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PUB AND SEMBCORP COMMENCE CONSTRUCTION OF 60 MWP FLOATING SOLAR PHOTOVOLTAIC SYSTEM ON TENGEH RESERVOIR

One of the world's largest inland floating solar farms enabling integration of green technology with water treatment



Artist impression of the upcoming 60MWp floating solar system on Tengeh Reservoir that will occupy an area of about 45 football fields.¹

Singapore, August 18, 2020 – National Water Agency PUB and Sembcorp Floating Solar Singapore, a wholly-owned subsidiary of Sembcorp Industries (Sembcorp), are pleased to announce the commencement of construction of the 60 megawatt-peak (MWp) floating solar photovoltaic (PV) system on Tengeh Reservoir. This marks a significant milestone in building one of the world's largest inland floating solar PV systems, which not only helps to reduce dependency on fossil fuels and thus carbon emissions, but also builds national climate resilience for a more sustainable future.

2 Solar energy is Singapore's most viable renewable energy source, but large-scale deployment of solar panels is challenging due to its dense urban landscape and limited land. Beyond

¹ Visual representations including drawings, illustrations, photographs and art rendering portray artistic impressions only and are not to be taken as representations of the actual layout of the solar PV installation, which is subject to change.

OPUB SINGAPORE'S NATIONAL WATER AGENCY



rooftops and vertical spaces, PUB's large expanse of water bodies and reservoirs can now serve the dual purpose of water catchment and electricity generation. This follows positive trial outcomes and extensive environmental studies which show that floating solar panels have minimal impact on the reservoir's water quality and biodiversity.

3 This large-scale floating solar PV system at Tengeh Reservoir – the first of its kind in the region – will enable Singapore to be one of the few countries in the world to integrate green technology with water treatment. When the project begins full commercial operations next year, the amount of clean energy generated will be sufficient to power PUB's local water treatment plants, offsetting 7% of PUB's annual energy needs.

Innovative design with sustainable materials and use of smart technologies to enhance operations

4 The project will also incorporate new innovations in floating solar PV design and construction. Every component of the system was carefully designed and selected based on Singapore's climate conditions in order to maximise energy generation, minimise environmental and water quality impact, and be durable enough to fulfil a service lifespan of 25 years. These include double-glass PV modules instead of the single-glass variant commonly used for rooftops installations, to enhance durability in a wet and humid environment. The PV modules are supported by certified food-grade quality high density polyethylene (HDPE) floats which are UV-resistant to prevent degradation from the intense sunlight exposure.

5 To optimise performance and reliability of operations, the system is backed by a digital monitoring platform which features safety cameras, 'live' video monitoring, dashboards and alerts that help to track environmental factors such as wind speed, solar irradiation and ambient temperature. The system also detects abnormalities that may indicate potential overheating and fire hazard for preemptive troubleshooting. Staff will be able to monitor the system remotely via a mobile application which allows maintenance teams to be swiftly deployed when required (please refer to infographic in Annex A).

6 Ng Joo Hee, Chief Executive, PUB said, "With this floating solar power plant, which we believe to be one of the largest in the world, PUB takes a big step towards enduring energy sustainability in water treatment. Solar energy is plentiful, clean and green, and is key to reducing PUB's and also Singapore's carbon footprint."





7 Wong Kim Yim, Group President & CEO, Sembcorp Industries, said, "As Singapore's leading renewable energy player, Sembcorp is committed to helping our communities live more sustainably. This large-scale floating solar platform, which features the deployment of advanced technological and system innovations, will also enhance Singapore's global position in renewable energy production. We are excited and honoured to partner PUB on this landmark project to provide green power to our nation."

8 The commencement of construction is not expected to have a material impact on the earnings per share and net asset value per share of Sembcorp, for the financial year ending December 31, 2020.

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About PUB, Singapore's National Water Agency

PUB is a statutory board under the Ministry of Sustainability and the Environment. It is the national water agency, and manages Singapore's water supply, water catchment and used water in an integrated way.

PUB has ensured a diversified and sustainable supply of water for Singapore with the Four National Taps (local catchment water, imported water, NEWater, desalinated water).

PUB calls on everyone to play a part in conserving water, in keeping our waterways clean, and in caring for Singapore's precious water resources. If we all do our little bit, there will be enough water for all our needs – for commerce and industry, for living, for life.

Find out more about us

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ABOUT SEMBCORP INDUSTRIES

Sembcorp Industries (Sembcorp) is a leading energy, marine and urban development group, operating across multiple markets worldwide.

As an integrated energy player, Sembcorp is uniquely positioned to support the global energy transition. Leveraging technology and digital innovation, Sembcorp provides solutions across the energy and utilities value chain. Sembcorp has a balanced thermal and renewable energy portfolio of over 12,600MW, with over 2,800MW of renewables, battery storage and energy-from-waste capacity.

Sembcorp's urban arm is a recognised leading Asian developer with a strong track record in transforming raw land into sustainable urban developments. In addition, Sembcorp is a global leader in providing innovative engineering solutions to the offshore, marine and energy industries.

Sembcorp Industries has total assets of over S\$23 billion and over 7,000 employees. Listed on the main board of the Singapore Exchange, it is a component stock of the Straits Times Index and sustainability indices including the FTSE4Good Index, the Dow Jones Sustainability Asia Pacific Index and the iEdge SG ESG indices. For more information, please visit www.sembcorp.com.





Annex A – Infographic on Floating Solar PV System on Tengeh Reservoir

