

EUROPIA Response to the Commission Roadmaps to 2050



The Commission has published a number of Communications, or Roadmaps, over the past 12 months looking at how the EU might adapt to global resource, climate and energy challenges to 2050.

EUROPIA has reviewed the Competitive Low Carbon Economy and Energy Roadmaps and offers the following input to the important debate needed on these roadmaps.

In particular, how to build consensus to develop practical and cost effective proposals to meet EU challenges of ensuring sustainable, cost effective and secure energy supplies to all citizens of a globally competitive, lower carbon Europe.

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EUROPIA's Response to the Commission Roadmaps to 2050

The Commission Roadmaps towards the EU's ambitious 2050 decarbonisation goals need close scrutiny and wide debate before the EU sets firm targets or launches new policy or legislation.

The Roadmaps to 2050 go beyond climate policy and would generate a complete change in Europe's industrial, economic and social foundations. Reductions in primary energy demand of 32-41% with 80-95% decarbonisation of the economy by 2050 both imply a radical change in the use and sources of energy. For such changes, EUROPIA sees value in laying out a long term strategic vision for Europe's future, provided it aids the assessment of policy ideas. Collectively, the Roadmaps inform society, businesses and markets of future policy direction; but they are not architects' blueprints for future development.

EUROPIA welcomes the Energy Roadmap's scenarios as an important contribution to the debate on Europe's energy outlook. The Communication presents challenges that the EU will face to deliver a competitive, lower carbon energy system while maintaining affordable and secure supplies of energy. The Roadmaps, however, have not convincingly demonstrated that the actions and technologies selected to meet the targets are both technically and economically feasible.

EUROPIA believes that specific policy initiatives, legislation and targets would require further scrutiny, analysis and stakeholder critique, and supports the Energy Roadmap Advisory Group's recommendation to assess the potential trade-offs between carbon reduction, security of supply and competitiveness.¹

Decarbonisation of the EU economy will also challenge the oil industry – a challenge that is becoming increasingly apparent today in European refining. The Roadmaps acknowledge, however, that oil will still have a role in Europe's energy mix in 2050, making it in the EU's interest to implement policy and legislation that maintains the viability of European refining.

Assessment of the Roadmaps: a number of the fundamental principles and assumptions on which the Roadmaps are based need testing and further work.

EUROPIA offered its own contribution to the Energy Roadmap exercise² and recommended 10 key factors to consider, against which we measured the Roadmaps' analyses:

1. **Basis:** EUROPIA prefers a forecasting approach to the "backcasting" method used in the Roadmaps, which chooses a 2050 target and shows scenarios that meet it; a forecast better accounts for what is feasible in technological, economic, behavioural and political development. Moreover, "backcasting" leads to an increase in uncertainty of policy instruments, as all unknown shocks would affect policy instruments rather than implementation of the target.

¹ SEC (2011) 1569 Part 1/3

² See "EUROPIA Contribution to EU Energy Pathways to 2050"

2. **Prepare the future without jeopardising the present:** More work needs to be done on the credibility of the investment needs of the future scenarios, with a realistic view on the availability of capital today. Much of the EU's ability to create wealth is in both its industrial fabric and its affordable mobility for goods and people, developed over many years. Both short and long-term economic impacts are too important to be trusted to an aggregated, opaque set of theoretical analyses and we strongly support the suggestions made by the Advisory Group to the Energy Roadmap that the analysis and assumptions should be opened up to further scrutiny.
3. **Market-based or command and control:** Technology neutrality is not applied throughout the Roadmaps, and they fail to recognise that market based mechanisms are generally more efficient ways to achieve targets both for industry and society. EUROPIA believes that command and control policies should be only very selectively applied, justified by comprehensive and rigorous impact assessments. We acknowledge the Energy Roadmap's approach of assessing specific technologies as a scenario exercise, but future European policy must refrain from picking technology winners.
4. **Realistic assumptions to ensure the technical and economic feasibility of life cycle GHG emissions reductions:**
 - The feasibility of any of the Roadmaps' scenarios depends on political decisions **of how to distribute limited resources among a variety of goals**. Defining the EU's long term vision means **choosing or at least prioritising between political objectives**. The Roadmaps do not sufficiently address the **conflicts—or trade-offs as the Advisory Group calls them—of decarbonisation at the expense of** competitiveness, affordable energy prices and energy security.
 - Several assumptions need further independent assessment such as **energy productivity improvements; economic benefits vs. costs**, especially the large cost differences for electricity price paths in the scenarios; social and political **risk** that critical technologies are delayed or not viable (e.g. second generation biofuels and CCS); **time requirement and cost of deep technological change**.
 - The analyses present the energy markets as an 'island', i.e. in a partial equilibrium framework, not taking into account effects on the wider economy. **Energy markets are so deeply intertwined** with the rest of the economy that policy decisions need to have an eye on effects or unintended consequences outside energy markets as well.
 - The analyses also take a very **narrow view of security of supply**, only considering fossil fuel imports, and fail to include other aspects such as availability of rare elements or over-reliance on single technologies.
5. **Technologies must be treated on their true merits:** The argument that decarbonisation can be achieved with today's technology is based on optimistic cost and suitability assumptions. Robust assessments of new technologies have to include investment and operating costs, costs for consumers, and the impact on employment and trade. One key issue which seems to be missed is that, even if commercially viable, coal or gas with CCS for electricity is unlikely to be a suitable back-up for intermittent renewables, but are actually complementary providers of grid base load capacity. CCS is unsuited to providing flexibility for cost and operational reasons.

6. **Consistency between and within Roadmaps:** There are a number of inconsistencies between the Roadmaps and the various models used to create them. For instance in the Low Carbon Economy Roadmap, one model (PRIMES) assumes transport emissions are reduced by 65-77% whereas the POLES modelling for the same scenario suggests transport emissions reduce by just 52%. There are similar inconsistencies in the assumed driver responses to increased prices. There is every chance that a detailed review of the reasons for this and other inconsistencies may unearth potentially questionable assumptions and conclusions.
7. **The global situation must be realistically assessed:** The Energy Roadmap assumes full global action and nowhere fully considers the situation in a world where the action taken by the EU is significantly greater than any action taken elsewhere. The assumption that global emissions will peak before 2020 appears highly questionable when the Durban protocol is only intended to lead to binding reductions after 2020. The interaction of EU and non EU climate policies and the risks of carbon leakage are emphasised in several recommendations by the Advisory Group and reflected in the Energy Roadmap, but not adequately tackled in the Low Carbon Economy Roadmap.
8. **Impacts must be considered at EU, national and local levels:** The Commission's work on how the impacts differ by Member State is very important and should be considered properly before the Roadmaps are adopted.³ Some of the benefits claimed at a macro level in the Low Carbon Economy Roadmap become questionable when looked at in a national or regional context. The idea that "green jobs" inherently deliver more value to the economy or are the right use of labour resources must be properly assessed at a micro-economic level. Member States must have the flexibility to adjust to their individual circumstances, including financial restraints.
9. **Sensitivities should be tested:** While there has clearly been some sensitivity analysis performed, it is presented in such a way as to make the assumptions and parameters difficult to follow. For instance what would be the implication if CCS is delayed and nuclear becomes politically unacceptable? What if fossil fuel prices and/or CO₂ prices do not increase?
10. **The value and viability of existing infrastructure will be critical whilst new infrastructure will be developed:** The Roadmaps discuss concerns about avoiding carbon leakage in existing industries and infrastructure during the progression to a low carbon economy. We believe, however, that due to the aggregated nature of the analysis, the sheer scale of remodelling the energy systems and its impacts are likely to have been significantly underestimated. A successful transition to a lower carbon economy must ensure maintenance and development of existing infrastructure, such as for refining and oil products until economically sustainable alternatives are available.

³ Commission Staff Working Paper: Analysis of options beyond 20% GHG emission reductions: Member State results (Provisional version - 30 January 2012)

Reaching conclusions on the Roadmaps: debate needs to happen to gain broader consensus on the possible policy options, but EUROPIA recognises that the EU also needs to move to action on no regret choices that do not risk economic damage.

Does this assessment mean there are no clear actions for the EU? No, it does not mean paralysis by analysis: certain actions already underway should be maintained, and other “no regret” steps should be taken:

- All of the Roadmaps’ scenarios depend on significant energy savings. Reductions in primary energy demand of 32-41% by 2050 imply a radical change in the use of energy. There should be a strong focus on cost effective energy efficiency for end use in buildings, rejuvenation of the energy (electricity) infrastructure, and reform of energy taxation.
- Focus on implementation of the Climate and Energy Package for 2020; in particular cost effective measures to improve energy efficiency. In doing so, it also creates more predictability to move beyond 2020.
- The future of renewable energy sources and energy efficiency largely depend on technology development. Therefore, energy and climate policy should be better merged with other EU priorities like innovation and education.
- The reality of global competition must be recognized in all policies and the impact on competitiveness be carefully assessed. The Commission should undertake an explicit and thorough “global competitiveness proofing” of existing and potential new legislation through the impact assessment, ex-post evaluation and fitness checks of regulatory framework.
- The EU economies’ interdependence with the rest of the world limits the viability of EU only action. Not considering the global policy response could lead to serious carbon leakage which will be harmful to the EU economy. The EU should look at the approaches taken by other regions of the world and seek cooperative action for climate change. It also needs to consider the implications should other key world energy users not join in efforts to reduce greenhouse gas emissions.
- EU policy should not pick technology winners or pathways. It should promote a consistent CO₂ abatement cost across the economy and then allow the market to operate efficiently.
- Mobility can be more energy efficient with current technologies, smarter operations and adequate incentives. End-use energy efficiency improvements are the most cost-efficient options to reduce Well-to-Wheel CO₂ emissions in the EU transportation sector.
- EU-wide, national, regional and local consequences of the Roadmaps’ decarbonisation scenarios should be carefully assessed, including direct and indirect economic and social impacts, as well as the impactson energy intensive industries including the refining sector and linked sectors (logistics, distribution, petrochemicals, etc.).

Role of Refining in a competitive lower carbon EU economy

The Energy Roadmap acknowledges that oil will continue to have a significant role in the European energy mix in 2050. It further states that, “**maintaining a foothold in the global oil market and keeping a European presence in domestic refining**—though one that is able to adapt capacity levels to the economic realities of a mature market—is important to the EU economy, to sectors that depend on refined products...and for security of supply.”

Maintaining a refining basis in the EU brings key value in a number of strategic areas such as security of supply, value creation in the economy, and technology leadership.

The importance of EU refining to the European economy and to security of supply has been recognised by the EU Institutions (EP, Council and Commission). EUROPIA indicated the real threats to the sector in its May 2010 White Paper on EU Refining and recent events have confirmed these concerns.

A European “foothold” will only be achieved if EU refining is internationally competitive. DG Energy has invited EUROPIA to contribute to a process of assessing the viability of refining in Europe.

On this basis, and as an initial contribution, EUROPIA would suggest the EU to consider:

- **Establishing a European Observatory for refining and conduct in coordination with Member States a sound economic and statistical analysis of the factors determining the rapid structural change in the refining sector.** Other sector ‘observatories’ such as automotive manufacturing (e.g. CARS21), the financial sector and chemicals (e.g. High Level Group) could provide a model to such an observatory;
- **Assessing at EU and national level the economic risks of an accelerated disengagement of refining in the EU.** Evaluating European refining’s global competitiveness and employment through a factual assessment of the cost of EU legislation on EU refining compared to competitors, and the requirement that any new legislative proposals assess the cumulative cost burden to EU refining vs. global competitors;
- **Supporting the Commission’s revised Energy Taxation Directive proposal and Italy’s request to help to correct the petrol/diesel imbalance in Europe.** Indeed, the refining industry has to adapt to decreasing demand and a low utilization rate, but current tax and manufacturing trends in transport enhance the growing mismatch between supply and demand.

We look forward to developing this further with the Commission.

EUROPIA, the European Petroleum Industry Association, is the single voice the European Refining & Marketing Industry, the downstream sector of Europe’s oil industry.

EUROPIA is a non-profit organisation and whose 17 members account for more than 80% of EU petroleum refining capacity and some 75% of EU motor fuel retail sales.

EUROPIA as a leading Industry Association aims at contributing pro-actively and constructively to the development of policies to safeguard the secure and sustainable manufacturing, supply and use of petroleum products by providing competent and expert advice to the EU Institutions, Member State Governments and the wider community.

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