How does international climate policy influence low-carbon technology investment decisions? The Clean Development Mechanism and India's sugar and cement industries

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Abstract

Developing-country support for climate regulation is a necessary condition for successful climate policy, and developing-country firms will play a central role in the formulation of national and international climate strategies. In this context, the evolving and overlapping network of carbon markets that seek to reduce global emissions of greenhouse gases are an essential part of sustainable development strategy. Understanding the decision and risk management processes by which developing-country firms respond to carbon markets can contribute to improving policies aimed at enhancing participation in the developing-country private sector. This research examines why and how developing-country firms decide to participate in the global carbon market. In particular, we focus our study on firm decisions to generate and sell carbon credits under the Clean Development Mechanism (CDM) of the 1997 Kyoto Protocol. To date, 4300 CDM projects have been initiated throughout the developing world, with the potential to contribute from 31% to 55% of the total emissions reductions required by the Kyoto Protocol. In this talk, I discuss the decisions by Indian sugar and cement manufacturers to implement (or not to implement) climate-friendly process innovations under the CDM. By comparing firms that choose to initiate CDM projects with peer firms that do not, I address three questions: (1) What types of firms initiate CDM projects? (2) Why do firms participate in the CDM? (3) Are the firms initiating CDM projects likely to become political advocates for greenhouse gas regulation? We analyzed the decision processes and decision environments that lead to firm carbon market integration across national and sector contexts. Our research draws from a sample of approximately 150 CDM and non-CDM firms in the sugar and cement sectors in Brazil and India. The cross-national, cross-sector comparative design enables us to compare the effects of both level of state intervention and degree of sector concentration on firm carbon market participation. Data were collected through context interviews with key carbon market informants and through firm interviews with firm operational and sales managers. These data allow us to identify the major drivers of firm CDM participation, to trace processes of firm integration into new carbon markets, to map the principal components of firm perceptions of CDM project risks and benefits, and to identify the distinguishing characteristics of newly emerging carbon markets. Our study charts new ground by analyzing carbon markets as meso-level institutions that span the global climate regime and local environmental outcomes, a topic of interest across multiple academic disciplines, and comes at a critical juncture in the evolution of climate policy, with negotiations for a post-Kyoto climate agreement expected to intensify in 2009 and 2010.