

A STUDY OF PV SYSTEM APPLICATION ON THE SUSTAINABLE DEVELOPMENT IN SERBIA

Dragana Todorović¹, Slavica Jovanović¹, Tijana Kevkić¹, Marija Stojanović Krasić², Nenad Milojević³, Branko Drljača¹

¹University of Priština, Faculty of Sciences and Mathematics, Kosovska Mitrovica, Serbia

²University of Niš, Faculty of Technology, Leskovac, Serbia

³University of Niš, Faculty of Sciences and Mathematics, Niš, Serbia

Corresponding author e-mail: slavica.jovanovic@pr.ac.rs

Abstract

Climate change is one of the most significant environmental problems and is affecting the entire global population. Renewable sources of energy (RES) are vital to deal with this problem. Solar energy, especially photovoltaic (PV) technologies, is one of the most promising renewable energy sources and is, therefore, one of the fastest-growing industries in this field. Thus, this paper focuses on the performance analyses of rooftop on-grid PV system in real climatic conditions in Niš (Serbia) in 2019 and its environmental benefits. Besides, the life cycle assessment (LCA) for the PV system, based on a case study in Niš, is also given in this paper. Based on this study, energy from PV systems could potentially be a part of the solution for Serbia's future energy demands, as well as for the preservation of the environment and the establishment of sustainable development in Serbia.

Keywords: PV system, PV system Efficiency, Performance Ratio, LCA, EPBT.