



The roadmap for transforming the EU into a competitive, low-carbon economy by 2050

Developing long-term, credible climate policies

In 2011, the European Commission published a roadmap for moving to a competitive low-carbon economy in 2050. This established clear milestones for delivering its long-term vision: to cut domestic greenhouse gas emissions by at least 80% by 2050 compared to 1990. The EU's target to reduce greenhouse emissions inside the EU by at least 40% by 2030 as well as the ongoing implementation of a coherent set of climate and energy policies to achieve this, are underpinned by the 2050 roadmap.

Setting goals for domestic EU action to keep global warming below 2°C

The 2050 low-carbon economy roadmap in a nutshell

To ensure a cost-efficient reduction in domestic greenhouse gas emissions of at least 80% by 2050, the low-carbon economy roadmap sets two nearer-term milestones:

2030	2040	2050	
40%	60%	80%	compared to 1990 levels

The low-carbon economy roadmap was not developed in isolation but is supported by a 2050 Energy Roadmap and a Transport White Paper which set out the vision for transforming the EU's energy and transport sectors. Together, they ensure a coherent long-term strategic vision across these policy areas.

Ensuring the right policies to reach our long-term target

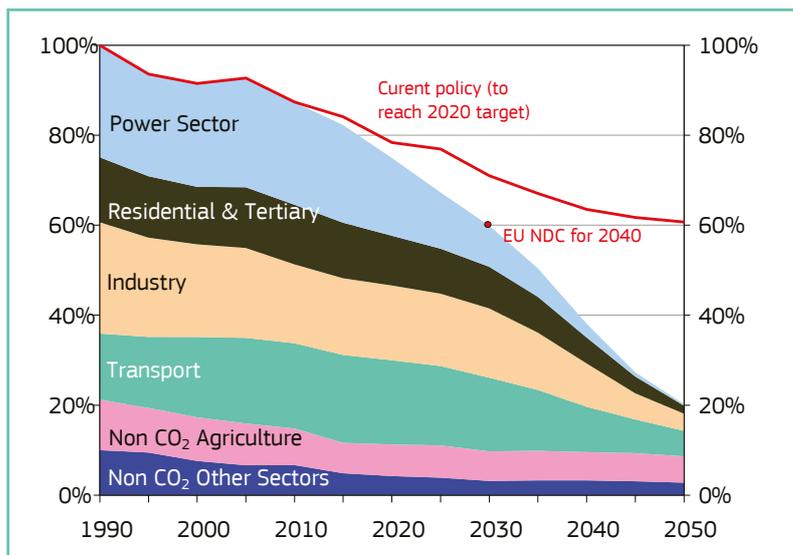
While current policies are helping the EU to meet its 2020 emissions reduction target, they will not be sufficient to reach the 2050 objective. The EU must therefore make continued progress in its transition to a low-carbon society. Clean technologies will play an important role. Furthermore, **early action will save costs later**. The longer we delay, the more drastically we will need to reduce greenhouse gas emissions at a later stage. With a suitable policy framework, it is possible to reach the 2050 target using currently available technologies.



All economic sectors must contribute to reducing greenhouse gas emissions

All sectors of the economy will be required to contribute to the low-carbon transition **according to their technological and**

economic potential. The biggest reductions will occur in the power sector which can reduce emissions fast through the implementation of low-carbon technologies and increased energy efficiency.



The EU's low-carbon transition will require increased investments

The 2050 roadmap shows that the transition towards a low-carbon society is feasible and affordable, but it requires innovation and investment. To support this transition, the EU would need to

invest an additional €270 billion over the next four decades (on average 1.5% of its GDP per year). The analysis underpinning the 2050 roadmap concludes that this will bring **significant co-benefits** through innovation, development of new growth sectors, a reduction of resource consumption, less dependency on energy imports, and health benefits.

2030 climate & energy framework targets in line with 2050 low-carbon roadmap

The 2030 climate & energy framework in a nutshell

In 2014, EU leaders adopted the 2030 climate & energy framework which includes a binding emission reduction target for 2030. It is also co-ordinated with other energy targets:

- At least 40% cut in domestic greenhouse gas emissions (from 1990 levels)
- At least 27% share for renewable energy
- At least 27% improvement in energy efficiency (this indicative target will be reviewed by 2020, with a view to raising it to 30%)



EU climate policies are part of the broader Energy Union

EU climate policies are implemented in the context of the Energy Union, which aims to deliver greater energy security, sustainability, and competitiveness through five mutually-reinforcing dimensions:

- Energy security, solidarity, and trust
- A fully integrated European energy market
- Energy efficiency contributing to moderation of demand
- Decarbonising the economy
- Research, innovation, and competitiveness

The low-carbon transformation will require a wide range of policies

There is a large body of existing EU policies and measures that tackle emissions across all economic sectors. These are continuously improved and complemented by additional policies where necessary.

Examples of key **EU climate policies** include:

- The EU Emission Trading System (EU ETS) caps emissions from the power sector, large industry, and aviation, which is currently being revised to ensure it continues to deliver

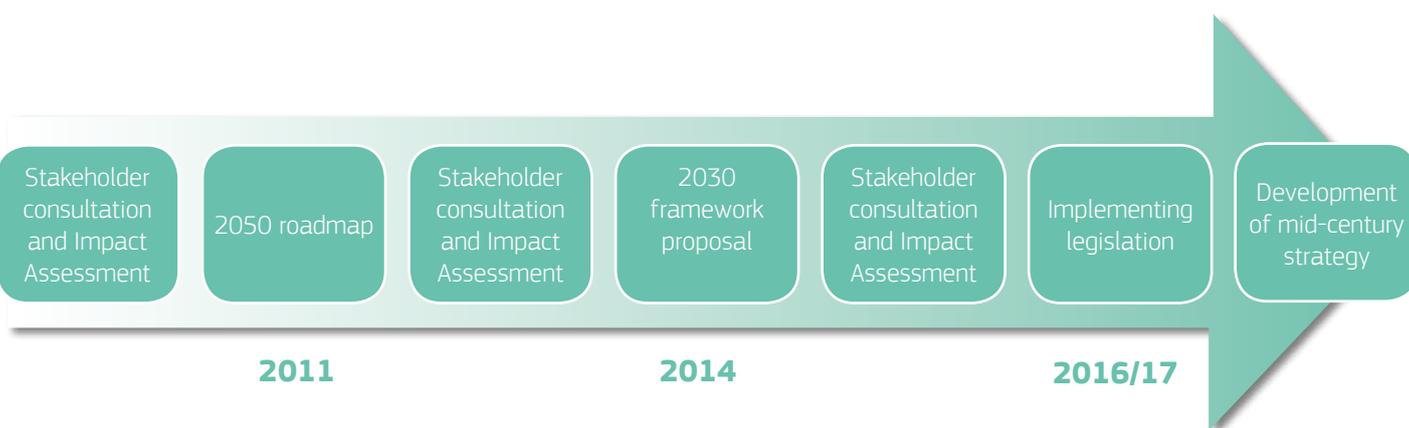
the necessary incentives for reductions and low carbon investments

- The proposal for 2030 greenhouse gas emission reduction targets for Member States covering the sectors outside the EU ETS (such as transport, buildings, agriculture, and waste)
- The proposal on how to integrate emissions and absorptions from land use in the EU legal framework
- The Renewable Energy Directive to incentivise the deployment of Renewable Energy
- The Energy Performance of Buildings Directive and the Ecodesign Directive to increase energy efficiency in buildings and appliances
- The regulation on CO₂ emissions from new passenger cars to improve the carbon efficiency of our vehicle stock
- The F-gas regulation reducing the use of fluorinated gases
- The waste gas regulation targeting emissions from landfill sites and incentivising increased recycling
- A greening of the Common Agriculture Policy that stimulates more environmentally friendly agriculture production methods



Climate policy development at the EU is inclusive

Developing successful climate policies requires close stakeholder involvement at all stages, in line with the European Union's Better Regulation Agenda. Every policy proposal is accompanied by a public consultation and impact assessment. The development of the 2050 low-carbon economy roadmap by the European Commission also benefited from this process. Furthermore, the roadmap itself and the subsequent consultation of stakeholders through a 2030 Green Paper made an important contribution to the 2030 climate & energy framework.



Useful resources:

European Commission Climate Action website and social media:



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