



Mitigation

Solar plant atop irrigation canal impresses UN chief

Keya Acharya, 19.01.15

A solar plant covering an irrigation canal, producing electricity and reducing evaporation at the same time, impressed UN Secretary General Ban ki Moon during his recent visit to India



Solar panels covering Vadodara canal conserve land, water and emit no greenhouse gases (Image by Keya Acharya)

India's flagging solar energy programme received a moral boost recently with the unveiling by UN Secretary General Ban ki Moon, of the country's and possibly the world's first solar energy project spanning a waterway canal.

The 10 MW canal top solar power plant using 3.6 km of the Vadodara branch canal running parallel to Gujarat's Vadodara city in western India has 33,816 photovoltaic (PV) panels covering the width of the canal and is expected to generate 16.2 million units of electricity in the first year.

The Vadodara branch canal is one in a network of canals carrying water from the Sardar Sarovar dam, 93 km away from Vadodara city, which in turn stores water from the river Narmada 500 km away.

The electricity generated from the canal top power plant will feed into the grid, but will be used by a pumping station of the government's Sardar Sarovar Narmada Nigam Limited (SSNNL), a government department in charge of water distribution from the Narmada river and also of the canal top plant, making its utilisation a 'captive energy' system.

It cost \$18.3 billion to build the plant. The capital costs are expected to break even after 13 years.

The plant is a showcase for new climate technology, harnessing solar energy in lieu of carbon-emitting thermal power and impressing Ban ki Moon, who called the plant an "inspiration for the world".

"This facility demonstrates that one solution can have multiple benefits," Ban told his audience at the field site. "More solar power means less pollution."

"Looking out at the canal top solar power plant, I saw more than glittering panels – I saw the future of India and the future of our world," said the UN head, praising Prime Minister Narendra Modi for the initiative in Modi's home state.

In 2011, when Modi was Chief Minister of Gujarat, he came up with the concept of covering irrigation canals

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New programme helps Indian firms control greenhouse gas emissions

Neeta Lal, 09.01.15



As India continues to suffer the impacts of climate change, Indian businesses turn to the India Greenhouse Gas Programme to manage their carbon footprints. The programme currently manages 14% of the country's emissions. As climate change unleashes coastal flooding, erratic rainfall, heat waves and increased glacier melting in the Himalayas, the need for India's corporate sector to play a greater...[Read more](#)

Carbon dioxide emissions higher this year than last year

India Climate Dialogue, 22.12.14



Human activities are sending an additional 37 billion tons of carbon dioxide into the earth's atmosphere this year alone. Future emissions cannot exceed 1,200 billion tons if average global temperature rise is to be kept within two degrees Celsius. Humans are spewing out ever more carbon dioxide – the main greenhouse gas – into the atmosphere, and there is no sign that the trend will change soon. A weak agreement at the just...[Read more](#)

Maharashtra races to build India's first solar farm on dam wall

Darryl D'Monte, 29.11.14



The idea of building a solar power generation farm that floats on a reservoir was first mooted in Kerala. Now Maharashtra is moving fast with a related idea – placing solar panels on a dam wall to generate electricity. Designers of an innovative project under construction are erecting solar photovoltaic panels on the slope of a dam across a river in Maharashtra. They claim that this will be the first...[Read more](#)

Kerala reservoir awaits floating solar farm

K Rajendran, 28.11.14



The Kerala State Electricity Board is trying to install floating solar farms atop reservoirs. While the technology is promising,

with solar PV panels. The idea was to save on already-scarce land for power generation while harnessing the state's plentiful solar power potential to go 'green'.

The state's electricity board opened a 1 MW pilot project on the Narmada branch canal 75 km from Gujarat's largest city Ahmedabad in 2012, at rates slightly higher than a land-based solar PV plant.

The electricity board says this first 1-MW plant saved six acres of land and about nine million litres of water per year through reduced evaporation by the sun due to the canal being covered.

Buoyed by this success, the government-owned SSNNL installed the 10 MW canal top solar power plant on a 3.6 km stretch of the Vadodara branch canal. It is now being used to encourage similar projects all over India.

India's renewable energy initiatives grew manifold in the last decade at an annual rate of 25%, with solar power growing from practically zero to 2,500 MW.

Still, in the national picture of installed capacity and of renewable energy, solar power generation currently constitutes just about 1% of the country's installed capacity of 228 GW, as per strategic consultancy firm, Bridge to India.

After the push in the first phase of the National Solar Mission from 2010 to 2013, the second phase is yet to take off, bogged down by confusion over duplication of capacity generation by the central government and various state governments.

India's burgeoning growth has placed enormous demand on its energy resources. During the 11th Plan, the country added approximately 55,000 MW of power, yet there remained a deficit of 8.7%, while the 12th Plan (2012-17) further estimates demand to grow at 6.5% a year. The deficit thus grows, along with petroleum demands for rapid expansion which has made India hugely dependent on crude oil imports.

India's solar power generation potential is enormous. According to research by Bridge to India, sunlight could produce 6.5 million terawatt hours (TWH) of solar power per year in India, six times the country's current power requirement.

Installation of solar panels to produce 1,000 GW takes 16,000 square km of land, equivalent to 0.5% of India's land mass, says the same research organisation.

The canal top power plant is now being proffered as a self-sufficiency model for other power-consuming industries to emulate. The builder can utilise the power while contributing to save carbon emissions, land and water consumption.

Many Indian cities could use nearby canals to generate power, said officials.

The managing director of SSNNL, S.S. Rathore told [indiaclimatedialogue.net](#) that the government could help with the money needed for such projects.



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questions remain

Banasura Sagar is famous for being India's largest earthen dam. It will soon become more famous for hosting a floating solar energy generation farm.

"We have already invited expression of interest for tentative empanelment of project developers for commissioning 500 kilowatt...[Read more](#)

Some Indian firms save money while fighting climate change

India Climate Dialogue, 16.10.14



The annual report of the Carbon Disclosure Project

shows large Indian firms are more aware of what they can do to mitigate greenhouse gas emissions, and are taking serious steps, as long as they can see the money or the savings at the end of the road

If you ask India's top 200 companies to report their greenhouse gas (GHG) emissions last year, 59 respond. You can see that as a cup 30% full or 70% empty. The Carbon Disclosure Project...[Read more](#)

Pushing China to peak emissions early could be bad for climate

Olivia Boyd, 15.10.14



Forcing an emissions peak in China too soon could damage global efforts to tackle climate change, says climate economist Guan Dabo

Pushing China to peak its greenhouse-gas emissions too soon could damage global efforts to tackle climate change by driving industry to less efficient countries, a Chinese climate economist has argued. Guan Dabo of the UK's University of East Anglia told [Chinadialogue](#) that China's experience...[Read more](#)

Verdict on coal blocks can help India's environment

T.V. Padma, 11.10.14



The recent Supreme Court judgement on coal blocks is

an opportunity for India to reduce global warming by shifting focus away from coal energy and revving up renewable energy production

India should seize on the Supreme Court's decision to cancel allotment of coal blocks for mining as a golden chance to revamp its energy sector and reduce emissions of greenhouse gases, analysts say. Observing that the allotment was ad-hoc...[Read more](#)

India to get its Solar Atlas

Sapna Gopal, 09.10.14



While India aims to reach 20,000 MW of solar power by 2020, a national Solar Atlas is in the making that will help scale up India's sunrise sector

A Solar Atlas of India is now in the making. Earlier this year, the Centre for Wind Energy Technology (C-WET), an autonomous research and development institution that forms a part of the Ministry of New and Renewable Energy (MNRE), signed an agreement with 3TIER India Private Ltd...[Read more](#)

Post Comment

Bridging the money gap for clean energy in India

Joydeep Gupta, 25.09.14



Off grid solar energy entrepreneurs in India have long complained of the difficult in getting bank loans. An international think tank teams up with global financiers in an effort to solve the problem

No one can get elected in India without promising bijli, sadak, paani (electricity, roads, water). It has long been clear that the first promise cannot be fulfilled without using clean energy, especially in off grid areas. Many solar energy entrepreneurs...[Read more](#)



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