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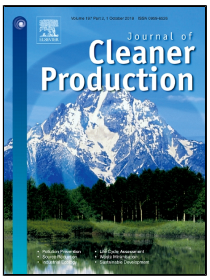

How rebound effects of efficiency improvement and price jump of energy influence energy consumption?

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How rebound effects of efficiency improvement and price jump of energy influence energy consumption?

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Abstract: Energy efficiency improvement is usually regarded as an effective way to decrease energy consumption and to fight climate change, but it also booms energy consumption through rebound effects. But the improvement of energy efficiency also has rebound effects, which increases energy consumption and emission. So this paper arms to capture the rebound effects of efficiency improvement by considering zero-cost breakthrough of energy efficiency and price jump of energy purchase. First, energy efficiency improvement, measured by zero-cost breakthrough of energy efficiency, stimulates energy consumption, but it may reduce the total emission. Second, both the direct and indirect rebound effects of energy efficiency improvement on energy consumption and environment are captured. Interestingly, jumping energy price decreases both the direct and indirect rebound effect. Finally, the result of the paper shows that restriction of individuals' entry or competition restriction moderates the rebound effects of energy efficiency improvement.

Key words: energy efficiency; rebound effects; zero-cost breakthrough; price jump

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