

## **Brown sunsets and green dawns in the industrial sector: Eco innovations, firm behavior and the European emission trading**

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We study the driving forces behind the adoption of eco innovations (EI) in the Italian economy over 2006-2008 through empirical analyses of the new wave of Community Innovation Survey data that covered EI in different contexts. Given the shortage of studies on the innovation effects of ETS at micro econometric level, we investigate whether the first phase of EU ETS has exerted some effects on EI. We then include in a typical probit innovation function some policy stringency indicators for the ETS sectors, to verify whether the likelihood of adopting EI is stimulated among other factors by the ETS lever. We test a wide and comprehensive set of potential drivers, including internal factors (R&D), external (to the firm) factors (cooperation, networking), international drivers (foreign related relationships), and mostly important, the dynamic incentives to innovation possibly provided by the ETS implementation. Estimates show that external forces and complementarity with other management practices are particularly relevant to increase the adoption of relatively new and radical technologies: relationships with other firms and institutions, local public funding, group membership are the key factors in this sense. Training is also positively related to EI, confirming recent evidence. The role of ETS on EI seems instead to be weak, but it turns out to be significant for energy efficiency innovations and for consumption level/good related reductions of atmospheric and water emissions.