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Martijn I. Dröes , Hans R.A. Koster

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# Renewable Energy and Negative Externalities: The Effect of Wind Turbines on House Prices\*

By MARTIJN I. DRÖES<sup>a</sup> and HANS R.A. KOSTER<sup>b</sup>

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**SUMMARY** – In many countries, wind turbines are constructed as part of a strategy to reduce dependence on fossil fuels. In this paper, we measure the external effect of wind turbines on the transaction prices of nearby houses. A unique Dutch house price dataset covering the period 1985-2011 is used, as well as the exact location of all wind turbines that were built in the Netherlands. Using a difference-in-differences methodology we find a 1.4 percent price decrease for houses within two km of a turbine. There is also evidence for anticipation effects a few years before placement of a turbine. The effect is larger for taller turbines and in urban areas. Especially the first turbine built close to a house has a negative effect on its price.

*JEL-code* – R31; Q42; Q15; L94

*Keywords* – renewable energy; wind turbines; externalities; house prices

## I. Introduction

The world's primary demand for renewable energy has increased from 1.1 billion tons of oil equivalent (Gtoe) in 1990 to 1.7 Gtoe in 2010 and is expected to grow to 3.1 Gtoe in 2035 (IEA, 2012). The production of clean electricity – either through renewable energy sources or nuclear power – is high on the political agenda of many countries. Besides hydro energy,

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<sup>a</sup> Corresponding author. Amsterdam Business School, Faculty of Economics and Business, University of Amsterdam, Plantage Muidergracht 12, 1018 TV Amsterdam, The Netherlands, e-mail: m.i.droes@uva.nl. The author is also affiliated with the Department of Spatial Economics, Faculty of Economics and Business Administration, Vrije Universiteit Amsterdam, De Boelelaan 1105, 1081 HV Amsterdam, The Netherlands, the Amsterdam School of Real Estate, Jollemanhof 5, 1019 GW Amsterdam, and the Tinbergen Institute, Gustav Mahlerplein 117, 1082 MS Amsterdam.

<sup>b</sup> Department of Spatial Economics, Vrije Universiteit Amsterdam, De Boelelaan 1105 1081 HV Amsterdam, e-mail: h.koster@vu.nl. The author is also affiliated with the Tinbergen Institute, Gustav Mahlerplein 117, 1082 MS Amsterdam.

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