A Global Portfolio Strategy for Climate Change Technology Development

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This paper presents a dynamic strategy model for climate change technology research and development (R&D). Two key features are: first, a focus on long-term basic R&D conducted from a social perspective, rather than on short-term applied R&D motivated by individual firm profit; and second, an analysis of the optimal *allocation* of R&D resources across the technology space, rather than considering only the optimal level of investment. Case studies are presented for the electricity sectors in the United States and China examining the allocation of R&D investment between programs in renewable technologies, carbon capture and sequestration, and fossil fuel combustion efficiency.

Keywords:
Climate Change, R&D Strategy, Technology Portfolio, Investment under Uncertainty