



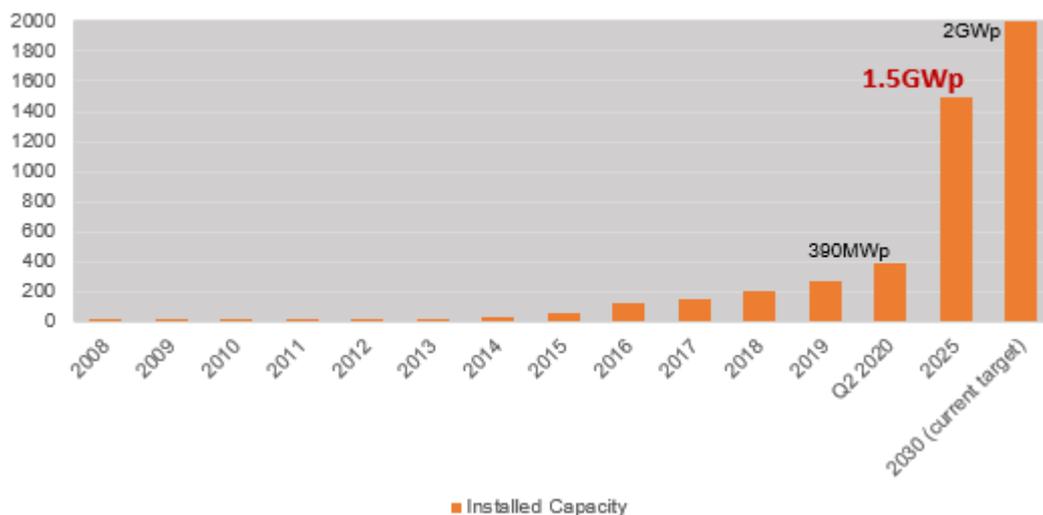
Smart Energy, Sustainable Future

FACTSHEET

Facilitating Solar Adoption for Singapore

Our Solar Energy Landscape

1. Solar energy is the most viable renewable energy source for electricity generation for Singapore. It is clean and generates no emissions. The cost of installing solar has also been declining, due to various factors such as improved technology and greater economies of scale.
2. There has been strong growth in solar deployment in Singapore from 33 Megawatt-peak (MWp) in 2014 to around 390 MWp as at second quarter of 2020.
3. Singapore is currently working towards our solar target of at least 2GWp by 2030 – enough to meet the annual electricity needs of around 350,000 households in Singapore or around 3% of our total electricity demand in 2030. As part of our energy transition, the Government will take the lead in accelerating our solar deployment. Together with the private sector, we will work towards **potentially achieving 1.5GWp of solar deployment by 2025**. This is equivalent to meeting the annual electricity needs of around 260,000 households in Singapore or around 2% of our total electricity demand in 2025.



4. However, solar photovoltaic (PV) output is intermittent in nature and fluctuates depending on weather conditions such as cloud cover. This can lead to imbalances

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between electricity demand and supply, especially when more solar energy is integrated into the power grid.

5. There are also potential trade-offs to consider as well, such as competing uses of land space with other activities such as rooftop farming.

Maximising Space and Output

6. Given our space constraints, the Government has introduced the following initiatives to facilitate the deployment of solar PV systems on a large scale here. These include:

- a. Rooftops and infrastructure. Co-led by the Housing and Development Board (HDB) and the Economic Development Board (EDB), the SolarNova programme aggregates demand for solar energy across public sector agencies. This makes large-scale implementation of solar PVs cost-effective and sustainable.

The Government has also extended the SolarNova programme to maximise solar deployment on the rooftops of public sector buildings. The Government will also take the lead to maximise solar deployment on the rooftops of private industrial and commercial buildings. We will reach out to major private developers and industry players to co-create solutions, to drive solar deployment on private sector rooftops. For more info, visit www.hdb.gov.sg.

- b. Building-Integrated Photovoltaics. The Government will also devote R&D efforts to develop and bring down the costs of innovative solar applications. This can allow us to maximise solar deployment in our highly built-up environment. One example is Building-Integrated Photovoltaics. These have the potential to replace conventional building materials for building facades and vertical surfaces such as noise barriers and fences to generate solar energy.

Reservoirs and offshore spaces. Singapore's National Water Agency PUB is looking into increasing the deployment of floating solar panels on reservoirs, while minimising the impact on biodiversity and use of reservoir space for recreational activities. The agency has also commenced construction of Singapore's largest floating solar PV system (60 MWp) on Tengeh Reservoir which is expected to commence full commercial operations in 2021. For more info, visit www.pub.gov.sg.

Clean energy solutions provider Sunseap, too, will be deploying Singapore's largest offshore floating solar panel systems. This is along Singapore's northern shore, in the Straits of Johor. When completed, the system will be one of the world's largest sea-based floating solar PV systems. Most large-scale systems

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are built on freshwater ponds, lakes or reservoirs. The project is supported by EDB and will be able to generate about 6.4 GWh of renewable energy annually, equivalent to powering about 1,250 four-room HDB flats.

- c. Land. JTC Corporation has introduced the SolarLand initiative to install solar panels on vacant State Land not required for development in the near future. The project will see the development and deployment of mobile substations and mobile solar PV systems. This will allow JTC to re-deploy the system in the event that the land or space is needed for other uses.

Following the roll out of the first two phases at Jurong Island and Changi Business Park, JTC issued a tender for the third phase of its SolarLand Programme in February this year, This will maximise the use of over 560,000 sqm of temporary vacant land all across Singapore to deploy more than 67 MWp of solar energy capacity. For more info, visit www.jtc.gov.sg.