



EUROPEAN  
COMMISSION

Community Research

# CONCLUSIONS

## External costs of energy and their internalisation in Europe

Dialogue with industry, NGO, and policy-makers

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# EUROPEAN RESEARCH EFFORT

- **Scientific support to European policies**
- **From the beginning of the 90's: close to 15 M€ dedicated to research on energy externalities**
- **EU scientific reference at world-level**
- **Multidisciplinary research consortium**
- **Genuine European methodology**



# NEW WAY OF THINKING AND ACTING

**In 15 years and thanks to EU research support:**

- **A new way of thinking: taking care of social and environmental damages**
- **External cost is a term introduced into European “jargon”**
- **Energy externalities evolved from a theoretical topic to a “political leitmotiv”**
- **This concept is applicable to various policies: environment, energy, transport, taxation, state aid, etc.**





# EXTERNAL COSTS ARE FAR FROM NEGLIGIBLE

- **Are we ready to accept in Europe around 300,000 premature deaths per year due to air pollution?**
- **Health impacts of air pollution from electricity and transport sectors are approximately equivalent to the EU budget (100 billions €)**
- **Internalising external cost of coal electricity would significantly increase its cost (from around 4 to 6 eurocents per kWh)**





# TOWARDS SUSTAINABLE TECHNOLOGICAL DEVELOPMENTS

- If “internalised”, external costs can help to move towards a more sustainable energy (or transport, industrial or agricultural) system
- If not internalised and taking into consideration public goods (like air or soil or water quality) there is a sort of distortion of the market favouring non sustainable technologies
- Alternative technology options can become competitive through the internalisation of external costs





# EU 7<sup>th</sup> RTD FP (2007-2013) ENERGY

**Hydrogen and fuel cells**

**Energy savings and energy efficiency**

**Renewable electricity generation**

**CO<sub>2</sub> capture and storage technologies for zero emission power generation**

**Renewable fuel production**

**Clean coal technologies**

**Renewables for heating and cooling**

**Smart energy networks**

***Knowledge for energy policy making***

# CURRENT EU ISSUES

- **Taking onboard stakeholder concerns**
- **Methodology for ecosystem damages**
- **Effects from multi-media (air/water/soil) impact pathways**
- **Externalities from major accidents (cf. oil tankers)**
- **New externalities (visual intrusion, noise, smell,...)**
- **Evaluation of fuel cycles in all Europe (25 and beyond)**
- **Tackling new and emerging energy technologies**
- **Addressing energy security of supply issues**
- **Looking at long-term internalisation strategies**



# RESEARCH QUESTIONS

- **Definition of “external costs” (security of supply, depreciation of infrastructure publicly funded, acidification, nuclear proliferation...)?**
- **Sufficient bottom-up studies (to cope with time and site variability) for each technology?**
- **Generalisation and transferability?**
- **Communication about uncertainties?**
- **Technological progress in prospective LCA?**





# POLITICAL QUESTIONS

- **Political context (cf. nuclear and renewables)?**
- **External costs, taxation or subsidies?**
- **National, EU or global « internalisation » (cf. competitiveness)?**
- **How to pass the costs on to the users in a socially and politically acceptable way?**
- **Preferences of the population with respect to different types of risks?**
- **How to use the money recovered from the internalisation of external costs?**





# INFORMATION

- **<http://www.externe.info/>**
- **New methodology 2005 and new results**

