

*Second Annual Researchers Meeting of the International Research Network for  
Low-Carbon Societies (LCS-RNet)*

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**Panel 3.2 : “Green Economy as a successful model for  
innovation of industrialized countries”**

**Promoting green innovation and green growth :  
policy instruments and challenges in terms of  
employment and human capital  
Comment**

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# What policies to promote green innovation?

## Tackling what types of externalities ?

- Environmental externalities
- Technological externalities

**Invention phase:** knowledge diffusion externalities=>appropriation problem

**Diffusion phase:** adoption externalities (dynamic increasing returns: learning and network effects).

⇒ **Paradox of under-investment in green technologies**

# What policies to promote green innovation?

## □ Lessons from economic models of growth:

- The impact of climate change policies on growth depends on crowding-out effects of other innovation and substitutability
- The optimal timing of abatement paths is increasing or decreasing
- Debate between
  - Nordhaus (2010)'s price fundamentalism: « internalizing the pollution externality suffices ... there would be no grounds for further special treatment for the green R&D activity »
  - Acemoglu, Aghion et al. (2009) : Innovation does respond to changes in prices , it is thus possible to attract innovation to the green sector with a combination of carbon taxes and research subsidies. The sooner the intervention, the lower the overall cost.
- Employment and human capital: huge needs of green competencies and human capital. To avoid green innovation policies being consumed by rises in wages (labor supply inelastic in the short run), labor market and education policies are needed.