

Public consultation on Energy Roadmap 2050

EURACOAL RESPONSE (4 March 2011)

QUESTIONS

1. How can the credibility of work on the transition to a low-carbon energy system in 2050 be ensured? (for example regular updating of projections using energy system models, focus on developments in technologies, level of expertise needed in each sector, ...). (optional)
(between 1 and 500 characters)

To be credible, the work must balance security of energy supply, sustainable development and economic competitiveness. Measurement metrics must be designed so that progress can be monitored and future projections assessed against agreed objectives for each of these aspects. Credibility within the EU also depends on the credibility of the global response, since the EU cannot tackle climate change alone. Monitoring, assessing and influencing the global response must be a central part of the work.

2. Looking forward, EU energy policy may be increasingly influenced by developments in global energy supply and demand, international cooperation on climate and initiatives taken **outside the EU**. Which developments should be considered in the Energy Roadmap 2050? On which do you think a stronger EU line is necessary? (*Pick three most important ones*) (optional)

- further development of an international framework for cooperation on climate
- take-up by other countries of EU model for action on climate change
- further development of international standards, trade and investment frameworks
- global energy efficiency and demand developments
- global nuclear renaissance
- global development of renewable energy
- global development of carbon capture and storage (CCS)
- price developments in global fossil fuel markets
- development of energy resources in neighbouring countries and infrastructures linking them with the EU market
- other (please specify)

Population
Standard of living (GDP)
Non-OECD energy demand
Energy resource availability/cost
Efficiency

3. What **societal challenges and opportunities** do you think are likely in Europe over the next decades as a result of changes in the EU and global energy system? On which ones do you think a stronger EU line is needed? (*Pick three most important ones*) (optional)

- economic and employment gains in some parts of the energy sector, in some parts of the EU,

losses in others

- increased importance of access to high-performance energy infrastructures (eg smart meters and grids)
- increased reliance on electricity
- creation of sustainable and publicly acceptable energy sources
- public acceptance of new infrastructures needed for the EU market (eg large storage technologies, pan-European grid)
- increased scope for decentralised power generation and for local, integrated solutions for meeting energy, waste management and other needs of communities
- public acceptance of need for increased energy efficiency
- changed patterns of disruptions in energy supplies, both fossil and electricity
- increases in energy prices and energy poverty
- moving of energy-intensive industry to other parts of the world
- other (please specify)

Aligning short-term political horizons & long-term goals Climate change impacts (despite mitigation)

4. The EU's approach to energy policy is founded on regulation and an internal energy market providing competition, innovation, energy efficiency and development of resources including renewables, environmental sustainability, energy security and solidarity, and effective relations with external partners. Which are the main areas which you think might need further **policy development at EU level**, in a 2050 perspective? Please specify what you think is needed, references to supporting analyses welcome. *(Pick three most important ones)* (optional)

- | | | |
|---|--|---|
| <input type="checkbox"/> competition | <input type="checkbox"/> carbon pricing | <input type="checkbox"/> internalization of other external costs |
| <input type="checkbox"/> RTD, innovation | <input checked="" type="checkbox"/> energy efficiency | <input type="checkbox"/> transport policy |
| <input type="checkbox"/> renewables | <input type="checkbox"/> financing | <input checked="" type="checkbox"/> energy security |
| <input type="checkbox"/> solidarity | <input type="checkbox"/> development of infrastructures | <input type="checkbox"/> effective relations with external partners |
| <input type="checkbox"/> support for management of transition to affected regions, industries | <input checked="" type="checkbox"/> other (please specify) | |

Modernisation of existing energy assets as an affordable route to meet demand and reduce emissions.

5. Which **milestones** would you see as most useful to specify at this stage for the transition to a low-carbon energy system in Europe? References to supporting analyses welcome. (optional)
(maximum 2000 characters)

According to *IEA World Energy Outlook (2010)* and *BP Energy Outlook (2011)*, coal will be as important as oil for global energy supply in 2030. In the EU, even if renewable sources were to meet 30% of primary energy demand, by say 2030, the remaining 70% must come

from conventional sources, including coal.

Several short-term milestones should be established for coal-fired power plant renewal and modernisation. While existing directives will ensure pollution is tightly controlled - there is no need to go beyond agreed targets - replacing or upgrading older power plants with modern efficient coal plants, that are commercially available today, can reduce emissions by up to 30%. In addition, new flexible plants can complement intermittent renewables. The ETS Directive allows support through to 2016 for high-efficiency power plants that are CCS-ready. An assessment of CCS readiness is already a legal requirement for new plants.

In the medium term, industry is targeting power plant efficiencies of above 50%. The materials development required will take some years, so incentives should extend beyond 2016 to encourage medium-term investments.

To manage CO₂ emissions effectively and affordably in the longer term, means that CCS must be commercially available by 2020. The *IEA CCS Roadmap (2010)* anticipates that OECD Europe will have 97 large CCS plants operating by 2030 and 308 by 2050. Globally, CCS contributes 20% of the emission reductions envisaged for 2050. To stay on track, good progress needs to be made with CCS demonstration in the EU. The milestone of having up to 12 projects operational by 2015 needs full political support. Similarly, an EU-wide CO₂ pipeline network and storage infrastructure will be needed to serve coal- and gas-fired power plants as well as energy-intensive industries. Finally, public acceptance of any new energy-sector infrastructure is a real challenge that political leaders must address, with the full support of industry and public authorities.

6. What are the most likely key drivers for the future energy mix in the EU? (*Pick three most important ones*) (optional)

- global fossil fuel prices, compared to costs of domestic energy resources
- long term security of supply
- public subsidy
- expectations about short-term security of supply
- political decisions by Member States
- gradual integration of internal energy market
- international framework for cooperation on climate
- EU climate policy
- public acceptance of new energy technologies and the related infrastructures
- other (please specify)

ADDITIONAL SUGGESTIONS AND THOUGHTS

7. Do you have additional suggestions or more specific thoughts on the Energy Roadmap 2050? (optional) (maximum 2000 characters)

Energy security is key to avoid supply disruptions and prevent high energy prices from slowing economic growth. Current policies lead to a “dash for gas” with little concern about the wider environmental impact of importing gas from countries that also need to fuel their economies. 80% of EU fossil fuel reserves are in the form of coal and lignite. *“Continued exploitation of fossil fuels resources in Europe ... provide important contributions to EU’s economy and security of energy supply.”* (EC Berlin Fossil Fuels Forum 2010).

EURACOAL views the following as crucial aspects that should be addressed in the Energy Roadmap 2050:

Emissions trading in isolation progressively harms industry, including indigenous energy producers. An objective assessment of the ETS’s impact on global emissions and EU industry must inform policy decisions about its future. Introducing “command & control” emission limits would undermine the scheme.

Energy storage is vital, especially economic storage of electricity. The cheapest “virtual” store of electricity is coal stocks at power plants. Coupled with flexible plant operation, coal stocks provide much needed security to power systems.

Power system flexibility to balance intermittent renewables requires flexible backup and incentives, e.g. capacity payments. Unlike gas plants, new coal plants can run efficiently at low (c.25%) load, ready to meet demand (27 MW/min). Lignite and nuclear plants can also respond quickly to load changes (30 and 63 MW/min), but operate best at base-load. New gas CCGT plants can be started quickly from cold and are responsive (38 MW/min), but their efficiency is very poor at part load.

Energy efficiency should extend beyond end-use to upstream efficiency where the gains can be large and easily realised, e.g. through modernisation and renewal of power plants. CHP and district heating increase efficiency at smaller power plants.

Biomass co-firing at coal power plants is the most efficient way to convert biomass into electricity. At plants with CCS, it offers the prospect of capturing atmospheric CO₂ to compensate for emitters where CCS is not an option.

Thank you for your contribution.
Your response has been successfully submitted.
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