

# **Simulating the Dynamic Behavior of Renewable Energy Patents**

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## **Abstract**

Due to the challenges bring climate change, the patents filed for renewable energy have almost doubled over the last five years. Although the green patents for energy industry have contributed to increase installed capacity and electricity generation, the impacts of green patents on renewable energy growth yet not measured. Patents measurement is a developing concept and has gained force in recent past. This measurement contains valuable data which contributes to reveal opportunities and challenges in the energy sector. Thus, a dynamic analysis of renewable energy patents based on a formal model was developed to understand the effects of patenting measurement on performance of the energy industry. This paper presents a simulation model based on the system dynamics methodology. This model shows a novel framework to measure the impacts of patents on the energy industry in the long-term. Results show that patents measurement could be an important issue for analyzing the diffusion of renewable energy in some countries in Latin America.

## **Keywords**

Patent analysis; Management; Simulation; Renewable Energy; Green inventions

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