

# System Innovation and Resource Efficiency

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# The ADEME's experience

## ➤ Material ecoEfficiency

### ➤ Multi resources objectives

- Raw materials including biomass
- Lands, water and soil quality
- Ecosystems as a resource

## ➤ Energy ecoEfficiency

### ➤ Multi resources objectives

- Energy sources (including Renewables)
- Climate as a resource
- Air quality

## ➤ Approaches

### ➤ Production systems

- Ecodesign
- Eco-Performance Measurement
- LCAs, BATs

### ➤ Resource loops

- Recycling
- Bioproducts / biocycles
- Depollution

## ➤ Instruments and tools

- R&D programmes
- Demonstration
- Norms and standards
- Trainings and awareness

## ➤ Socio-systems targeted

- Buildings and urbanism (cities)
- Transportation and vehicles
- Energy and conversion techs
- Wasted products and recycling
- Food and Agriculture

# The ADEME's experience : lessons

## ➤ From 1960 to now (50 years)

- A first wave of eco-innovative solutions
- driven by the environmental regulation
- And supported by social impacts (mainly public Health)

Cross sectoral  
eco-innovation  
System

System innovation

Future  
eco-innovation  
System

## ➤ With Climate Change (and resource efficiency)

- A second wave of eco-innovative solutions
- driven by competitiveness and jobs
- And supported by Enterprises (new business models)

System eco-innovation has to tackle a double rebound effect

-an economic one resulting from productivity

An environmental one resulting from end of pipe solutions



# About SMEs - Enterprises

## ➤ Eco-innovative SMEs

- exploring new options and new opportunities (taking risks)
- Creating growth and jobs
- Facing financing difficulties (debt financing)
- Weak demande side policies

## ➤ Resource Efficient SMEs

- Efficiency = cost savings = Waste or Energy costs
- Large firms are main demand drivers
- Green products supply are demand driven
- Less green SME than efficient SME

## And all wellknown obstacle for SMEs

lack of competencies, of time, of money...

# EU SMEs and System Innovation

- A main policy problem is the trade off between protecting existing firms from higher prices and creating strong markets for eco-innovative solutions
- Selection of incremental eco-innovation ; low increase of environmental costs ; productivity within BAU...
- On the long term, maybe ... there are a lot of efficient options to explore
- We need to do that
  
- **For systemic options, the problem is in the selection process**
  - **Technology push (innovation in services ?)**
  - **Transforming great ideas in BAU solutions**
  
- **How to create « protected areas » for systemic innovation ?**
  - **Living labs and Niche markets**
  - **Exception regimes (out of regular institutions)**
  - **Strong and motivated investors (Foundations)**
  - ...

