

THE COST-EFFECTIVENESS ANALYSIS OF DIFFERENT POWER FACILITIES CONSTRUCTION PROJECTS WITH THE AIM OF DECARBONIZING THE ENERGY SECTOR

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Abstract

In this paper, a comparison of the net present value and the payback period for three different projects of construction and exploitation of plants for the production of electricity with the aim of decarbonizing the energy sector is conducted. The first project is building of the large-scale nuclear power plant with a light-water reactor, the second one is a deployment of nuclear power plant which consists of several identical small modular reactors and the third project is using of renewable energy sources solar and wind power. Given that the sun and wind are intermittent renewable energy sources, it is necessary to take into account the construction of an energy storage facility in the last project.

Keywords: net present value; payback period; decarbonization.