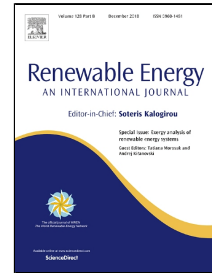


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Competitive Advantage in the Renewable Energy Industry: Evidence from a Gravity Model

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1 **Competitive Advantage in the Renewable Energy Industry: Evidence** 2 **from a Gravity Model**

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8

9 **Abstract**

10 Pioneering domestic environmental regulation may foster the creation of new eco-industries. These
11 industries could benefit from a competitive advantage in the global market place. This article
12 examines empirical evidence of the impact of domestic renewable energy policies on the export
13 performance of renewable energy products (wind and solar PV). We use a gravity model of
14 international trade with a balanced dataset of 49 (for wind) and 40 (for PV) countries covering the
15 period 1995-2013. The stringency of renewable energy policies is proxied by installed capacities. Our
16 econometric model shows evidence of competitive advantage positively correlated with domestic
17 renewable energy policies, sustained in the wind industry but brief in the solar PV industry. We
18 suggest that the reason for the dynamic difference lies in the underlying technologies involved in the
19 two industries.

20 **Key-words**

21 Competitive Advantage, Gravity Model, Wind Industry, Solar PV Industry, Green Growth

22

23

24 **1. Introduction**

25

26 The concept of green growth is increasingly gaining momentum in policy and academic circles. The
27 green growth concept can be said to turn the debate on costly environmental constraints on the
28 economy into a narrative on potentially attractive opportunities - aligning environmental protection,
29 particularly with respect to climate change, with new jobs, technologies, and competitiveness of
30 domestic industries (Bowen and Fankhauser 2011). Green industrial policies to foster green growth
31 are advocated (e.g. Karp and Stevenson 2012; Rodrik 2014) and implemented by a growing number
32 of countries and regions such as for example the European Union, China, and South Korea
33 (Fankhauser et al. 2013). Although clear definitions of green growth and green industrial policy are

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