TRANSITION(S) 2050
DECIDE NOW ACT 4 CLIMATE

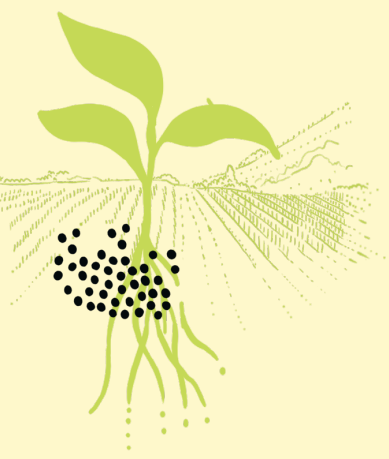
4 SCENARIOS TO ACHIEVE CARBON NEUTRALITY

SCENARIO 3 GREEN TECHNOLOGIES

Technological development provides more of the answers to environmental challenges than changes towards more moderate consumption patterns or energy sufficiency.

Metropolitan areas are growing. Digital technology, which enables energy or material efficiency, is used in all sectors. The best technologies are deployed widely and are widely accessible to the part of the population that can afford it.

SOCIETY IN 2050...



Maximum biomass consumption for multiple uses

- Environmental footprint of the food supply reduced by the performance of the industry.
- **Intensification of agriculture** with significant use of synthetic fertilisers.
- Increased area of **energy crops**.
- Intensification of forestry for energy needs with little reafforestation.

Massive renovation and demolition - reconstruction

- New cycle of **"Haussmann" style demolition and reconstruction** of new and efficient housing generating massive consumption of natural resources.
- The supply of less carbon-intensive building materials and systems grows.

36%
of the main housing stock (12 million units) has been built since 2015

The search for efficiency takes precedence over mobility

- **Modal shift is low** and concentrated in major cities and on main rail and waterway routes.
- The main efforts are focused on accelerating decarbonisation of fleets and energy, particularly by **electrification of vehicles**.

+13%
increase in miles travelled by passengers compared to 2015

Continuation of consumption trends enabled by decarbonisation of the energy mix

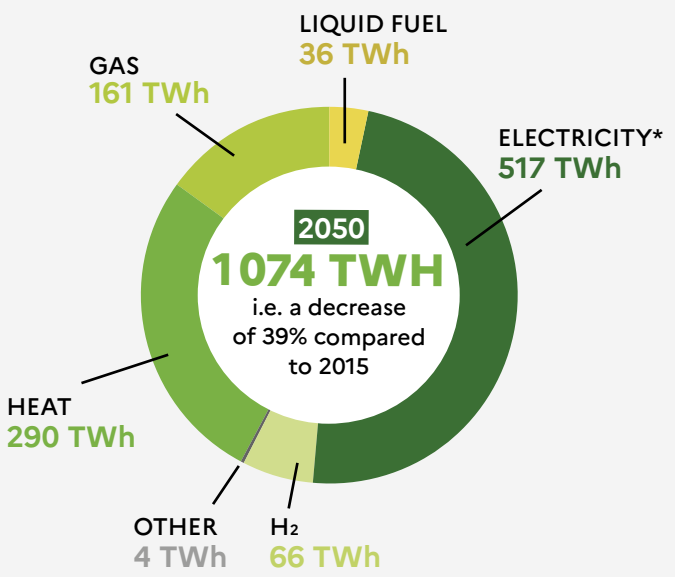
- Concentration of trade within the European Union.
- This **production dynamic** requires a great deal of resources and therefore raw materials produced from waste.
- Decarbonisation of industry occurs by electrification of processes and the use of hydrogen.

-30% and -86%
reductions in energy consumption and GHG emissions respectively in industry

NB: the data shown in this infographic is defined in relation to the year 2015

Innovation for decarbonised energy systems

Final energy demand by carrier (with non-energy uses and excluding international bunker fuel)



The **supply of energy** must meet demand for goods and services, particularly digital services which are highly energy intensive, and mobility needs

Massive consumption of **hydrogen** for all end-uses with reliance on imports

Biomass is widely used, particularly waste for methanisation and wood for energy

Fossil fuels are still used to a small extent (10%) in transportation

* Excluding intermediate consumption, mainly for production of H_2

Use of CO_2 capture and storage (CCS) on biomass units

2015
401
$MtCO_2eq$

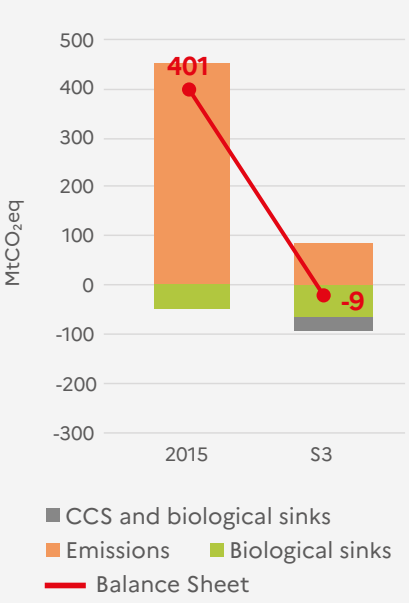
→

2050
-9
$MtCO_2eq$

Development of medium-sized biomass boilers and biorefineries with CO_2 capture and storage.

Higher use of timber than today and reduced forestry carbon sinks.

Balance of CO_2 emissions and sinks in 2015 and 2050



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