Can solar power plants help Bhutan achieve energy security?

The solar plant in Rubesa is one such initiative which takes Bhutan a step closer to achieving energy securitythrough a diversified and sustainable energy supply mix. The project particularly demonstrates viability of solar power plants on a utility scale.

Is solar a reliable energy source in Bhutan?

The pilot grid-tied solar project at the UN House will demonstrate solar as a reliable energy sourceand serve as a key driver of energy source diversification in Bhutan. The UN House in Thimphu inaugurated its 83 KW grid connected rooftop solar, a first of its kind in Bhutan, and the 20 KW solar-thermal space heating projects on 8 March 2021.

Why should Bhutan invest in solar energy?

Like hydropower, sun is a bountiful resource Bhutan can tap into for producing renewable energy in keeping with our carbon neutrality commitments and also for enhancing energy security through diversification of energy sources.

Is grid-tied solar a viable alternative energy source in Bhutan?

The commissioning and inauguration of the 180kW grid-tied ground mounted solar photo-voltaic power plant marks the start of Bhutan's investment in grid-tied solar energy as a viable alternative energy sourcein the face of soaring domestic demand and climate change.

How much does solar energy cost in Bhutan?

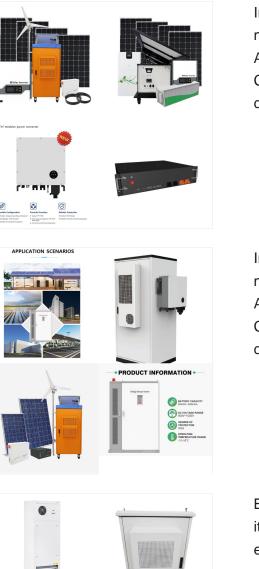
The UN House in Thimphu inaugurated its 83 KW grid connected rooftop solar, a first of its kind in Bhutan, and the 20 KW solar-thermal space heating projects on 8 March 2021. Built at a total cost of USD 99,000, the investment works out to USD 1192/KW installed capacity and is comparable to the costs of other conventional energy sources.

Can a solar power plant boost hydropower supply in Bhutan?

"Solar plant such as this can augment hydropower supplyto meet our rapidly increasing domestic electricity demand,especially in winter months," he said. Electricity in Bhutan is mostly generated from



hydropower, a renewable energy source, unlike fossil-fuel driven power plants that are major contributors to carbon dioxide emissions worldwide.



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In the next two years, Bhutan plans to harness 300 megawatts of solar energy, Minister for Economic Affairs Lokhnath Sharma has told The Third Pole. Currently, the country's installed renewables capacity (excluding hydropower) is about 9 MW.



Bhutan is undertaking various initiatives to broaden its energy mix by exploring other clean, renewable energy sources. The Solar Plant in Rubesa is one such initiative that takes Bhutan ???





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Solar energy comes from the limitless power source that is the sun. It is a clean, inexpensive, renewable resource that can be harnessed virtually everywhere. Any point where sunlight hits the Earth's surface has the potential to generate solar power. Unlike fossil fuels, solar power is renewable. Solar power is renewable by nature.



electrification programs were completed . Bhutan prepared its renewable energy policy, whic h was finalized in 2013, targeting the diversification of energy supply through wind, solar, biomass, and small and micro hydropower.3 2. In 2010, about 70% of the country's population live in rural areas, where d kerosene and

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🚛 TAX FREE 🛛 💻 🕅 🗮 🚟 ENERGY STORAGE SYSTEM Such is the spirit as we embark on a renewed journey of harnessing solar power today. It is historic, as we lay foundations for the construction of the 17.38MW Sephu Solar PV Project (SSP) today- Bhutan's first large-scale, utility non-hydro renewable energy project. Deviating from our sole focus on hydropower, the project aims to enhance

BHUTAN

SOLAR PANELS RENEWABLE

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hydropower is the primary source of energy in Bhutan for now, renewable energy sources such as solar will become critical in the coming years. Furthermore, the Prime Minister commended ISA for its efforts towards advancing solar energy in Bhutan. In addition to strategic meetings, the visit also marked the inauguration of a modular solar-

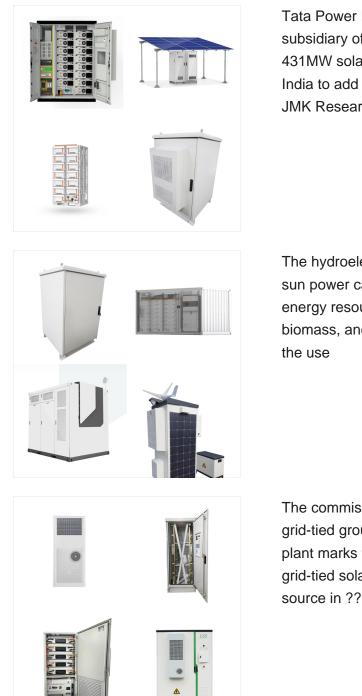
V. PROPOSED DEVELOPMENT OF SEPHU SOLAR PROJECT 9. Bhutan's first utility-scale solar power plant, the 17 megawatt-peak (MWp) Sephu Solar project is proposed to be constructed by the Department of Renewable Energy and subsequently transferred to Druk Green Power Corporation for operations. The project is expected to generate











Tata Power Renewable Energy, the developer subsidiary of Tata Power, has commissioned a 431MW solar PV plant in Madhya Pradesh, India. India to add 22.4GW solar capacity in 2024 ??? JMK Research

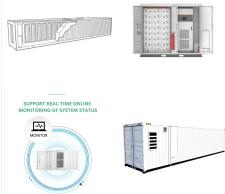
The hydroelectric power in Bhutan has a substantial sun power capacity. Bhutan pursues renewable energy resources, such as solar, wind, and biomass, and advances in the energy quality and the use

The commissioning and inauguration of the 180kW grid-tied ground mounted solar photo-voltaic power plant marks the start of Bhutan's investment in grid-tied solar energy as a viable alternative energy source in ???





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kW solar power plant is first of its kind in the country and will trigger transformative changes towards energy source diversification. The community of Rubesa under Wangdue Dzongkhag should be proud to host both solar and wind power plants in the country."



These engagements and developments signify a shared vision between Bhutan and the ISA to embrace renewable energy solutions for a sustainable future. As the partnership strengthens, both parties are poised to achieve significant milestones in advancing solar energy adoption and combating climate change.





3 The perspective of solar energy. Solar energy investments can meet energy targets and environmental protection by reducing carbon emissions while having no detrimental influence on the country's development [32, 34] countries located in the "Sunbelt", there is huge potential for solar energy, where there is a year-round abundance of solar global horizontal ???

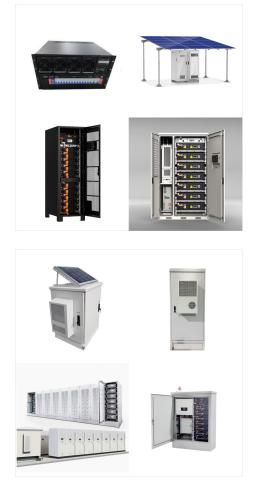


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Bhutan must embrace solar power as a clean, abundant energy source while safeguarding its unique cultural and ecological heritage. With thoughtful planning and execution, this renewable resource can be a shining example of how development and conservation can coexist harmoniously.





Reliance Enterprises, in partnership with DHI, will set up a 500MW solar power plant in Gelephu Mindfulness City along with a 770MW Chamkharchhu-1 hydroelectric project. To be executed over the next two years in two phases of 250MW each, the proposed solar power project is said to become a key step in Bhutan's renewable energy journey.

The new reality is Covid-19. What is new is this: a pilot project to install solar power plant is part of Covid-19 response and recovery projects by United Nations Development Programme Bhutan. The project is funded by the Government of Japan. Department of Renewable Energy (DRE) and Bhutan Power Corporation are the key players.



5 Advantages of Solar Energy 1. Solar Is a Renewable Energy Source. As the name suggests, solar power is a resource that never runs out. Unlike fossil fuels, the production of which requires huge efforts, time, and expensive heavy machinery, renewables convert a natural resource ??? in the case of solar power, sunlight ??? directly into

The DSP Solar Initiative aims to enhance Bhutan's energy security, showcase the country's leadership in environmental conservation, prove the technical and economic feasibility of solar power, and encourage its adoption by both public and private sectors.

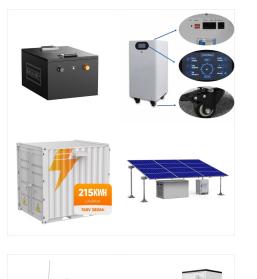
Hydropower has been the primary source of electricity in Bhutan, and to achieve power security and sustainability, alternative renewable energy sources (RES) such as solar and wind are being explored.

DIESEL

DIESEL

Bhutan has been actively engaged with the ISA, alongside other ISA partner/donor organisations, to foster collaboration under various ISA programmes. Bhutan's active engagement with various ISA programmes underscores its commitment to harnessing solar energy for enhancing sustainable development.





102.4kWh

512V