

EWEA response to the Energy Roadmap 2050

While EWEA welcomes the objective of the roadmap and the main results of the modelling, we are disappointed by a general bias against a high penetration of renewables in contrast to the results of the scenario modelling.

The key conclusions of the 2050 Energy Roadmap:

- Decarbonisation of Europe's energy system is possible
- The overall system costs of the energy system are similar in all scenarios, regardless of whether or not decarbonisation is achieved, and which technologies are used
- Wind energy is the key delivering technology in all scenarios and in 2050 provides between 31.6% and 48.7% of electricity production

The Energy Roadmap 2050 focuses on the energy sector as a follow-up to the European Commission's March 2011 Roadmap for moving to a low-carbon economy in 2050 which examined ways to achieve the Heads of State agreement to reduce emissions by 80-95% by 2050 (in line with 2 degrees climate objective).

The Roadmap outlines seven scenarios based on the PRIMES model. The scenarios are:

- **Reference scenario:** an update of the 2009 "Energy trends to 2030" extended to 2050 (this scenario is irrelevant and should be ignored by readers);
- **Current Policy Initiative scenario (CPI):** the "real" reference scenario which takes into account the policies adopted up to early 2010;
- **5 Decarbonisation scenarios**, based on different technology pathways to reach the 85% domestic energy related CO2 emissions reductions compared to the 1990 level:
 - o Energy Efficiency;
 - o Diversified supply technologies;
 - o High Renewables;
 - o Delayed CCS (in reality high nuclear); and
 - o Low nuclear (in reality high CCS).

The roadmap is a communication, accompanied by an impact assessment, and substantial annexes, including a document analysing the scenarios and one comparing stakeholder scenarios.

Wind is the key delivering technology in 2050

According to the scenarios, **wind energy provides between 31.6% and 48.7% of electricity production in 2050**, becoming the key technology, even in the current policy initiative scenario, although the European Commission fails to acknowledge this reality.

This result is obtained despite dubious capital cost (CAPEX) assumptions for most technologies, including onshore and offshore wind power:

- Onshore: the estimates for 2010 CAPEX (1,106€/kW) are close to EWEA's estimate (€1,250/kW) but almost no reduction is foreseen by PRIMES over the next 40 years. Whereas EWEA forecasts onshore wind to be below €1,000 in 2016 and €823 in 2030, while PRIMES sees barely any cost reduction up to 2050 (1,074€/kW).
- Offshore: CAPEX is underestimated for 2010 at 1,796€/kW, somewhat lower than EWEA's 3,000/kW, and assumes virtually no reduction over the next 40 years. This results in PRIMES overestimating the CAPEX of offshore wind power for 30 of the 40 years of the scenario.

Decarbonisation is possible and not more costly

The roadmap states that decarbonisation is possible: "the overall system costs of transforming the energy system are similar in all scenarios", as is the level of security of the energy system.

The Communication stresses that decarbonisation would require higher capital investments; while it recognises that this could be offset by lower fuel bills, it omits to highlight that the **high RES scenario has the lowest fuel imports**. Moreover, this effect would be even stronger if the modelling assumed a realistic oil price, which it sets at \$70 in 2050, when in reality it is already over \$100 today.

Renewables targets are key

The various scenarios achieve between 54.6 and 75.2 renewable energy in percentage shares of consumption by 2050. Renewable electricity provides between 59.9 and 86.3% share of production.

The roadmap recognises that "the second major pre-requisite for a more sustainable and secure energy system is a higher share of renewable energy beyond 2020". This is followed by a recommendation according to which "timely consideration should be given to options for 2030 [renewable energy] milestones." EWEA welcomes this, and calls on Member States and the European Parliament to give a mandate to the European Commission to propose a renewable energy target of 45% by 2030.

Stronger criticism can be made for energy efficiency: the evidence is shown by the scenarios that energy savings will be crucial to decarbonisation, and the communication makes it the prime focus, but the policy direction is weak, with a feeble reference to 2030.

Renewables and efficiency would have deserved a common scenario; building on their synergies, it would have shown very positive results. This should be the way to look decarbonisation paths in the future, especially when focusing on 2030, as **renewable policies, efficiency and carbon pricing are complementary**.

More flexibility in the electricity system is needed

The Communication rightly recognises "new, flexible infrastructure development (as) a "no regrets" option". Moreover, in the final list of conditions needed to achieve the energy system, "a new sense of urgency and collective responsibility must be brought to bear on the development of new energy infrastructure and storage across Europe".