Incentivizing Firm Compliance with China's National Emissions Trading System

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Executive summary

Incentivizing firms to fully and continuously comply is a central challenge to effective environmental policy, and rapidly developing China is no exception. By the end of 2017, China is preparing to launch the world's largest emissions trading system (ETS) to control CO_2 emissions. Its success will hinge on the system's ability to influence behavior within covered firms, both to reduce emissions and to engage in trading. Firms covered by the ETS operate in China's institutionally diverse regions and industries, and vary in size, ownership, and strategic importance. These sources of heterogeneity can help to explain the limited effectiveness of past policies, and will be important to consider when implementing China's new national ETS.

To identify lessons from past experience on overcoming challenges to firm compliance under an ETS, we review the outcomes of the two main recent initiatives to implement large-scale environmental policies in China's industrial firms. These initiatives include a strengthening of the national SO_2 control policy (launched in 2007) and an energy intensity reduction policy (2006-2010). These initiatives can be considered similar to a national ETS targeting CO_2 in that they set national environmental targets and delegated responsibility for implementation to local governments. We identify several challenges to successful implementation: 1) a weak legal basis for establishing credible (financial and non-financial) non-compliance penalties, 2) evidence of the poor quality of reported emissions data, 3) conflicts with pre-existing regulatory and market institutions, and 4) uncertainty over the strength of future controls.

We then ask whether or not the experience of the Beijing pilot ETS demonstrated progress on these dimensions, either due to changes in the design of the policy, its underlying institutions, or both. We find that in Beijing a strong legal basis (which allowed for higher compliance penalties) and strong MRV system, which required independent third-party verification and fourth-party back-checking to ensure consistency, were essential to success. Beijing has also clearly signaled its intentions to develop the system further, and expand the system over time.

Our analysis finds that firms will differ in their capabilities and incentives to implement China's national ETS, given the diversity of operating conditions across provinces. We recommend extending a complementary and uniformly strong institutional foundation across regions, sectors, and firms in parallel with ETS expansion.

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