Transition Towards a Green Economy in Europe: Innovation and Knowledge Integration in the Renewable Energy Sector

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Overview

Objective

- Premise: a more integrated innotation system is closer to the research frontier
- Measures the degree if integration of the EU innovation system in the field of RES

Methodology

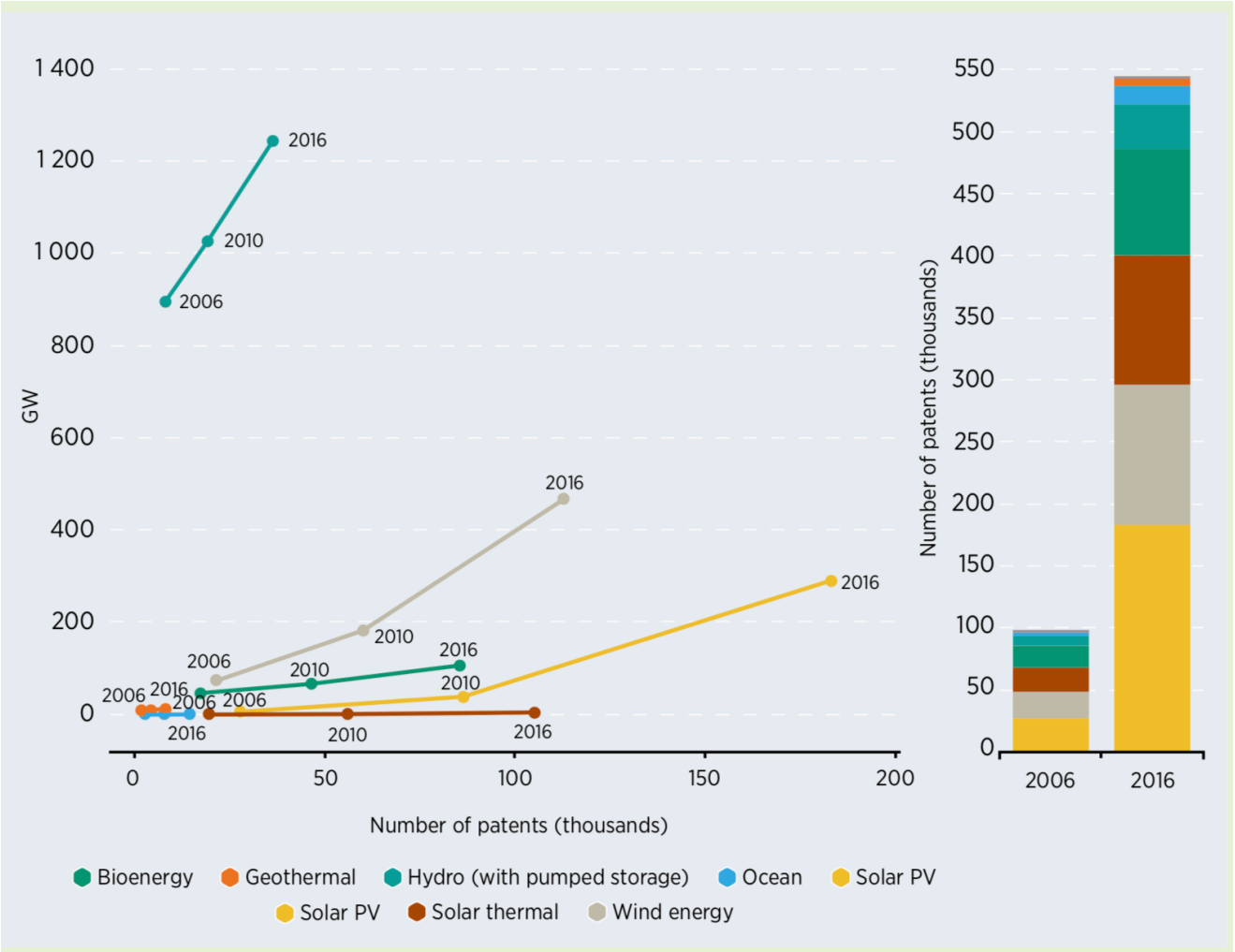
- Computes and compares the **citing probabilities**: across/within countries for RES technologies, fossil fuels and other promising technologies

Main Findings

- RES: **national bias** in citations; Japan and US patents more likely to be cited than EU15's; **Turning point at 2000**: home bias weakens and spillovers to US increase
- Fossil fuels & others: national bias; **no increase in interconnectedness after 2000**

Comments: focus on 2000

Patent data for renewables, 2006-2016 (IRENA)



Comments: causality

- Why citations and not patenting per se?
- Is integration necessarily a desirable property?
  - Does integration lead to more/better patents?
  - Do more/better patents lead to more integration?
  - Endogeneity between innovation and integration

- Has EU RES policy triggered more innovation activity (patents) and more integration?
  - Exploit variation across countries/technologies

Comments: diagnosis and policies

- If positive answers, why is there no more integration? How to foster integration?
  - Which obstacles?: language, institutions…
  - Are there policies in place in foster integration and are they effective (#citations)?
- Other measures of integration:
  - Multi-country patents
  - Why EU15 integration and not worldwide?
- Heterogeneous effects across technologies?