ACER
European Union Agency for the Cooperation of Energy Regulators

# ACER's "European Green Deal" Glossary

**ACER-CEER "European Green Deal" Regulatory White Papers** are a series of short papers to increase public understanding of key regulatory aspects of the Green Deal and to assist the European Institutions as part of the preparations for legislation.

**Carbon neutrality** (or "net zero" emissions) is the EU's 2050 Green Deal objective of having "net zero" Green House Gas (GHG) emissions by 2050. It means replacing fossils with non-pollutants and becoming sustainable across all parts of the economy to removing as many $CO_2$ emissions as it produces by 2050. To achieve "net zero" emissions, emission will have to be counterbalanced by being absorbed from the atmosphere in "**carbon sinks"**.

**Carbon sink is** any system that absorbs more carbon than it emits e.g. soil, forests and oceans.

**Carbon offsetting** is another way to reduce emissions and to pursue carbon neutrality by offsetting emissions in one sector by reducing them somewhere else. This can be done through investment in renewable energy, energy efficiency or other clean, low-carbon technologies. The EU's Emissions Trading system (ETS) is an example of a carbon offsetting system.

**EU Emissions Trading System (EU ETS)** is a cornerstone of the EU's policy to combat climate change and its key tool for reducing greenhouse gas emissions cost-effectively. It is the world's first and biggest major carbon market. The EU ETS works on the 'cap and trade' principle. The European Commission's is proposing to revise and possibly expand the scope of the EU ETS (e.g. to the maritime sector, traffic and construction and the free allowances allocated to airlines would be reduced over time).

**Clean Energy Transition** (also called "energy transition") is a term used to describe the major transformation in the energy system from fossil-based to zero-carbon by 2050. At its heart is the need to reduce energy-related $CO_2$ emissions to tackle climate change.

**European Climate Law** (part of the European Green Deal) is a proposal by the European Commission to make to make "carbon neutrality" legally binding (if the European Parliament and Council adopt the new Climate Law).

**European Climate Pact** (part of the European Green Deal – launched in December 2020) is a European Commission effort to involve everyone (e.g. local communities, civil society, industry, knowledge institutes, etc.) in the EU-wide climate action.

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**Energy System Integration** is about taking advantage of synergies between the various energy carriers (electricity, heat, cold, gas, solid and liquid fuels) and the end-use sectors (buildings, transport, industry) in order to achieve an EU carbon neutrality by 2050. Decarbonisation of the energy system requires an increasing level of "sector integration" between its various components (e.g. electricity, gas, heating) to optimises the energy system as a whole rather than separately.

Most energy conversion technologies for sector integration (e.g. combined generation of heat and power (CHP), pumps, Power-to-Heat (P2h), Power-to-Gas (P2G), etc.) have not yet reached an efficient scale. See ACER's Energy System Integration web page. The recommendations in the short ACER-CEER White Paper on the Regulatory Treatment of Power-to-Gas which address important regulatory issues relevant to the European Commission's Strategy for Energy System Integration (July 2020).

**Flexibility -** is a must to accommodate massive increases in renewables. With more wind/solar and transport and other sector going electric, the energy system needs to be more flexible to balance changes in supply (e.g. variable wind/solar generation) and demand (e.g. from more electric vehicles) while maintaining system reliability.

**Hydrogen (H2**) can be an "energy vector" - a fuel or an energy carrier and used for storage. As hydrogen does not pollute the air when used, it is considered a vital part of the European Green Deal solution to meet the 2050 climate neutrality goal (see the European Commission's Hydrogen Strategy, July 2020 as part of the Green Deal). To realise the Green Deal's ambitions for hydrogen (growth projections from cless than 2% currently to 13-14% of Europe's energy mix by 2050), the right regulatory framework must be created to facilitate a hydrogen economy in a cost-effective way. Existing gas networks could be "repurposed" to handle bio methane, blends of hydrogen and natural gas, or pure hydrogen. See the ACER low-carbon gas web page on how H2 can contribute to the Green Deal, and ACER's work on shaping the future hydrogen network regulation and market design rules.

**Just Transition Mechanism** (part of the European Green Deal) is a tool to ensure sure that the transition towards a climate-neutral economy happens a fair way and that "no one is left behind". It provides targeted support to help mobilise at least €150 billion over the period 2021-2027 in the most affected regions. It comprises 3 pillars:

- a Just Transition Fund (JTF) aimed at supporting the most affected regions;
- a Just Transition scheme under InvestEU aimed to mobilise investment; and
- a public sector loan facility by the European Investment Bank (EIB).

**Paris Agreement** is a pact reached in 2015, whereby 197 nations committed to reducing greenhouse gas (GHG) reductions by keeping temperature increase to well below 2°C and to "endeavour to limit" global warming to below 1.5°C. The EU updated its pledges to the "Paris Agreement" in December 2020 based on a 55% GHG target for 2030 endorsed by the European Council.

**Power-to-X** are conversion technologies that transform surplus power from the electricity sector (typically from renewable resources) into material energy storage, energy carriers, and energy-intensive chemical products.

The “P” stands for power.

The “X” is for the type of energy in which the electricity surplus is being converted e.g. See the recommendations in the short ACER-CEER White Paper on the Regulatory Treatment of Power-to-Gas which address important regulatory issues relevant to the European Commission’s Strategy for Energy System Integration (July 2020).

**Sustainable Taxonomy** (part of the European Green Deal) is a classification system to make clear which investments are considered green and which are not.