



# Demand-led environment-friendly innovation

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# Outline of the presentation

- Empirical evidence
  - Household survey
  - Patents in the pulp industry
- Policies to support demand for environment-friendly technologies
  - The knowledge base
  - Lessons learnt

# Empirical evidence

## Insights from OECD household survey

- The OECD household survey
  - 10 countries surveyed on environmental behaviour in 5 key areas: energy, transport, food, waste and water
  - Number of issues related to the take-up of innovation
- Results indicate links between environmental preferences and purchases
  - 70% installed low-energy light bulbs
  - 54% invested in energy efficient appliances
  - 5% invested in renewable energy
  - significant differences between countries, home owners and those concerned with the environment tend to invest more
- See [www.oecd.org/env/cpe/consumption](http://www.oecd.org/env/cpe/consumption)

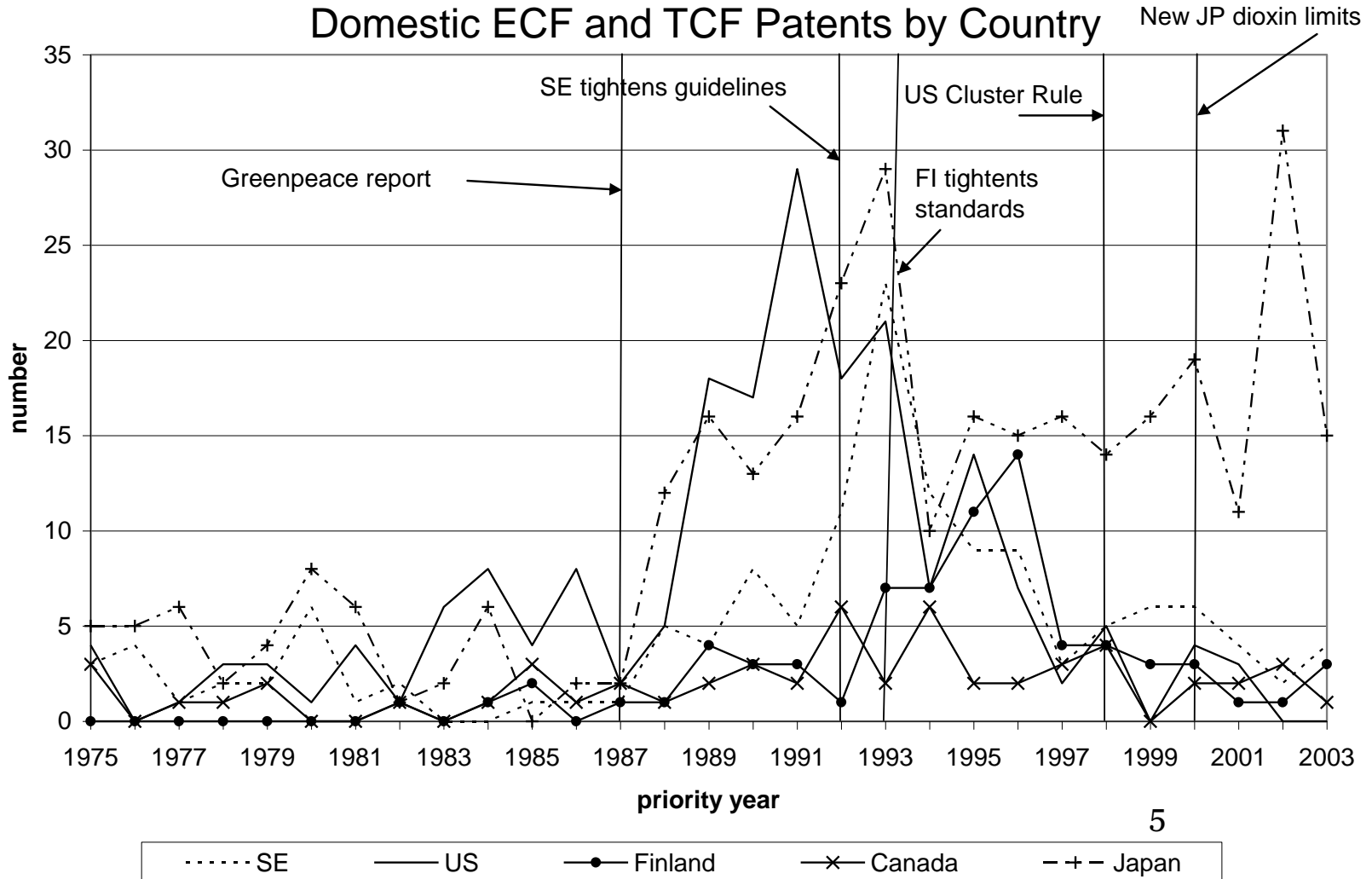
# Empirical evidence

## Clean technologies in the pulp industry

- Empirical analysis of demand-side influences on environmentally-friendly innovation
  - comparison of innovation under different types of policy incentives
    - Evolution of process technologies used by the pulp industry (a traded commodity)
    - Patent data
  - 3 sets of policies
    - command and control regulation
    - Permitting
    - Product labelling requirements

# Empirical evidence

## Clean technologies in the pulp industry



# Empirical evidence

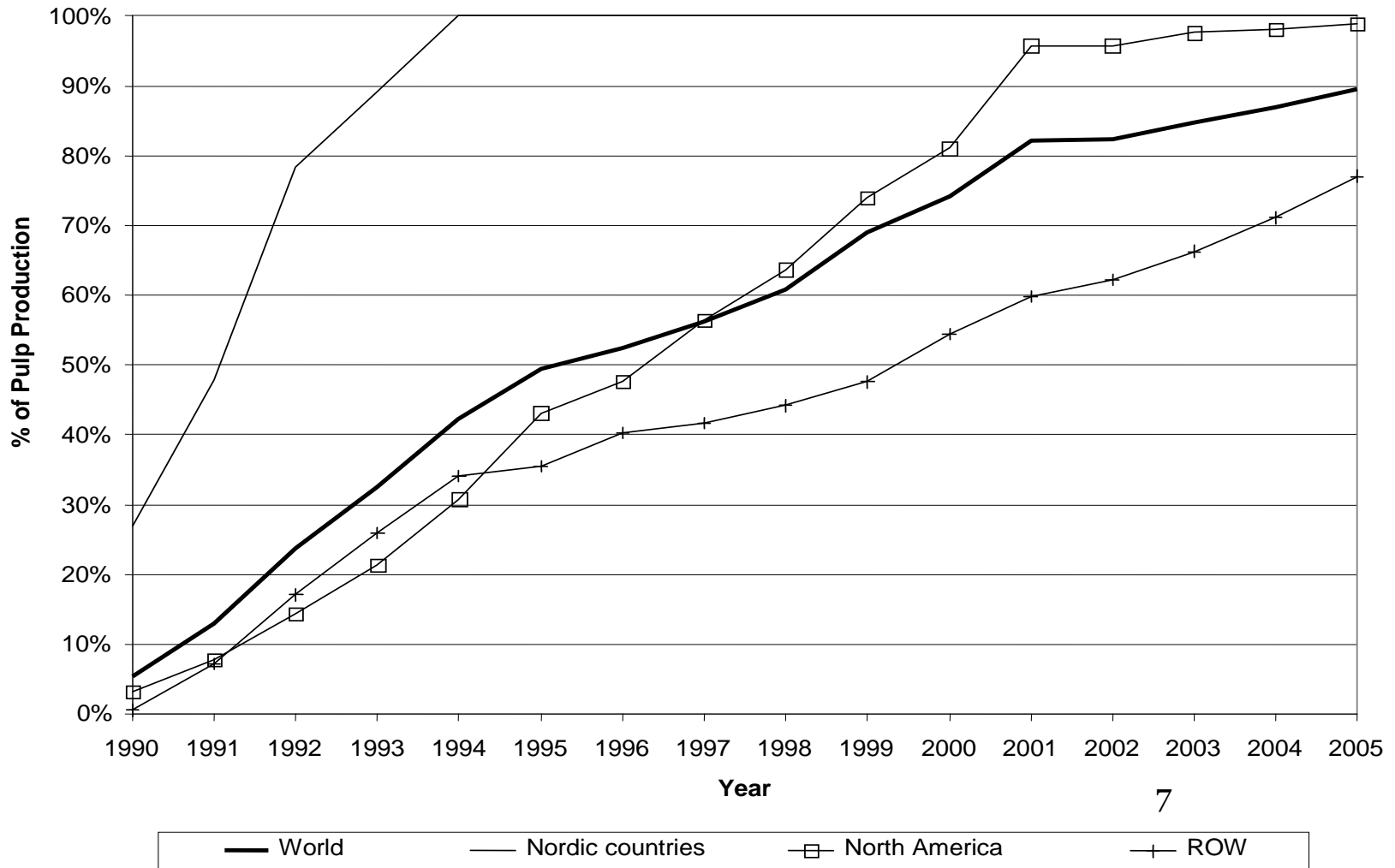
## Clean technologies in the pulp industry

- Stringent regulation seems to have spurred additional innovation
- Regulation influences the types of innovation
- Labelling schemes incorporate existing technologies in their criteria, rather than force technology standards
- Complete diffusion will not occur unless binding regulations are also in place
- Efficiency issue

# Empirical evidence

## Clean technologies in the pulp industry

### Diffusion of ECF and TCF Bleaching Technologies



# Policies to support eco-innovation

## Knowledge base

- Knowledge base
  - 8 country profiles for non-EU OECD countries
  - ETAP roadmaps on eco-innovation policies for EU countries (EC)
- Instruments that stimulate demand for eco-innovation
  - Environment-related performance standards
  - soft instruments (eco-audits eco-labels...)
  - green procurement, at local and national levels

# Policies to support eco-innovation

## Lessons learnt

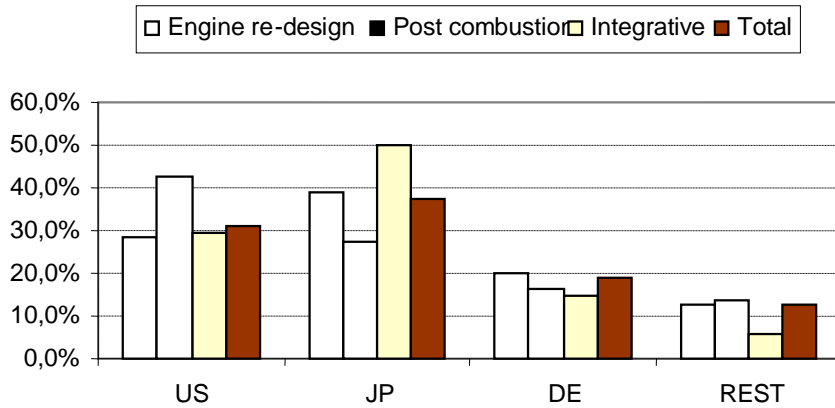
- Features of domestic economy driving the policy mix
  - the knowledge base
  - the size of domestic markets
  - the *vigueur* of the venture capital industry
- Policy issues
  - Combination of demand/supply driven approaches
  - Governments as buyers of eco-innovation
  - How to support SMEs as buyers and suppliers of innovation
  - Creating larger markets *vs* the spill over effect

# Policies to support eco-innovation

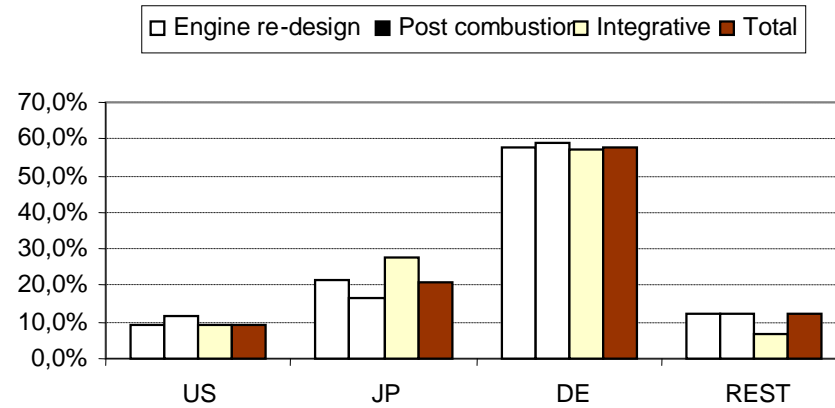
## The spillover effect

Motor vehicle emissions abatement technologies - Source Countries for Patents (1975-2001)

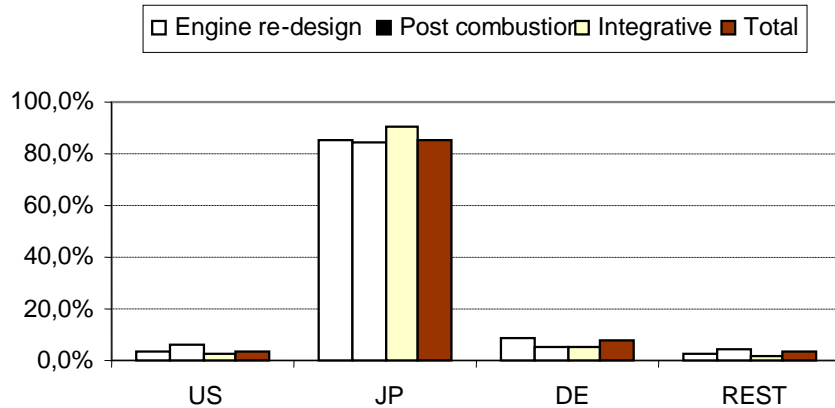
**Source countries US patents**



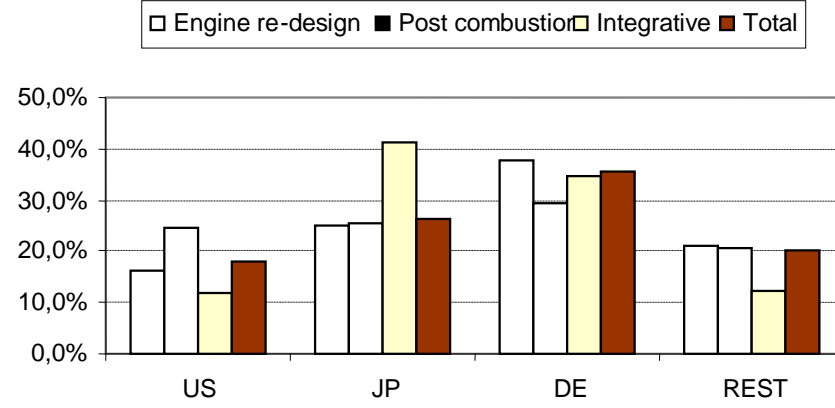
**Source countries German patents**



**Source countries Japanese patents**



**Source country EPO patents**



- OECD Global Forum on eco-innovation
  - Paris, OECD Conference Center
  - 4-5 November 2009
  - [www.oecd.org/environment/innovation/globalforum](http://www.oecd.org/environment/innovation/globalforum)