Contribution ID: **179** Contribution code: **S11-EPASE-200** Type: **Poster presentation (virtual)**

Optimal design of hybrid PV-Wind-Battery systems for supply of microgrids

Wednesday, 31 August 2022 11:38 (2 minutes)

Abstract. Power supply issues are more acute in isolated areas. Hybrid systems are becoming one of the most promising ways to meet the energy needs of microgrids. The proposed PV-wind- battery system consists of a PV system, a wind energy converter system and a battery system, which stores surplus energy from the PV and wind power systems, and uses this energy accumulated latter when the PV system and wind turbines do not generate enough power to fulfil the load. The main aim of the study is to model total renewable energy systems that meet the electric load of microgrids. The HOMER software is used as a tool for simulation and optimization of the proposed system. The Net Present Cost (NPC) method is used to determine the optimal combination of the system.

Primary author: BUZRA, Urim (Polytechnic University of Tirana, Tirana, Albania)

Co-authors: Dr HALILI, Daniela (Elbasan University, Elbasan, Albania); Dr MITRUSHI, Driada (Polytechnic University of Tirana, Tirana, Albania)

Presenter: BUZRA, Urim (Polytechnic University of Tirana, Tirana, Albania)

Session Classification: Poster session (virtual)

Track Classification: Scientific Sections: S11 Environmental Physics – Alternative Sources of Energy