



Poster in western China promoting the use of PV-powered satellite dishes for TV.

PIX05404, Credit: William Wallace

Renewable Energy in China

Renewable Energy Policy in China: Financial Incentives

Though China does not yet have in place a fully developed financial incentive system for renewable energy, the government has been providing support since the 1950s. The major financial incentives in existence today include subsidies, tax-related incentives, custom duties, and pricing incentives, and the government is moving toward more comprehensive quantity- and price-based support mechanisms.

Subsidies

Subsidies, provided by the central and local governments, are one of the most popular economic incentives for renewable energy development. These include:

- **Overhead:** This refers primarily to operating and other expenses for renewable energy agencies of the central government. About 100,000 staff, at different levels, work for these agencies, providing management; research and development; training; equipment certification; and inspection for renewable energy development, particularly for rural energy applications. Based on average 1998 salary levels, total administrative cost was approximately 181 million U.S. dollars (USD) or 1.5 billion Chinese yuan (CNY).
- **Research and development:** The central government subsidizes research and development on key renewable energy technologies through the National Development and Reform Commission (NDRC—formerly the State Development and Planning Commission) and the Ministry of Science & Technology (MOST). Funds offered by MOST during the Tenth Five-Year Plan period will be 3.4 million USD or 28 mil-

lion CNY. MOST also supports research and development through two national High-Tech Research and Development programs: The 863 Program supports the commercialization of new technologies, and the 973 Program supports the research of basic science. Funding outlined for these programs during the Tenth Five-Year Plan period is 20-30 million USD or 165-250 million CNY.

In addition, there are some subsidies for demonstration projects and training courses from the former SETC, Ministry of Finance (MOF), and Ministry of Agriculture (MOA).

- The former SETC's Department of Resource Conservation and Utilization (DORCU) provided low-interest loans, from the state budget to support industrial development of renewable energy. The Ministry of Water Resources (MWR) provides low-interest loans of about 26 million USD or 300 million CNY for small hydropower development.
- **Western Province Project Subsidy:** A project called the Township Electrification Program was implemented by the NDRC from 2001–2003. The program aims to electrify more than 1000 townships in remote areas in nine provinces including Xinjiang, Qinghai, Gansu, Inner Mongolia, Shaanxi, Sichuan, and Tibet by using photovoltaics, wind, or hybrid systems. Total investment in the program is approximately 241 million USD or 2 billion CNY with nearly half of the grant allocated to Tibet. Follow up activities include preparation for an additional program called the Village Electrification Program.

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History of China's Renewable Subsidies

1950s and 1960s: The state allocated a special fund to support the development of small hydropower by constructing water conservation works in rural areas to meet the demand for electricity.

1970s: The state offered subsidies to provide electricity to rural areas and extend biogas, fuel wood, and coal-saving technologies.

1980s: With the reform of the rural economic system, the demand for electricity continued to increase. To meet this demand for rural electricity, the government reinforced financial and economic support for small hydropower resources by increasing financial grants and loans, and by supplying a certain amount of subsidies.

1990s: With the emphasis on environmental protection and sustainable development, the government expanded its support to include wind power, solar energy (including photovoltaic power), and biomass technologies. Instead of supply subsidies, support changed to tax reduction or exemption, preferential pricing, and credit guarantees, among other types of support. These measures have contributed greatly to renewable energy development in China.

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Additional information on this large subsidy program is available in the *Township Electrification Program* fact sheet at www.nrel.gov/china.

Tax Incentives

Based on collection and distribution rights, tax can be classified as central government tax, local government tax, and shared tax.

Items	Value-Added Tax	Value-Added Annex Tax	Income Tax
General	17%	8% of VAT	33%
Biogas	13%	8% of VAT	15%
Wind*	8.5%	8% of VAT	15%

* The VAT on wind power was issued in September 2001. Except for biogas and wind, renewable energy production is not eligible for specific tax incentives at the central government level. In September 2001, Adjustment of Value-Added Tax (VAT) for Some Resource Comprehensive Utilization Products was issued by MOF and the State Tax Administration (STA). According to this circular, the VAT for using municipal solid waste for power generation will be collected first and then will be refunded back to the manufacturer; the VAT rate for wind power will be half of the general rate. Reducing the VAT on wind power to 8.5% (previously 17%) seems a significant change, although some local governments had already adopted the lower rate to encourage the development of wind energy (in the northeast grid) before the new rate was introduced. This regulation is the only nationwide policy favorable to renewable energy development at present.

The new taxation policy in general has not provided sufficient support to the promotion of renewable energy technologies, though most renewable energy enterprises can also get an income tax holiday. Bio-energy development projects can request income tax reduction or exemption and will in general get approval.

Custom Duties

To be consistent with the international market and with China's entry into the World Trade Organization, import customs duty in China has been adjusted several times, and the average duty has been decreased to 23%. Although there is no specific government document that clearly states an incentive for renewable energy products, the main components of wind turbines, the turbines themselves, and photovoltaics modules all enjoy favorable customs duty rates. In the 1980s and early 1990s, applications

to reduce or exempt customs duty on wind turbines and related equipment imported with international assistance were all approved so that the actual duties paid were very low. Customs duty exemption depends on whether the equipment is considered high-tech. Some bio-energy equipment, such as power generators for biogas, is classified as high-tech and is exempt from customs duty.

Pricing

No standard price-setting mechanisms or systems exist for renewable energy products. Price is set on a case-by-case basis with protracted negotiation between power producer and the grid or utility.

NOTE: For an overview of Renewable Energy Policy in China, see the fact sheet Renewable Energy Policy in China.

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The following fact sheets on renewable energy in China are available on the National Renewable Energy Laboratory's China Web site (www.nrel.gov/china).

- WB/GEF Renewable Energy Development Project
- Grid Connected Wind Power in China
- Renewable Energy Policy in China: Overview
- Renewable Energy Policy in China: Financial Incentives
- Township Electrification Program
- China's Plan for Renewable Energy
- Brightness Rural Electrification Program
- Renewable Energy Business Partnerships in China

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PIX10799, Credit: Jerry Bianchi



Four Bergey Excel 10-kilowatt wind turbines in Xiao Qing Dao Island village.

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