Benefits of energy storage palestine

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According to Beithou and Ganam, warm geothermal waters with low temperatures (38-70 °C) are present in some areas of Palestine and may be utilized to generate energy or heat water, thereby reducing the country"s current electricity problem [29].

10- Rebuilding the energy sector in Gaza: One of the main priorities of the Palestinian government is to rebuild the energy sector in Gaza, by rebuilding the electricity distribution network that was severely damaged, and installing renewable energy sources with storage systems to ensure the continuity of

The objective of this paper is to provide an overview of the current energy situation in the Palestinian Territories and to analyze the potential impact, benefits and challenges of developing renewable energy sources there.

In Palestine, renewable and sustainable energy technologies can play a key role in facing shortage of energy supplies in Palestine due to its trustworthiness and safety (Salah and Abuhelwa, 2020). It can be considered as a strategic solution to deal with the scarcity of energy supply and high electricity cost tackled by Palestinians (Khaldi ...

Among MENA countries, Palestine ranks first in primary energy intensity2, which indicates a relatively low consumption of energy and as a consequence, a possible difficulty for reducing this consumption through EE actions in the residential sector.

The energy problem in Palestine is one of many issues that affect the social and economic conditions of the Palestinian people. The fact that most of the energy is imported at relatively high prices places more financial burdens on poor and marginalized people. On average, households spend nearly 34 percent of their income on food and around 8.5 percent on energy (electricity and liquid gas). This reflects the vulnerability of Palestinians, especially the poor and marginal segments, and limits their ability to obtain the energy they need for daily use.

According to the Palestinian Central Bureau of Statistics (PCBS), the total electrical energy consumption in Palestine in 2019 was reported to be 5,929.5 GWh. This quantity is almost entirely imported from outside sources, mainly from the Israel Electric Corporation (IEC), as shown in Table 1.

The West Bank is mainly supplied by three 161/33 kV substations: one in the south close to Hebron; another one in the central West Bank, near the town of Salfeet, close to Nablus; and a third in the northern part of Jerusalem.

The available power capacity does not meet the demand in all Palestinian areas. Lack of electricity and the

high cost of imported electric power are the main factors in the low Palestinian consumption of electric power. According to PCBS, the monthly average household electricity consumption (based on consumption during January 2020) varies from 285 kWh in Gaza to 482 kWh in the central West Bank. Moreover, the domestic sector is responsible for the bulk of electricity consumption, followed by the commercial sector.

The electricity demand in the Palestinian areas has doubled in the last decade. The peak demand usually occurs during winter when people use electricity for indoor heating. Peak demand is of particular significance, especially when there is a lack of fuel for use in indoor heating instead of electricity. Summer involves another peak demand period, manifested in the need for air conditioning that leads to additional electricity consumption.

While peak demand is expected to grow, it is also projected that demand for electricity will increase in the coming decade due to population growth, urban expansion, and development of commercial and industrial activities.

The main Palestinian cities and urbanized areas are interconnected by a relatively dense road network. Good accessibility is a precondition for an efficient energy network based on the exploitation of solar resources. From the point of view of natural geographic conditions, photovoltaic (PV) installations are optimally located on slightly inclined terrain, which is oriented to the south and has few natural pollution sources (e.g., sand, bare land); it is available in both the eastern and western parts of the West Bank and on the eastern side of the Gaza Strip.