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China Cashes In on Global Warming

Critics Fret Lucrative Carbon Credits Hurt Clean-Energy Efforts

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China is turning its environmental problems into a shrewdly managed financial asset, capitalizing on corporate and governmental efforts to curb global warming. How much China's actions will do for the atmosphere remains an open question.

Concerns about the world's rising temperature have prompted many industrialized countries to cap the amount of carbon dioxide and other global-warming gases companies can emit. One way companies can comply is by bankrolling emission-cutting projects in the developing world, where such projects often are cheaper than back home. In return, the Western companies receive "carbon credits" that essentially allow them to continue to emit greenhouse gases themselves.


The credits, which can be bought and sold, have led to a burgeoning global "carbon market." The World Bank, a major player in the market, estimates the market was valued at \$21.5 billion in the first three quarters of 2006, about double its value in all of 2005. China, the world's No. 2 global-warming emitter behind the U.S., has become the biggest source of developing-world carbon credits bought by Western investors, benefiting both Chinese corporations and Chinese government tax receipts.

The market has led to projects like one announced December 2005 involving two Chinese companies in Jiangsu province on China's east coast. The two will receive about \$1 billion, through 2012, from a private- and public-sector consortium that includes the World Bank, utilities such as Germany's **RWE AG**, **Deutsche Bank AG**, and Japanese trading firm **Mitsui & Co**. The project will, through 2012, destroy about 125 million so-called CO₂-equivalent tons of HFC-23, a greenhouse gas that scientists say is thousands of times more potent than CO₂ and that is a byproduct of the manufacture of a common refrigerant, HCFC-22.

That means the Western investors will pay the Chinese companies roughly \$8 a CO₂-equivalent ton for destroying the HFC-23. That is a bargain for the Western investors, who would have to pay far more to reduce emissions back home. It also is a boon for the Chinese companies, for whom the actual cost of destroying the gas is less than \$1 a CO₂-equivalent ton of emissions, the metric used in the carbon market.

The deal "alleviates the carbon-emissions pressure, [and thus] does less harm to the atmosphere," said Zhang Jingyi, board secretary of one of the companies, a refrigerant-making unit of Shanghai

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3F New Materials Co. "Besides, we can receive revenue from it." He said the company hasn't yet decided how it will spend the carbon revenue, though it will consider investing in other projects or paying a dividend to shareholders.

The Chinese government, meanwhile, has rolled out new policies to boost the proceeds and maximize the energy security the country gets from the new stream of foreign investment. China has mandated that only companies with a majority Chinese ownership can own projects generating carbon credits. The country also is effectively imposing minimum prices for its carbon credits, market participants say. China also is taxing the profits from the sale of the credits -- tax revenue that goes into a fund targeted to promote cleaner forms of energy.

"They're always thinking ahead all the time on this," said Neeraj Prasad, who coordinates the World Bank's carbon-market activities in East Asia and who worked with Chinese officials to set up the tax system. In setting up their carbon rules, he says, Chinese officials asked: "How much can we tax it?"

The emission-cutting projects the Chinese government says it most wants to encourage -- such as the installation of renewable-energy technology -- are taxed at 2%. The projects that Western investors most favor -- HFC-23-destruction projects like those in Jiangsu province -- are taxed at 65%.

Investors prefer the HFC-23-destruction deals because the gas's potency compared with CO₂, and the relatively low cost of installing the machinery that destroys the HFC-23, means the projects spin off massive numbers of carbon credits at what amounts to rock-bottom prices. Indeed, selling the credits from HFC-23-destruction projects typically generates more profit than selling the actual refrigerant.

As a result, regulators worry that the carbon market is encouraging companies in the developing world to make more of the underlying refrigerant than they otherwise would -- so they can produce more of the global-warming gas, destroy it, and sell the credits. Such a "perverse incentive," as the United Nations calls it, would be problematic because the refrigerant itself both threatens the ozone layer and contributes to global warming.

Whether the carbon market actually is prompting more production of HFC-23 than otherwise would have occurred is unclear. Demand for the underlying refrigerant, HCFC-22, is rising along with incomes around the world, and production is expected to soar in coming years in China as well as in much of the developing world, where it isn't scheduled to be restricted by ozone-layer rules for nearly a decade. Officials with a U.N.-affiliated panel that helps govern the carbon market are studying the issue and plan to discuss it in May.

More broadly, critics worry that the HFC-23-destruction projects are siphoning Western carbon-market investment away from the kind of emission-reduction projects the market was designed to encourage: those that generate energy more cleanly, such as natural-gas-fired power plants and wind turbines.

Even some market participants involved in the HFC-23 deals say China's effective imposition of a minimum carbon-credit price makes it tougher to finance clean-energy projects, because those projects require relatively greater upfront capital, often from Western investors, who in return want to be able to buy the resulting carbon credits at a lower price. A developing country like China is "shooting [itself] in the foot" by imposing a de facto credit-price floor, says Paul Bodnar,

who helps assemble carbon projects in China for Climate Change Capital, a London-based company active in the market. "Because you're discouraging precisely the kind of [clean-energy] investment that the [carbon market] was supposed to encourage."

Chinese government officials didn't respond to questions for this article. They have cited their clean-energy fund as evidence of their effort to help the environment. The World Bank's Mr. Prasad says that fund is likely to reach about \$1 billion over the next few years.

China plays down HFC-23-destruction projects. "We would prefer to have more energy efficiency and renewable energy projects that could help alleviate poverty in the countryside," Lu Xuedu, deputy director of China's Office of Global Environment Affairs in the Ministry of Science and Technology, said in a statement in October.

Rules governing the carbon market say that only those chemical factories operating prior to 2001 can qualify to sell carbon credits from the destruction of HFC-23. But in November, at a U.N. global-warming conference in Nairobi, Kenya, Chinese officials asked for a change in the rules to allow new plants to generate credits, according to John Hay, a spokesman for the United Nations Framework Convention on Climate Change, a body involved in overseeing the projects.

At the Nairobi conference, U.N.-affiliated officials considered a measure that would allow new HFC-23-destruction projects to qualify for the sale of credits, but would steer most of the revenue to a third party that could in turn spend it on environmentally beneficial projects such as switching production to another refrigerant that is less harmful. China's representatives blocked agreement, according to attendees.

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