



JTC & Shell to Explore Semakau Solar Farm to meet Singapore's Growing Clean Energy Needs

JTC Corporation (JTC) and Shell Singapore have signed a non-binding Memorandum of Understanding supported by the National Environment Agency (NEA) and Energy Market Authority (EMA) to jointly explore developing a solar farm on part of Semakau Landfill, south of the Singapore mainland. If successful, the solar farm would reduce the country's carbon emissions and meet its growing clean energy needs. The solar farm will also be the first large-scale solar project in Singapore where a sanitary landfill is also used for clean energy generation. This project is aligned with Singapore's target to increase solar deployment to at least 2GWp by 2030.

2 The solar farm is expected take up an area of 60ha and have a capacity of at least 72MWp, sufficient to reduce CO₂ emissions by 37,000 tonnes a year. The energy produced can power up to 17,500 households for a year.¹

3 Generating solar energy on this scale on an offshore operational landfill comes with its fair share of complexity and challenges. This is where the innovation and creativity of a joint taskforce made up of the various government agencies and Shell come into play, to ensure that an optimal balance is achieved.

4 Shell's Pulau Bukom Energy and Chemicals Park is close to Semakau Landfill, located about 2km northwest of it. Working together allows an innovative integration of an intermittent renewable source to Bukom.

5 Tan Boon Khai, CEO of JTC said, "JTC is piloting new sustainable energy innovations with Shell to maximise the use of renewable energy solutions for our industries. This project is an example of how we are tapping available land to double up for solar generation to maximise renewable energy generation. Such close collaborations is part of our SolarLand initiative to optimise available land for solar generation in support of Singapore's clean energy switch."

6 "This multi-agency-corporate partnership is a great showcase of the creativity and collaboration that are vital to success in energy transition. With a common goal of enabling more and cleaner energy, we look forward to exploring with our partners this opportunity to maximise the use of Semakau in a way that is compatible with its primary purpose as a landfill", said Aw Kah Peng, Chairman of Shell Companies in Singapore. "This project is aligned with our 10-year plan to repurpose our core business, cut our own CO₂ emissions in the country and help our customers decarbonise."

¹ The 37,000 tonnes of CO₂ emissions a year is calculated based on [EMA's Electricity Grid Emission Factors 2020](#). The equivalent number of households is based on EMA's [Average Monthly Household Electricity Consumption by Dwelling Type 2020](#)



7 Luke Goh, Chief Executive Officer of the NEA, said: "NEA is happy to support the deployment of a solar farm on Semakau Landfill. It will contribute towards the national solar deployment target and complement NEA's resource sustainability initiatives. Semakau Landfill remains Singapore's only operational landfill. To preserve its capacity for as long as possible, we are redoubling efforts to reduce waste and close the waste loop."

8 EMA Chief Executive Ngiam Shih Chun said, "Our energy sector is moving towards a cleaner and more sustainable future. Solar is our most promising renewable energy source and is a key switch for decarbonisation. Given our limited land space, EMA has been working with government agencies and industry players on innovative ways to harness more solar energy. I look forward to the successful implementation of this offshore solar farm on Semakau Landfill which will demonstrate how we can be creative in our solar deployment."

9 In November 2020, Shell Singapore outlined a 10-year plan for how the company could make significant investments in people, assets and capabilities to repurpose its core business and aim to cut its own CO₂ emissions in the country by about a third within a decade.² As part of this 10-year plan, Shell is transforming its manufacturing business, making it fit for the new future, where Pulau Bukom Energy and Chemicals Park is pivoting from a crude-oil, fuels-based product slate towards new, low-carbon value chains. Shell has set out its target to be a net-zero emissions energy business by 2050, in step with society and with customers.³

10 JTC and Shell will next jointly conduct a Request for Information (RFI) exercise on 24 June 2021 to source for innovative solutions from the market.

JTC Corporation
Shell Companies in Singapore
National Environment Agency
Energy Market Authority

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² The reduction is in Scope 1 and 2 emissions and for 100% Shell-controlled operations in Singapore. The reduction is measured against the baseline year of 2018.

³ For more information on Shell's climate target, please see <https://www.shell.com/energy-and-innovation/the-energy-future/our-climate-target.html>