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The effects of energy retrofits on residential energy expenditures and carbon emissions: Empirical evidence from France

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ABSTRACT

Relying on panel micro data for the 2000-2013 period, the paper examines the impact of residential energy retrofits on energy expenditures and carbon emissions in France. We proceed in two steps. We estimate the marginal effect of investment expenditures. In order to improve their external validity, these estimates are then adjusted to reflect the types of investments made in the recent period. We find significant but mild effects. Our best estimate is that the average investment of 12,000 € respectively leads to a 16% and 22% reduction of the energy bill and the carbon emissions. Under additional assumptions, the abatement cost is found to be 350€/tCO₂. These results suggest to revise a common belief on the existence of a wide energy efficiency gap.