

Powering sustainable growth

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By Liu Jie

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beijing — China has made significant efforts to pursue energy and resource efficiencies to achieve sustainable development, while the nation still faces challenges in the transition to a low-carbon economy and needs integrated solution systems.

“China is already a world leader in critical low-carbon technologies such as solar power, heat and wind turbines, however, it should do more in some key areas, including energy systems, transport, water and food supply during the transformation,” said Bjorn Stigson, president of the World Business Council for Sustainable Development (WBCSD), a coalition of some 200 companies dealing exclusively with business and sustainable development.

Challenges Changing energy use is the biggest of China’s challenges when transforming to a green economy. “Less oil, more renewable energy; less coal, more electricity,” said Stigson, adding that China’s explosive industrial development has placed great pressure on the consumption of energy and other resources.

The large share of coal in China’s energy mix is one reason why greenhouse gas emissions have climbed so sharply in recent years, though the government has invested heavily in the recycled energy sector.

“It (China) added more new wind power capacity than any other country last year and progress is on track for nearly 40 million households to use biogas by 2010,” he said.

Stigson indicated that driving up the efficiency of older power stations is a key part of the solution so far, as are opportunities to switch to natural gas and upgrade the transmission grid — but a rapid increase in the share of renewable energy and nuclear power in the coming decades will be essential. He added that another benefit of the change is that China can soon become a new energy products and services exporter in the near future.

Transportation is another pillar as the transport sector is the largest and fastest-growing global emitter of CO₂. Currently, about 70 percent of China's energy is used by industry, and only about 10 percent as fuel for its transportation needs, but car ownership is growing daily in China, and energy consumption and emissions are likely to increase significantly in the coming years.

"Fortunately, the government has put fuel efficiency limits on cars, which are tougher than those in the United States, but more is needed to promote hybrid and electric cars," said Stigson. Water is also crucial, which was highlighted by the current severe drought in southwestern China. Increasing the efficiency of water resources is a tough task for China.

In addition, food supply cannot be ignored. As a food security measure, China's 11th Five Year Plan (2006-10) set a minimum land area of 122 million hectares for grain production in China by 2020. Keeping above this level is an increasingly difficult challenge, given the impact of climate change and rapid urbanization in China.

"Further improving water and land management practice will be key to maximizing potentials and minimizing the impact on the environment, but this is a significant challenge," said Stigson.

Solutions All of the challenges should be tackled under an integrated solution system, in which government will play a major role in terms of policy formulation and coordination, emphasized Stigson, who is a member of the China Council for International Cooperation on Environment and Development, a high-level advisory body conducting research and providing policy recommendations to the Chinese government. He is also co-chair of the body's Low Carbon Economy Task Force.

The task force has just submitted a report to the State Council, offering some practical policies for decision-makers preparing the 12th Five Year Plan (2011-2015) and beyond.

Leading the suggestions is a call to start the development of a low-carbon economy as early as possible, incorporating the concept into the plan and introducing CO₂ emission intensity as a binding target in the plan. Reforming energy pricing to reflect market demand and supply, resource shortages and environment cost are also highlighted.

For instance, the price of coal, the No 1 industrial energy resource in China, should reflect production, administrative and environmental costs, and electricity and oil and gas should move towards market-based pricing, calibrated with a resources tax.

The report also suggests the building of a green tax system and increasing fiscal expenditure on the development of the low-carbon economy.

Some specific measures involve incorporating the costs of environmental damage and resource depletion in energy pricing through adjusting taxes and fees during early resource exploration, implementing “polluter pays” principles — pollution fees replaced by resource taxes collected as a percentage of the market price, as well as reducing export tax rebates for energy-intensive products.

Aggressive support, such as a combination of direct support, tax incentives and institutional support for technological innovation, diffusion and international cooperation are recommended.

It proposes the establishment of an open national energy research institution with the ability and facilities to carry out research, deliver pilot projects, and carry out trials, testing and certification. The institution, a systematic technology innovation support unit, will be open to businesses, universities and other research institutes, and work to make up for the lack of common technology in the new energy sector.

Other recommendations involve improving legislation and regulations and strengthening enforcement, enhancing the quality of energy and carbon statistics and measurement, and including low carbon economy requirements in urban planning.

Business involvement These sustainable development pursuits will require investment and innovation, and it is here that business can play a role. “Technologies are generally conceived, developed, deployed and later bought and sold by business, not countries, so engagement with business will be crucial,” said Stigson, who has decades of business experiences at a series of global companies, such as ABB and Flakt Group.

Since becoming president of WBCSD in 1995, he has been devoted to making it a platform for companies to explore sustainable development, share

knowledge, experiences and best practices, and to advocate business positions on these issues in a variety of forums.

So far, three large Chinese companies — Sinopec, Baosteel and COSCO — have joined WBCSD. “That’s not a good number, given China’s economic size and compared with 68 from the European Union, 42 from North America and 24 from Japan (on the council),” he said, adding that the council was keen for more Chinese companies to sign up.

In addition to enhancing cooperation among members, the council has initiated low-carbon projects in various sectors to offer cooperation opportunities for businesses around the world, including Chinese companies.

He took the cement industry as an example. Demand for building materials is increasing globally along with urbanization, while producing cement also produces CO₂, leading the cement industry to account for approximately 5 percent of current global man-made CO₂ emissions.

Provided to China Daily by Bjorn Stigson, president of the World Business Council for Sustainable Development.