

solar PV in Palestine is an on-grid solar system [9]. The Palestinian Energy Authority (PEA) policy is to encourage the Palestinian people to utilize solar PV power to contribute to independency of Palestinian energy and support the Palestinian economy. To encourage solar PV energy, the PEA introduced the net-metering regulations.

It does not represent the amount of energy produced because a system with low PR in high solar irradiation
International Journal of Energy Economics and Policy | Vol 9 o Issue 3 o 2019 295 Ibrik and Hashaika:
Techno-economic Impact of Grid-connected Rooftop Solar PV System for Schools in Palestine: A Case Study
of Three Schools Figure 9 ...

Palestinian Ministry of Education and Higher Education developed a national program to deploy solar PV systems on the rooftops of public schools in Palestine as in Figure 1. The Schools Rooftop ...

The integration of solar energy systems in urban environments presents significant opportunities for sustainable energy production, particularly in regions with high solar irradiance.

The objective of this paper is to study the impact of using micro-grid solar photovoltaic (PV) systems in rural areas in the West Bank, Palestine. These systems may have the potential to provide rural electrification and encourage rural development, as PV panels are now becoming more financially attractive due to their falling costs. The implementation of solar ...

1. Introduction. Nowadays, it is well established that solar energy is the best option to meet the electricity demand in the near future. Palestine is facing the growth of energy demand, especially in electrical energy, across all sectors, and by necessity, future generation expansion will rely substantially upon increasingly expensive fossil fuels (Ibrik, Citation 2019; ...

impact of solar-powered irrigation systems (SPIS) in Palestine by considering the currently installed systems. Three main categories are observed: Direct-drive pumping systems, on-grid pumping systems and standalone, or off-grid photovoltaic (PV) systems with a water pump. The direct-drive system uses a photovoltaic array that drives a

Moreover, 15 photovoltaic systems are selected in this research for technical and economical evaluation, to first show the typical performance of photovoltaic systems in Palestine, and second, to ...

: This research investigates the techno-economic elements of a 143.55 kWp solar photovoltaic (PV) system erected on the main building's rooftop at Palestine Technical University-Kadoorie (PTUK) in Tulkarm, Palestine. The system includes 414 PV panels that were monitored throughout 2019. The PVsyst software was

used to design solar PV systems and determine ...

Solar PV electricity generation necessitates the use of a limited amount of water, such as when cleaning solar PV panels to improve efficiency. Even though Palestine imports 100% of its fossil fuels and 87 percent of its power from other nations, such PV applications are especially significant in the Palestine region, where there is a high ...

where, f_m is the matching factor, that is, the ratio of the power output of the PV array under operating conditions to its power output at the maximum power point. The generally accepted value for designing a PV system is $f_m \approx 0.90$. The value α is the cell temperature coefficient and is from 0.2 to 0.6%/C (0.004 to 0.005/C for Si) and T_c is the daily average cell ...

Furthermore, the global cost of solar power is continually declining, as the cost of installing solar PV has dropped by approximately 80 percent*4 since 2010 - making it more attractive to potential investors. Despite holding enormous potential to generate energy at affordable rates, solar energy projects remain limited in Palestine.

for wind and solar energy systems using GIS. Finally associated maps were overlaid to obtain the most feasible locations for hybrid wind solar-PV systems. Sanchez-Lozano et al. (2014) suggested the use of GIS to identify the best plots suitable for installing photovoltaic solar farms in the Municipality of Torre Pacheco in the southeast of ...

Semantic Scholar extracted view of "Grid connected PV- home systems in Palestine: A review on technical performance, effects and economic feasibility" by Moien A. Omar et al. ... designer and the policy maker to gain meaningful insights on the parameters that affect the design of DC cable in solar PV system application and suggests that the ...

Techno-economic assessment of on-grid solar PV system in Palestine Imad H. Ibrik1* Abstract: This paper presents the analysis of obtained result from continuous data monitoring of a 41 kWp solar PV system installed on the rooftop of faculty of medicine building at An-Najah National University, Nablus, Palestine (32°13'43.67"N and 35°13'15 ...

In Palestine various renewable energy sources are available but the photovoltaic (PV) technology is considered a suitable technology, the average solar irradiation is about 5.4 kW/m²/day ...

performance; Monitoring PV system; Power quality. 1. INTRODUCTION Palestine is located in a high solar power concentration area in the world, with an annually average irradiance of 5.45 kWh/m²- day [1]. This encouraged consumers to focus on utilizing the solar power as a source of electricity to cover their demands, with fast growing ...

Depending on the number of customers served, the types of services provided. The objective of this research is

to show the social, economic, environmental, and technical ...

Increased penetration of photovoltaic (PV) systems, for example, may result in a fall in the power factor of the distribution grid. When the power factor is low, heat production and switch ...

where, f_m is the matching factor, that is, the ratio of the power output of the PV array under operating conditions to its power output at the maximum power point. The generally accepted value for designing a PV ...

The performance of photovoltaic (PV) solar panels is dependent on certain factors, such as dust effects. Even though Palestine's energy issues are well-known, no research has been undertaken on the soiling effect on solar energy generation in Palestine's climatic circumstances. The study's findings can aid Palestine's efforts to achieve long-term energy ...

Residential photovoltaic systems are a cost-effective solution for Palestinians to reduce their power costs while improving the environment. Despite their numerous advantages, these systems have several negative effects on the entire electric grid infrastructure. Increased penetration of photovoltaic (PV) systems, for example, may result in a fall in the power factor ...

Ibri and ashaia: Technoeconomic Impact of Connected Rooftop Solar PV System for Schools in Palestine: A Case Study of Three Schools International Journal of Energy Economics and Policy | Vol 9 ...

The potential of solar energy in Palestine using Photovoltaic (PV) and concentrating (CS) solar systems have been discussed. The present study can be considered as a road-map to get out of the ...

Self-consumption of solar PV system was investigated in Ref. [19]. The technical and economic aspects of solar PV for grid-connected homes was investigated for Palestine, Brazil, and South Africa in Refs. [20-22], respectively. However, the above-mentioned review studies did not investigate integration of the battery storage for the PV systems.

The application of the On-grid PV power systems is currently experiencing significant increase and expanding vastly as an alternative source of energy provider for different buildings in Palestine. In the Palestinian territories most of the electricity is provided by the neighboring countries which imposes burden on the Palestinian economy due the insecurity of the ...

The paper is organized as follows: Section 2 provides an introduction about energy sector in Palestine and it includes information about electrical network and electrical energy demand. Section 3 shows the potential of solar energy in Palestine and the benefits of using solar PV systems for utilities and customers.

In Palestine, the electric power generated is not enough to meet the power demand of domestic and industrial sectors. In this article, a PV system of 220 kW peak was proposed as a renewable resource of power

generation for grid connected applications in residential quarter in north Palestine. The proposed system was simulated using MATLAB ...

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