



Solar energy institute of singapore

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 cent to 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.

The SERIS team has completed a project portfolio of 40 MW p in Thailand, Malaysia, Indonesia and Singapore - from large solar farms (> 20 MW p) to industrial, commercial, residential and off-grid PV systems - to gain realworld experiences and build a robust track record before venturing into the spin-off. The "PV Doctor" comprises a broad ...

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 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 ...

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There is a wide range of feasibility studies offered by SERIS, from much focused technical enquiries to



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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 ...

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

Prof Armin ABERLE serves as CEO of the Solar Energy Research Institute of Singapore (SERIS) at the National University of Singapore (NUS). He is also a tenured full professor in the university's Department of Electrical and Computer Engineering. He holds BSc/MSc, PhD and Dr habil degrees in physics from German universities (Freiburg, Hannover).

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 ...

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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...

SERIS comprises four research clusters and two central service units. The research clusters conduct research, development, testing and consulting on solar energy technologies and their integration into buildings and power systems. The two service units provide central services such as administration, facility support and QESH (quality, environment, safety & health) ...

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.

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 ...

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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 ...

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.

Our R& D focus is on materials, components, processes and systems for (i) photovoltaic electricity generation and (ii) solar and energy-efficient buildings. We are a multi-disciplinary team of over ...

The Solar Energy Research Institute of Singapore (SERIS) previously authored the "Solar PV Roadmap for Singapore" on behalf of the National Climate Change Secretariat (NCCS) and the National Research Foundation (NRF). The roadmap was based on available data in 2012 to 2013 and was eventually published in July 2014. It describes how the solar PV ...

By 2030, Singapore wants to ramp up its solar capacity by more than seven times from current levels, and increase the current 260 megawatt-peak (MWp) of installed solar ...

Research Institutions Fraunhofer Institute for Solar Energy Systems, Germany Swiss Federal Institute of Technology, Switzerland University of New South Wales, Australia Australian National University, Australia Participation in National and International Organisations Editorial Boards of Journals Progress in Photovoltaics, Wiley, UK (Prof Armin ABERLE, member of the Editorial ...

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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. ...

Another factor to consider is oil and gas prices, said Dr Thomas Reindl, deputy chief executive of the Solar Energy Research Institute of Singapore (Seris) at the National University of Singapore .

Solar energy as one of the major renewable resources is taking up more and more share of green energy in the world. However, one problem of deploying large-scale photovoltaic (PV) system is the ...

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