

Several different scenarios should be analysed, including ‘visionary’ scenarios that represent deliberate deviation from business as usual.

More than one modelling approach should be used, and underlying data and assumptions should be fully transparent.

Comprehensive reference should be made to scientific evidence of impacts and risks of different technologies, across full cycle of production, use and disposal.



Suggest ticking

-further development of an international framework for cooperation on climate change (1)
-global energy efficiency and demand developments (4)

-global development of renewable energy (6)

+ other developments:

Long term external costs / hazards of energy sources should be taken account of.

EU should closely examine and employ best practice in third countries in promoting energy efficiency.



Suggest ticking

-Increased importance of access to high-performance energy infrastructures (e.g. smart meters and grids) (2)

-Creation of sustainable and publicly acceptable energy sources (4)

-increased scope for decentralised power generation and for local, integrated solutions for meeting energy, waste management and other needs of communities (6)

+

A stronger EU push is needed to overcome price, administrative and legal barriers to energy efficiency investments. This should include binding targets, financing and tax shifts.





Suggest ticking

-carbon pricing (2)

-energy efficiency (5)

-renewables (7)

+

Account for long-term costs (e.g. for nuclear waste), environmental and security risks

Ensure absolute reductions in energy use, not just efficiency improvements.



Reducing overall GHG emissions by 80-95% by 2050 requires cutting emissions from the energy sector to almost zero.

Given the many benefits of energy efficiency and renewable energy supplies in terms of security, competitiveness, jobs and waste, and in contrast the risks and uncertainties of nuclear power and CCS, the EU should aim for as close as possible to 100% renewable energy supplies in 2050.

To get the EU on the right track, the EU must be in the right place by 2020:

- its 2020 GHG emission reduction target should be increased to at least 30% domestic emission reductions

- the 20% energy saving target should be made binding to create investor certainty and government commitment and accountability

-the renewable energy targets must be met, so close scrutiny of the Directive’s implementation is crucial

Supporting references:

Greenpeace/EREC: Energy [R]evolution – towards a fully renewable energy supply in the EU 27, [http://www.greenpeace.org/raw/content/eu-unit/press-centre/reports/EU-Energy-(R)-evolution-scenario.pdf](http://www.greenpeace.org/raw/content/eu-unit/press-centre/reports/EU-Energy-%28R%29-evolution-scenario.pdf) (page 64-65)

WWF: The Energy Report: 100% Renewable Energy by 2050, <http://wwf.panda.org/what_we_do/footprint/climate_carbon_energy/energy_solutions/renewable_energy/sustainable_energy_report/>

CAN-Europe: “30%: why Europe should strengthen its 2020 climate action” February 2011, <http://www.caneurope.org>

ECF/RAP: “Energy Savings 2020: How to triple the impact of energy saving policies in Europe” – Ecofys / Fraunhofer September 2010, http://www.roadmap2050.eu/attachments/files/1EnergySavings2020-FullReport.pdf



Suggest ticking :

-global fossil fuel prices, compared to costs of domestic energy resources (1)

-international framework for cooperation on climate (7)

-EU climate policy (8)

+ other key drivers:

Internalisation of external costs

Level playing field for new entrants

Regulatory mandates

Flexible network management

Updated grid codes



It is projected that cost-effective energy savings could deliver half of the 80% domestic GHG emission reductions that the EU needs to make by 2050 (see: <http://roadmap2050.eu/attachments/files/1EnergySavings2020-FullReport.pdf>, p.4).

Tapping this potential across all sectors should be a prerequisite for the EU 2050 Energy Roadmap. Even with increased electrification of the transport and heat sectors, it is estimated that Europe can cut its overall energy demand by one third compared with 2007 (see: [http://www.greenpeace.org/raw/content/eu-unit/press-centre/reports/EU-Energy-(R)-evolution-scenario.pdf](http://www.greenpeace.org/raw/content/eu-unit/press-centre/reports/EU-Energy-%28R%29-evolution-scenario.pdf)).

Over and above energy savings, the development of the Energy Roadmap 2050 should consider strategic choices to minimise system costs. Integrating variable renewables with nuclear and inflexible CCS-based coal power stations is expected to be more expensive than the system integration of 100% renewable energy sources. (see for example: <http://www.greenpeace.org/raw/content/eu-unit/press-centre/policy-papers-briefings/battle-of-the-grids.pdf>, page 24).

A 100% renewable energy pathway has been recognised as feasible and realistic by a number of studies for the EU level and for individual EU member states, e.g. an [analysis by the German government’s advisory Council on the Environment](http://www.umweltrat.de/cln_137/DE/DerSachverstaendigenratFuerUmweltfragen/dersachverstaendigenratfuerumweltfragen_node.html), a [study for the Austrian government](http://umwelt.lebensministerium.at/filemanager/download/70489/), and a [report by the Danish government’s Climate Commission](http://www.klimakommissionen.dk/en-US/AbouttheCommission/TheDanishClimateCommissionreport/Documents/green%20energy%20GB%20screen%201page%20v2.pdf).

A growing number of companies and decision-makers are supporting this pathway (www.100percentrenewables.eu).