KfW Development Bank

»Current topics

Green Corridors – India

New ways for renewable energies

India's hunger for energy is a long way from being satisfied. The economy is growing and the population is also expanding – and both these factors are contributing towards an increase in electricity demand. At the same time many people in remote areas still have no access to power at all. So the country is working tirelessly to grow its grid and power station fleet. At the same time the renewable energy proportion in electricity production is supposed to increase. That requires exceptional growth rates in solar and wind power stations. However, all the favourable locations for renewable energy production are a long way from the economic centres. Furthermore, they are concentrated in just a few regions. For this reason, the Indian government is now building "green energy corridors" to feed sustainably-generated power into the national grid and transport it to wherever it is needed most urgently. As a result, the proportion of renewable energies is set to rise steadily over the next few years. KfW Development Bank is supporting India in the construction of these green corridors by co-financing to a large extent transmission lines and substations.

Background

The Indian government is focusing upon improving the energy supply. To that end, it is also increasing electricity generation from renewable energies. It is planned that the share of India's energy produced from renewable energies will reach 15 per cent by the year 2020. The capacity of the photovoltaic systems alone, which currently stands at around 11 GW, is scheduled to increase to 100 GW by 2022. There will also be a significant rise in the use of wind power and hydropower.

However, around 60 percent of the potential for renewable energies is confined to just 7 of India's 29 states. In order to transport this sustainably-generated power to those places where it is most urgently needed, i.e. the major economic centres, the Indian government is now focusing more upon new networks, transmission lines and substations.

Project approach

Over the last few years, the sub-continent has significantly increased its electricity production. The current push to expand the renewable energy sector brings the risk of bottlenecks when feeding into the heavily-loaded Indian power grid, especially given the substantial distances between the points of production and use. The

Project name	Green Energy Corridors
Commissioned by	BMZ
Country/region	India
Project-executing agency	Central Electricity Authority (CEA)

Power lines in India. To prevent bottlenecks in the grid, many more thousands of kilometres are still to follow. Photo: Walter Klotz

Indian government has therefore decided to build "green energy corridors". These are intended to expand the existing networks and balance out regional differences. The corridors create an important precondition for giving further impetus to the drive for renewable energy. For new power lines are essential to enable this green electricity to reach the end consumers.

KfW Development Bank is providing funding of EUR 1.4 billion to this project, in order to maximise the proportion of the general increase in power supply that comes from regenerative sources. It is working both with the transmission companies in the individual states as well as the biggest national grid operator.

For this project, KfW issued one of the largest loans in its history. The loan of EUR 500 million was signed with the Power Grid Corporation of India, which operates throughout the whole of India. KfW concluded additional contracts worth EUR 488 million with energy suppliers in the federal states: in Tamil Nadu, Rajasthan, Andhra Pradesh, Gujarat, Madhya Pradesh and Himachal Pradesh. Over the next two years there will be additional contracts that are then supposed to total EUR 1.4 billion.

The project also involves building weather stations, which are necessary to forecast electricity generation from wind and solar sources. Renewable energies rely upon the weather and their output can fluctuate significantly. KfW is also working closely with GIZ in this area, whose activities include providing EUR 9 million support for the construction of "Renewable Energy Management Centres". These control stations are designed to keep the grid stable and integrate the green electricity.

Impacts

There is no getting around climate protection in India. The country is already the world's third largest emitter of carbon dioxide, after the USA and China. Forecasts produced by the International Energy Agency (IEA) predict a further increase in energy demand.

These green energy corridors are among the most ambitious projects in grid infrastructure around the world. Thanks to German financing, more than 5,800 kilometres of new power lines and more than 165 substations will be built. With the financing from KfW, grids will be built to transport enough power to meet the needs of 3 million people. This is an important contribution towards security of supply in India — and towards global climate protection.

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