

The diffusion of clean technology: the effects of consumers' environmental awareness and emission taxes

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Abstract

How to provide firms with creditable incentives to develop and utilize more advanced clean technologies is a main environmental issue faced by the government and policy makers. This paper extends a model with settings of emission taxes and consumers' environmental awareness, to reveal that how these factors affect the technology diffusion of a benign abatement technology. We find that although emission taxes can provide incentives for firms to develop and adopt advanced clean technologies, high tax rates may hinder the technology diffusion, and the existence of consumers' environmental awareness aggravates the impeding effect, therefore take a toll on the environment. The results also implicate the significance that governments should be informed of the technological level when making an environmental policy decision.

Keywords: technology diffusion; emission taxes; environmental awareness

JEL classification: Q55; Q58; H23; L13

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