

GreenEnergy



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A worker cleans solar panels at a plant in Dunhuang, Northwest China's Gansu province.

Green energy powers vast western China

LANZHOU — Dunhuang, an ancient desert city famous for the Buddhist art in the Mogao Grottoes, will also be known for its thousands of photovoltaic panels soaking up the blistering sunshine.

As part of China's western development strategy, Dunhuang, in northwestern Gansu province, is booming as a "green energy" city with a solar power industry in the desert.

Dunhuang has more and brighter sunlight than anywhere else in China.

By 2012, the installed solar photovoltaic generating capacity will reach 300,000 kilowatts and solar heat generation 50,000 kW, says Sun Yulong, secretary of the Dunhuang City Committee of the Communist Party of China.

"Photovoltaic generation in Dunhuang will eventually reach 10 million kW," he said of the city's plans.

China's government began the strategy of "developing the west" in 2000 to help the less-developed areas of western China — six provinces, five autonomous regions and Chongqing municipality — catch up with relatively well-off eastern China.

According to the strategy, Dunhuang is a major part of China's new energy map.

New energy projects top the

23 key projects in 2010 listed in the strategy.

"It is of great importance for China and the world that China's west find its way with a new development mode. It should be clean, scientific and efficient development," said Yang Mu, senior researcher with the East Asian Institute of the National University of Singapore.

"The western part of China has an acute shortage of water. It is uninhabitable for large populations, and unsuitable for a labor-intensive industrial economy," Yang said.

As a relatively backward region, its development has been a matter of concern.

Its development should not simply copy the east's industrialization. It should avoid the mode that "emphasizes development while neglecting the environment," said Zhuang Jian, senior economist with the Asian Development Bank's China Mission.

Wind power is another focus of China's western development strategy.

China's first 10-million-kW wind power station is being developed in Jiuquan, a city neighboring Dunhuang in Gansu province, where more than 1,450 wind turbines are turning in the Gobi Desert.

Jiuquan and nearby regions form a horn-shaped landform,

which is perfect for wind power. Moreover, it has continuous year-round wind.

"The first phase of the station will be finished soon. This desolate area is becoming the power engine for the country with sunshine and wind," says Li Jianhua, secretary of the Jiuquan City Committee of the Communist Party of China.

The western areas of Gansu province, and the Inner Mongolia and Xinjiang Uygur autonomous regions, are rich in both traditional and new energies. Forests of wind turbines and sun-powered street lamps are their new landmarks.

However, such projects are being replicated with no overall strategy for their development. Experts have called for a comprehensive plan for the locations and production capacity.

The electricity grid still lags behind the creation of wind farms.

"The race to install turbines and solar photovoltaic panels has led to waste," said Wang Zhigang, general manager with the solar power project of the State-owned China Guangdong Nuclear Group, in Dunhuang.

"But definitely, new energies are the right way to develop the west. The government should pay more attention to overall planning and positioning," Wang said.

XINHUA

Solar sector 'needs strong govt boost'

By ZHOU YAN
CHINA DAILY

SHANGHAI — The central government's efforts to cut carbon emissions has seen it turn to the nation's concentrated solar thermal power (CSP) sector. However, industry experts warn the industry is still in its infancy and more investment and policies are needed to stimulate the sector.

The industry has developed at a very fast pace to meet China's ambition to cut energy consumption, but there has not been much commercial use of CSP in the country so far, said Shi Dinghuan, director of the Chinese Renewable Energy Society.

Solar power is widely recognized as an effective alternative resource in the battle to reduce carbon emissions. The energy can be used directly as with photovoltaic (PV) panels, or indirectly as with CSP, with which the solar energy is beamed through mirrors to boil water that is then used to generate electricity.

China unveiled its plans to develop CSP, which is considered to be more cost-effective than more widely-applied PV panel installations, in January, when China Shandong Penglai Electric Power Equipment Manufacturing teamed up with US-based solar thermal power maker eSolar to build a 2,000 megawatt solar thermal power installation in China within 10 years.

"PV consumes more natural resources but has a relatively lower utilization ratio of the sun than CSP. As such, the latter has more ample room for development if connected with traditional power generation technologies to realize the country's energy conservation target," said Shi, who is also a counsellor of the State Council.

In May, Premier Wen Jiabao called for the cutting of carbon emissions and conservation of energy to fulfill the country's target set in the 11th Five-Year Plan (2006-2010) of reducing per unit GDP energy consumption by 20 percent by the end of 2010 from the 2005 level.

The nation in 2009 also promised to slash its carbon dioxide emissions per unit of GDP by 40 to 45 percent by 2020 from the 2005 level.

However, it may prove difficult to realize the ambition without the participation of renewable energy sources even though the Chinese government has adopted iron-handed measures to reach the target.

"Solar power has a distinct advantage when compared with other alternative energies. It will play a major role in replacing traditional energy sources in the 21st century," said Wu Dacheng, secretary-general of the Institute of PV within the China Renewable Energy Society.

The country has to consider developing CSP and PV industries from a strategic perspective, increasing investment in the research and development (R&D) of solar power-related technologies, said Xi Wenhua, director-general at the International Solar Energy Center.

Companies still have concerns when investing in the solar power industry because the electricity prices policy for on-grid solar power have yet to be decided, Xi said, adding that the absence of policies to support the solar power industry will hinder further improvement.

Industry experts called for coherent policies to allow the solar power industry, in particular the CSP sector, to undergo essential sustainable development.

"Bringing in talented people to support R&D and facilitating channels for the industry to connect with the capital market are also key for the industry," Shi said.

There are many private equity firms willing to tap into the green energy, and the government may introduce guidelines for them to do so, industry insiders said.

When the industry matures, the initial investment in CSP will gradually drop from 25,000 yuan per kW in 2015 to 15,000 yuan per kW by 2020. This will lure more investors into pumping capital into the industry by then, Wu said.