Promising but uncertain future for renewables in China

Renewable energy in China has a promising future, but more incentives are needed, write Geoffrey D. Mullen and Weidong Wang at Grandall Legal Group.

Despite China's well documented energy and environmental challenges, there has been a major focus in the country on increasing the overall mix of energy generated from renewable sources.

There is a growing recognition among government officials and regular citizens that the current path is unsustainable as precious natural resources are diminishing, the air quality in metropolitan areas is endangering the health of the Chinese people, and the increasing reliance upon imported energy is threatening the security of the state. In response, the central government has enacted measures to help foster the development of a robust renewable energy industry.

Policy support

Policy pronouncements by governmental departments and statements by leading governmental officials indicate strong support for new forms of energy such as biomass, wind, and solar. Ambitious targets have been set in China's 11th five-year plan, including significant increases in wind and biomass, to generate 10% of total energy from renewable sources by 2010 and 15% by 2020. As a result, money has been flowing in from private equity companies and other investors to support renewable energy projects. Renewable energy investments totalled US$12 billion in 2007, second only to Germany. In addition, the country is predicted to report growth in investment for the fourth quarter of 2008 in renewables despite the economic crisis.

Notwithstanding the progress China is making, questions still remain as to whether enough is being done. Such rapid economic growth over a short period of time requires a large amount of new installed energy capacity. As quickly as possible, China is trying to develop an energy infrastructure system which is commensurate with what Europe and the USA built over the course of 50 to 100 years. Clean energy resources are needed not only to minimise the total CO_2 which is being released into the atmosphere, but also to ensure that China's economic growth is not hindered by a lack of available energy.

Renewables depend on incentives

The renewable energy sector is unique, however, in that demand does not always lead to supply. New forms of renewable energy, such as wind, solar, and biomass are generally not ready to compete on the open market with traditional 'brown' forms of energy. Rather, renewable energy growth has been dependent upon government intervention through the creation of a regulatory system which favours and promotes investment and development in this sector. Countries that have succeeded in generating a large portion of energy from renewable sources such as Germany, Spain, and the Netherlands have done so through the creation of policies, laws, and regulations which create special incentives for potential investors.

In recent years, China has gravitated towards an incentives-based system. A strong step was taken in 2005 with the enactment of the People's Republic of China's Renewable Energy Law along with subsequent related implementation regulations which create ambitious targets for renewable energy and introduce incentives for wind, solar, biomass, and other renewable projects. Key features of this law include:

- The requirement that all energy generated from renewable energy resources shall be purchased by the applicable electricity grid enterprise;
- The requirement that large scale domestic power-generating companies incorporate at least 3% renewable energy toward their overall power portfolio by 2010 and 8% by 2020; and
- Call for a fund to be created in order to help fund renewable energy projects.

In addition, an ambitious target of having 15% of all energy from renewable sources was announced in the latest five-year plan for the country.

On the surface, it appears that China has been effective in creating a system which is more reliant upon new forms of renewable energy. Investment is strong, government support is in place, installed capacity is rapidly rising, and new projects are being set up throughout the country.

Brown grows faster than green

A deeper analysis, however, uncovers the fact that an increasing reliance upon new forms of renewable energy is not occurring because the usage of oil, coal, and other brown sources of energy is growing at a faster rate. China, for example, added 66.75 GW of coal-fired capacity in 2008 as compared to 4.66 GW of wind power. In fact, over the last year, the overall percentage of renewable energy usage actually decreased.

More can be done to lower the gap between brown and green sources of energy by specific changes in the regulatory structure which make renewable energy more financially competitive.

Generation costs for renewable energy sources are generally much higher than brown energy. The overarching problem is that not enough measures have been undertaken to attract and provide confidence to investors, particularly those possessing unique technology and significant experience in the renewable energy industry. While utilities are required to buy power generated from renewable sources in China, the price for the transaction has either not been specifically defined in the case of wind and solar, or in the case of biomass is too low to be considered as enough of an incentive for investors.

Renewable energy projects in China are not achieving profits in generating energy and are dependent upon the sale of carbon reduction credits through trading schemes such as the Clean Development Mechanism (CDM) under the Kyoto Protocol to earn money.

Fundamental shift

A fundamental shift towards a lower carbon economy cannot happen if the investors in clean energy projects cannot generate profits from energy production. The energy and environmental challenges in China necessitate a large-scale shift in the utilisation of energy.

Higher living standards mean that more energy is needed to power industry, drive cars, and heat homes.

For the time being the renewable energy sector is only as strong as the regulatory structure which supports it. Recent comments by the *State Electricity Council* suggesting further improvements to the fiscal, tax, and pricing mechanism, give a glimmer of optimism that corrective steps are being taken to make renewable energy more financially competitive.

With all that China has achieved so far despite the deficiencies in the system, just think what the country will accomplish with laws and regulations which give broader support to renewable energy projects.

Further reading:

Mark Kinver, *China's Rapid Renewables Surge* BBC News Online.
Li Qiyan, *China to Invest More in the Power Grid*, Caijing Magazine Online.
Weight of Renewable Energy in China's Power Capacity Drops Power Engineering International Magazine Online citing Xinhua Economic News.

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