A GLANCE OVER SOLAR RESIDENTIAL STORAGE SYSTEM DEVELOPMENT DIRECTION

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The solar industry continues to boom and its development is in full swing. This year the interest in energy storage applications and clean energy has seen a sharp rise, especially as system costs continue to drop and the technology becomes widely adopted. 2020 in particular has seen new applications develop and new trends that can be largely summarized as follows:

SYSTEMATIZATION

Solar energy storage systems now usually integrate an MPP tracking unit, a battery system, DC/AC converting unit and an AC output unit. It is now common to integrate these units into a single kit to save soft cost of solar storage system, even though the battery is usually installed separately with an external communication via BMS protocols.

ENERGY MANAGEMENT

Photovoltaic, as a renewable, clean energy source has become widely accepted. Its instability, on the other hand, makes it difficult to exactly match normal residential or commercial energy consumption. Energy storage systems help increase solar self-consumption ratios significantly but they are not as economically viable as they could be. Energy management system is a smart solution that has been widely adopted to optimize self-consumption based on electricity price strategy, which maximizes the cost efficiency of energy storage systems and help users save on bills.

MULTI-ENERGY INTEGRATION

Energy storage and solar becomes a popular power source in multiple-energy systems like VPP, micro-grid systems and backup power supply systems, replacing the traditional diesel generator. This can optimize energy supply systems and minimize power supply risks, especially in remote locations beyond stable public electricity coverage.

UTILITY SYSTEM FRIENDLINESS

Solar power injection has predictable and manageable impacts on the public grid system. For this reason, solar power is usually limited or controlled to supplement to the general public grid. A popular way to do this now includes export power limitation, reactive power control, volt-watt and frequency-Watt control strategy etc. All these strategies have increased in popularity among grid companies.

All these application trends in the solar and storage business offer countless opportunities but, at the same time, raise a higher demand on an effective solar energy storage system design. In the following chapters, you will dive into the perspectives of GoodWe Solar Academy for residential solar energy storage systems.