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A bigger bang for the buck: How to design efficient policies under post-2012 institutions?

How to incentivise the diffusion of renewables in developing countries?

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How to incentivise the diffusion of renewables in developing countries?

I. What are the effects of the EU policy mix on the diffusion and R&D of different power technologies?

II. What are the (incremental) cost of renewables in developing countries?

III. Implications for developing countries and the Cancun institutions?

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Framework

Context Factors
- Market factors
- Public acceptance

Policy Mix
- EU Emissions trading
- Long-term targets
- Technology policies

Change in Rate & Direction of corporate Innovation Activities
- Diffusion
- R&D

Firm Characteristics
- Value chain position
- Technology portfolio
- Technological Capabilities
- Size

Scope and Methodology

Scope:

- Firms in 7 EU countries (DE, ES, FR, IT, PL, SK, UK)

Methodology:

- Survey of
  - Power Generators (n=65)
  - Technology providers (n=136)
- Regression analysis on policy effects (controlling for other variables)

4 key results

- EU ETS 1&2 has partially adverse effects (increased investments in fossil based new plants)
- ETS 3 rather minor effects on both diffusion and R&D
- R&D support policies and LTT as important trigger for R&D
- Technology specific demand pull policies the only external trigger for investments in non-emitting new plants (diffusion)

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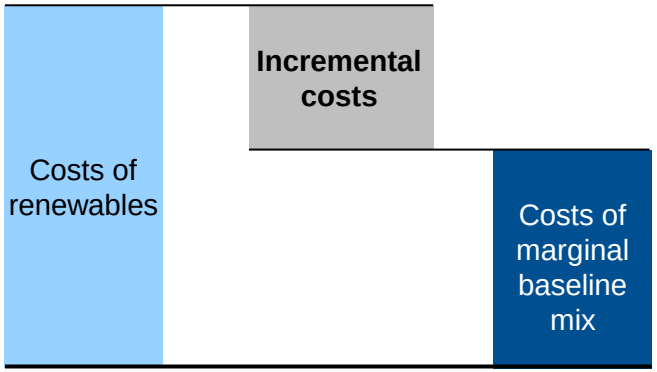
Incremental cost of wind and PV in 6 countries



Methodology

- Target share of the respective technology set to 10% => sites considered to achieve this target, starting with the best
- Country specific discount rate (UNFCCC)
- Baseline: country specific power generation mix to be built (CDM build margin)
- BUT: calculation with world market prices and state of the art technology (NO FUEL SUBSIDIES)

Scope

- 6 Countries: Brazil (NE), Egypt, India (Karnataka), Kenya, Nicaragua, Thailand
- 2 renewables: PV (cSi), Wind (2MW class 2010, 5MW class 2020)

Results, RQ2: Incremental cost

- Very dissimilar incremental costs for each country-technology combination => NAMAs
- Incremental cost of PV always relatively large (high cost of PV)
- For wind, three groups of countries can be distinguished
- Negative incremental cost if calculated with our methodology (state of art/**no fuel subsidies**)

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Implications for developing countries

1. Formulate and clearly communicate long-term emission/renewable targets and support them with instruments (starting point of any NAMA)
2. When introducing emission trading, avoid pervers incentives (ETS 1)
3. Tackle baseline (phase-out fuel subsidies)
4. Create markets supporting the diffusion of renewables via technology policies (e.g., feed-in tariffs) (under NAMA scheme)
    a. Large differences between single country-technology combinations => select technologies with high potentials and low costs
    b. Focus on limited number of technologies (in order to create larger potential markets and attract investors)
    c. Consider spillover effects => incentivise value creation in own country (e.g., via R&D support)
    d. Install strong-feedback links from the market to policy allowing policy adjustments
    e. Provide financial vehicles (e.g., special loans)
    f. Make use of CDM knowledge (embedded in UN, DNI and other CDM actors)

Implications for the Cancun institutions

1. Finance of incremental cost, but only against fair baseline (no subsidies)
2. Strict supervision (MRV)
3. Support countries in their technology selection and value creation strategy
4. Provide/support countries with financing vehicles

Thank you for your attention!

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