

## How Does the Interaction between Environmental and Intellectual Property Rights Affect Environmental Innovation? A Study of Seven OECD Countries

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**Abstract :** This study assesses the interaction between environmental and intellectual property policy on the rate of invention of environmental inventions and specifically tests for whether there is a synergy between stricter IP regimes and stronger environmental policies. The empirical analysis uses firm and industry-level data from seven OECD countries from 2009 to 2015. We also introduce a new measure of environmental inventions using a Natural Language Processing Topic Modelling technique. We find that intellectual property policy strictness demonstrates greater effectiveness in encouraging inventiveness in environmental inventions when used in combination with stronger environmental policies. This study contributes to existing literature in two ways. First, it devises a method for better identification of environmental technologies, we demonstrate how our method is more comprehensive than existing methods as we are better able to identify not only environmental inventions, but also major components of said inventions. Second, we test how various policy regimes affect the development of environmental technologies, we are the first study to examine the interaction of the environmental and intellectual property policy on firm level innovation.

**Keywords :** environmental economics, economics of innovation, environmental policy, firm level

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