

Who is Solar Energy Research Institute of Singapore?

Solar Energy Research Institute of Singapore |10,991 followers on LinkedIn. SERIS is a research institute at the National University of Singapore(NUS). SERIS is supported by NUS,the National Research Foundation Singapore (NRF),the Energy Market Authority of Singapore (EMA) and the Singapore Economic Development Board (EDB).

Is solar energy a good option for Singapore?

Solar energy is currently the most promising renewable energy option for Singapore. It is clean,generates no emissions,and can boost our energy security. Being in the tropical sun belt,Singapore enjoys an average annual solar irradiance of 1,580 kWh/m²/year.

What percentage of Singapore's Energy comes from solar?

Currently,solar energy contributes less than 1 per centto Singapore's total energy mix. More than 95 per cent comes from natural gas,the cleanest form of fossil fuel. Other sources,such as oil and coal,round up the mix.

Why are tandem solar cells important to Singapore's solar sector?

Given their exceptional efficiency prospects,tandem solar cells are of very high importance to Singapore's solar sector,for both the manufacturing and deployment sectors.

Floating PV Figure 1. The world's largest floating PV testbed managed by SERIS, located in Tengeh Reservoir, Singapore. Floating solar or floating PV (FPV) refers to the installation of PV on water bodies, such as lakes, reservoirs, hydroelectric dams and other often under-utilized water bodies, with PV panels usually mounted upon a pontoon-based floating structure. ...

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Singapore presents paths into the future of Singapore's energy supply; it displays in particular different maps leading to different (increased) contributions of solar electricity to Singapore's electricity supply. Solar power can contribute considerably to a sustainable electricity supply of Singapore and to a reduction of CO₂

"Renewable Energy and Circular Economy: Application of Life Cycle Costing to Building Integrated Solar Energy Systems in Singapore", book chapter in "An Introduction to Circular Economy", Springer Nature Singapore Pte Ltd., 2020, ISBN 978-981-15-8509-8.

Transitioning to solar energy will support Singapore's climate change mitigation goals but cloud cover, space

constraints and technological constraints pose challenges, says NUS Energy Studies ...

The Advanced Solar Cells Group focuses on the development and commercialisation of low-cost high-efficiency solar cells. One focus area is the exploration of novel or advanced processes and technologies that enable to approach the practical 1-Sun efficiency limit of ~27% of single-junction silicon solar cells while maintaining low manufacturing costs (\$/Wp) and excellent long-term ...

Floating solar photovoltaic (FPV) technology is considered commercially viable, given the number of largescale projects that have been implemented. Challenges to its deployment remain, however, including the lack of a robust track record; uncertainty about costs; uncertainty about the environmental impact; and the technical complexity of designing, building, and operating on ...

The market report is the first in a series of reports on floating solar - titled "Where Sun Meets Water" - being produced by the World Bank Group and the the Solar Energy Research Institute of Singapore (SERIS), with funding provided by the World Bank's Energy Sector Management Assistance Program (ESMAP) and the Government of Denmark.

There is a wide range of feasibility studies offered by SERIS, from much focused technical enquiries to comprehensive studies including commercial and regulatory aspects. Examples include: Technical requirements for grid connection of PV systems in Asian countries Commercial and regulatory feasibility of large scale PV project Feasibility studies are customised and ...

SERIS is continuously expanding the range of services offered. Our clients range from government organisations to private companies. Services presently offered by SERIS are included under the areas of Photovoltaics, Solar Energy Systems and Consulting. Solar Energy Systems PV System Performance Monitoring Feasibility Studies Outdoor Module Testing ...

SERIS conducts research, development, testing and consulting on solar energy technologies and their integration into buildings and power systems. The institute's R& D spectrum covers...

Scientists from the National University of Singapore (NUS) have developed a novel triple-junction perovskite/Si tandem solar cell that can achieve a certified world-record power conversion efficiency of 27.1 per cent across a solar energy absorption area of 1 sq cm, representing the best-performing triple-junction perovskite/Si tandem solar cell thus far.

The REC@NUS Corp Lab will bring together complementary research expertise and talent from NUS and REC Solar, in partnership with the Nanyang Technological University, to facilitate Singapore's manufacturing of cost-effective high-performance tandem solar cell technologies. The project will comprise about 40 researchers and aims to train up to ...

The Solar Energy Systems (SES) Cluster focuses on making solar power a cost-effective and trusted source of

electricity. The SES activities have a wide variety and span from remote monitoring to novel PV system deployments such as Floating Solar and forecasting of irradiance for better grid integration management. The cluster also addresses the specific challenges ...

The lab, jointly set up by the Solar Energy Research Institute of Singapore (Seris) and solar manufacturer REC Solar at the National University of Singapore (NUS), is looking to...

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This 190 m2, class 100,000 cleanroom is dedicated to the fabrication and characterisation of perovskite solar cells, including advanced device integration such as perovskite mini-modules and perovskite based tandem solar cells and mini-modules. Several compartmental gloveboxes in the Perovskite Laboratory dedicated to various processes such as synthesis, deposition, ...

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A solar forecasting tool developed by the Solar Energy Research Institute of Singapore (SERIS) at the National University of Singapore completed its one-year trial in September 2022. This tool is able to forecast solar irradiance across Singapore up to one hour ahead, allowing us to better anticipate solar power output ahead of time and take ...

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