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Subject: Proposal for Carbon Emissions Trading Policy

Introduction

Although small-scale pilot emissions-trading programs are currently in operation and voluntary-emission reductions (VERs) initiatives have emerged organically, Chinese energy policymakers must institutionalize these efforts by formally implementing a domestic, market-based carbon reduction scheme.[1] It is in China's best interest to credibly execute a national carbon emissions trading scheme (ETS) to fulfill and even exceed its commitment to reduce greenhouse intensity by 40-45% below 2005 levels by 2020, as pledged prior to the Copenhagen climate change conference. A cap-and-trade system is most favorable because it is cost-effective and allows policymakers to have better ability to manipulate emissions reduction target as needed.

Key Issues

As China's energy demand grows with increasing urbanization and coal consumption subsequently continues, finding cost-effective methods for carbon reduction is a pressing environmental challenge to Chinese policymakers. Furthermore, during the Copenhagen conference, developed countries criticized China's position on greenhouse gas emissions as inflexible and confrontational.[2] As a result, China's future greenhouse gas emissions and climate change policies will be influenced by political pressure and heavy scrutiny from the international community. Policymaking will also be shaped by growing domestic concerns about pollution

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[1] Cao, Haili. "Is China Ready for Cap-and-trade?" <http://www.chinadialogue.net/article/show/single/en/3392>.
[2] Buckley, Chris. "Factbox: Key Political Risks to Watch in China | Reuters." Reuters.com. 01 Mar. 2010. <http://www.reuters.com/article/idUSTRE6204MJ20100301>.

and demands for stricter standards for firms. In addition, the development of a domestic carbon emissions credit exchange is critical to China's overall economic development plans because it not only effectively promotes domestic energy conservation but it stimulates greater foreign investment and job creations in the clean energy industry.

Options

To convey a genuine long-term commitment to carbon reduction, Chinese policymakers must adopt a law that both discourages the use of oil, coal, and natural gas as well as encourages development of renewable energy sources. Two primary options are available:

Carbon Taxation: Under a carbon tax system, policymakers would charge a fee on each ton of carbon dioxide emitted, thereby motivating industry to reduce their emissions if the cost of doing so was less than the cost of paying the tax. Carbon tax imposes a predictable price on carbon emissions and has a clear amount of revenue. In addition to its cost certainty and simplicity, it can be especially beneficial to China when the tax is applied to sectors with low costs of carbon reduction because it would allow revenues to be used for R&D subsidies for the development of clean technologies. Despite easy implementation, it is difficult for policymakers to determine how high to set a carbon tax and how exactly to use the revenues.

Cap-and-Trade: Under a cap-and-trade system, a maximum level of emissions per period per firm is set and if a firm needs more than its allocated emissions allowance, it will have to purchase permits from firms with an allowance surplus. The benefit of cap-and-trade is that it sets a steadily declining ceiling on carbon emissions, which induces market-driven efforts toward developing renewable energy. It can be more easily manipulated, thus more flexible, than a carbon tax to accommodate additional emissions targets. However, cap-and-trade is difficult to implement because it requires establishment of an initial regulatory apparatus. The two

approaches differ greatly in their certainties: carbon tax offers cost certainty on emissions while cap-and-trade offers certainty on emissions reduction level. Both price and level of carbon emissions are crucial to achieving the goals of a carbon reduction policy.

Recommendation

While a carbon tax is easier to implement, a cap-and-trade system is more suitable for China because it guarantees clarity on the amount of emissions reduction, which enables a system for measuring reduction performance and ultimately allows China to demonstrate its commitment to meeting its environmental objectives. A cap-and-trade emissions trading scheme is the best alternative for the following reasons:

1) Cost-effectiveness: An emissions trading system solves underlying problems with information and incentive that exist under the traditional command-and-control approach. Under command-and-control, the regulatory authority needs an overwhelming amount of information about each industrial firm's various carbon discharge points to define a cost-effective standard. By adopting a market-based and incentive-driven emissions trading mechanism, regulatory authority carries lower administrative costs and burden for information gathering while allowing firm managers, who have the best knowledge and control of costs, to establish a tailored strategy for emissions reduction.
2) Potential for realizing more ambitious targets: According to projections by the Energy Information Administration's (EIA) International Energy Outlook 2009 report, China will achieve a 46 percent emissions intensity cut if it carries on with business as usual. This implies that China's pledge of 40-45% reduction can be obtained without any new policy, which signals a lack of commitment to make truly significant carbon reductions. Though only policymakers can ultimately judge the fairness of its emissions reduction target, a

domestic carbon cap-and-trade system can allow policymakers to better control the country's net carbon reductions should the policymakers decide to pursue a more ambitious target.

Policymakers should obtain best practices from current pilot emissions-trading programs and existing foreign cap-and-trade systems. Since China's emissions trading environment is premature, policymakers need to take the lead in guiding the gradual development of a national program. To create an effective cap-and-trade scheme, policymakers must consider the following issues and potential problems:

1) Data collection: Policymakers will face initial difficulties in gathering data on historical emissions of businesses because some firms have just recently started to participate in VERs and many firms have not recorded such data at all. The impact and effectiveness of a national carbon reduction program will rely significantly on the regulatory capacity to gather and verify information on firms' emissions levels. Regulatory push for enhanced monitoring systems will aid firms toward future compliance. More importantly, quality data systems will help policymakers determine the best method for determining allocating initial allowances.
2) Market power: Concerns over possible market power in emissions trading highlight the importance of regulatory governance. Under cap-and-trade, a price-setting firm may emerge to distort the permit market. Thus, policy design must embed mechanisms for dealing with detrimental market power.
3) Price shocks: In the event of price shocks, cap-and-trade system may experience significant cost increases as permit prices may soar dramatically during periods of tight demand. Thus, policy design must define a safety valve by penalizing all emissions over the established cap, thereby setting a price ceiling.