Microgrid benefits malta

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Utilities benefit from a modernised grid through improved security, reduced peak loads, increased integration of renewables, and lower operational costs. Malta has already taken a step in the right direction by introducing smart meters to its grid, helping match electricity generation and demand.

Any organization seeking to gain control over energy costs, advance sustainability, and increase resiliency can benefit from a microgrid. Additionally, as infrastructure, industry, and buildings continue to become more electrified, microgrids can help generate power for additional loads.

Malta is an island in the middle of the Mediterranean Sea having an area of 316km2 and receives the highest EU solar irradiance. The MCAST micro-grid is the first living laboratory for training and research on the island with one-third of the campus fully development in state-of-the-art facilities.

"The biggest use of microgrids is still primarily with facilities that require power 24/7 during local power grid disruptions and outages," says Brian Patterson, chairman, EMerge Alliance, a membership-based, not-for-profit industry association formed in 2008 to create and promote the adoption of new vanguard standards for direct current ...

The aim is to provide an overview of future microgrid situation and capabilities with the benefits of integrating renewable energy sources (RES), such as photovoltaic panels, diesel generators...

Malta"s size and location have shaped the island"s fate since time immemorial. Wars were waged for control over Malta; wars were won thanks to its aid. Centuries later, Malta"s geography continues to hold just as much importance, if for different reasons altogether.

When testing new ideas, it is wise to start small. Malta"s miniscule size, combined with its population and vehicle density, makes it the perfect petri dish for cutting-edge development and implementation of widespread renewable energy solutions. In fact, Malta could lead other EU countries, making it the first green island in the Mediterranean, with 100% renewable energy penetration. However, our current national targets are much less ambitious.

All EU countries are legally bound to produce at least 20% of their total energy through renewable energy sources by 2020. Some countries like Sweden are also working under their own steam, setting the bar high and aiming for 49%. Malta"s goals, however, fall disappointingly short, with a target of just 10%. And if that wasn"t enough, doubt is also being shed on whether we can even reach that. Change has to happen.

Malta faces unique energy challenges with its dependency on fossil fuels for both electricity and transportation. And while the potential of solar and off shore wind energy is huge for the Maltese islands,

identifying how to integrate a variety of renewables and energy storage systems into its energy mix is difficult.

At its peak in August 2017 Malta"s electrical energy demand hit 460 MW. Presently this demand is met through three different sources: the gas power station in Delimara, the recently completed Malta-Sicily Interconnector, and a selection of renewables.

The presence of the interconnector improves the security and reliability of the local grid; however, it also means that the necessary diversification of the energy supply is being outsourced to Italy.

In 2016 renewable energy production accounted for a mere 5% of the total energy generation, mostly from small-scale domestic and industrial PV installations, though it should be noted that the government is now building its first solar energy farm

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