

Public policies for a sustainable energy sector: regulation, diversity and fostering of innovation

*Valeria Costantini**

Department of Economics, University “Roma Tre”: v.costantini@uniroma3.it

Francesco Crespi

Department of Economics, University “Roma Tre”: crespi@uniroma3.it

Abstract

Many industrialised countries have introduced environmental policy measures in order to reduce negative externalities linked to economic activities. These policy actions produce different effects on the economic system depending on the regulatory tools adopted and the specific objective of public intervention. The impact on innovation is particularly difficult to predict, especially with regard to the direction of technological change. As a case study, we have chosen the energy sector where the strong interrelations between socio-economic and technological dimensions may exacerbate the negative consequences of implementing conflicting policies. The aim of this paper is to show how the lack of strong coordination between different public policies implemented in the energy sector may lead to an incoherent policy mix with negative effects on the development and diffusion of environmentally-friendly energy technologies. We have adopted a gravity equation model based on bilateral export flows of technologies for production and consumption of renewable energies and energy-saving technologies for OECD countries. Our key findings show that alternative measures of public support in the energy sector have been producing contrasting effects on the international competitiveness of energy technologies.

Keywords: Environmental Policy, Technology Policy, Energy Sector, Biofuels, International Competitiveness, Transition Policy.

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* Corresponding author.

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