The revised French Low Carbon Strategy
An ecological and inclusive transition towards carbon neutrality

French Ministry for an Ecological and Inclusive Transition
The French low-carbon strategy

- A first strategy adopted in 2015
- Roadmap for the French mitigation policy
- In coherence with the European targets
- Sets long term objectives and carbon budgets for periods of 5 years based on a scenario
- Defines policy orientations to achieve the goals
- Revised every 5 years
Where are we today?

The French leadership in the fight against climate change

• Among the lowest GHG emissions per capita within the EU and the G20
• Reduction by 16% of the national emissions between 1990 and 2016
• A National Low Carbon Strategy in 2015 to divide by 4 our national emissions by 2050

A need for more effective actions

• Slight increase of the GHG emissions since 2014
• Not in line with our national short term goals
Where are we today: An urge for more ambition

The revision of the Strategy

A willingness to raise our ambition

2017 Climate Plan

A legal obligation

A collective approach

• Early public consultation: more than 13,000 responses

• Involvement of a variety of stakeholders (civil society, private sector, ministries) to elaborate the scenario and the orientations

• Public consultations on the draft strategy in 2019
Where do we want to go?
Carbon Neutrality in 2050

- **An ambitious yet reachable goal** (urge for concrete and strong measures but strategy developed on a realistic scenario)

- **A necessary step to respect the Paris Agreement commitments**

- **A desirable future** : opportunity for economic development (more GDP and jobs according to the economic evaluation of the Strategy), other important co-benefits (climate consequences, air pollution, biodiversity...)

National greenhouse gases emissions between 2005 and 2050

2050 Carbon Neutrality
Where do we want to go? What does carbon neutrality mean?

A balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases

- A strong decrease in energy consumption
  - Energy temperance
  - Energy efficiency

- A complete decarbonization of energy production by 2050
  - Biomass
  - Renewable heat from the environment
  - Decarbonized electricity production

- A limitation of non-energy related emissions
  - Agriculture
  - Industrial Processes

- An increase of the carbon sink
  - Forest management
  - Wood products
  - Land
  - CCS
How do we get there?
Lessons learned from the scenario

- The **carbon sink** can only balance residual / remaining emissions.

- Almost no **energy related emissions**

- Residual emissions mainly coming from **agriculture** (divided by 2 between 1990 and 2050), **industrial processes and waste**

- A strong increase in wood use to store carbon

- **Reasonable use of CCS**
How do we get there? Lessons learned from the scenario

- Strong efforts to **reduce energy consumption** (divided by two in 2050 compared with 2017)
- **Critical management of biomass**, of which resources will be limited. Oriented towards uses with high value added and with low substitution possibilities.
- Decarbonization implies an **electrification** of energy consumption

### Electricity production

- **~1150 TWh**
  - **600-650 TWh**
  - **90-100 TWh**
  - **400-450 TWh**

### Renewable Heat

- **(multiplied by 3 to 4)**
  - **600-650 TWh**
  - **90-100 TWh**
  - **400-450 TWh**

### Bioenergy

- **(multiplied by 3)**
  - **600-650 TWh**
  - **90-100 TWh**
  - **400-450 TWh**

### Conversion

- **1040 TWh**
  - **250 TWh**
  - **170 TWh**
  - **290 TWh**
  - **300 TWh**

Halved final energy consumption compared with 2017

- **Agriculture**
- **Industry**
- **Tertiary**
- **Housing**
- **Transportation**
The next carbon budgets

- The Strategy defines the next 3 carbon budgets
- The next three carbon budgets are aligned on the carbon neutral scenario
- Detailed by sectors to focus the efforts
How do we get there?
What should we do?

13 cross-cutting orientations

- Shifting investments
- Carbon footprint
- Educations
- Jobs
- Engaging citizens
- Sustainable land-use
- Sustainable land planning
- Research & Innovation

28 sectoral orientations

- Waste
- Transports
- Energy production
- Buildings
- Industry
- Agriculture
- Forestry
- Energy production
- Industry
- Agriculture
- Forestry
Transforming all sectors: some examples

- All sectors are mobilized to their full potential
  - Decarbonizing mobility
    - Limit the increase of passenger and goods traffic (modal shift, car sharing, coworking)
    - Electrify passenger cars (100% electric fleet by 2050)
    - Base goods transportation on new technologies (gas, electricity, hydrogen, biofuels...)
    - Insist on vehicle performances
  - Promoting low-carbon practices in agriculture
    - Support the development of new technologies and practices (agro-ecology, precision farming, organic farming...) in order to decrease use of nitrogen-based fertilizers and reinforce soil carbon absorption
    - Develop energy and material production to feed the growing bio-economy
    - Change consumption habits by reducing wastage and respecting public health recommendations leading to diet alterations

### Evolution of GHG emissions (2015 baseline)

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<thead>
<tr>
<th>Year</th>
<th>Emission Reduction</th>
<th>Description</th>
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<tr>
<td>2030</td>
<td>31%</td>
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<tr>
<td>2050</td>
<td>-31%</td>
<td>Complete Decarbonization</td>
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<td>2030</td>
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<td>2050</td>
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Transforming all sectors

- All sectors are mobilized to their full potential
  - 100% low-energy buildings by 2050
  - Massively retrofit public and private building stocks
    Use a balanced heating mix based on heat pumps, heating networks and to a lesser extent biomass and biogas
    Insist on equipment energy efficiency and life cycle material impact
    Develop sobriety

- Maximizing the carbon sink and developing bioeconomy
  - Develop the use of natural products, e.g. wood, for materials and products with high added value and long lifetime, develop forestry and adapt forests to climate change, taking biodiversity into account
  - Stop net artificialisation

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<tr>
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Transforming all sectors

- All sectors are mobilized to their full potential
  - Developing low-carbon industries
    - Energy efficiency of branches and decarbonization of energy (biomass, biogas, electricity)
    - Enhancing eco-design and circular economy
  - Developing low-carbon energy sources
    - High mobilization of biomass
    - Development of electric renewable energies
  - Preventing and maximizing the value of waste
    - Reduce waste production and enhance (bio)waste recovery
    - Respect waste treatment hierarchy

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Raising ambition

- With the revised Low-Carbon Strategy, France raises its ambition towards **carbon neutrality by 2050**

- A **growing number of countries** commit to similar objectives worldwide

- France **encourages the EU** to adopt similarly ambitious objectives and supports the Commission’s proposal to reach net zero emissions in 2050 at EU level