught to achieve this specific outcome through the following learning activities:                     | The participants will be assessed on their achievement of this specific outcome through the following assessment tasks: |
| Blended Learning Format - Face-to-face | Understand the concept of renewable energy and its importance in sustainability.  | Introduction to renewable energy sources (solar, wind, hydro) with real-world examples.                                         | Participation in group discussions; ability to list and describe renewable energy sources.                              |
|                                        | Design and program a simulation or game incorporating renewable energy elements.  | Group work to brainstorm, storyboard, and code a project using Scratch or Python.                                               | Evaluation of project creativity, technical execution, and integration of renewable energy themes.                      |
|                                        | Enhance problem-solving and creative thinking through coding challenges.          | Debugging exercises, peer feedback sessions, and iterative project refinement.                                                  | Observation of problem-solving approaches and improvements in project iterations.                                       |
|                                        | Present a digital project that integrates technology and sustainability concepts. | Preparation and delivery of group presentations explaining project features and challenges.                                     | Clarity, organization, and depth of explanation in the presentation.                                                    |
|                                        | Recognize the role of algorithms in solving real-world problems.                  | Discussions on how algorithms are used in coding simulations for sustainable solutions.                                         | Assessment through algorithmic logic in student projects.                                                               |
|                                        | Reflect on the importance of integrating technology and sustainability.           | Group discussions and individual reflections on the impact of their projects on awareness and education about renewable energy. | Submission of a written reflection or verbal feedback during discussions.                                               |
| Interactive Learning Table             | Reinforce understanding of renewable energy applications.                         | H5P-task – drag and drop.                                                                                                       | Assessment via interactive tasks.                                                                                       |
|                                        | Assess understanding of basic coding principles and their applications.           | H5P-task – multiple choice.                                                                                                     | Assessment via interactive tasks.                                                                                       |