

Measuring Energy-Saving Technological Change: International Trends and Factors

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Abstract

Technological change is critically important in coping with the global issue of climate change. This paper estimates the aggregate production function with factor-augmenting technology using cross-country panel data from OECD countries over recent decades, thereby measuring energy-saving technological change. The paper provides evidence that energy-saving technology has progressed in many countries, and the progress is greater in countries with more energy-related patents, more government expenditures on energy-related R&D, and less natural resources.

KEYWORDS: Technological change; elasticity of substitution; natural resources

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