



FACTSHEET

Science shows 65% emission reduction by 2030 is feasible and pays off

Science confirms that the best way to prevent dramatic climate change is to cut greenhouse gas emission by 65% by 2030. The following four recent studies illustrate the benefits of ambitious climate action in the EU.

Paris Agreement compatible energy scenario (PAC scenario), June 2020.



Author: CAN Europe and EEB. Covering EU28 countries.

Path towards 2030: Achieving 65% emission reductions by quadrupling renewable electricity generation compared to 2015 (>50% renewable energy

share in gross final energy consumption) and reducing primary energy demand by 45% by 2030. Coal phase-out by 2030 and fossil gas phase-out by 2035. Nuclear phase-out largely by 2040. Biomass use limited to waste and residues.

Industry: Circular economy approach, modernising production processes through electrification, limited role of renewable hydrogen (ca. 400 TWh by 2050). No CCS.

Buildings: Deep renovation wave with 3% annual renovation rate, replacing individual boilers with heat pumps and district heat.

Transport: Very quick market introduction of electric vehicles, strong modal shift.

Benefits: Europe can become climate neutral by 2040, ten years earlier, with tremendous benefits for the people, environment and the economy (see following column).

Make the European Green Deal real, June 2020.



Author: DIW Berlin. Covering EU28 plus Western Balkans, CH, NO, TR.

Path towards 2030: Achieving 65% emission reductions through a five-fold increase of renewable electricity generation

compared to 2015, accompanied by strong primary energy demand reduction. Coal phase-out by 2030. Fossil gas phase-out by 2040 with 90% of gas grid capacities to be decommissioned. Nuclear phase-out by 2040.

Industry: Electrification of processes, limited role of renewable hydrogen (ca. 550 TWh by 2050). No CCS.

Buildings: Heat pumps and electric boilers as key technology. Limited role for biomass.

Transport: Fully electric fleet by 2040, strong modal shift.

Benefits: €280 bn saved fossil fuel imports by 2030, largely offsetting investments in renewables, efficiency and storage. Ca. €10,000 bn savings in environmental and climate costs between 2015 and 2050.

Increasing the EU's 2030 emissions reduction target, June 2020.



Author: Climact, commissioned by ECF. Covering EU28.

Path towards 2030: Achieving 65% emission reductions through a ca. 2.5 fold increase of renewable electricity generation compared to 2015 (39%

renewable energy share in gross final energy consumption) and reducing primary energy demand by 46% by 2030. Coal phase-out largely by 2030. Fossil gas phase-out for electricity generation by 2030. Nuclear phase-out by 2050.

Industry: Reaping the benefits of circular economy and electrification. Use of recycled materials cuts 43% of material production from 2015 to 2030. Very limited use of CCS.

Buildings: Achieving a 3.5% annual renovation rate by 2030. Heat pumps, district heat, biomass as key technologies.

Transport: 93% of car sales are electric vehicles in 2030. Strong modal shift. Limited role for hydrogen in road transport.

Benefits: Annual energy system cost decrease from €1,726 bn in 2016 to €1,577 bn in 2030, i.e. between 8% and 24% lower than under the author's 55% scenario.

100% renewable Europe. Leadership scenario, May 2020.



Author: LUT University, com-missioned by Solar Power Europe. Covering EU28 plus Western Balkans, CH, IS, NO, TR, UA

Path towards 2030: Achieving 63% emission reductions through a fivefold

increase of renewable electricity generation compared to 2015 and reducing primary energy demand by 14% by 2030. Reaching 100% renewables in gross final energy consumption by 2040. Coal, fossil gas and nuclear phase-out latest by 2040. No new built nuclear capacities assumed.

Industry: Renewable hydrogen and synthetic methane to cover demand for process heat. No use of CCS assumed.

Buildings: Heat pumps, thermal storage and biomass as key technologies.

Transport: Ca. 1,100 TWh electricity demand for transport in 2030. Strong electrification with increasing demand for hydrogen and liquid synthetic fuels.

Benefits: Annual energy system cost of ca. €1,100 bn in 2030. Cumulative investment of €8,300 bn to reach the 100% renewable energy share by 2040. Levelised cost of electricity decreases from €71/MWh in 2020 to €68/MWh in 2030 and €39/MWh in 2050.

The higher the 2030 climate target, the higher the social and economic benefits

- According to the latest UNEP Emissions Gap Report, in order to **limit temperature rise to 1.5°C**, global emissions would need to be reduced by **7.6% annually** between now and 2030. Applying this to the EU would lead to a greenhouse gas emission reduction of at least 65% by 2030. Only such substantial reductions will keep us in line with the Paris Agreement and help us to avoid the **unprecedented costs of dangerous climate change**.
- Research shows a broad range of possible pathways to achieve 65% emission reductions, based on a **multiplication of renewable energy use and energy savings**.
- Studies confirm that pathways towards the 65% target are classic win-win situations. The energy transition can become the motor of economic recovery. Investment cost are lower than the costs of the dramatic climate change impacts and more than overcompensated by benefits such as **employment, savings in fossil fuel imports and avoided environmental damage**.