China's days in the sun

Gilles Cardonnel and Yan Tian of Gide Loyrette Nouel provide an update on the legal framework for China's overheating renewable energy sector.

In 2005, the Chinese Government announced aggressive targets for the development of renewable energy including the aim of 15 percent (minimum) of power generation to come from clean, green sources by 2020. Five years on, renewable energy sources currently account for 9 percent of power generation in China. However, the growth has not been without problems and the government has modified the supporting legislation recently in a bid to address some of the issues. This article sets out those amendments and considers some of the impacts on China's domestic solar sector.

History of the applicable legislation

At the outset it is worth noting that the encouragement of foreign investment in the construction and operation of solar power plants by the Chinese Government can be traced back to 1995 when the Catalogue of Guidance on Foreign Investment was first introduced. It is still encouraged following amendments to the Catalogue in 2007.

In January 2006, China implemented the Renewable Energy Law (REL) to encourage and regulate the necessary growth in the industry. The REL's main features were the introduction of (i) an obligation on grid utilities to connect and purchase the full amount of electricity generated from renewable energy sources, (ii) an electricity tariff incorporating a surcharge to cover the additional costs of producing and transmitting renewable energy, and (iii) financial subsidies and tax incentives to encourage the development of renewable energy projects.

Following the enactment of the REL, the National Reform and Development Commission (NDRC) published specific targets for each source of renewable energy, setting the target for solar energy to a capacity of 1.8 GW by 2020, up from 70 MW in 2005.

The policies put in place resulted in spectacular growth in China's clean energy sector, particularly in the number of wind power projects. However, the experience of the past five years has highlighted the need for co-ordination and rationalistion of the expansion of the renewable energy sector in China. For example, a large number of alternative energy generating projects have been developed in areas where the transmission infrastructure is either non-existent or insufficient. A large number of wind farms have been built in remote locations such as Inner Mongolia and remain unconnected to any transmission lines.

AMENDMENTS WERE MADE TO THE R.E.L. TO ADDRESS THE ISSUES

The government has recognised the need for greater coordination, better strategic development and more rationalisation of the industry. In late December 2009, the Standing Committee of the National Congress approved amendments to the REL and the State Council promulgated a policy statement encouraging further investment, particularly from foreigners. The policy changes are designed to address some of the issues encountered by the sector so far, including the need for better planning of the expansion of renewable energy capacity and ensuring the development of adequate grid infrastructure and technology to ensure transmission of the electricity generated by new projects.

Main features of the REL and related regulations

The REL, together with the Regulation on the Administration of Power Generation from Renewable Energy issued in January 2006 by the NDRC and the Measures on Supervision and Administration of Grid Enterprises in the Purchase of Renewable Energy Power issued in September 2007 by the State Electricity Regulatory Commission (SERC), established a compulsory grid connection principle.

The so called "full amount purchase system" requires grid companies to purchase the electricity produced by alternative power sources within their area of coverage and to provide the necessary services required to support the connection of that electricity to the grid.

In order to regulate the cost of renewable energy, the REL provides that the State Council has overall responsibility for establishing the price. The REL also addresses the issue of the higher production and transmission costs of renewable energy (compared with conventional sources of electricity) by introducing a surcharge, payable by electricity end users and allocated to grid utilities.

As previously mentioned, the REL also sets out various financial incentives to encourage growth in the renewable energy industry. These include funding subsidies for the research, construction and production of new energy sources and projects. The legislation also grants subsidies permiting financial institutions to provide funding to renewable energy industries with preferential lending terms, such as reduced loan interest rates. In addition, tax breaks were also made available for certain renewable energy projects, including solar energy projects.

The implementation of the REL measures was followed by a rapid expansion of China's domestic renewable power capacity. However, many of the new projects were undertaken without sufficient research, preparations and planning, partly because their sponsors relied heavily on government support and subsidies. It also became apparent that many grid utilities struggled to meet their purchase and connection obligations under the REL. In December 2009, the Chinese Government made amendments to the REL in a bid to address some of the issues.

Amendments to the REL

The main purposes of the amended REL are

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>> to (i) rationalise the expansion of the renewable energy sector, (ii) improve the compulsory connection principle introduced in the original REL, (iii) insist on the necessity to upgrade the existing transmission infrastructure, and (iv) consolidate the sources of funding for the upgrade and roll-out of the transmission infrastructure.

(i) Rationalisation of expansion of renewable energy sector

To ensure the rational and coordinated development of renewable energy generation at national level, the amended REL introduces an obligation for provincial plans approved by provincial governments to be registered at the national level with the NDRC and the SERC.

(ii) Improvements to the "full amount purchase system"

The original REL did not provide specific detail in regard to the "full amount purchase system" and did not specify the respective obligations of both the operators of the power plants and the grid utilities.

The amended REL now specifies how the "full amount purchase system" is to be implemented. Consequently, the amended REL sets forth new requirements for the NDRC to (i) determine the amount of electricity to be generated from renewable energy sources as a proportion of overall electricity generation during a certain planning term (based on national plans), (ii) formulate detailed measures to be adopted by grid utilities so they purchase in advance and dispatch the full amount of electricity generated by the renewable energy source, and (iii) supervise the implementation of these obligations by grid utilities.

The amended REL also introduces conditions that a renewable energy project must satisfy to be entitled to enter into a connection agreement with the relevant grid utility. Such conditions are: that the relevant power plant has been built according to the applicable national plan and provincial plan for development and use of renewable energy; that all necessary approvals and filings have been completed in relation to such project; and that the power plant satisfies the technical requirements for connection to the grid.

(iii) Development of new grid technologies

The development of China's transmission infrastructure currently lags behind that of renewable energy thus restricting the connection of wind farms or solar power plants to the grid. The original REL did not address the necessity to upgrade and develop the existing grid infrastructure so one of the objectives of the amendments to the REL has been to encourage grid utilities companies to upgrade their current network to include better connection of renewable energy generating units to the grid.

In particular, grid utilities are required to modernize their existing equipment by adopting "smart grid" and electricity storage technology to adapt to the challenges of transmitting electricity produced from solar or other renewable energy sources, and improve the operational management of grids to enhance the connectivity of renewable energy to the grid.

(iv) Consolidation of funding for the upgrade and roll-out of grid infrastructure to implement the objectives of the REL

The surcharges that were introduced by the original REL were subject to VAT and income tax for the grid utilities and the allocation of the surcharges proved to be complex and lengthy. To address this, the amended REL creates a "national renewable energy development fund" into which the surcharge is paid by end-users and existing government subsidies are added. The fund is administered by the Ministry of Finance and the NDRC, as well as other relevant authorities.

THE IMPACT OF THE AMENDED R.E.L. IS YET TO BE FELT

How do the changes benefit the solar industry?

The significance of the amendments to the REL is still being debated by legal and industry experts. Some commentators argue that the generous regulatory framework introduced by the REL in the first place created the ensuing problems encountered by the sector. Critics claim that investors are relying too heavily on governmental support rather than assessing the real demand for clean energy, including solar energy, in China.

The impact of the amended REL is yet to be felt but the regulatory framework and financial incentives introduced by the REL (and its implementing regulations) and the subsequent amendments demonstrate at least the willingness of the Chinese government to develop clean energy sources.

The strong commitment made to the solar industry by the Chinese Government via the introduction of two sets of sector specific subsidies in 2009 also further suggests this. Firstly, the Ministry of Finance committed to a subsidy of 20 RMB per watt peak generated from eligible building integrated photovoltaic projects of a capacity of at least 50kW peak.

Secondly, the government implemented the "Golden Sun" pilot project offering subsidies of up to 70% of the total investments of eligible photovoltaic projects. The "Golden Sun" scheme is aimed at projects - with a capacity exceeding 300kW peak - in remote and powerless regions. Other conditions for eligibility are that the construction must be completed within one year and the project must be operated for a period of at least 20 years.

In the short term the combination of a favourable regulatory environment and other support from Chinese authorities seems to have achieved the desired response.

A number of large solar projects have recently been initiated and in January 2010, the American firm Esolar announced a joint venture, one of the largest renewable energy deals to date, with China Shandong Penglai Power Equipment Manufacturing Co. to build a series of solar "power tower" plants in China with a total capacity of 2,000 MW.

The "Golden Sun" scheme also seems to be a success so far and almost 300 photovoltaic projects have been selected to benefit from the initiative. Such projects suggest that there is optimism in the industry despite the difficulties.