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| France's 5th biennial report  United Nations Framework Convention on Climate Change |

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Chapter I - The greenhouse gas emissions inventory

1. Developments since 1990

As part of its obligations under the United Nations Framework Convention on Climate Change (UNFCCC), France is required to submit greenhouse gas inventories for two separate geographical areas:

* The ‘Kyoto’ area, which includes all French territories that are also considered as European Union territories. In addition to mainland France (including Corsica), this includes the seven French outermost regions: French Guiana, Guadeloupe, Saint-Martin (since 2012), Martinique, Reunion and Mayotte (since 2014). These are the regions included in the implementation of the Kyoto Protocol.
* The ‘Convention’ area, which covers the whole of France: in addition to the ‘Kyoto’ area, there are the Overseas Countries and Territories (OCTs): New Caledonia, French Polynesia, Wallis and Futuna, Saint Barthélemy and Saint-Pierre-et-Miquelon.

The National Inventory Report (NIR) submitted every year to the UNFCCC Secretariat contains an analysis of emission trends.

* 1. Emissions within the Convention area from 1990 to 2020

In 2020, greenhouse gas emissions within the Convention area are estimated at 399.4 MtCO2eq excluding the land sector (384.8 MtCO2eq including it). Excluding LULUCF (Land Use, Land Use Change and Forestry), emissions have decreased by 27.0% since 1990, and by 26.5% including LULUCF. After relative emissions stability in the 1990s, there was a sharp decrease from 2005 onwards. Emissions increased again between 2014 and 2018: this is the result of, in addition to a higher climate severity index, economic growth, low fuel prices and the non-availability of some nuclear power plants due to maintenance work. This non-availability resulted in an increased use of fossil fuels (oil, gas, coal). Emissions started to decrease again in France from 2018 onwards. The strong decrease observed in 2020 (-9.6% excluding LULUCF vs 2019) is largely due to the measures put in place to fight the Covid-19 pandemic.

Figure 1: Change in French emissions within the Convention area from 1990 to 2020

Source: Citepa/MTE inventory, UNFCCC submitted April 2022, Convention area

The decrease observed since 1990 in the energy sector is largely attributed to the evolution of the energy mix with the gradual phasing out of coal capacity, which has been replaced by natural gas with lower emissions, and renewable energies. Climatic conditions also have an impact on the emissions from this sector, both in terms of the level of production from hydraulic sites and heating requirements.

In industry, it is the improvement of industrial processes and the progressive tertiarisation of the French economy that are responsible for the decrease in emissions. Sectoral mitigation policies (see part III) have allowed an uncoupling of GDP and population growth (+50% since 1990) with that of emissions: thus emissions per unit of GDP have been halved since 1990.

Energy use is the largest source of greenhouse gas emissions in France (CRF1.A), accounting for 67.7% of emissions in 2020 (270.5 MtCO2eq). For emissions from energy combustion, the transport sector is the largest contributor (40.9% of the national total), followed by residential/tertiary and agricultural buildings (26.4%), manufacturing industry and construction (17%) and energy industries (14%).

* 1. Emissions within the ‘Kyoto’ area from 1990 to 2020

In 2020, French greenhouse gas emissions within the ‘Kyoto’ area were estimated at 392.9 MtCO2eq excluding the land sector (378.9 MtCO2eq including it). Considering the small contribution to total emissions from territories outside the European Union in the national emissions, the same trends are observed, with the same factors, as for the Convention area.

Figure 2: Trends in French emissions within the ‘Kyoto’ area

Source: Citepa/MTE inventory, UNFCCC submitted April 2022, Kyoto area

Energy use is the largest source of greenhouse gas emissions in France (CRF1.A), accounting for 66.5% of emissions in 2020 (261.5 MtCO2eq). For emissions from energy combustion, the transport sector is the largest contributor (41.8% of the national total), followed by residential/tertiary and agricultural buildings (27.2%), manufacturing industry and construction (16.1%) and energy industries (14.2%).

**Between 1990 and 2020, France's greenhouse gas emissions (Kyoto Protocol area) excluding LULUCF decreased by 27.8% compared to 1990, while at the same time its population increased by 16.2%. Within the ‘Kyoto’ area, the emissions per capita thus decreased from 9.4 tCO2eq to 5.93 tCO2eq, i.e. a decrease of 37%. Over the same period, the level of emissions per unit of GDP fell by 65%.**

1. Trends by type of gas since 1990 within the Kyoto area

In 2020, CO2 accounted for 73.6% of total emissions excluding LULUCF, i.e. 289.4 MtCO2eq; CH4 for 13.9% (54.6 MtCO2eq); N2O for 9.2% (36.3 MtCO2eq); and HFC/PFC emissions for 3.12% (12.3 MtCO2eq).

Figure 3: Emissions of CO2, CH4, N2O, HFCs and PFCs since 1990 in thousands of tons of CO2 equivalent

Source: Citepa/MTE inventory, UNFCCC submitted April 2022, for the Kyoto area.

Between 1990 and 2020, CO2 emissions decreased by 27.4%: emissions remained relatively stable until 2007 (+2%) and then decreased sharply with the financial crisis. The decrease continued after 2008, indicating that the policies and measures put in place prevented a rebound in emissions.

N2O and CH4 emissions, excluding the land sector, fell by 30.5% and 9.2% respectively. These reductions are mainly due to measures in the waste sector promoting the recovery of landfill gas, as well as the reduction of agricultural inputs.

Fluorinated gas emissions have increased by 7.3% since 1990: initially there was a decrease between 1990 and 1997 (-21%), followed by an increase up to 2011 (+57% vs 1990), followed by a further decrease (-32% vs 2011). This small overall reduction masks a change in the distribution of emissions between the different fluorinated gases; SF6 emissions have fallen sharply since 1995 (-86%), having been replaced by emissions of other HFCs and PFCs.

Figure 4: Trends in the proportions of different fluorinated gases since 1990

Source: Citepa/MTE inventory, UNFCCC submitted April 2022, for the Kyoto area.

* 1. CO2 Emissions

CO2 emissions are mainly attributable to energy use: in 2020 emissions excluding LULUCF were 289.4 MtCO2eq, i.e. 73.6% of total emissions (393 MtCO2eq).

Transport is the sector with the highest CO2 emissions (37.7%), followed by the manufacturing industry (23.5%) and the residential-tertiary sector (20.9%). These percentages have changed very little, even though in 2020 industry moved ahead of the residential-tertiary sector.

Figure 5: Trends in CO2 emissions for the main contributing sectors (in kt) from 1990 to 2020

Source: Citepa/MTE inventory, UNFCCC submitted April 2022, for the Kyoto area.

CO2 emissions decreased by 27.4% compared to 1990, excluding the land sector.

* 1. Methane (CH4) emissions

In 2020, methane emissions were 54.6 MtCO2eq, i.e. 13.9% of the national total. Agriculture (37 MtCO2eq) was responsible for 68% of methane emissions: 99.7% of the CH4 came from enteric fermentation and animal waste management. Waste treatment (12.9 MtCO2eq) is the second largest contributor to methane emissions.

Figure 6: Trend of CH4 emissions for the main contributing sectors (in ktCO2eq) from 1990 to 2020

Source: Citepa/MTE inventory, UNFCCC submitted in April 2022, Kyoto area.

* 1. Breakdown of nitrous oxide (N2O) emissions by sector

N2O emissions excluding LULUCF for the Kyoto area were 36.3 MtCO2eq in 2020, i.e. 9.2% of France's emissions. 90% of N2O emissions come from the agricultural sector, and in particular from fertiliser spreading for soil improvement, and from animal manure. This proportion has been increasing since 2010, despite the fall in overall N2O emissions. The contribution to N2O emissions from industry is relatively stable, even if emissions from this sub-sector continue to decrease and have dropped by 95% since 1990.

Figure 7: Trends in N2O emissions for the main contributing sectors (in ktCO2eq) from 1990 to 2020

Source: Citepa/MTE inventory, UNFCCC submitted in April 2022, Kyoto area.

* 1. Breakdown of emissions by sector: fluorinated gases (PFCs, HFCs, SF6 and NF3)

In 2020, emissions of fluorinated gases (HFCs, PFCs, SF6 and NF3) for the Kyoto area totalled 12.6 MtCO2eq, i.e. 3.2% of national emissions. After a significant increase between 1990 and 2012 (+64%), emissions have decreased again and have almost returned to their 1990 level (+7.3%).

These emissions mainly originate in the following sectors:

* Residential-tertiary (air conditioning and commercial and domestic cooling systems): 51.2% of emissions (compared to 1.21% in 1990 and 54.4% in 2015).
* Industry: 25.8% of emissions (compared to 94.5% in 1990 and 23.75% in 2015). Emissions in the manufacturing industry are principally associated with the production of magnesium and the manufacture of high voltage circuit breakers.
* Transport (air conditioning): 20.4% of emissions (vs 19.7% in 2015).

Figure 8: Trend in fluorinated gas emissions (in ktCO2eq) from 1990 to 2020

Source: Citepa/MTE inventory, UNFCCC submitted in April 2022, Kyoto area.

1. The national inventory system

France has not changed its national inventory system since the last biennial report. The national inventory system is in accordance with Article 5.1 of the Kyoto Protocol (for more details, see the description in the submitted national inventory reports). It is based on the regulatory provisions of the SNIEBA order issued on 24 August 2011. The national inventory arrangements is the same as the national inventory system.

Regarding the French national registry, there have been no changes since the last biennial report. The Caisse des Dépôts was appointed in 2004 by Decree No. 2004-1412 to administer the national register, and to develop information systems to operate the register and ensure its security. Nevertheless, traceability has been greatly improved with a view to greater transparency.

Since migration to the European Union registry in June 2012, it has been the responsibility of the European Commission to supply, maintain and secure the national registry information system in accordance with the commitments of European Member States as Parties to the Kyoto Protocol and to the Convention, and as participants in the European Union Emissions Trading Scheme for Greenhouse Gas Emission Quotas (EU ETS Registry).

Chapter II - The quantified emission reduction targets

1. Overview of the target, gases and sectors included
   1. At European level
      1. Joint commitment

Under the UNFCCC, the EU and its Member States have committed to a common target of a quantified economy-wide reduction of greenhouse gas emissions of 20% below 1990 levels by 2020 (the ‘Cancun commitment’). This is a joint commitment, with no separate targets for Member States under the Convention. The UK remains part of the EU's common 2020 target with all 27 EU Member States.

* + 1. Organisation for meeting European targets

The EU made a joint commitment to its target under the UNFCCC and implemented it internally through EU legislation in the EU 2020 climate and energy package. In this package, the EU introduced a clear approach to achieving the 20% reduction in total GHG emissions with respect to 1990 levels, dividing the effort between sectors covered by the EU Emissions Trading Scheme (ETS) and sectors covered by the Effort Sharing Decision (ESD). Binding national targets have been set for Member States under the Effort Sharing Decision. Achieving the EU's internal compliance under the 2020 climate and energy package, including national targets under the effort-sharing decision, is not subject to the UNFCCC's assessment of the EU's joint commitment under the Convention.

* + - 1. Horizon 2020: The Energy-Climate Package

In December 2008, the European Union adopted the legislative package known as the ‘energy-climate package’. This set of documents set out binding targets for 2020:

* A 20% reduction in greenhouse gas emissions from EU countries with respect to 1990 levels;
* Achieve a proportion of 20% renewable energy in the European energy mix;
* Improve energy efficiency by 20%.

In order to achieve these targets, several directives have been ratified to improve energy efficiency and reduce greenhouse gas (GHG) emissions in different sectors (CO2 Emissions Trading Directive; Fuel Quality Directive; Regulation on CO2 emissions from new cars; Renewable Energy Directive; Effort Sharing Directive; Carbon Capture and Storage Directive, etc.).

The 2020 GHG emissions reduction target is also the EU's commitment under the UNFCCC: it is a joint target for all 28 (at the time of adoption of the legislative measures) EU Member States. Therefore, there is no single target for individual Member States under the UNFCCC.

The 20% GHG emissions reduction target is based on two sub-targets:

* One for sectors that fall under the EU Emissions Trading Scheme (EU-ETS). The EU-ETS Directive covers the EU Member States and three participating non-Member States (Norway, Iceland and Liechtenstein). The directive sets a single emissions cap, which is reduced by 1.74% per year between 2013 and 2020.
* One for emissions not included in the EU-ETS, outside the maritime transport and land sectors, which are covered by the Effort Sharing Decision (ESD). These account for around 60% of EU emissions. Unlike the EU-ETS target, which must be achieved by the EU as a whole, the ESD target is differentiated between Member States.
  + - 1. Horizon 2030: The European Green Pact

In October 2014, the European Council adopted the key framework elements of the 2030 energy-climate framework in its conclusions. This framework was reviewed in 2018 and sets the following targets:

* A binding domestic GHG emissions reduction target of at least 40% by 2030 compared to 1990. This is the target that has been reported to the UNFCCC as the EU's Nationally Determined Contribution It is based on a 43% reduction in EU-ETS emissions with respect to 2005, and a 30% reduction in non-ETS emissions with respect to 2005.
* A binding target of at least 32% renewable energy sources in the EU's energy mix by 2030.
* An indicative energy efficiency improvement target of at least 32.5% by 2030.
* A 'no flow' rule for the land sector carbon sink by 2030, relative to a baseline period.

**In December 2019, the Commission unveiled a new roadmap, the 'European Green Deal', which is aimed at achieving carbon neutrality by 2050 and plans to increase the EU's ambition towards Horizon 2030. This neutrality target has been made compulsory by the European climate law, passed on 24 June 2021. This law sets a new medium-term target of reducing emissions by at least 55% by 2030 (replacing the previous target of 40%).** This new framework is underpinned by several pillars:

* **A more ambitious EU-ETS market**
  + Inclusion of maritime transport from 2023
  + Reduction of GHG emissions by 61% by 2030 with respect to 2005.
* An updated **effort-sharing** regulation (emissions not included in the ETS)
  + Reduction of these emissions by at least 40% by 2030 as compared to 2005.
* A **separate EU-ETS market for transport and construction**
  + New system for distributors supplying fuels for use in the construction and road transport sectors
  + Allowances to be auctioned from 2027 and relinquished from 2028
* A **boost to carbon sinks by the land sector**: at least 310 MtCO2eq by 2030.
* A **carbon adjustment mechanism at the EU's borders** to reduce the risks of carbon leakage.

The new regulations for the implementation of the European Green Deal will complement the regulations already adopted in 2018 on the governance of the Energy Union (Regulation 2018/1999), which provides for various intra-EU governance mechanisms to link European and national policies. Therefore, under this regulation, Member States must establish 10-year National Integrated Energy and Climate Plans (INECPs), which will allow the EU to collectively achieve the energy and climate targets set.

Under the Paris Agreement, the EU and its Member States have committed to a common quantified economy-wide greenhouse gas emission reduction target of 55% below 1990 levels by 2030 (see the EU NDC's updated submission of 17 December 2020).

* 1. At national level

France's greenhouse gas emission reduction strategy has been tightened in recent years.

During the 2000s, the establishment of policies to combat climate change was underpinned by successive Climate Plans.

In 2009 and 2010, France committed to reducing its greenhouse gas emissions by 2050 to a quarter of their 1990 level (factor 4) through the Grenelle I and II laws.

In 2015, the law on the energy transition for green growth (LTECV) set a target of a 40% reduction in greenhouse gas emissions by 2030 with respect to 1990 and confirmed the ‘factor 4’. The LTECV also introduced the first National Low-Carbon Strategy (‘Stratégie Nationale Bas-Carbone’, SNBC), which defines the guidelines for combating climate change as well as carbon budgets, emission ceilings that must not be exceeded, which are set for five-year periods by decree. The first SNBC was issued in 2015.

The **8 November 2019 law on energy and climate (LEC)** established in law the target of carbon neutrality by 2050, specifying that anthropogenic emissions must be reduced by a factor of at least 6, with residual emissions being offset by anthropogenic absorption. It confirms the 40% reduction in emissions by 2030 target. It also establishes a set of measures that address different areas of the energy transition, including the fight against thermal leakage in buildings and the creation or revision of instruments for steering, governing and assessing national climate policy.

The second **National Low-Carbon Strategy (SNBC)** was enacted by Decree No. 2020-457 of 21 April 2020 This 2nd SNBC sets out to achieve carbon neutrality by 2050, while maintaining the 40% by 2030 compared to 1990 milestone.

The sectoral guidelines of the SNBC-2 have since been incorporated into legislation through papers, committing to long-term changes in each sector that emits GHGs in France: the mobility orientation law on transport, the law on the fight against waste and the circular economy, the climate and resilience law (see Chapter 1 - A.2 Recent developments).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Average annual emissions (in Mt CO2eq) | 1st carbon budget (concluded) | 2nd carbon budget | 3rd carbon budget | 4th carbon budget |
| Period | 2015-2018 | 2019-2023 | 2024-2028 | 2029-2033 |
| Total excluding LULUCF | 441 | 421 | 358 | 299 |

Table 1: 1st (2015-2018), 2nd (2019-2023), 3rd (2024-2028) and 4th (2029-2033) carbon budgets

Source: MTE-DGEC

For the record: The first SNBC-1 carbon budget that was approved by decree in 2015, covered the period 2015-2018. It was subject to technical adjustments in 2019 following changes in the GHG emissions accounting methodology. The adjusted budget is included in the SNBC2. The first adjusted carbon budget averaged 442 Mt CO2eq per year, excluding emissions and absorptions associated with land use and forestry. The first carbon budget was exceeded by 61 Mt CO2eq cumulatively over the period 2015-2018 (i.e. +3.4% over the whole period), with an average annual deviation of +14%. Excluding LULUCF, emissions fell by an average of 1.1% per year between 2015 and 2018 (compared to the period 2011- 2014), which is lower than the target fall in the SNBC-1 of 1.9% per year. The indicative sectoral budgets were exceeded over the period of the first carbon budget in transportation, construction, agriculture and industry. They were met for energy conversion and waste.

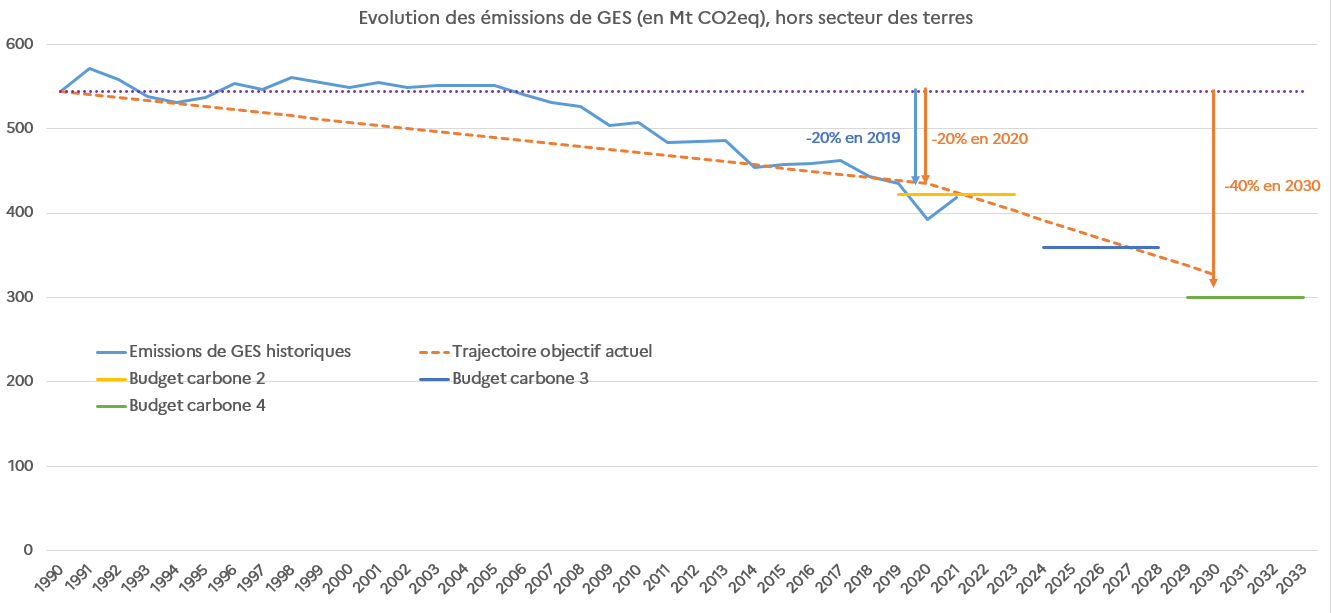


Figure 9: Historic trends in GHG emissions excluding the land sector and carbon budgets up to 2033

Source: MTE-DGEC

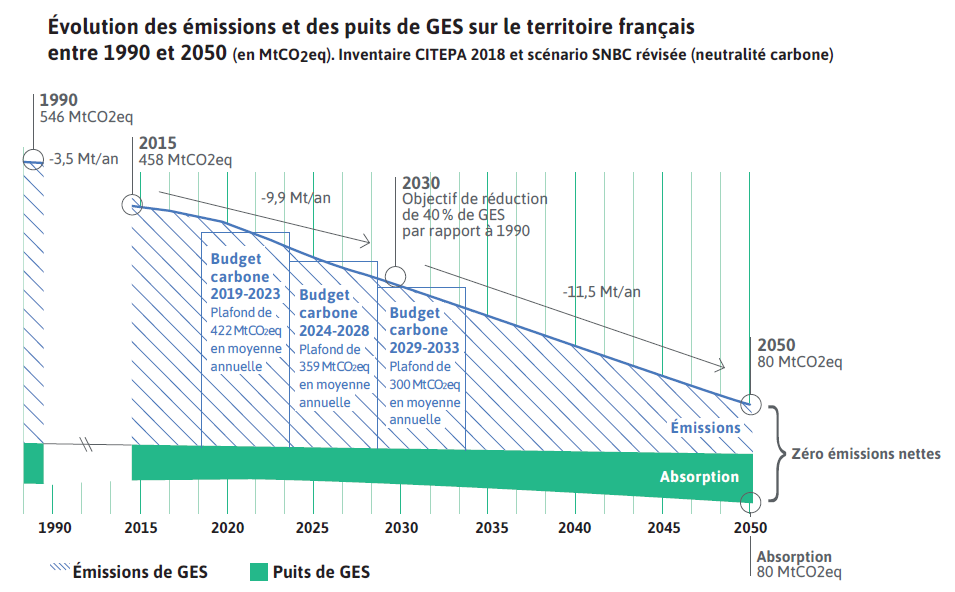


Figure 10: Linear emission reduction trajectory to achieve neutrality in 2050 and associated carbon budgets

Source: MTE-DGEC

The SNBC complies with decision 1/COP16 of Cancun that in 2010 encouraged each developed country party to the UNFCCC to adopt a low-carbon development strategy (or low-carbon strategy) to present and evaluate the guidelines and measures contributing to the achievement of long-term national climate change mitigation objectives and with the provisions of Article 4, paragraph 19 of the Paris Agreement.

The SNBC is reviewed every 5 years, after considering the results achieved during the period covered by the carbon budget that has just elapsed. These reviews are an opportunity to adjust the trajectory and to define a new carbon budget, incorporating the new opportunities to boost ambitions and comply with the increased ambition decided at the COP21 in December 2015 and enshrined in the Paris Agreement.

Pursuant to the 2019 climate and energy law, the next review of the SNBC must be preceded by the enactment of **a climate and energy planning law (LPEC)** which will set the priorities for action of France's climate and energy policy (I of Article L. 100-1 A). It must be enacted in 2023. It must stipulate:

* For three successive 5-year periods, the greenhouse gas emission reduction targets;
* For two successive 5-year periods, the targets:
  + Reduction of end-use energy consumption and reduction of primary fossil energy consumption, by fossil energy, and the minimum and maximum levels of energy saving certificate requirements;
  + Development of renewable energy for electricity, heat, fuel and gas as well as renewable and low-carbon hydrogen;
  + Diversification of the electricity generation mix;
  + Energy efficiency improvements in the construction sector;
  + Achieving or maintaining energy self-sufficiency in overseas departments.

The energy and climate policy planning documents (MEP (Multiannual Energy Plan) and SNBC) will have to be brought into line with the guidelines of this law within a year.

In this context, the French government has decided to group together this law and the planning documents that will be approved at its conclusion (in terms of mitigation: the SNBC, energy: the MEP, and adaptation: the PNACC (national plan for adaptation to climate change) under a single heading, the French Climate and Energy Strategy (SFEC), which is more visible to the general public and makes it possible to deal with the challenges of decarbonisation in a coherent manner and to strengthen the necessary links between climate change mitigation and adaptation policies.

* 1. Update on France's 2020 targets

At the EU level, total GHG emissions, excluding LULUCF and NF3, and including international aviation reached 3,771 MtCO2e in 2020, a 34% decrease compared to the 1990 base year. **The collective target is consequently overachieved** by the EU, its Member-States and the United Kingdom (see 5th Biennial Report from the EU).

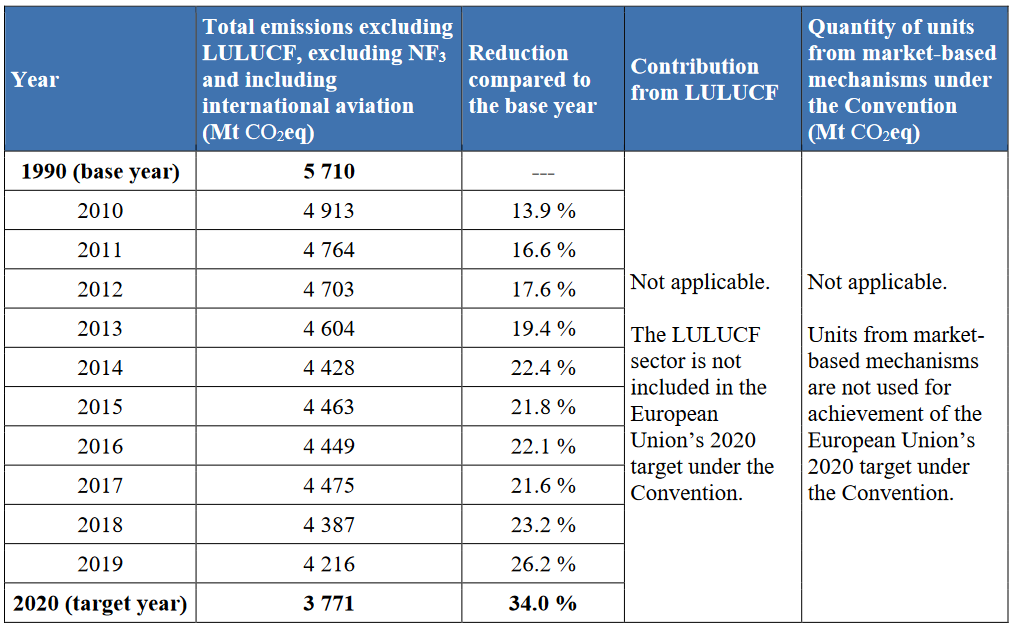


Figure . Achievement of the EU target under the Convention (Source : EU BR5)

As for the French target, namely the emissions not captured by the ETS, the 2009/406/EC effort-sharing decision set a target for France of -14% relative to 2005 (395.78 MtCO2eq), which corresponds to emissions of 342.4 MtCO2eq in 2020. This target was reached in 2019, with an emission level of 336.4 MtCO2eq, i.e. almost 6 MtCO2eq below the 2020 target. In 2020, ESD emissions stood at 307.8 MtCO2eq: **the target was therefore largely exceeded by more than 34 MtCO2eq**. The total cumulative surplus between 2012 and 2020 reaches 185 MtCO2e.

Figure 12. Historical emissions from France within the ESD perimeter, and annual emissions targets under the ESD (Source : MTE-DGEC)

The monitoring process was standardised for all European Member States through the Regulation establishing a monitoring mechanism for greenhouse gas emissions. The use of flexible mechanisms is possible under the EU-ETS and ESD (for the use of Emission Reduction Units (ERUs) and Certified Emission Reductions (CERs) under the ETS, see the EU biennial report).

The ESD allows Member States to use flexibility clauses to meet their annual obligations with a 3% limit on the use of project-based credits for each Member State. As France also exceeded its targets under the EU-ETS, no such flexibility was required.

If these credits are not used, the unused portion for that year can be transferred to other Member States or reserved for the Member State's own use until 2020.

The reporting tables for the emission reduction targets are shown below.

|  |  |  |  |
| --- | --- | --- | --- |
| Table 2(a) |  |  | |
| **Description of quantified economy-wide emission reduction target: base year***a* | | | |
|  |  | |  |
| *Party* | *France* | | |
| Base year / base period | 1990 | | |
| Emission reduction target | % of base year/base period | | % of 1990 b |
| 20.00 | | 20.00 |
| Period for reaching target | BY-2020 | | |
| a Reporting by a developed country Party on the information specified in the common tabular format does not prejudge the position of other Parties with regard to the treatment of units from market-based mechanisms under the Convention or other market-based mechanisms towards achievement of quantified economy-wide emission reduction targets. | | | |
| b Optional.  Comments : ETS sectors targets (emissions from stationnary installations): Start in 2013 based on yearly reduction equal to 1.74% of the average allocation in the period 2008-2012, extrapolated starting in 2010 and leading to a -21% GHG reduction compared to 2005 in 2020  ESD sectors targets (sectors not included in the EU ETS such as transports, buildings, services, agriculture and waste) : Members state specific targets start in 2013 based on average emissions 2008 to 2010 and lead to a collective reduction of around -10% compared to 2005 in 2020. | | | |
| |  | | --- | |  | |  | |  |

|  |  |  |
| --- | --- | --- |
| Table 2(b) |  |  |
| **Description of quantified economy-wide emission reduction target: gases and sectors covered***a* | | |
|  |  |  |
|  | |  |
| *Gases covered* | | *Base year for each gas (year):* |
| CO2 | | 1990 |
| CH4 | | 1990 |
| N2O | | 1990 |
| HFCs | | 1990 |
| PFCs | | 1990 |
| SF6 | | 1990 |
| NF3 | |  |
| Other Gases (specify) | |  |
| Sectors covered*b* | Energy | Yes |
| Transportf | Yes |
| Industrial processesg | Yes |
| Agriculture | Yes |
| LULUCF | No |
| Waste | Yes |
| Other Sectors (specify) | |

|  |  |  |
| --- | --- | --- |
| Table 2 ( c )  **Description of quantified economy-wide emission reduction target: global warming potential values (GWP)a** | | |
| *Gases* | | *GWP values b* |
| CO2 | | 4th AR |
| CH4 | | 4th AR |
| N2O | | 4th AR |
| HFCs | | 4th AR |
| PFCs | | 4th AR |
| SF6 | | 4th AR |
| Other Gases (specify) | | |
|  | |  |
| *Abbreviations*: GWP = global warming potential | | |
|  | | |
|  | *a* Reporting by a developed country Party on the information specified in the common tabular format does not prejudge the position of other Parties with regard to the treatment of units from market-based mechanisms under the Convention or other market-based mechanisms towards achievement of quantified economy-wide emission reduction targets. | |
|  |  | |
|  | *b* Please specify the reference for the GWP: Second Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) or the Fourth Assessment Report of the IPCC. | |

The global warming potential used to convert the quantities of greenhouse gases expressed in mass into CO2 equivalents are those of the 4th IPCC report in accordance with the decisions of the Climate Convention.

The LULUCF sector is considered as a sink over the whole period 1990-2020 at both the European Union and at the French level.

This sector is not taken into account in the 2020 targets under the European Union Convention, but a European decision was adopted for this sector in 2013 It makes it compulsory to set up action plans that will provide information concerning the actions taken to reduce emissions, increase absorptions and protect carbon stocks.

|  |  |  |
| --- | --- | --- |
| Table 2(d) |  | |
| **Description of quantified economy-wide emission reduction target: approach to counting emissions and removals from the LULUCF sector***a* | | |
| **Role of LULUCF** | LULUCF in base year level and target | Excluded |
| *Abbreviation*: LULUCF = land use, land-use change and forestry. | | |
|  | | |
| *a* Reporting by a developed country Party on the information specified in the common tabular format does not prejudge the position of other Parties with regard to the treatment of units from market-based mechanisms under the Convention or other market-based mechanisms towards achievement of quantified economy-wide emission reduction targets. | | |

1. Use of market mechanisms

Flexibility mechanisms are used by operators in the ETS on the one hand and can be used by governments to achieve the ESD objectives presented above (for more information see the EU biennial report).

The use of the flexibility mechanisms within the ESD is monitored by the European Commission. For the 2013-2020 period, three Member States exceeded their ESD target (Germany, Ireland, Malta) and Cyprus exceeded its 2020 target: these four Member States will therefore have to make use of the options allowed by the effort-sharing directive in order to meet their obligations.

France did not use the flexibility mechanisms to meet its targets for the period 2013-2020.

|  |  |
| --- | --- |
| Table 2(e)I |  |
| **Description of quantified economy-wide emission reduction target: market-based mechanisms under the Convention***a* | |
|  |  |
| *Market-based mechanisms under the Convention* | *Possible scale of contributions* |
| *(estimated kt* CO2*eq)* |
| CERs | 0.00 |
| ERUs | 0.00 |
| AAUsi | 0.00 |
| Carry-over unitsj | 0.00 |
| Other mechanism units under the Convention (specify)d | |
|  |  |
| *Abbreviations*:  AAU = assigned amount unit,  CER = certified emission reduction,  ERU = emission reduction unit. | |

|  |
| --- |
| *a* Reporting by a developed country Party on the information specified in the common tabular format does not prejudge the position of other Parties with regard to the treatment of units from market-based mechanisms under the Convention or other market-based mechanisms towards achievement of quantified economy-wide emission reduction targets. |
| *d* As indicated in paragraph 5(e) of the guidelines contained in annex I of decision 2/CP.17 . |
| *i* AAUs issued to or purchased by a Party. |
| *j* Units carried over from the first to the second commitment periods of the Kyoto Protocol, as described in decision 13/CMP.1 and consistent with decision 1/CMP.8. |

Chapter III - Progress towards quantified targets and relevant information - mitigation actions

1. Introduction

The EU has largely exceeded its 2020 reduction target under the Convention, which means that its Member States and the UK have also met their emission reduction obligations. As shown in the EU GHG inventory submission for 2022 to the UNFCCC, total GHG emissions, excluding LULUCF and including international aviation, have fallen by 34% in 2020 in the EU-27 + UK compared to the 1990 base year, or 1.94 billion tonnes of CO2eq (carbon dioxide equivalent).

This chapter summarises all the policies and measures introduced by France to reduce its GHG emissions, focusing on the measures implemented since the fourth biennial report.

Section B lists the main provisions for the governance of France's climate policy, in particular the National Low Carbon Strategy (SNBC), which sets out different sequences of carbon budgets, but also the most recent ecological planning initiative. The institutional tools for monitoring the fulfilment of the targets that France has set itself are also indicated. France's action is part of a European framework of various legislation, which are listed in this same section. Section C details the policies and measures by sector.

1. Design of policies and measures and institutional developments to achieve climate targets
   1. Institutional foundations
      1. At the State level

In view of the climate crisis, the President of the Republic has committed France to ecological planning and has given the Prime Minister the strategic role of coordinating this initiative. Ecological planning is a major societal movement to achieve climate, biodiversity and pollution reduction objectives by involving all stakeholders: the State, businesses and local authorities. To successfully implement this initiative, in May 2022, the Prime Minister announced the creation of a General Secretariat for Ecological Planning. It is responsible for:

* Coordinating the development of national strategies on climate, energy, biodiversity and the circular economy, ensuring that France's European and international commitments are met. Specifically, it ensures the sustainability of these strategies and their differentiation, in order to adapt to the specific characteristics of each region and to integrate economic and social issues;
* Ensuring that these strategies are implemented by all the relevant ministries and that they are translated into action plans;
* Ensuring the regular review of the policies carried out under these strategies and action plans and the publication of relevant performance indicators;
* Ensuring that all public policies are consistent with the above strategies;
* Preparing and coordinating Government requests and responses to recommendations from the High Council for the Climate.

The Ministry of Ecological Transition and Territorial Cohesion (MTECT) and the Ministry of Energy Transition (MTE) are committed to meeting the environmental and climate challenges of the 21st century. The coordination and leadership of domestic climate change policy is the responsibility of the Climate and Energy Efficiency Service (SCEE) within the Directorate-General for Energy and Climate (DGEC), specifically through its Department for Combating the Greenhouse Effect (DLCES).

Regarding adaptation policy, the National Observatory on the Effects of Global Warming (ONERC), created on 21 February 2001 on the initiative of Parliament, is responsible for collecting and disseminating information on global warming and extreme climatic events. It forms part of the DGEC.

Other ministries provide essential input to the implementation of national climate policy, including the Ministry of Agriculture and Food Sovereignty, the Ministry of Economy and Finance, and the Ministry of Higher Education and Research.

Public bodies are also involved in the implementation of public climate policies. In particular, the French Agency for Ecological Transition (ADEME) provides businesses, local authorities, public authorities and the general public with its expertise and advice and assists in financing projects. The National Housing Agency (ANAH) supports and finances the energy efficiency improvements of the homes of the lowest-income households. Finally, the French Development Agency (AFD) works to implement France's climate funding in developing countries.

At the initiative of the President of the Republic, the decree of 14 May 2019 created the High Council for the Climate, an independent body responsible for advising political decision-makers on medium- and long-term guidelines and providing advice and recommendations on the implementation of policies and measures aimed at reducing national greenhouse gas emissions and assessing their consistency with France's climate targets.

An Ecological Protection Council has also been set up, consisting of the ministers directly involved in environmental and climate issues, in order to coordinate the State's cross-sectoral action on issues raised.

* + 1. At the local authority level

Local and regional authorities, as public bodies, play an important role in the fight against climate change through their infrastructure, their direct operations and, more generally, by setting in motion the entire economic and social framework. Their local field of expertise and action includes, in particular, the management of transport policies, the promotion and support of the buildings refurbishment sector, and the development of the energy potential of their region through their economic and planning policies.

The climate action of local authorities is based on regional planning tools: the Regional Schemes for Planning, Sustainable Development and Equality of Territories (SRADDET), and the Regional Climate-Air-Energy Plans (PCAET) for inter-communal bodies with more than 20,000 inhabitants.

The SRADDETs, introduced by the NOTRe law in 2016, incorporate several existing schemes, including the regional climate-air-energy schemes (SRCAE), the regional waste prevention and management plans and the regional transport/intermodality schemes. This is a comprehensive document covering planning, transport, energy and the fight against climate change, drawn up by the regions in cooperation with local authorities. The SRADDETs set the strategic guidelines and medium- and long-term targets for each regional area, specifically in terms of mitigating and adapting to climate change, combating atmospheric pollution, controlling energy consumption and developing renewable and recovered energy, in line with national targets.

Even though the development of the SRADDET is decentralised, the process still requires consultation with the State, public authorities and the main groups of authorities concerned, as well as the EPCIs.

In the overseas departments, the regional development plan (SAR) is the main land use management planning tool for low-carbon planning.

SARs and SRADDETs are expected to reflect the national low-carbon strategy (SNBC).

The PCAETs replace the earlier Regional Climate and Energy Plans (PCETs). Their implementation is required for intercommunal agencies representing more than 20,000 inhabitants operating on 1 January 2017. Until the end of 2016, the former PCETs only applied to communities with more than 50,000 inhabitants. The PCAET is a tool for the coordination of the area that defines strategic and operational targets in order to mitigate climate change, adapt to it, develop renewable energies and control energy use, in line with national and regional guidelines. It comprises a detailed study, a strategy and quantified targets, an action plan, and a monitoring and appraisal system.[[1]](#footnote-1).

* 1. The foundations of the climate policy

France's greenhouse gas emission reduction strategy has been tightened in recent years.

During the 2000s, the establishment of policies to combat climate change was underpinned by successive Climate Plans.

In 2009 and 2010, France committed to reducing its greenhouse gas emissions by 2050 to a quarter of their 1990 level (factor 4) through the Grenelle I and II laws.

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The sectoral guidelines of the SNBC-2 have since been incorporated into legislation through papers, committing to long-term changes in each sector that emits GHGs in France: the mobility orientation law on transport, the law on the fight against waste and the circular economy, the climate and resilience law (see Chapter 1 - A.2 Recent developments).

* 1. Monitoring and evaluation of climate policy
     1. Government-led monitoring

The National Low-Carbon Strategy is regularly reviewed on the basis of a set of 162 metrics, including both performance metrics (updated annually) and metrics for monitoring the SNBC's guidelines (updated every two years). Contextual and environmental indices (updated every two years) complete the set and allow the results to be put into context[[2]](#footnote-2). These metrics enable trends to be analysed and their suitability for the targets to be assessed in order to recommend new measures, if necessary.

* + 1. Government-led review

For each cycle, the **National Low-Carbon Strategy** is subject to several supplementary reviews:

* A **backward evaluation** of the SNBC at the end of the cycle is carried out to identify any deviation from the trajectory and target objectives and to assess the underlying causes. The backward evaluation of the SNBC1 conducted before the SNBC2 is included in chapter 1.2 of the [SNBC2](https://www.ecologie.gouv.fr/sites/default/files/2020-03-25_MTES_SNBC2.pd). This assessment provides useful feedback for a realistic understanding of the strategy review and its baseline scenario The backward evaluation of the SNBC2 (SNBC in force) will be made public in 2023 in accordance with the Climate and Resilience Act (Article 298);
* In accordance with Article [L. 222-1 D of the Environmental Code](https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000039369458), the draft revised SNBC is subject to a **future-oriented assessment** setting out how the draft carbon budget and low-carbon strategy integrate France's climate and energy targets as well as its European and international commitments. The future-oriented assessment drawn up on the basis of the draft SNBC2 is available on the [Ministry's website](https://www.ecologie.gouv.fr/sites/default/files/20200318%20Rapport%20d'accompagnement%20SNBC2.pdf). The future-oriented assessment of the planned SNBC (SNBC3) will be made public in 2024.
* Finally, the first and second SNBCs were subject to a macro-economic evaluation to determine their economic and social impacts. The second SNBC was also subject to a strategic environmental assessment in order to evaluate its impact on the environment; the guidelines and metrics resulting from this assessment are incorporated into the SNBC2 and the monitoring guidelines.

Additionally, every year, the Government submits a report to Parliament, as an appendix to the Finance Bill, presenting a review of the public and private financial resources used to finance the ecological and energy transition and their suitability in relation to the financial resources required to meet European commitments, the Paris Agreement and the 2030 Agenda for Sustainable Development.

In the context of its European reporting requirements set out in Regulation (EU) 2018/1999 on the governance of the Energy Union and climate action, referred to as the ‘Governance’ Regulation, every two years France sends the European Commission information on the measures adopted, introduced or planned to reduce its GHG emissions, assesses their impacts (on GHG emissions and, where possible, on costs) and describes the medium-term emission reduction prospects, specifically by means of a scenario that takes into account the measures already implemented. This information is made public.

Reviews of mitigation policies and measures published under the Governance Regulation are carried out by the DLCES. All assumptions, calculation methods and results of the reviews in terms of greenhouse gas emission reductions and costs are detailed in the reports submitted to the Commission[[3]](#footnote-3).

* + 1. The review of government action by the High Council for Climate

The High Climate Council (a body created by the 2019 Energy and Climate Act) is mandated to independently evaluate French climate action. Specifically, it submits:

* **each year**, around 1 July, a report on compliance with the GHG emission reduction trajectory established in the SNBC and on the implementation of climate policies at national and regional level. The government must respond within 6 months (Article L. 132-4 of the Environmental Code);
* every 3 years, a report reviewing the performance of local and regional authorities in terms of reducing greenhouse gas emissions and adapting to climate change (Article 299 of the ‘climate and resilience’ law). This review is made public and is subject to a response from the government, which is also made public;
* **at least every three years**, an opinion is delivered on the progress report on the adoption and implementation of roadmaps by the government's high-emission sectors (Article 301 of the Climate and Resilience Act).

Its reports serve to ensure that the climate issue is kept at the centre of the political debate. They provide an independent perspective on the government's climate policy.

* 1. Implementing European policies

France defines its climate action within the binding framework of the European Union's climate and energy targets and sectoral regulations.

Under the Green Pact for Europe, the European Union has set itself the objective of achieving climate neutrality by 2050 and has committed to accelerate its reduction of greenhouse gas emissions by 2030 by increasing it from -40% to at least -55% net compared to 1990 (including absorptions).

The European Climate Law (ECL) of July 2021 makes these European targets for 2030 and 2050 legally binding, while limiting the European carbon sink's contribution to the 2030 target to 225 MtCO2eq (-2.2%), equivalent to the level expected under the current LULUCF regulation.

This new and improved target was communicated to the UNFCCC on 18 December 2020 as part of the Nationally Determined Contribution (NDC) of the European Union and its Member States.

In July 2021, the European Commission published a legislative package called ‘Fit for 55’, comprising 13 proposals for review, or new legislation with impact assessments, to align the EU's energy and climate framework with this new climate goal by 2030 and the achievement of a carbon neutral EU by 2050.

This ‘Fit for 55’ package retains the previous climate-energy action framework based on the three following pillars, aligning their respective targets to this increased commitment:

* The European Union Emission Trading System (EU ETS) with an increased emission reduction target of -43% to -61% against 1990 (corresponding to an emission reduction of -64% for fixed industrial installations);
* The Effort Sharing Regulation (ESR) for member States, with an increased target of -30% to -40% compared to 2005 for agriculture, buildings, transport, waste and industry not covered by the historic EU ETS;
* A framework for recording emissions and absorptions from the land and forestry sector (‘LULUCF’ regulation, Land Use, Land-Use Change and Forestry) with a target of 310 M tonnes of CO2 equivalent for the European carbon sink.

In addition to raising the overall reduction target, the EU is also reforming its European carbon market, specifically by expanding its remit to include maritime transport. It is also setting up a new European carbon market for energy consumption from road transport and construction. In order to mitigate the impact of this new carbon market, the European Union and its Member States are creating a Social Climate Fund (SCF) aimed at supporting the most disadvantaged households and micro-enterprises towards low carbon solutions.

Complementing and supporting these climate tools are sectoral policies and measures that have also been further revised in the energy sector with more ambitious targets:

* Increasing the share of renewable energy in gross final energy consumption from the current 32% to 40%;
* Reducing the share of primary and final energy consumption from the current 32.5% to at least 36% of final energy consumption and 39% of primary energy consumption in comparison with the Baseline 2007 benchmark.

The ‘Fit for 55’ package reviews energy legislation in the framework of the directives on renewable energies, energy efficiency and energy taxation, as well as transport (regulation on CO2 emission standards for light vehicles, alternative fuels in the various modes of transport). This body of legislation is intended to accelerate the decarbonisation of the European economy across all sectors so that Member States can achieve their climate targets.

In order to ensure the continued competitiveness of sectors exposed to the risk of ‘carbon leakage’, a cross-border carbon adjustment mechanism (CBAM) is created in pilot sectors (steel, cement, electricity, fertilisers, aluminium) and in line with the strengthened European carbon market, with an effective implementation date of 2026.

These proposals are the subject of in-depth negotiations between the European Parliament and the Council of the European Union (Member States). To date, agreements have been reached on several legislative documents (ESR, LULUCF, CO2 from vehicles, CBAM) under the Czech Presidency of the Council of the European Union. Other documents should also be agreed soon (EU ETS, SCF, etc.). The final adoption of these legislative documents should be effective at the beginning of 2023.

1. Policies and measures and their impacts

During the previous five-year period (2017-2022), the sectoral guidelines of the SNBC-2 have been **progressively reflected at the legislative level by structuring documents for the reduction of greenhouse gas emissions**, committing to long-term changes in each sector of the economy.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Hydrocarbons law (2017)** | **ELAN (2018)** | **EGALIM (2018)** | **LEC (2019)** | **LOM (2019)** | **AGEC (2020)** |
| Transport |  |  |  |  | X |  |
| Construction |  | X |  | X |  |  |
| Agriculture |  |  | X |  |  |  |
| Industry |  |  |  |  |  | X |
| Energy production | X |  |  | X |  |  |
| Waste |  |  | X |  |  | X |

* + - 1. Legislation to end hydrocarbon exploration and production in France - 2017

This law includes:

* A ban on the renewal of existing exploitation concessions beyond 2040,
* A ban on the issue of new hydrocarbon exploration licences from 2017.

Crude oil production in France has been reduced by a factor of more than five since the end of the 1980s. In 2020, it stood at 645 thousand tonnes.

* + - 1. Law on the development of housing, land management and digital technology (ELAN) - 2018

This law is intended to simplify the construction process while giving stakeholders a sense of responsibility in reducing the energy consumption of buildings. This law has laid the foundations for the environmental regulation for new buildings, called RE2020, which comes into force on 1 January 2022, replacing the earlier thermal regulation (RT2012).

* + - 1. Law for fair trade relations in the agricultural and food sector and healthy, sustainable and accessible food for all (EGALIM) - 2018

This law is intended to initiate a significant change in the way we eat to support a more environmentally friendly agricultural system. Specifically, the EGALIM law:

* Supports organic production systems by establishing a minimum share of quality and sustainable products served in public catering by 1 January 2022;
* Provides for a weekly vegetarian menu to be offered in public catering services on an experimental basis.
  + - 1. Energy and Climate Law (LEC) - 2019

This has established the goal of carbon neutrality by 2050 in French legislation and made France one of the very first Western countries to implement this vision in law. To achieve this, the law provides for a set of measures focusing on four main themes:

1. Reducing our dependence on fossil fuels and developing renewable energies
2. Combating thermal waste
3. Implementing new tools for steering, governing and evaluating climate action
4. Regulating the electricity and gas sectors
   * + 1. Mobility Orientation Law on Transport (LOM)- 2019

This law radically reforms mobility policy by making everyday transport easier, less expensive and cleaner. The measures in this law are underpinned by three pillars:

1. Investing more and more wisely in everyday transport
2. Facilitating and encouraging the implementation of new solutions to enable everyone to be mobile
3. Promoting the transition to cleaner mobility
   * + 1. Anti-Waste and Circular Economy Law (AGEC) - 2020

This law is expected to change our production and consumption model in order to limit waste and preserve natural resources, biodiversity and the climate. To this end, the law provides for a set of measures covering five main areas:

1. Eliminating disposable plastic
2. Informing consumers more effectively
3. Combating waste and promoting responsible re-use
4. Acting against built-in obsolescence
5. Improving production
   * + 1. The Law n°2021-1104 of 22 August 2021 to combat climate change and strengthen resilience to its effects (known as the 'Climate and Resilience' Law)

This comprehensive law was adopted by Parliament on 20 July 2021. It expresses the legislative provisions recommended by citizens in the context of the Citizens' Climate Convention set up by the President of the Republic (2019-2020). This law complements and accelerates the measures enacted during the five-year term by setting more ambitious targets or timetables or by creating new levers to reach our goals. For example, the LOM mandated the establishment of LEZ-m for metropolitan areas and EPCIs that regularly exceed the threshold values for air pollution. The Climate and Resilience Act goes further by requiring the establishment of LEZ-m in conurbations of more than 150,000 inhabitants by 31 December 2024, which represents the establishment of 33 additional LEZ-ms (compared to the 10 mandatory LEZ-ms under the LOM. The Climate and Resilience Act also sets out to support changes in behaviour, particularly through education on these issues from an early age, regulation of advertising, etc., to make the country's ecological transition possible. Its scope goes far beyond the immediately measurable impact of the provisions that were subject to a climate assessment in the law's impact study.

To support the fundamental changes that this transition requires of us, the Government has committed significant financial resources. 30 billion of the 100 billion euro ‘France Recovery’ plan to deal with the effects of the Covid-19 epidemic was specifically earmarked for funding the ecological transition: support for the decarbonisation of industry (€1.2bn), thermal renovation (€6.7bn), greener transport (€8.8bn), the transition of the automotive and aeronautical sectors (€2.6bn), the agricultural transition (€1.3bn) and the circular economy (€0.5bn).

On 12 October 2021, the President of the Republic announced a major investment plan, ‘France 2030’, with 30 billion euros to be spent over 5 years, half of which will be dedicated to the ecological transition. This plan is intended to stimulate technological innovation and support the transition of our sectors of excellence, be it energy, automotive or aeronautics. 8 billion euros have been set aside for the energy sector, in order to build a decarbonised and resilient France, specifically by developing green hydrogen and decarbonising our industry. 4 billion is also budgeted for ‘transport of the future’, with a view to producing 2 million electric or hybrid vehicles per year, as well as the first low-carbon aircraft.

Moreover, on 10 February 2022, the President of the Republic declared that solar production capacity would be increased tenfold by 2050 (more than 100 GW installed in 2050), that onshore wind power production capacity would be doubled and that around fifty offshore wind farms would be created (around 40 GW). He also promised to build six EPR2 reactors by 2050 and to undertake studies for the construction of eight additional EPR2 reactors. This new programme may result in the commissioning of 25 GW of new nuclear capacity by 2050. The accelerated development of renewable energies and the relaunch of a nuclear programme in France will be instrumental in achieving a totally decarbonised electricity mix by 2050.

* 1. Transport

The transport sector is the leading source of greenhouse gas emissions in France, accounting for 30% of emissions in 2021 The challenges are particularly high for road transport, which accounts for 94% of the sector's emissions. Carbon dioxide (CO2) is the main greenhouse gas emitted by transport (96%), followed by fluorinated gases emitted by refrigeration and air conditioning systems (2.7%) and other greenhouse gases (1.3%) such as nitrous oxide (N2O) and methane (CH4), emitted in small quantities during combustion.

* + 1. Measures to reduce CO2 emissions from transport

The measures being implemented to reduce CO2 emissions from transport are designed to massively increase the share of low emission vehicles in the fleet, improve the energy efficiency of vehicles, promote the development of biofuels, increase the occupancy rate of vehicles and support modal shift.

The measures designed to reduce greenhouse gas emissions from transport have been improved since 2019, particularly in the framework of the Mobility Orientation Law on Transport and the Climate Resilience Law.

**The development of low emission vehicles and the enhancement of the energy efficiency of new road transport vehicles**

The National Low-Carbon Strategy (SNBC) aims to decarbonise vehicles by promoting the gradual electrification of the vehicle fleet for private cars and the development of a more diversified mix for heavy vehicles (electrification, including fuel cell solutions with green hydrogen, and the development of gas-powered vehicles with incentives for the development of renewable gas).

The measures relating to the decarbonisation of vehicles are both legislative and regulatory (European regulations establishing CO2 emission performance standards for new vehicles, end-of-sale targets for new vehicles included in the Mobility Orientation Law on Transport and the Climate and Resilience Law, the obligation to incorporate low emission vehicles when replacing company fleets), fiscal and financial (in particular, purchase bonuses and conversion bonuses) and include measures to improve recharging infrastructures and the introduction of low emission zones.

***Private cars***

Successive **EU regulations** have imposed emission reduction targets on new car sales. An initial regulation in 2009, subsequently amended in 2014, required car manufacturers to lower the average CO2 emission limit for new passenger cars to 130 gCO2/km NEDC in 2015 and 95 gCO2/km NEDC in 2020 (this target being reflected in a WLTP value in 2021). European Regulation 2019/631 of 17 April 2019 includes a tightening of the targets set for car manufacturers with a 15% reduction in emissions after 2025 and 37.5% after 2030 compared to the 2021 target. In the context of the Adjustment to Target 55 package, the provisional agreement reached at European level includes emission reduction targets of 55% in 2030 and 100% in 2035 compared to the 2021 target, i.e. an end to the sale of new internal combustion engine cars in 2035.

At national level, targets for the incorporation of low emission vehicles (electric or plug-in hybrids) when **replacing fleets** have been set since 2015 for fleets managed by the State, its public bodies and local authorities, as well as for vehicle rental companies and taxi and chauffeur-driven car (VTC) operators. The Mobility Orientation Law on Transport (2019) has increased the targets to be achieved and introduced a new target for very low emission vehicles (electric or hydrogen) for public fleets and extended the scope of the measure to private companies directly or indirectly operating fleets of over 100 vehicles. The Climate and Resilience Law raised the target for the purchase of low emission vehicles when replacing fleets to 70% from 2026 for the State (instead of 50%), to 40% from 2025 and then 70% from 2030 for local authorities, to 40% from 2027 and then 70% from 2030 for private fleets and fleet hire companies with over 100 vehicles. The implementation of the Clean Vehicles Directive (2019/1161) in 2021 has increased the targets for very low emission vehicles (electric or hydrogen) to 45% for the State from 2030 (instead of 37.4%) and to 40% for local authorities from 2030 (instead of 37.4%)

At national level, the Climate and Resilience Law sets a target of limiting sales of new private cars emitting more than 123 gCO2/km WLTP (95 gCO2/km NEDC) to no more than 5% by 1 January 2030.

Various tax and financial incentives are designed to encourage the purchase of low emission vehicles. The Climate and Resilience Law establishes the principle of maintaining support/incentives for the acquisition of clean vehicles until 2030, with the aim of adjusting these measures depending on the degree to which the objectives are achieved and the economic conditions.

The system of bonus-malus, which has been in place since 2008, is designed to reward, via a bonus, purchasers of new cars with the lowest CO2 emissions, and to penalise, via a tax penalty, those who opt for the highest-emission models. The values and thresholds are reviewed periodically to ensure that the incentive effect of the scheme is maintained. From 1 September 2022, the **penalty** will apply to vehicles emitting more than 128 gCO2/km (in the new WLTP cycle) and corresponds to an increase in the purchase price of between €50 and €40,000 (to a maximum of 50% of the purchase price including VAT of the vehicle). The higher the CO2 emissions of the model, the higher the penalty. A penalty on weight, starting at 1,800 kg, has also been in place since 1 January 2022 for internal combustion vehicles and plug-in hybrids with an urban electric range of less than 50 km. From 1 September 2022, the **bonus** for a new electric car is up to €6,000 for individuals and €4,000 for companies. If the purchase of a low emission vehicle is combined with the scrapping of an old combustion engine vehicle, an extra bonus, known as the conversion bonus, will be paid. The subsidy for a new electric car is up to €5,000 for private individuals (subject to income and mileage requirements) and €2,500 for companies.

For people living or working in a low emission mobility zone (LEZ), access to which is restricted for the most polluting vehicles, the State grants an additional premium equivalent to any subsidy paid by the local authority, up to a maximum of €1,000.

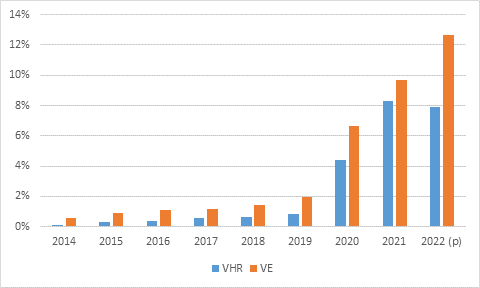
A microcredit scheme for the acquisition of a green vehicle enables individuals excluded from the traditional banking network to buy or lease a car, van, two or three-wheeled vehicle or low-polluting motor quadricycle. Up to 50% of the loan is guaranteed by the State and varies depending on the household's income. Since 6 February 2022, the maximum amount of the loan is now €8,000, repayable over seven years, compared to the previous €5,000 repayable over five years. Microcredit can be combined with the green bonus and the conversion incentive.

An experiment of interest-free loans is planned for two years from 1 January 2023. It will be open to low-income households and micro-businesses living or working in a LEZ where air quality standards are exceeded, or in an intercommunal area bordering one, for the purchase or lease of low emission vehicles. The loan can be for up to €30,000 (or €10,000 in the case of long-term lease or lease with purchase option) repayable over seven years (or the duration of the lease contract).

The company car tax is an annual tax on company cars used for passenger transport, based on: CO2 emissions and the energy used as well as the year the car was put into service. Other tax incentives exist for low emission company vehicles, such as an increase in the maximum depreciation amount and an allowance for the benefit in kind.

The measures already implemented have led to a very rapid growth in the market share of electric and plug-in hybrid passenger cars in France.

As the following graph shows, the market share of electric cars has grown rapidly from 1.9% market share in 2019 to 9.7% in 2021 and 12.7% in the first ten months of 2022. In 2021, 164,000 electric cars were sold in France The market share of plug-in hybrids also increased from 0.8% in 2019 to 8.3% in 2021 before dropping slightly to 7.9% in the first ten months of 2022.



2022(p): calculated over the first ten months of the year

Figure 12: Sales trends of electric cars (EVs) and plug-in hybrids (PHEVs)

Source: SDES, RSVERO

Moreover, the unit emission targets for new passenger cars (95g CO2/km, as measured using the former NEDC test cycle, from 2020 onwards) have been met. Starting in 2021, the target will be set using the new WLTP test cycle, which has been introduced to better assess actual emissions.

***Light commercial vehicles***

Under EU Regulation 510/2011, manufacturers are required to gradually reduce the average emissions of new light commercial vehicles to 175 gCO2/km NEDC between 2014 and 2017 An average emission level of 147 gCO2/km NEDC has been set for 2020 (this target will be converted into a WLTP value in 2021). Under regulation 2019/361 of 17 April 2019, the targets will be tightened with a 15% reduction in emissions from 2025 and 31% in 2030 with respect to the 2021 target. As part of the Adjustment to Target 55 package, the provisional agreement reached at European level provides for reduction targets of 50% in 2030 and 100% in 2035 compared to the 2021 target, i.e. an end to the sale of new light commercial internal combustion vehicles in 2035.

New electric vans benefit from a bonus of up to €7,000 for a private individual (€5,000 for companies), up to a maximum of 40% of the value of the vehicle including tax. If the purchase of a low emission vehicle is accompanied by the scrapping of an old vehicle, and under certain conditions, a conversion incentive may also be paid. Since 26 July 2021, purchasers of low emission vans have also been eligible for microcredit and zero-interest loans (which will be introduced from 2023).

The targets for the inclusion of low emission vehicles in fleet replacement also apply to light commercial vehicles.

Commercial vehicles between 2.6 and 3.5 tonnes that run on natural gas, biofuels, electricity or hydrogen benefit from a 20% tax rebate.

***Heavy goods vehicles***

The new European regulation n° 2019/1242 imposes mandatory CO2 emissions reduction requirements for certain new heavy vehicles, with a reduction target of 15% by 2025 and 30% by 2030 compared to the level of emissions recorded over the reference period July 2019 - June 2020.

At national level, the Climate and Resilience Law has set a goal of ending the sale of new heavy vehicles used for the transport of people or goods that run predominantly on fossil fuels by 2040. The public HGV fleet is also required to comply with greening requirements.

There are tax incentives for HGVs, for the development of CNG and bio-CNG, electric and H2 vehicles. HGVs running on natural gas, biofuels, electricity and hydrogen benefit from an additional tax incentive of 60% for HGVs up to 16 tonnes (and 40% above). Under the recovery plan, heavy goods vehicles running on electricity and/or hydrogen benefit from a rebate of up to €50,000. In addition to this bonus, a call for proposals, referred to as the ‘Ecosystem of electric heavy vehicles’ was opened in March 2022. With a budget of €65 million for the year 2022, it will support initiatives for the acquisition of heavy electric vehicles (with grants of up to €150,000 per vehicle) and the development of associated charging infrastructure.

***Buses and coaches***

For public transport vehicles managed by the State and local authorities (buses and coaches), the law stipulates the requirement to acquire or use, when replacing the fleet, at least 50% of low emission vehicles from 1 January 2020, and then all vehicles replaced after 1 January 2025. The criteria defining the types of low emission vehicles (electric, hybrid, natural gas vehicle, biogas, or biofuel with a high proportion of renewable fuels) are set depending on their use, the areas in which they are used and the local energy supply capacities. These targets have been reinforced by the implementation of the European directive on clean vehicles (2019/1161), in particular by introducing a target of at least 50% of Low Emission Vehicles being ‘zero emission’ (electric or hydrogen) for the largest conurbations (over 250,000 inhabitants).

Under the recovery plan, buses and coaches running on electricity and/or hydrogen also benefit from a bonus of up to €30,000. Buses and coaches using alternative energies can also benefit from additional tax incentive under the same conditions as heavy goods vehicles, provided that they are acquired by companies liable for corporation tax or income tax under a specific taxation system. Finally, electric buses and coaches have been eligible since 2022 for the ‘Ecosystem of electric heavy vehicles’ call for projects, as for electric heavy goods vehicles (with aid of up to €100,000 per vehicle).

***Charging infrastructure***

A series of measures designed to promote the **installation of charging infrastructure** for electric vehicles. There are requirements for pre-equipment and equipment for certain types of buildings and public car parks (Mobility Orientation Law on Transport, Climate and Resilience Law)

The provision of both public and private charging points is subsidised. Private individuals who install charging stations at home benefit from a tax credit of up to €300 per charging system and 75% of the cost.

The ADVENIR programme, which is funded as part of the Energy Savings Certificates (CEE), subsidises the installation of charging points in housing developments, companies and public bodies within the restrictions of subsidy levels and limits per charging point and per type of target.

The installation of fast-charging points is being supported by the recovery plan until the end of 2022 (on major roads) and by the France 2030 investment plan until 2024 (in major cities and regions). Motorway operators are required to ensure the availability of all common energy sources.

The Finance Law for 2021 provides for the integration of renewable electricity provided by public charging facilities within the TIRUERT (incentive tax on the incorporation of renewable energy in transport) tool, enabling fuel distributors to improve the charging of electric vehicles to reach their goal of incorporating renewable energies. This aims to favour the deployment of public charging infrastructures by improving their profitability and by enabling a proportion of the operating costs to be covered throughout the duration.

Furthermore, home-based charging stations benefit from a reduced VAT rate at 5.5% (instead of 20%) and when the employer provides a charging station, the benefit in kind is considered to be null for non-professional travel.

The French Mobility Orientation Law on Transport, followed by the Climate and Resilience Law, created and reinforced the provisions to support the deployment of charging facilities. The French Mobility Orientation Law on Transport simplified and extended the provisions regarding the right to charging facilities, so as to facilitate the installation of charging points in public buildings. It also reduced the connection costs to public recharging infrastructures or bus charging facilities by increasing from 40 to 75% of the amount paid, until 2022 (with a few exceptions until 2025). The French Mobility Orientation Law on Transport also provides for the possibility for territories to produce a development master plan for public electric vehicle charging infrastructures. It is a mechanism which provides the community with a steering role regarding the charging offer within its territory, to result in a coordinated offer between the different public and private project owners, in coherence with the local mobility policies and tailored to meet the needs. The climate and resilience law made these schemes mandatory in low emission zones. The climate and resilience law also provides for the possibility of installing a collective electric infrastructure (facilitating the subsequent addition of charging stations) in shared buildings at no expense to the owner or co-owner via the network manager or a charging operator, who is reimbursed by the contribution of users who wish to add a charging station within the shared infrastructure.

The energy transition for Green Growth act set a target of 7 million public and private charging points by 2030.

* + - 1. The national hydrogen strategy

The national hydrogen strategy aims to further develop decarbonated hydrogen and includes a development focus on hydrogen-based heavy transport based on territorial ecosystems of hydrogen mobility, on the basis of professional vehicles fleets.

* + - 1. The development of biofuels

The incentive tax on the incorporation of renewable energy in transport (TIRUERT) represents a strong incentive, enabling the inclusion rate of biofuels to be maximised, while ensuring the sustainability of their production. TIRUERT is a tax paid by the operators who do not meet the national target inclusion rate of biofuels, while complying with the sustainability criteria for petrol and diesel. In 2022, the target inclusion rate of biofuels was set at 9.2% for petrols and 8.1% for diesels.

The aviation sector will be required to incorporate 1% of biofuels from 2022 (finance law). This obligation is part of a biofuel development strategy enacted by the roadmap on the development of biofuels which sets an incorporation target of 5% by 2030. Furthermore, a call for an expression of interest on sustainable biofuels was launched in order to identify the investment projects in second generation units.

**The increase in vehicle occupancy**

The increase in vehicle occupancy is a quick way of reducing emissions and includes numerous co-benefits, both for users (buying power, access to mobility, togetherness) and for communities (reducing congestion and atmospheric pollution). In 2019, the government set the target of tripling the daily number of ride-share journeys by 2024 to reach 3 million.

Carpooling is encouraged, especially in the context of urban transport plans, and the State provides the necessary legal security for this travel mode. To this end, the Modernisation of Territorial Public Action and the Affirmation of Metropolitan Areas (MAPTAM Law) of 27 January 2014 adopted a definition of carpooling, which created, for the first time, a suitable legal framework for this practice, to enable its development, while clearly differentiating the activity from regular public transport, taxis and tourism vehicles with a driver. This same law enabled transport organisation authorities (AOM), in the event of non-existent, insufficient or inadequate private offers, to offer electronic platforms to the public to promote encounters regarding the carpooling supply and demand. These authorities may also create a distinctive sign for carpooling vehicles, after having drawn up its attribution conditions in advance.

The 2015 energy transition for green growth act also stipulates that companies and regional and local authorities must facilitate, as much as possible, carpooling solutions for travel between home and work for their employees and agents.

The Mobility Orientation Law on Transport (2019) allows local authorities to subsidise carpooling offers to make them even more attractive and to make it a fully-fledged solution. The Mobility Orientation Law on Transport created a sustainable mobility package, which enables all private and public employers to contribute to the expenses linked to travel between home and work, via carpooling or by bike for their employees. This fixed rate can go up to €700/year free of tax and social contributions.

* + - 1. Supporting the modal shift

Supporting the modal shift towards transport methods with the lowest CO2 emissions mostly involves improving the offer of transport services and infrastructures providing an alternative to road transport, whether it be the urban and interurban transport of passengers or freight transport.

***Supporting rail transport and public transport for passengers is a priority.***

The high-speed national rail transport networks are well developed and investments in this sector have been significant over the past few years with in particular the construction of four new high speed lines: Tours-Bordeaux, Brittany Pays-de-la-Loire, the East European High Speed Line, and the Nîmes-Montpellier Bypass (mixed passenger and freight line to alleviate the Nîmes-Montpellier road), i.e. 757 km of new high speed lines commissioned between 2015 and 2020.

In terms of urban transport, dedicated transport corridors have been expanded greatly in major cities across France over the past 15 years. Since 2008, the State has accompanied dedicated transport corridor projects alongside transport organisation authorities by co-funding them in the framework of calls for projects. Four calls for projects aimed at transport organisation authorities with a metro, tramway or high level service bus project were launched between 2008 and 2021; the fourth call for project, dating back to 2021, will provide 900 million euros to fund dedicated transport corridors and multi-modal interchange stations.

In Île-de-France, the Grand Paris transport project launched in 2013 is expected to improve the public transport service offered to passengers in terms of information and network operation, to modernise and develop the existing networks, build a new automatic underground network, and develop a direct link to Paris-Roissy airport. Eventually, 90% of the population of Ile-de-France is expected to have access to a station within a radius of less than 2km. This new network will considerably improve travel between suburbs and will unburden the current network. The aim is to progressively open all lines between 2019 and 2030.

The Mobility Orientation Law on Transport created a set of measures in favour of the modal shift:

* A reinforcement of public and shared transports: a 40% increase in transport investments between the 2014-2018 and 2019-2023 period to improve daily transport, in particular;
* A framework and tools to encourage the development of alternatives to the private car, especially in rural areas (**carpooling**, demand-responsive services, availability of vehicle-sharing services).
* Better multi-modal information (open data on mobility to make all mobility data accessible for a journey in a single click).

A ‘sustainable mobility package’, enabling all private and public employers to contribute to the expenses linked to travel between home and work, via carpooling or by bike for their employees. This package currently goes up €700/year free of tax and social contributions (€800/year in the event of cumulation of the sustainable mobility package and the payment of public transport passes by the employer). The implementation of the package within each company is optional.

***Incentive measures to encourage cycling***

Various measures have been implemented:

* Support for purchases has been put in place: ecological bonus for the purchase of ‘electrically assisted bicycles’, ‘cargo bikes’; conversion bonus for the purchase of a new or second-hand electrically assisted bicycle or cargo bike in exchange for scrapping an old motorised vehicle. In low emission zones, the State grants an additional premium equivalent to the possible aid granted by the local and regional authorities, of up to €1,000. The conversion premium is broadened to one bike per person in the household with the same limit per bike.
* To facilitate bicycle parking, there is an obligation to implement secure parking for bicycles when apartment buildings and offices are built, or when works are carried out on car parks, as well as the obligation to put the question of works enabling secure bicycle parking on the agenda of co-owners’ Ordinary General Meetings.
* There are financial incentives for using bicycles: sustainable mobility package enabling employers to fund the use of a bike for their employees (up to €700 per year); tax reductions for companies which provide a fleet of bikes for its employees free of charge for travelling between home and work (up to 25% of the purchase price for a bike fleet).
* A bike fund, with a launch of calls for projects, was created to support and boost projects for the creation of cycle paths within communities, targeting discontinuities in cycle paths, in particular, and to ensure the safety of all users. The first bike plan created in 2018 has been extended and reinforced in the framework of the 2022-2027 bicycle and active mobilities plan.
* The progressive generalisation of bicycle markings, as well as the development of secure parking areas has been implemented to fight against theft and concealment;
* The development of learning and of a bike culture at school has been implemented.

For long-distance travel, and in order to encourage the modal shift towards rail travel, air transport is taxed on plane tickets, as well as an obligation to offset emissions created by the climate and resilience law. These measures complement existing European measures (ETS and CORSIA).

***Supporting rail and river transport for goods***

**The climate and resilience law of** **24 August 2021** set an objective of doubling the modal share of rail freight transport by 2030, increasing from 9% (in 2019) to 18%, as well as a 50% increase in the modal share of inland waterway transport by 2030. For rail freight transport, and in the longer term, the State set a goal of achieving a modal share of 25% for rail freight transport by 2050. To reach this target, the **National strategy for the development of rail freight transport** identifies 72 concrete measures dealing with the economic viability of services, the improvement of the network service quality, the strengthening of the performance of infrastructures enabling the development of rail freight transport; the development of the coordination with harbours and waterways.

Combined transport, a transport system which combines road transport with other modes such as inland navigation, rail transport or short-distance maritime transport, is the subject of financial support. The aid scheme aims to reduce the additional cost linked to loading and unloading within the inter-modal chain compared to door-to-door road transport. Flat-rate aid will be paid for each inter-modal transport unit (ITU (containers, swap-bodies, semi-trailers, trailers) transshipped at a land or port terminal located on French metropolitan territory, and integrated in a transport chain including initial and final legs carried out by road at the endpoints of the main link.

***Information for users of transport services***

A main line of action regarding the policy to support the modal shift involves improving the information for users of transport services via the greenhouse gases information system for transport services. Transport service providers for passengers and goods or removal services must provide information on the quantity of greenhouse gases emitted by the services provided for their customers.

***Initiatives focused on several levers***

Conurbations with more than 150,000 inhabitants located in metropolitan France must introduce a **low emission mobility zone** before 31 December 2024. For low emission zones where the air quality standards are not achieved, the following, at least, are prohibited: at the latest by 1st January 2025, diesel vehicles and similar whose initial registration is prior to 31 December 2010, as well as petrol vehicles and similar whose initial registration is prior to 31 December 2005.

Funded in the framework of energy saving certificates (CEE), the EVE programme (Voluntary Commitments for the Environment - Transport and Logistics) aims to accompany transport and logistics service providers (transporters, forwarders, and shippers) towards the improvement of their energy and environmental performance. It is based on three voluntary commitment measures: ‘Objectif CO2’ for transporters of goods and passengers, ‘FRET21’ for shippers and ‘EVcom’ for forwarders.

* The ‘Objectif CO2’ scheme, which emerged from the commitment charter initiated in 2008, shall provide greenhouse gas emission evaluation tools for the implementation of an action plan over 3 years to reduce GHGs according to 4 areas of focus: vehicle, fuel, driver, organisation of flows.
* The ‘FRET21’ scheme aims to encourage and support shippers in reducing greenhouse gas emissions generated by goods transport linked to their activity, through the quantification of the environmental impact of their transports and the implementation of actions to reduce their emissions over 3 years according to 4 areas of focus: loading ratio, distance travelled, means of transport, responsible purchasing.
* The ‘EVcom’ scheme, similar to the two previous ones, is for freight forwarders. The actions to reduce their emissions over 3 years are based on 4 areas of focus: own fleet, transport purchasing, client collaboration and CSR (corporate social responsibility) approach.

In the context of this programme, an environmental data exchange platform between transport actors has been implemented to establish a common tool between these three schemes and to facilitate the transmission of environmental information on transport services, such as the greenhouse gases information (see below).

* + 1. Policies and measures focused on the CO2 emissions of international transport
       1. Air transport

Intra-European flights are included in the European Union Emissions Trading System (EU ETS). Indeed, the European Union adopted the Directive 2008/101/EC of 19 November 2008 which modified the directive 2003/87/EC in order to integrate air activities in the European Union Emissions Trading System for greenhouse gases. Since 2012, the scheme has applied to all flights to and from the European Union (a temporary suspension was however granted from 24 April 2013 for international flights).

France incidentally supports the International Civil Aviation Organization (ICAO)’s work in favour of reducing the emissions of international air transport. In the framework of CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation), airline companies must, during the 2021-2023 pilot phase, purchase carbon offsets to cover their emissions above 2019 levels, then from 2024, offset their emissions in excess of 85% of their 2019 emissions level. In the first phase, only airlines from volunteer countries (including the European Union) shall participate.

The Climate and Resilience Law of 22 August 2021 provides for several measures concerning aviation, including, in particular: i) the obligation for airline companies to offset emissions for domestic flights (including for French overseas departments), according to a progressive schedule (50%/70%/100% of emissions for 2022/2023/2024 and later) ii) the cancellation of flights when a rail alternative of less than 2.5 hours exists.

* + - 1. Maritime transport

In 2015, the European Union adopted the Regulation 2015/757 which implemented a measurement, reporting and verification (MRV) system of the CO2 emissions of ships. From 1 January 2018, shipping companies must measure and report their ships’ emissions every year for all travel within the EU, all travel to the EU (between the last port situated outside of the EU and first port of call located within the EU), all travel between a port in the EU and the first port of call outside of the EU, as well as CO2 emissions produced in EU ports. These rules apply without discrimination to all ships, regardless of the flag they fly.

In the framework of the ‘Fit for 55’ package, in July 2021, the European Commission put forward the inclusion of maritime transport in the European Union Emissions Trading System (EU ETS), as well as a draft text aiming to increase the demand for renewable and low carbon fuels in maritime transport (‘FuelEU Maritime’ regulation) and a draft text to encourage the deployment of alternative fuel infrastructures, especially in ports (‘AFIR’ regulation). The French Presidency of the European Union reached an agreement within the Council on these three texts in June 2022, and trilogue negotiations are underway.

France also supports the IMO’s work in favour of reducing the emissions of international maritime transport.

* 1. Residential/tertiary

This sector represents 18% of national emissions in 2021 (excluding LULUCF).[[4]](#footnote-4) It is the fourth largest emitting sector of greenhouse gases after the manufacturing industry, agriculture and transport sectors. Carbon dioxide (CO2) is the main gas emitted and it concerns 85% of the building sector’s emissions. The remaining 16% are split between fluorinated gases (8%), and other gases like nitrous oxide and methane (7%).

* + 1. Measures aiming to reduce residential/tertiary CO2 emissions

The measures implemented to reduce residential/tertiary CO2 emissions are mainly aimed at improving the thermal performance of the building envelope, encouraging the use of efficient heating equipment which uses the least carbon-intensive energy sources, and improving the energy efficiency of other types of equipment (lighting, cooking, domestic hot water, electricity for specific appliances). These levers are available to new buildings and existing buildings.

***For new buildings***

The energy performance of new buildings has been integrated in the construction rules since the first oil crisis of 1973. The thermal regulations which apply to new buildings have been progressively reinforced.

All buildings whose building permit was submitted after 1 January 2013 are subject to the Thermal Regulation 2012 (RT 2012). These buildings must have a primary energy consumption of less than 50 kWh/m²/year on average. This obligation was applied in anticipation from 28 October 2011 for office buildings, for primary and secondary schools, and for establishments caring for small children. The requirement of 50 kWh/m²/year on average is based on the consumption of heating, cooling, lighting, hot water production for sanitary use and auxiliary installations (pumps and ventilators). This threshold is also modulated according to the geographic location, the altitude, the building’s type of usage, the average surface area of the accommodation, and the greenhouse gas emissions of the energies used. Regarding this last point, only buildings using wood energy and heating networks with the lowest CO2 emissions benefit from a modulation of the consumption threshold in primary energy, limited to 30% maximum.

The **testing of the** ‘**Positive-Energy and Low-Carbon Buildings (E+C-)’** **label** for the construction of model buildings was launched in late 2016. This testing prepared the environmental regulations for new buildings (RE2020), which generalises positive-energy buildings and the deployment of low carbon buildings throughout their life cycle, from design to demolition. This label implements an innovative environmental standard for new buildings, which brings together requirements in terms of energy and greenhouse gas emissions in the building. Thanks to this double ‘energy’ and ‘carbon’ criterion, it enables project owners to choose the appropriate combination depending on the characteristics of the area, the type of building, and the costs incurred. This experimentation aims to test the adequacy between the level of environmental ambition, the control of construction costs, the capacity of companies and equipment manufacturers to meet these aims on site. France thus commits the building sector to positive-energy and low-carbon construction.

To encourage project owners to construct model buildings from an energy and environmental point of view, the energy transition for green growth act of 17 August 2015 provides the possibility of obtaining a constructibility bonus for this type of building. The competent authority in terms of urban planning may authorise the constructibility rules to be exceeded by 30% at most for new buildings (new building or extension), if they demonstrate exemplary energy or environmental performance or are energy positive. This initiative enables the economic balance of these operations to be improved and to absorb the extra cost linked to the effort in achieving this exemplary status, in part.

In 2020, France moved from a thermal regulation (RT2012) to an **environmental regulation**, the RE2020. Introduced by article 181 of the Evolution of Housing, Development and Digital Technology (ELAN) law, it is more ambitious and demanding for the construction sector. Thus, construction projects for single-family homes and collective housing for which a building permit application or prior declaration has been submitted as of 1 January 2022 and construction projects for offices and primary and secondary education buildings for which a building permit application or prior declaration has been submitted as of 1 July 2022 are subject to the RE2020. RE2020 implements an innovative environmental standard for new buildings, assembling requirements in terms of reducing energy consumption, developing the use of renewable energies, and taking into account greenhouse gas emissions over the building’s entire life cycle (from its construction to its demolition, as well as its use).

Furthermore, since 2008, for all new buildings with a surface area of over 1,000 m², a technical and economical **feasibility study,** regarding the construction’s various energy supply solutions, must be carried out. This initiative aims to encourage the use of renewable energies and the most efficient systems. In 2014, the field of application of this initiative was extended to all new buildings over 50 m² (except for detached or semi-detached houses and extensions of existing buildings).

In addition, to help promote the use of local resources, boost the local economic fabric and encourage the development and structuring of eco-industries within the territories, and to offer a wide range of materials and products for project owners, a **‘Biosourced Building’ label** was created in 2012. The attribution of this label (according to 3 requirement levels defined by decree) aims, for project owners who request them, to showcase new constructions integrating a significant proportion of biomass in the materials used.

Finally, the energy transition for green growth act of August 2015 stipulates that new public building constructions (constructions under State supervision of public establishments or regional and local authorities) must set a good example in terms of energy and the environment and must be, wherever possible, energy positive and have a high environmental performance. This obligation came into effect in 2017.

***Renovations to existing buildings***

The **energy renovation plan for buildings**, presented in April 2018, made energy renovation a national priority and sets out the short-term priority lines of action in order to: develop and improve renovation, reinforce support to accompany all households in renovation works, make public buildings exemplary in terms of energy efficiency, and encourage territories through the mobilisation of local stakeholders. The aim is to obtain carbon neutrality by 2050 while pursuing a social objective to fight against energy insecurity.

The plan involves, in particular: creating a guarantee fund of over 50 million euros to help 75,000 low-income households per year; simplifying aids by turning the energy transition tax credit into a premium (see below) and by adapting existing loans; improving the reliability of the housing energy label and the energy performance certificate (EPC), for increased trust; providing better training for professionals and better control of the quality of works by amending the RGE label (recognised as environmentally friendly) and by investing 30 million euros to train professionals, 40 million euros in innovation; encouraging a massive renovation of public buildings belonging to the State and local authorities by mobilizing 4.8 billion euros.

The French energy-climate law (LEC) of 2019 made the emissions reduction of the building sector a major line of action. The LEC aims to renovate all energy-consuming homes (housing which consumes over 331 kWh/m²) by 2028, with an initial phase to provide information and incentives to homeowners to carry out works during the 2021-2022 period, then a second obligatory phase for homeowners to carry out works on energy-consuming homes by 2028, failing which, penalties will be applied which will be defined at a later stage.

These measures in place since 2017 are added to the already existing measures.

* + 1. Regulations aiming to guarantee the quality of renovations

The **Thermal Regulation** (RT) aims to ensure a significant improvement of the energy performance of an existing building during its renovation. The applicable measures, the ‘overall RT’ and the ‘RT per item’, differ according to the significance of the work undertaken. For major renovation works of buildings with a surface area of more than 1,000 m², the overall RT defines an overall energy performance objective for renovated buildings, except for those built before 1948. For buildings with a surface area of less than 1,000 m² or for buildings with a surface area of more than 1,000 m² in need of light renovation, the RT per item defines a minimum performance for the replaced or installed elements: it covers, amongst others, insulation (opaque and glass walls), heating, hot water production, cold water production, and ventilation equipment. The requirements of the RT per item were tightened in 2017 (the new provisions came into force on 1 January 2018).

In addition, the ‘**High Energy Performance (HPE) renovation**’ label encourages the voluntary action of project owners wishing to conduct a high-performance or very high-performance renovation operation (thus characterised by a ‘**Low Energy Building’ (LEB)** level), from an energy point of view. It certifies that the building adheres to a high energy performance level, as well as a minimum level of comfort in summer.

Furthermore, since 1 January 2008, all buildings over 1,000 m² subjected to heavy renovation works must be subject to, in the same way as a new building, a **feasibility study** in terms of energy supply, so as to encourage the project owner to use a renewable source of energy or a very high-performance system.

Finally, since 1 July 2022, the installation of new boilers in buildings must meet a minimum environmental performance standard. Thus, unless an exception is authorised, the equipment’s level of greenhouse gas emissions must be below 300 gCO2eq / kWh LHV, effectively excluding oil-fired boilers.

* + 1. Financial aid for renovation

To encourage energy retrofits, financial help is available for private individuals, as well as for providers of social housing. Private individuals can benefit from the 0% Eco Loan and the energy transition tax credit. Specific complementary aids are expected for low-income households. Providers of social housing can obtain the social housing Eco Loan.

**Until 2020, the** **energy transition tax credit (CITE)** enabled a deduction of 15% to 30% on income tax for expenses incurred for certain energy performance improvement works. The aim of this incentive was to encourage private individuals to carry out energy improvement work in their homes while supporting the most efficient technologies in terms of reduced energy consumption, thus allowing the various markets to develop towards higher performance standards. CITE was focussed on the most efficient building works and equipment.

Since 1 January 2020, CITE was replaced by ‘MaPrimeRénov’, accessible to all homeowners and all joint ownership properties built at least 15 years previously. The amount is adjusted according to the household income and the type of works. In 2021, ‘MaPrimeRénov’ funded the renovation of nearly 650,000 homes, for a budget of a little over two billion euros.

For low income households, this incentive is complemented by the ‘MaPrimeRénov Sérénité’ aid, which finances overall renovation work allowing for an energy gain (in primary energy) of at least 35%. The aid covers up to 35% (for low-income households) and 50% (for very low-income households) of the cost of works (excluding taxes). This aid also provides for a specific project owner support for homeowners.

**The 0% Eco Loan** allows people to benefit from a 0% interest loan of 30,000 euros (€50,000 in the case of an ‘Overall performance’ 0% Eco Loan) to fund a cluster of energy renovation works. It is aimed at owner-occupiers or landlords.

The **renovation advance loan** is dedicated to financing the households’ remaining payments via a deferred reimbursement, when the accommodation is sold or transferred via inheritance.

Since 2015, the main support measures are subjected to an **environmental cross-compliance criterion**: to qualify, private individuals must use companies that are recognised as environmentally friendly (‘Reconnues Garantes de l’Environnement’ (RGE)). The competency of the company involved in the various tasks linked to the works in the building is indeed a key aspect of the construction quality. The training course for building professionals is supported through the **‘FEEBat’** (energy saving training course for construction companies and artisans) initiative which receives funding from energy efficiency certificates (EEC). This initiative allows professionals to benefit from energy saving training courses provided by authorised bodies offering advantageous financial conditions all over the country. The FEEBat initiative is being strengthened in the context of the next period of energy saving certificates and in line with the introduction of environmental cross-compliance of incentive schemes: the training objectives have been revised upwards to 25,000 trainees per year and new training bodies are joining the scheme to increase its capacity.

The **helping hand energy saving bonus system for households** provides for the implementation, in the context of the energy efficiency certificates **(EEC)**, of rewards for certain operations for which the applicant has engaged in through a charter, enabling significant bonuses to be granted for households, thus decreasing the cost of works. The bonus system concerns operations for which the applicant of EECs is a signatory of one of the following commitment charters: ‘Heating Boost’ (replacement of gas, fuel oil or coal equipment with renewable equipment), ‘Energy-efficient renovation bonus’. All households can benefit from this offer. The bonus amounts attributed are, however, differentiated according to their income levels. Low-income households benefit from the highest bonuses.

The **social housing eco-loan (éco-PLS)** is a subsidised loan whose rate varies depending on the duration and whose amount varies depending on the energy savings achieved due to the work being funded. In particular, it is accessible to housing organisations with a low rent, semi-public companies, municipalities that own or manage social housing, in the context of the thermal renovation of energy-intensive housing. The social housing eco-loan funds energy saving work that will enable a home to go from a primary energy consumption of over 230 kWh/m2/year to a consumption of less than 150 kWh/m2/year.

In addition to financial aids, the initiatives were implemented to facilitate the funding of energy retrofit works:

* A complete legal framework has been implemented on **third-party financing**.Third-party financing is an energy retrofit offer including the financing operation and a post-renovation follow-up, in such a way that the owner has nothing to pay, as the future energy savings will gradually reimburse all or part of the investment;
* A **guarantee fund for energy renovation** was created by the energy transition for green growth act (LTECV) of August 2015 to facilitate the funding of energy performance improvement works for existing housing. It enables banking institutions to benefit from a guarantee when a loan is granted to low-income homeowners of existing properties, who are funding energy retrofit works.
* A **reduced VAT (value-added tax) rate of 5.5%** applies to energy performance improvement works for housing, which helps to reduce the costs.
  + 1. Information and support initiatives

Initiatives have been implemented to promote the provision of information to users on the energy performance of the buildings that they live in, as well as on existing aids for renovation:

* The **Energy Performance Certificate** (EPC) provides information on the energy performance of a home or building, by evaluating its energy consumption and its impact in terms of greenhouse gas emissions. The assessment also includes recommendations which enable the buyer, the owner, the lessor or the tenant to find out about the most effective ways of saving energy. Since 2006, an EPC must be established when selling any building or part of a building, regardless of its use (residential or tertiary). Since 2007, an EPC must be established when a home or building is rented out for primary residential use. Under article 179 of the ELAN law of 2018, from 1 July 2021, the Energy Performance Certificate is no longer for information purposes but enforceable. From 1 April 2023, the performance of a regulatory energy audit, in addition to the energy performance certificate, will be obligatory for all sales of detached houses and single ownership multi-dwelling buildings presenting low energy performances:
* Prior to 1 January 2017, mixed ownerships built before 2000 including 50 units or more and equipped with collective heating or cooling systems had to carry out an **energy audit**. This audit includes, for each mixed ownership building, the estimation of the building’s annual energy consumption linked to heating, cooling, hot water production for sanitary use, lighting and ventilation. The audit must include proposals for works aiming to improve the building’s energy performance:
* Since 2012, for business premises used for offices or shops with a surface area of over 2,000 m², an **environmental appendix** (known as a green lease) must accompany the contract for new and renewed leases. Since July 2013, it is mandatory for all ongoing leases. The environmental appendix must include a description of the energy characteristics for the equipment and systems, their actual water and energy consumption and the quantity of waste generated by the building.
* The implementation of the housing renovation public service, called France Rénov’, since 1 January 2022. It is made up of one-stop service centres which inform, advise and support households in their housing renovation projects.

In addition, various initiatives aim to lift certain constraints regarding the decision to renovate homes or to adopt virtuous uses:

* The imbalance between homeowners/lessors, who pay for the works, and the tenants, who benefit from the energy savings achieved, has been reduced with the possibility of **sharing cost savings between owners and tenants.** The homeowner must ask their tenant for a monthly financial participation after the energy saving works have been carried out, which can be up to half of the cost savings achieved. This participation takes the shape of a new line included on the rent receipt which will last for a duration of 15 years. Nevertheless, this participation is only possible if the lessor carries out a cluster of high-performance works, with at least two actions or enabling a minimum performance level to be achieved, and if they have invested in a dialogue with their tenant;
* In a building with a collective heating system, bill sharing was done according to shares or on a *prorata* basis according to the surface area of the apartment, even if the heating consumption differed from one home to another. **The individualisation of heating costs** means that the occupant pays their actual heating consumption. This allows the occupant to be better informed and encourages them to take control of their consumption. The energy transition for green growth act of August 2015 provides for the **generalisation** of this initiative, which, until then, was only obligatory for energy-intensive residential buildings. The obligation to individualise heating costs is thus expanded to all residential buildings, as well as the tertiary sector, except in the event of technical impossibility, or the need to modify the entire heating system. Under article 71 of the ELAN law of 2018, the obligation to implement an individualisation of energy consumption costs was extended to cooling networks;
  + 1. Work obligations

An initiative introduced by the energy transition for green growth act of August 2015 concerns the **obligation to implement thermal insulation when major renovation works of buildings are performed**: renovating façades, re-roofing, conversion of garages, attics, or rooms not set up to be living spaces. This initiative allows the project owner to take advantage of major renovation works to include energy retrofit works at a lower cost, and thus decrease the building’s energy needs. This obligation applies to binding quotes for project management performance signed since 1 January 2017 for buildings used for housing, offices, shops, education and hotels. The insulation installed must lead to a thermal performance which complies with the thermal regulations per element. In addition, insulation works can benefit from financial aid (energy transition tax credit, 0% eco loan, energy savings certificates).

For the public service sector, since 1 September 2017, all new buildings under the control of the State, its public establishments or local authorities must be **exemplary in terms of energy and environmental performance** and must, wherever possible, be positive energy and high environmental performance.

Furthermore, buildings, parts of buildings or groups of buildings for tertiary use whose surface area is over 1000 m² are subjected to **obligations to reduce energy consumption.** They must achieve, for each of the years 2030, 2040 and 2050, the following objectives: either a level of final energy consumption reduced by 40%, 50% and 60% respectively compared to a baseline energy consumption which cannot be prior to 2010, or a level of final energy consumption fixed in absolute value, according to the energy consumption of new buildings in their category. The decree (‘tertiary sector decree’) under the ELAN law (Evolution of housing, development and digital technology) came into effect in 2019.

The energy and climate law of 2019 creates renovation obligations regarding energy-intensive housing by 2028. A first incentive phase plans for the obligation, from 1 April 2023, to carry out an energy audit when energy-intensive housing is advertised for sale or rent, containing proposals for works suited to the accommodation, as well as the estimated cost, and informing the buyer or tenant of its future energy expenses. The second obligation phase before 2028 plans for owners of energy-intensive housing to carry out energy performance improvement works on their accommodation.

* + 1. Improving the energy efficiency of other types of equipment

The European framework directive 2009/125/EC establishes a framework for setting out the requirements in terms of **eco-design**, applicable to products linked to energy. A set of implementing regulations within the framework directive have been adopted to date, covering numerous products, and in particular the following regulations which have an impact on the residential/tertiary energy consumption (specific electricity consumption, cooking, lighting and heating):

* Horizontal regulations applying systematically to all types of equipment such as ‘standby and power-off’ modes;
* Regulations on so-called ‘white goods’: refrigeration appliances, washing machines, dishwashers, tumble dryers; kitchen appliances such as ovens, hoods, and hobs; vacuum cleaners;
* Regulations on ‘electronic’ products: televisions, computers and servers, decoders and external power supplies;
* Regulations on heating and air conditioning devices: boilers (all fuels), hot water systems, mixed heating systems, heat pumps and cogeneration units, stand-alone devices; air conditioners and fans;
* Regulations on lighting: domestic lighting.

**Energy labelling** (regulated by the (EU) 2017/1369 guideline) complements the mechanism by helping consumers shift towards products that consume the least energy. The range of products bound by this obligation has been gradually expanded.

* + 1. Measures aiming to reduce HFC emissions in buildings

Fluorinated gas emissions in the building sector come from cooling equipment (domestic cooling for residential buildings and commercial cooling for tertiary buildings), air conditioning and heat pumps. The **European Regulation No. 517/2014 (known as ‘F-Gas II’)** implements a number of provisions aimed at reducing fluorinated gas emissions from refrigeration and air conditioning equipment used in buildings, but also in all other sectors using this type of equipment (industry and refrigerated transport) (see detailed description of the F-Gas II Regulation in section C.3.2).

This European regulation is being revised, so as to further reduce the European emissions of these powerful greenhouse gases and help the European Union to reach its objectives in terms of reducing its emissions by at least 55% by 2030 and achieving climate neutrality by 2050 (i.e. further reducing emissions by 310 MtCO2eq by 2050).

* 1. Manufacturing industry

The manufacturing industry was responsible for 19% of greenhouse gas emissions in France in 2020. This sector is the 3rd biggest emitter after agriculture and transport. The emissions in this sector are dominated by industries producing basic CO2 intensive products such as metallurgy, chemistry or the manufacturing of non-metallic minerals (cement, lime, glass, etc.). CO2 is the main greenhouse gas emitted by the manufacturing industry (94%), followed by fluorinated gases (4.5%) and N2O (1.6%).

* + 1. Measures aiming to reduce the industry’s CO2 emissions

The **European Union Emissions Trading System (EU ETS)** plays a structuring role by capping the emissions of industrial installations in the European Union. This has been significantly strengthened for the 2021-2030 phase with the revision of the ‘EU ETS’ guideline which came into force in April 2018. This led to a sharp increase in the carbon price, which increased from €6/tCO2 on average in 2017 to €25/tCO2 in 2019 and 2020, then €54/tCO2 in 2021. In the period between January and November 2022, the average price of carbon increased to €81/tCO2.

The European Union Emissions Trading System is being revised in the context of European negotiations for the ‘Fit for 55’ package. This revision aims to align the EU ETS with the new European objective to reduce the EU’s emissions by 55% net in 2030 compared to 1990, and should also result in a significant reinforcement of the EU ETS’s aim for 2030, in particular a decrease in the emission ceiling.

Furthermore, on a national level, significant means are being deployed for the decarbonisation of the industry. Thus, the **industry’s decarbonisation funds** implemented in the framework of the Recovery Plan over the 2020-2022 period was granted an envelope of 1.2 billion euros. These funds support the production of heat using biomass, the deployment of energy efficient projects and the decarbonisation of industrial processes, through different calls for projects operated by the ADEME (The French Agency for Ecological Transition). Nearly 230 projects were supported, enabling emissions to be reduced to 4.5 MtCO2eq/year.

For the 2022-2026 period, **the ‘France 2030’** **investment plan** dedicated 5.6 billion euros to the decarbonisation of the industry, according to two key pillars:

* 5 billion euros are dedicated to the deployment of decarbonisation solutions for industrial sites, via 2 phases to be implemented by late 2022:
  + 4 billion euros to support the profound decarbonisation of major industrial site emitters (for example, the steel industry, industrial chemistry, cement, aluminium),
  + 1 billion euros for the deployment of more mature solutions in the French industrial fabric, especially low-carbon heating and energy efficiency.
* 610 million euros are dedicated to the emergence and industrialisation of decarbonisation solutions for the industry (supporting innovation).

Aside from public support, extensive development work on **roadmaps for the decarbonisation of industrial sectors** has also been launched by the Government with industrial stakeholders since 2019, to engage the industry in the transition. Certain sectors have also published roadmaps (Chemistry, mining, metallurgy, paper, cardboard, cement), which will form commitments between the State and the sector by 2030.

In addition, since 2020, ADEME has been constructing Sectoral Transition Plans with the 9 industrial sectors with the highest levels of emissions (steel, aluminium, glass, cement, ethylene, chlorine, ammoniac, paper/cardboard, sugar), a methodological initiative proposing to model various decarbonisation trajectory scenarios by 2050, to quantify the impacts on the production costs, evaluate the climate investment needs and analyse job transfers. These plans are being developed as part of the European LIFE Climate Finance project and will be finalised by 2024.

Reductions in greenhouse gas emissions are also generated by certain cross-sectoral measures (reported in the ‘reduction of energy consumption in all sectors’ section): **energy efficiency certificates, ADEME’s Heat Fund, and the obligation to conduct energy audits** for large companies. The industry can also benefit from funding within the **Investments for the Future programme (PIA)** for innovation projects in the Energy and Ecological Transition sector.

Certain additional and specific initiatives for industrial companies have also been implemented:

* The **Eco Energy Loan,** from €10,000 to €500,000, makes it possible to fund the acquisition or installation work carried out by VSBs and small SMBs which invest in equipment generating energy efficiency certificates.
* ADEME’s ‘**Decision Aids**’ initiative subsidises the performance of studies on energy efficiency in the industry, including energy assessments, as long as they are not made obligatory by the regulations, as well as the implementation of energy management systems;
* The **PROREFEI training programme**, launched in 2018 and financed by the energy efficiency certificates initiative, aims to train people in charge of energy management in companies to make them energy specialists who will be quite capable of designing, implementing and coordinating actions to improve the energy performance of their sites. It also aims to create a network of energy specialists who will have access to, in particular, feedback from the entire community and technical and regulatory monitoring;
* The **INVEEST programme**, also funded by the energy efficiency certificates initiative, is aimed at financial stakeholders (bankers, auditors, accounting experts, etc.). Thanks to a training and support programme combining energy, financial and industrial expertise, this programme aims to accelerate the funding of energy efficiency projects in industry;
* Since 1 January 2015, pursuant to article 14 of the directive 2012/27/EU relating to energy efficiency, industrial installations generating **waste heat** that is not reused must carry out a **cost/benefit analysis** regarding new installations and in the event of major renovation works. This analysis allows the profitability of the reused waste heat to be evaluated for a manufacturer via a connection to a heat and refrigeration network and is accompanied by the implementation of solutions considered to be profitable. The main industrial sectors concerned by the initiative are the chemical, glass production, cement, lime, plaster, paper-cardboard, metal transformation and food-processing industries.
* Since 2016, companies that consume a great deal of electricity can benefit from a **reduction on the Public Electricity Transmission System User Tariff (TURPE)**. In return, they must implement an energy performance policy (implement an energy management system according to the ISO 50001 standard, achieve a performance objective within 5 years monitored by means of indicators subject to certifications, and develop an energy performance plan to achieve this goal);
  + 1. Measures aiming to reduce the industry’s fluorinated gas emissions

Since 2013, perfluorocarbon (PFC) emissions due to the production of aluminium have been subjected to the **European Union Emissions Trading System.**

The **European regulation no. 517/2014** (known as ‘F-Gas II’) implements a certain number of provisions aiming to reduce the emissions of fluorinated gases from refrigeration and air conditioning equipment, in particular industrial refrigeration (see detailed description of the regulation in section B.8). The revision of this ‘F-Gas’ regulation is committed to further reducing the production and marketing of fluorinated greenhouse gases in the European Union. The proposal currently being discussed between Member States notably provides for a decrease of 95% on the marketing of HFCs by 2030 compared to 2015 (compared to 80% according to the F-Gas regulation currently in place).

On a national level, the finance law for 2019 had provided for the implementation of a **tax on HFCs** from 1 January 2021, the amount of which was supposed to evolve as follows: €15 per equivalent ton of CO2 in 2021, €18 in 2022, €22 in 2023, €26 in 2024 and €30 from 2025. The entry into force of the HFC tax was postponed to 1 January 2025 by the 2022 finance law given that the objectives to reduce the use of HFC which had been set for refrigeration professionals in 2019 had been achieved.

The finance law for 2019 also created an additional tax incentive plan designed to accompany, until late 2022, companies’ investments in cooling equipment using refrigerants with a low global warming potential. Companies subject to corporate tax or income tax under an actual tax regime may thus, under this scheme, deduct from their taxable income an amount equal to 40% of the original value of refrigeration and air conditioning equipment operating without HFC and bought new between 1 January 2019 and 31 December 2022.

* + 1. Measures aiming to reduce the industry’s N2O emissions

Since 2013, N2O emissions in the chemical sector have been subjected to the European Union Emissions Trading System.

* 1. Energy industry

In this section, we will be distinguishing energy production and energy consumption. In the energy consumption sub-section (C.4.2), it was decided that the policies and measures impacting energy consumption would be reported transversally (i.e. in several sectors). The policies and measures impacting energy consumption in a single sector were reported in the sections dedicated to the various sectors.

* + 1. Energy production

This sector represented 10% of national emissions in 2020 (excluding LULUCF). The main sources of emissions are electricity production which represents 43% of the sector’s emissions, oil refining (18%), energy transformation (17%) and district heating (13%), followed by the transformation of solid mineral fuels in the steel industry (5%) and the extraction and distribution of gas-based fuels (3%)[[5]](#footnote-5).

* + - 1. Measures aiming to reduce CO2 emissions relating to energy production

Reducing CO2 emissions from the energy production sector includes capping emissions from electricity and heat production facilities and refineries through the European emissions trading system, by reducing energy demand and by decarbonising the sector. In this way, the revised SNBC (national low-carbon strategy) project is aiming for complete decarbonisation of the sector by 2050, especially through the development of renewable energies.

Furthermore, the hydrocarbon law adopted in late 2017 prohibits all new permits for the exploration and exploitation of fossil fuels and establishes the goal of ending existing production exploitation by 2040.

In order to support the concrete implementation of renewable energy (RE) development projects, the State launched the RE release plan in late 2017, which aims to adopt committed administrative simplification measures to shorten development times and reduce costs. This plan has already led to administrative simplifications for onshore wind, solar photovoltaic and methanisation sectors and an increase in the volume of calls for tender for solar projects (1.5 to 2.5 GW/year).

A **cost reduction mechanism for the connection of renewable energy production facilities** to electricity and gas networks was introduced in 2017. It allows 40% of these costs to be covered by grid operators. This allows connection costs to be significantly alleviated for farms, which are often located far from power grids and thus facilitates the deployment of renewable energies.

The **National Strategy for the Mobilisation of Biomass** created in 2018 defines the guidelines, recommendations, and actions concerning the biomass production and development sectors likely to have an energy use, with a view to developing biomass production, and increasing its mobilisation while ensuring a proper coordination of its uses and mitigating climate change. The regional plans for the mobilisation of biomass adapt the National Strategy for the Mobilisation of Biomass to meet regional requirements.

**Injection rights for biomethane facilities**, created in 2019, allows natural gas grid operators to carry out the necessary reinforcement to enable biomethane to be injected into the gas grid (under conditions and limitations enabling the techno-economic relevance of investments to be ensured). The aim is to facilitate the implementation of methanisation projects, restricted at present by the capacity of the local gas grid antenna.

The 2019-2028 Multiannual Energy Plan (MEP 2) also provides for the following initiatives, encouraging the deployment of renewable energies and decarbonisation of the sector:

* In favour of **onshore wind**: obligatory recycling of the materials used to make wind turbines when dismantled, encourage the reuse of end-of-life wind turbine sites to reinstall more efficient machines, launch calls for tender of up to 2 Gw/year according to a schedule defined in the MEP.
* In favour of **photovoltaics**: prioritise the development of ground mounted photovoltaic systems, which are cheaper, preferably on built-up or degraded land and car parks, ensuring that the projects respect the biodiversity and farm lands, support innovation in the photovoltaic sector through calls for tender in order to encourage new solar solutions at ground-level (agrivoltaics, floating photovoltaics, etc.) and on buildings. The MEP 2 project defines a call for tender schedule corresponding to 2 GW per year for ground mounted photovoltaic power plants and 0.9 GW per year for installations on large roofs, and it maintains an objective of 3,050 MW installed per year for installations on small and medium-sized roofs (under 100 kWc) via an open window system in guiding projects towards self-consumption.
* Supporting the development of **renewable gases**: provide visibility by adopting a call for tender schedule for injected biomethane: two call for tenders, for an annual production objective of 350 GWh PCS/year each, will be launched every year; strengthen the obligation of purchasing biogas at a regulated tariff and launching calls for tenders to achieve the production objectives at a reasonable cost thanks to substantial cost reductions; implement an adapted support tool for biomethane not injected in natural gas networks (in particular the biomethane used directly for biomethane vehicles).
* Supporting the development of **hydrogen**: put in place support for the development of hydrogen up to 100 million euros and launch calls for projects on transport and hydrogen production using electrolysers; set up a traceability system for carbon-free hydrogen by 2020; extend the tax incentive for the purchase of hydrogen vehicles under at least the same conditions as for NGV (heavy goods vehicles >3.5t); mobilise financial institutions (private and public financing including CDC and BPI) and standardise co-financing models for ecosystem deployment projects in the regions; carry out a study with all the actors concerned on the simplification and harmonisation of authorisation and approval procedures for boats and associated hydrogen fuelling solutions.
* In favour of the development of **biofuels**: an incentive to incorporate biofuels for operators who release fuels for consumption. In addition, beyond the existing cap for conventional biofuels, the plan is to limit the incorporation of biofuels made using raw materials presenting a high risk of inducing indirect land-use change (here, palm oil), as envisaged in the new European directive relating to renewable energies RED II of 11 December 2018 and in particular its delegated act of 13 March 2019.[[6]](#footnote-6)
* In favour of decarbonising the sector: **shutting down the last exclusively coal-fired electricity plants by 2022** or supporting their development towards less carbon-intensive solutions, but also **no longer permitting new projects for electricity production plants powered exclusively by fossil fuels.** In this way, Ecological Transition Contracts (CTEs), signed between the State and the territories, set out a voluntary ecological transformation action programme for territories. In particular, they aim to accompany industrial restructuring situations in areas affected by the closing of coal-fired plants. After a first experimentation phase in 2018, the CTE initiative was extended and a second experimentation phase was conducted in the first half of 2019. A wider deployment is now expected. Concerning the shutting down of coal-fired plants, a decree was enacted on 15 September 2022 to increase their emissions cap to allow around ‘2,500 equivalent kilotons of carbon dioxide per additional megawatt’ during the period between 1st October 2022 and 31 March 2023. This decree kept two coal-fired power stations in operation: this emergency measure should guarantee the supply of electricity during the winter in light of the tension on the nuclear fleet and on gas. This decision does not, however, question the aim which is to eventually shut down coal-fired power plants.

The 2019-2028 Multiannual Energy Plan (MEP 2) also plans to take steps, during the first period of the MEP (2019-2023), to enable the development of electricity pumping stations for a potential of 1.5 GW identified, with a view to commissioning the facilities between 2030 and 2035. The MEP 2 also sets a target of erasing 6.5 GW by 2028 with an intermediary objective of 4.5GW in 2023.

The MEP also makes it possible to take the necessary steps to achieve the renewable energy production goals set down by the energy transition for green growth act of 2015 and the energy-climate law of 2019. French legislation aims for a proportion of renewable energy of at least 33% in terms of gross final energy consumption in 2030. This objective is broken down by energy carrier: 40% of electricity production will be renewable in 2030, as well as 38% of final heat consumption, 15% of final fuel consumption and 10% of final gas consumption. The production of heat and cooling from renewable sources in heating networks will be multiplied fivefold between 2012 and 2030.

In this perspective, the MEP sets the goals for each renewable sector for 2023 and 2028. The incentive schemes implemented are specific to each sector and must be subject to periodic adaptations to account for technical and economic evolutions. They are guided by the principle of ensuring the minimum profitability required for the deployment of these technologies.

To achieve these goals concerning the production of renewable electricity, the government primarily has two types of support structures: open windows and competitive tendering procedures.

The open window structure confers a right to benefit from support for all eligible installations. This structure is adapted to mature sectors for which the production costs are relatively well-known and stable and for which there are numerous potential development sites, with limited conflicting uses. As this structure does not enable renewable energies to be developed at the best cost, it is reserved for smaller facilities (up to 1 MW, and exceptionally up to 18 MW for wind turbines), for the sake of ease of access. Two open window support systems can be distinguished depending on the size of the installation: purchasing obligation and additional remuneration.

The purchasing obligation has only applied to the smallest facilities (up to 500 kW) since 2016. Every kilowatt-hour injected into the public network is purchased by an obligated buyer at a feed-in tariff, greater than the average market price, fixed in advance and covering the costs of their installation while ensuring a normal profitability of the their project.

The additional remuneration, implemented in 2016, in accordance with the environmental and energy guidelines, applies to more powerful facilities (obligatory when the installed power capacity is above 500 kW). The open-window additional remuneration is a premium paid to a renewable energy producer to complement the market sales of electricity that it produces. This premium is proportional to the energy produced and calculated as the difference between a reference fee and the market price. It must provide the producer with a level of remuneration which covers the costs of their installation while ensuring a normal profitability of their project.

In the competitive tendering procedures, support is only attributed to the successful candidates of these procedures (e.g. calls for tender). These schemes are adapted to renewable sectors presenting one of the following characteristics: steering needed due to the risk of conflicting usage; scarcity of favourable zones (the case of offshore wind); sharp asymmetry in information about costs; challenge of technological demonstration and industrial development. Competitive tendering procedures improve the competitiveness regarding the development of renewable energies through the competitive tendering of projects and are important tools adapted to guiding renewable energy development trajectories, in accordance with the goals set by the MEP. Indeed, when the goals in terms of installed power capacity set by the MEP are not achieved, the Minister for Energy has the possibility of launching competitive tendering procedures to develop new production capacities. Successful candidates benefit either from a feed-in tariff or an additional remuneration, depending on the installed power capacity of projects and the procedure specifications.

Support for renewable energy in the gas sector is delivered through the following mechanisms:

* ‘Open window’ type programme: any biomethane producer wishing to inject its production into the natural gas transmission and distribution networks is eligible for an open window purchase obligation, subject to the preservation of the proper functioning of the networks. In this system, the injected biomethane is purchased by a natural gas supplier at a pre-determined purchase price that covers the investment and operating costs of the biomethane production facility while ensuring normal profitability of the project. The purchase obligation is contracted for a period of 15 years;
* Calls for tender: when the production capacity of biogas intended to be injected into the gas network doesn't meet the quantified targets of the Multiannual Energy Plan, the Minister for Energy may resort to a call for tender procedure.

In addition, producers who so request may receive **guarantees of origin** for the production of renewable electricity, from high-efficiency cogeneration, or for injected biogas. These guarantees of origin can be valued on the markets and constitute an additional source of income for producers.

Since 1 January 2015, pursuant to Article 14 of the Energy Efficiency Directive 2012/27/EU, energy production installations in heat or cooling networks with a total thermal power exceeding 20 MW must carry out a **cost-benefit analysis** in the case of new installations and in the case of substantial renovation. This analysis makes it possible to identify potential suppliers of waste heat located in the vicinity of the network and to implement the solution deemed to be profitable.

**Finally, the Heat Fund** provides financial support for projects to produce heat from renewable energy: biomass (forestry, agricultural, biogas), geothermal energy (for direct use or through heat pumps), solar thermal energy, recovered energy, as well as the development of heat networks using these energies. The sectors in question are collective housing, tertiary, agriculture and industry. The Heat Fund allows renewable heat to be competitive with heat produced from conventional energy sources, by guaranteeing a price for heat of renewable origin that is approximately 5% lower than that obtained with conventional energy sources. The Heat Fund has been allocated 2.9 billion euros in legal commitments for the period 2009-2021. The 2019-2028 MEP also provides for a simplification of the rules, particularly by removing the obligation of repayable advances and replacing them with subsidies.

Finally, the **classification of heat and refrigeration networks** powered mainly by renewable or recovered energy sources has been made automatic by the Energy and Climate Law. This regulation makes it compulsory for new buildings or existing buildings replacing their heating system to be connected within a priority network development area.

* + 1. Policies and measures impacting energy consumption in a cross-sectoral way

Several structural policies and measures have been put in place to limit energy consumption and promote energy efficiency in several energy-consuming sectors, the main ones being listed below. These measures therefore contribute to the reduction of greenhouse gas emissions.

The Energy Code sets a target of reducing final consumption by 20% in 2030 and 50% in 2050 compared to 2012 levels.

The **energy saving certificate** scheme, in force since 2006, is based on a mandatory energy saving requirement imposed by public authorities on energy sellers (electricity, gas, LPG, heat and refrigeration, domestic fuel and motor fuels). A multi-year target is defined and distributed among the obligated parties according to their sales volumes. At the end of the period, the obliged parties must prove that they have fulfilled their requirement by holding an amount of energy saving certificates equivalent to these requirements.

To obtain certificates, the obliged parties can choose the actions to be implemented (carrying out energy saving actions themselves, having consumers carry out energy actions, buying certificates from other players on the market etc.), the sectors of activity (residential, tertiary, industrial, agricultural, transport) and the types of customers (households, companies, public authorities etc.)

The first three-year period of the scheme ran from mid-2006 to mid-2009, with a total obligation set at 54 TWh cumulative updated.

The second period, which ran from 1 January 2011 to 31 December 2014, included a target of 460 TWh cumulative updated.

The third period ran from 1 January 2015 to 31 December 2017. The overall mandatory requirement imposed on energy sellers was set at 700 TWh cumulative updated.

In application of the energy transition for green growth act of 17 August 2015, a new obligation dedicated to the benefit of households in fuel poverty has been in place since 1 January 2016, with a target of 150 TWh cumulative updated by the end of 2017.

The fourth period, initially planned for 1 January 2018 to 31 December 2020, was extended to 31 December 2021. The mandatory requirement imposed on energy sellers in the fourth period was equivalent to 2,133 TWh cumulative updated of conventional actions for the period 2018-2021, of which 533 TWh cumulative updated was to be carried out for the benefit of households in fuel poverty.

The 5th period, which starts on 1 January 2022 as part of the ‘Fit for 55’ legislative package, has an obligation level of 2,500 TWh cumulative updated over four years, of which almost 30% will benefit households in fuel poverty.

In 2014, a proportional share of CO2 emissions from energy products was introduced into the domestic consumption tax on energy products (TICPE). The ‘**carbon component**’ currently amounts to €44.60/tCO2.

As part of the transposition of the Energy Efficiency Directive 2012/27/EU, companies with more than 250 employees or with an annual turnover of more than €50 million and total assets of more than €43 million must carry out an **energy audit** every 4 years. The energy audit, carried out by an internal or external auditor, consists of a methodical analysis of the energy flows and consumption of a site and should enable companies to identify energy saving actions at all levels (buildings, industrial processes, transport etc.)

* 1. Agriculture and forestry

Policies and measures in the agricultural sector are aimed at better control of nitrogen fertilisation, the fight against organic and mineral nitrogen surpluses, the reduction of livestock manure emissions, the development of renewable energy of agricultural origin (methanisation in particular), the improvement of the energy performance of farms, the increase of carbon stocks in agricultural soils and the reduction of losses and wastage.

The National Low Carbon Strategy (SNBC) sets 6 guidelines to ensure the transition of the agricultural sector, including the reduction of N2O, CH4 and CO2 emissions; the development of decarbonised energy production and development of the bioeconomy; the increase of carbon storage; the evolution of food consumption patterns. To strengthen the contribution of agriculture to the fight against climate change, several structural measures are being implemented. The ‘Agriculture, Food and Forestry Transition’ section of the ‘France Recovery’ plan has 3 objectives: to strengthen food sovereignty; to accelerate the agro-ecological transition to give all French people access to healthy, sustainable and local food; and to adapt agriculture and forestry to climate change. The National Strategic Plan (PSN) 2023-2027 will contribute to the dynamic of lowering emissions from agriculture and increasing carbon storage, in particular through reinforced cross-compliance, the eco-regime and Pillar 2 measures. Article 274 of the ‘Climate and Resilience’ Law states that the PSN must be compatible with the SNBC. A series of cross-sectoral plans also contribute to these objectives: the plan for competitiveness and adaptation of farms, the plan for energy methanisation and nitrogen autonomy and the plan for the development of agroforestry. Finally, **the Ministry of Agriculture’s climate action plan**, published in June 2021, outlines a roadmap for achieving climate objectives in the agricultural and forestry sectors, and recalls the overall coherence of the various levers and tools mobilised by the Ministry.

With regard to forestry, the measures in place seek to promote carbon sequestration in the forest ecosystem, and the resilience of stands to climate change through better forest management, and to develop the use of organically-sourced products (which allow both carbon storage and the substitution of materials or energy sources that are high emitters of greenhouse gases). Significant financial resources (France Recovery, France 2030 etc.) have been deployed to achieve these objectives. More generally, specific attention is being paid to the forestry and wood sector with strengthened governance schemes. The Forestry and Wood Conferences, held between October 2021 and March 2022, made it possible to identify the main actions to be focused on in the short term in a concerted manner, and led to a political commitment to maintain substantial financial resources for the forest. These resources are associated with reinforced research and monitoring schemes, as well as a more demanding environmental framework.

* 1. LULUCF

Compared to the other sectors, the Land Use, Land-Use Change and Forestry (LULUCF) sector has the distinctive feature of being a net carbon sink: in 2020, the overall absorption of the sector was about -14 MtCO2eq, which therefore makes it possible to offset 3.6% of the emissions of the other sectors. Forests alone represent a sink of -30.4 MtCO2eq.

The main effect of the measures presented in this section is to reduce CO2 emissions or to contribute to carbon storage through CO2 absorption. In general, the LAAAF (Future Law for Agriculture, Food and Forestry), presented in section B.5 is now the reference text to guide climate action in the forestry and wood industry. In particular, Article 67 recognises the following as being in the public interest ‘the fixation of CO2 by wood and forests and the storage of carbon in woods and forests, wood and products made from wood, thereby contributing to the fight against climate change’. The other categories of land, including crop land and grassland, are also the subject of several provisions in the LAAAF, under the provisions on agriculture (see section B.5).

* + 1. Schemes to promote carbon storage in soils and biomass

The Common Agricultural Policy (CAP) includes a number of measures that promote carbon storage in soils and biomass:

* **Greening**, which contributes to maintaining a ratio of permanent grassland, a requirement to diversify crops, and to have 5% of the farm's arable land in areas of ecological interest;
* The **compensatory allowance for natural handicaps** (ICHN), by contributing largely to the maintenance of extensive grassland areas, is an important lever for the preservation and storage of carbon in the soils of cultivated land and grassland;
* Cross-compliance provides for a number of **Good Agricultural and Environmental Conditions** (GAEC) and **Statutory Management Requirements** (SMR) that promote a greater return of organic matter to the soil, grassland or environments conducive to the diversity of animal and plant species (maintenance of hedges, ponds and copses) and therefore better adapted;
* **Coupled support from the first pillar** aiming to accompany the production of leguminous plants, can contribute to the storage of organic material by maintaining soil fertility. The three components of greening promote organic matter inputs, grassland or woody cover, which are beneficial for carbon storage, as well as diversity, which is a source of better adaptation;
* Climate action on agricultural soils also includes **agri-environmental and climate measures** (AECM). One of them, the conversion to direct seeding under cover (SOL\_01) is now dedicated to agricultural soils, explicitly aimed at reducing tillage, establishing cover crops and the diversification of crop rotations. Several types of operation (TO) and AECMs known as ‘systems’ were already contributing to the increase or preservation of organic matter in soils, by allowing the maintenance and extensive management of grassland and trails, trees and hedges, leguminous plants, or even remarkable environments, or the upkeep of meadow orchards;
* Under the second pillar, the **technical assistance component of the National Risk Management and Technical Assistance** **Programme** (PNGRAT) is mobilised to improve soil knowledge (regional soil reference systems) and several measures of the **Regional Rural Development Programmes** (PDRR) contribute to improving the carbon content of agricultural soils.

Improving the carbon content of agricultural soils also involves investment, thanks to certain aids under the **Plan for Competitiveness and Adaptation of Farms** (PCAE) dedicated to combating erosion, optimising organic fertilisation which allows more organic matter to be returned to the soil, planting perennial crops and increasing the vegetation cover of agricultural soils.

Measures in favour of agroforestry are also important levers for promoting carbon storage in both the soil and the plant biomass. **The agroforestry development plan** launched in 2016 consists of five areas of action: i) strengthening knowledge, monitoring and research actions on agroforestry; ii) improving the regulatory and legal framework and strengthening financial support; iii) developing advice and training, promoting agroforestry and enhancing the value of its products; iv) enhancing the economic value of agroforestry products, and developing them on the ground and in the regions; v) promoting European and international approaches.

**Organic farming** is also worth mentioning, with its almost exclusive use of organic fertilisers, its practices involving more frequent diversification of crops and intermediate covers, its preferential use of grass in livestock farming and/or its greater inclination towards agroforestry.

The **Natura 2000 network and the Water Framework Directive** can in some cases (where biodiversity protection leads to higher vegetation cover or around water catchments) promote higher organic matter content of soil and increased carbon stocks in plant biomass.

What’s more, the implementation of **sustainability criteria for bioenergy** results in avoiding the production of agricultural raw materials for energy production on some carbon-rich soils and in some biodiversity-rich areas, within the European Union or in countries exporting to the Union European.

The **biodiversity plan**, published in 2018, which aims to implement the objective of reducing the net loss of biodiversity to zero, proposes actions to limit the consumption of natural, agricultural and forest areas in order to achieve the objective of zero net artificialisation. In particular, it proposes a review of commercial development and town planning policies in order to curb the increase in developed areas (buildings, transport infrastructure, car parks, sports grounds etc.) and to promote urban planning with low consumption of space.

The French government is now aiming for zero net artificialisation by 2050[[7]](#footnote-7). To this end, it has the regulatory measures of the so-called Climate and Resilience Law, new tools for observing and identifying wasteland, as well as several financial aid schemes (financing of wasteland recycling operations, initially endowed with €300 million, and topped up to €350 million in May 2021, ‘aid for the revival of sustainable construction’ (€350 million) to promote land simplicity, a call for projects in favour of urban innovation is also endowed with €305 million, and the ‘Action Cœur de Ville’ programme is endowed with €5 billion over 5 years).

* + 1. Carbon storage in forests

French forests currently have an overall positive net contribution to climate change mitigation, with emissions (notably from dead wood oxidation and removals) lower than sequestration. The forest sink was -30.4 MtCO2 in 2020.

**The Forest and Wood Conferences, held between October 2021 and March 2022**, made it possible to identify the main actions to focus on in the short term in terms of knowledge, forest renewal, biodiversity preservation, investment in the processing sector, governance, etc. These actions will be taken up and amplified within the framework of the **‘forest component’ of the ecological plan** launched by the French Prime Minister at the end of 2022, a plan that will notably fulfil the objective of replanting one billion trees in 10 years set by the President of the Republic on 28 October 2022, following the fires of the summer.

**Substantial financial resources have been made available in recent years to finance forest renewal** (France Recovery then France 2030). At the end of the Forest and Wood Conferences, permanent funding was announced. Dedicated to forest renewal and endowed with 100-150 million euros each year, the funding will be set up from 2024, calling on carbon finance mechanisms in particular with regard to the role of the forest and its products as a carbon sink.

Other policies and measures that contribute to reinforcing the forest carbon sink include:

* The **tax incentive scheme for forest investment** (DEFI), which encourages forest owners to adopt a sustainable forest management approach, including joining producer organisations or forestry economic and environmental interest groups (GIEEF), due to a higher tax credit rate, was extended until 31 December 2020. The aim is to improve forest management, which will bring multiple benefits, in particular a reduction in the overcapitalisation of certain forests, greater resilience to the risk of storms, but also greater mobilisation of wood;
* The **forestry investment and insurance account** (CIFA), which encourages forest owners to insure themselves against the risk of storms and to build up savings to finance prevention work and, where necessary, the cleaning up and reconstitution of damaged stands. The aim is to improve resilience to climate change and therefore maintain forest sequestration;
* The **forest fire fighting mechanism**, which is put in place every year to protect the populations and the forest massifs. The fight against forest fires starts with the preventive mobilisation of intervention resources and a daily and precise assessment of the fire risk. The President of the Republic has announced a reinforcement of these resources following the fires of summer 2022.
* The **low-carbon label** created by decree n°2018-1043 of 28 November 2018, allows the Ministry of Ecology Transition to promote the emergence of projects avoiding the emission or sequestering of greenhouse gases (GHG) and to make them more attractive, as part of the voluntary or mandatory compensation of public or private players. Projects that sequester GHG emissions in a way that is additional to existing regulations and incentives can therefore be labelled and then financed by public or private players, with the emission reductions ultimately being recognised for their benefit. Projects wishing to be labelled as low-carbon must fall within the scope of a method approved by the Ministry of Ecology Transition. The role of these methods is to define the scope of application, the eligibility and additionality criteria and the method of calculating the sequestered or reduced GHGs. These GHG sequestration projects can apply to all sectors of activity, excluding activities subject to the European Union Emissions Trading System (EU ETS). Eleven methods have already been approved, including three in forestry.
* The **National Climate Change Adaptation Plan**, which includes measures for forests. Adaptation to climate change is essential to ensure and secure the forest's function as a carbon sink.

In addition, a number of cross-sectoral measures are aimed at both better forest management and greater wood mobilisation:

* The **National Forest and Wood Programme** (PNFB), resulting from the LAAAF, and approved by decree on 8 February 2017, sets the guidelines for forestry policy for the decade 2016-2026. In particular, it aims to optimise forestry levers to adapt French forests to climate change and contribute to mitigation, taking into consideration the complete carbon footprint of the forestry-wood sector (carbon storage in living above-ground and underground biomass, in dead biomass, in forest soils, in wood products, substitution of wood for fossil fuels or competing materials). In particular, it sets a target for additional commercial wood mobilisation of 12 Mm³ by 2026 compared to 2015. The **regional forestry and wood programmes** (PRFB) are a regional variation of the national forestry and wood programme and are being developed by the regions. The PRFBs will take up the structural elements of the regional multiannual forest development plans;
* The **inter-ministerial action plan for the revival of the forestry and wood industry** (PAIFB), presented by the government on 16 November 2018. It identifies priority actions grouped into three areas which are based on the mobilisation and the sustainable renewal of the forest, the development of end markets and support for innovation and investment, the improvement of the sector’s environmental performance and its development in the regions.
* The **strategic contract for the wood industry** (CSF 2018-2022), signed by the industry's professionals and the government, aims to promote the use of wood and strengthen the industry's competitiveness. The CSF contributes to defining a new model of circular economy aimed at sustainable production, by limiting the waste of raw materials and ensuring the recycling and recovery of wood waste. It also provides for the development of the use of wood in construction, therefore allowing for long-term carbon storage. An amendment was signed for 2021-2022 for the implementation of the recovery plan.
* The **National Bioeconomy Strategy** (adopted in 2017) and its 2018-2020 action plan integrate all public policies dealing with biomass in the same perspective, in order to put the renewable carbon and living economy back at the heart of the economy, by replacing fossil and mining products with bio-based products. The action plan breaks down the bioeconomy strategy into operational actions divided into five areas: improving knowledge; promoting the bioeconomy and its products to the general public; creating the conditions for supply and demand to be met; producing, mobilising and transforming bio-resources in a sustainable manner; removing barriers and mobilising funding.
* The **Forest-Wood 2025 Research-Innovation Plan**, which describes the main priorities of the sector in terms of research and development: increasing the use of wood with high added value, particularly hardwoods, improving the performance of the sector, ensuring its adaptation, etc. The launch of a €50 million priority research programme for forest resilience and biodiversity and an agile bioeconomy, led by public research, was announced on 21 November 2022[[8]](#footnote-8).
  + 1. Development of wood material

Wood material produced and used in a sustainable way requires little energy for its manufacture and allows the temporary storage of carbon: it already allows the storage of about 2 MtCO2eq annually in France and the development of these uses would allow it to increase. In addition, it can replace materials whose manufacture generates greenhouse gases (such as concrete, steel and aluminium).

Several measures are planned to promote the development of wood materials, particularly in construction. **Wood Plans I, II and III (Wood Plan IV** covers the period 2021-2024) have helped remove technical and regulatory barriers related to the use of wood in medium and high-rise construction. The aim of the **New Industrial France plan ‘Wooden high-rise buildings’** is to demonstrate, in a very concrete way through the construction of buildings, the feasibility of building in wood at great heights and to, subsequently, make the most appropriate technical solutions more accessible. Finally, **the RE2020** (see section C.2) takes into account all the emissions of a new building over its entire life cycle (including the manufacture of materials), which promotes biosourced products.

The ‘**biosourced buildings**’ label, which has been operational since 2013, helps give greater visibility to new buildings that make an effort to significantly use materials of plant and animal origin (wood, hemp, straw, wool, feathers etc.)

Companies in the wood industry also benefit from several **financing schemes managed by the French public investment bank Bpifrance**[[9]](#footnote-9): the ‘Prêt Participatif de Développement (PPD) Bois’ and the ‘Prêt Filière Bois’ for debt financing, the ‘Fonds Bois’ for equity investments. They also benefit from a support system, the Filière Bois Accelerator, including advice, training and networking to facilitate their growth.

* + 1. Development of biomass energy

Wood energy can be harvested as a co-product of timber, respecting the hierarchy of uses. It is therefore interesting to use the heat produced by the harvesting of timber and industrial wood, sawmills and certain wood waste. More generally, the development of the use of biomass for energy purposes makes it possible to reduce GHG emissions in various sectors of activity when it replaces fossil fuels. The choice was made to report the measures for the development of biomass energy in this forest section (rather than in the energy section) because they are complementary to the measures aimed at ensuring sustainable forest management. Public policy on forests and wood aims to take into account the upstream and downstream forestry sectors in a complementary manner.

The **National Strategy for Biomass Mobilisation** (SNMB) and the **Regional Biomass Mobilisation Schemes** (SRB) stem from the Energy Transition for Green Growth Act of August 2015. The SNMB defines guidelines, recommendations and actions concerning the production and use of biomass likely to be used for energy purposes, with a view to developing the production of biomass and increasing its mobilisation while ensuring that its uses are well linked, and that climate change is mitigated. The SRBs adapt the SNMB to regional specificities.

In terms of heat production, the **heat fund** managed by ADEME since 2009 (see Energy section) supports numerous biomass heating projects. Over the 2009-2021 period, 6,566 projects were supported (including 1,853 wood-biomass projects) for a total of 2.9 billion euros in aid and an annual heat production of 3.34 Mtoe[[10]](#footnote-10). In addition, two calls for expressions of interest called **DYNAMIC bois** were launched by ADEME in 2015 and 2016 to support innovative and operational actions to mobilise additional wood to facilitate the supply of biomass heating projects financed under the heat fund and to improve forest stands.

Electricity production from solid biomass is supported by contractual arrangements from **past tenders.** Support schemes now focus on support for renewable heat.

In addition, the MaPrimeRénov' schemes (see section B.2. Residential/tertiary), energy saving certificates (see Energy section) and the zero-interest eco-loan (see Residential/tertiary section) support the development of wood energy for individuals.

* 1. Waste treatment

In 2020, this sector contributed 4%[[11]](#footnote-11) of French greenhouse gas emissions. Landfill accounts for 82% of the sector’s emissions, incineration without energy recovery for 9%, other solid waste treatment (sorting and recycling, compost and biogas production) for 6% of the sector’s emissions and wastewater treatment for 3%. Methane from landfill and solid waste and wastewater treatment is the main greenhouse gas emitted by this sector in 2020 (88% of emissions), followed by CO2 from waste incineration (9%) and N2O mainly from wastewater and solid waste treatment (3%).

The prevention of waste production is listed in the Environmental Code as the priority in waste management. Preventing waste production not only avoids the environmental impacts of waste treatment, it also avoids the environmental impacts of the upstream stages of the product life cycle: extraction of natural resources, production of goods and services, distribution and use.

Several measures have been put in place to reduce waste production:

* The end of eligibility for the remuneration supplement for the production of electricity from waste incinerated in household waste incineration plants (in 2016) and from landfill gas (in 2020).
* **Single-use plastic bags have been banned** since 1 January 2016;
* The **fight against food waste** has been established as a national priority with a target of halving food loss and waste by 2025. The following measures have been taken: large food stores are now obliged to offer agreements to authorised charities for the donation of unsold foodstuffs. Distributors are prohibited from deliberately making unsold food unfit for consumption. The State, its public institutions and local authorities are obliged to establish an approach to combat food waste in the contract catering services they manage;
* Built-in obsolescence was defined in the Energy Transition for Green Growth Act of 17 August 2015 as ‘all techniques by which a marketer aims to deliberately reduce the lifespan of a product in order to increase its replacement rate’. The law recognises the **offence of built-in obsolescence**, which is punishable by two years’ imprisonment and a fine of €300,000, the amount of which can be increased to 5% of average annual turnover.

After waste prevention, the waste treatment hierarchy in French law (pursuant to European Waste Directive 2008/98/EC) is as follows: reuse, recycling and other forms of material recovery, energy recovery and disposal (incineration without energy recovery and landfill).

**Extended Producer Responsibility** (EPR) schemes are organisational arrangements for the prevention and management of waste that concern certain types of products. These arrangements are based on the principal of extended producer responsibility, according to which producers, i.e. those responsible for putting certain products on the market, are made responsible for financing or organising management of waste from these products at the end of their life. There are currently about twenty channels in France that are subject to this principle, which has been implemented gradually since 1992. Such a scheme allows the producer to include the cost of waste management in the cost of the product and encourages the sustainable design of their product to reduce waste. **Law no. 2020-105 of 10 February 2020 on the fight against waste and the circular economy (AGEC)** stipulates that any product covered by the principle of extended producer responsibility (EPR), with the exclusion of household glass drink containers, must be marked with a Triman sign[[12]](#footnote-12) informing the consumer that this product is subject to sorting rules. This Triman sign is accompanied by information on how to sort or get the waste from the product. If several elements of the product or waste from the product are subject to different sorting arrangements, these arrangements are detailed element by element. This information shall appear on the product, its packaging or, failing that, in the other documents supplied with the product, without prejudice to the symbols affixed pursuant to other provisions.

The AGEC law also stipulates the creation of eleven additional EPR schemes between 2021 and 2025[[13]](#footnote-13).

Immediately after waste reduction and prevention, sorting waste at the source is a very important step to direct it into an appropriate channel and increase the quantities of recovered waste. The energy transition for green growth act has put in place a set of provisions relating to sorting:

* **Obligation to sort** paper, cardboard, plastic, metal, wood, glass with a view to material or energy recovery **for waste from economic activities** of companies and administrations;
* **Roll-out of bio-waste separation at source** for households by 2025;
* Deployment of **incentive-based pricing for the collection of household and similar waste**, i.e. introducing a variable part in the household waste collection tax to reward good sorting;
* **Extension of sorting instructions for household packaging to all plastic packaging** by 2022, including plastic films and containers (until now, only plastic bottles and flasks had to be sorted);
* **Gradual harmonisation of sorting instructions and bin colours** in France
* Establishment, as of 1 January 2017, of **a network of professional recycling centres for the construction industry**, under the responsibility of building material distributors, to recover their customers’ pre-sorted waste.

The **waste component of the general tax on polluting activities** (TGAP) is an incentive tax payable by anyone using a landfill (storage facility) or an incinerator (waste thermal treatment facility) subject to authorisation. The tax is triggered when the waste is received by the operator of the facility and aims to reduce the quantity of waste produced upstream and encourage recycling. The TGAP waste rates are regularly increased in order to reinforce its incentive character. In addition, the TGAP rate for non-hazardous waste is adjusted depending on environmental and energy criteria for landfills and incinerators, in order to encourage the use of facilities with the highest environmental and recovery performance.

**ADEME’s waste fund** aims to support all operations that contribute to the implementation of the waste policy and the circular economy. The waste fund is financed by revenues from the TGAP waste tax. The level of this fund allows ADEME to offer support to most operations contributing to this policy, according to the terms and conditions depending on the nature of the operations (studies, organisation, awareness-raising, investment etc.) and their objective (prevention, recycling, recovery etc.) The main actions involve: sorting bio-waste at source by households and companies, preventing the production of waste from economic activities and its sorting, and incentive pricing for the public waste management service.

The **circular economy roadmap**, published in April 2018, aims to produce better (eco-design, incorporation of recycled materials), consume better (development of reuse and repair, extension of product lifespan), manage waste better (optimisation of waste sorting, development of recycling and recovery) and mobilise all players.

Following up on this 2018 circular economy roadmap, the **AGEC law** aims to put in place a set of measures based on four main guidelines: ending waste to preserve natural resources, mobilising manufacturers to transform production methods, strengthening consumer information and improving waste collection and combating illegal dumping:

* To stop waste, the law provides for the implementation of bans on the destruction of unsold products, the introduction of consumer information on the availability (or not) of spare parts to encourage repair, and reinforcement of the waste diagnosis that must be carried out by the project owner upstream of the construction site for better management of building waste;
* To transform production methods, a bonus-malus system will be introduced on the contribution that manufacturers pay for the management and processing of the end-of-life of their products in order to reward eco-designed products, and EPR schemes will be extended to new products (toys, cigarettes, sports goods);
* To improve consumption, a reparability index to inform consumers will be put in place on a number of electrical and electronic consumer products, and sorting will be made more efficient thanks to a single logo and harmonisation of the colours of sorting bins.
* Waste collection will be improved by making deposit systems available to the French, obliging distributors to take back old appliances free of charge, and structuring the sector for the management of construction waste.

These measures will have a positive effect in terms of reducing greenhouse gases through changes in production and consumption patterns. They will also have a positive impact in terms of reducing the amount of material produced, through better reuse of materials. Finally, the gradual disappearance of single-use plastic will help curb plastic pollution of the environment and its impact on biodiversity.

In the National Packaging Pact, signed in February 2019, **signatory companies committed to reducing their use of plastic** (and therefore reducing the amount of waste produced) and subscribed to a shared vision of the circular economy with NGOs.

* 1. Cross-sector policies and measures
     1. Policies and measures affecting all sectors

Policies and measures that impact all sectors are those that affect businesses and authorities. They are also likely to have an impact on all greenhouse gases.

Since 2012, an obligation to carry out a **greenhouse gas emissions assessment** and an action plan to reduce them has applied to businesses with more than 500 employees, authorities with more than 50,000 inhabitants, public institutions with more than 250 employees and government departments. The assessment and action plan must be carried out every three years in the case of authorities and public institutions and every four years for businesses, or else fines will be incurred. This is a diagnostic approach to greenhouse gas emissions at the level of an organisation (private or public), carried out with a view to identifying and mobilising sources of emissions reduction. Since decree no 2022-982 of 1 July 2022, the regulation makes it compulsory to calculate all direct emissions (scope 1) and significant indirect emissions (scopes 2 and 3) for most of the obliged parties. A methodological guide for carrying out the assessment is available to organisations free of charge. Furthermore, an online platform for publishing the assessments was set up in 2015 to facilitate the publication and dissemination of this information to the public.

The duties of companies in terms of social, environmental and societal responsibility have been reinforced by the Energy Transition for Green Growth Act of August 2015, in terms of reporting obligations on climate change. Large companies must include information in their non-financial reporting on the significant greenhouse gas emissions generated by their activity, in particular through the use of the goods and services they produce, from the financial year ending 31 December 2016. The notion of significant emissions has therefore been adopted to lead the company to report on the impacts of its activity on climate change, both in terms of direct and indirect emissions, particularly those relating to the use of the goods and services it produces.

The same law also completed the regulatory framework relating to the disclosure by portfolio management companies of the environmental, social and governance (known as ESG) criteria taken into account in their investment policy. Institutional investors must therefore publish information on their contribution to climate objectives and the financial risks associated with the energy and ecological transition. These obligations are applicable from the management reports published in 2017 for the year 2016.

Since 2021, two **environmental cross-compliance mechanisms for public aid** have also been introduced:

* Article 66 of Law no. 2020-935 of 30 July 2020 stipulates that companies with a turnover of more than €500 million subject to the extra-financial performance declaration (DPEF) obligation and benefiting from state help as part of the emergency plan put in place by the government to deal with the health crisis, must subscribe to commitments to reduce their greenhouse gas emissions. These commitments must be established in line with the sectoral carbon budgets set by the National Low Carbon Strategy. They are broken down into an action plan and are monitored annually, all in a public setting;
* Article 244 of Law no. 2020-1721 of 29 December 2020 provides for the introduction of a simplified greenhouse gas emissions assessment for legal entities under private law benefiting from credits under the recovery plan following the health crisis. This reporting differs from the system of greenhouse gas emissions assessments (BEGES), governed by Article L. 229-25 of the Environmental Code, both in terms of the scope of the obliged parties and the scope of the emissions to be taken into account:
  + This applies only to companies that are not subject to the BEGES and have between 50 and 500 employees (the BEGES applies to legal entities under private law with more than 500 employees);
  + Only direct emissions from fixed and mobile energy sources necessary for the activities of the legal entity should be estimated.

In addition, Decrees no. 2002-538 and no. 2022-539 of 13 April 2022 provide that from 1 January 2023, advertisers will be prohibited from stating in an advert that a product or service is ‘carbon neutral’ without presenting a greenhouse gas emission assessment over the entire life cycle of the product or service, the planned emissions reduction trajectory, as well as the methods for offsetting residual emissions. These elements must be easily accessible to the public and updated every year. This mechanism, provided for in Article 12 of the Climate and Resilience Law, aims to guarantee complete information to the public on ‘carbon neutral’ claims and will help to gradually strengthen the commitments of advertisers while combating greenwashing.

As far as local authorities are concerned, their climate action is based on territorial planning tools: the Regional Schemes for Planning, Sustainable Development and Equality of Territories (SRADDET), and the Territorial Climate-Air-Energy Plans (PCAET) for inter-municipal authorities with more than 20,000 inhabitants (see section A.1. Institutional foundations).

* + 1. Cross-sectoral policies and measures on F-Gases

EU Regulation no. 517/2014 (so called ‘F-Gas II’) provides for a number of provisions to reduce F-gas emissions from refrigeration and air conditioning equipment used in the construction industry, manufacturing and refrigerated transport. It came into force on 1 January 2015 and repeals and replaces Regulation no. 842/2006 (the so-called ‘F-Gas’ Regulation). It is based on the following provisions:

* The reinforcement of obligations related to the containment of equipment (leakage checks, repair obligations), to the certification of personnel handling HFCs, and to the obligation of recovery during maintenance and dismantling of equipment;
* The introduction of a mechanism for the phased reduction of the quantities of HFCs placed on the market from 2015 to 2030 via a quota system. In 2030, the total amount of HFCs placed on the market, in CO2 equivalent, should be 21% of the average level between 2009 and 2012;
* Sectoral bans on placing products and equipment containing F-gases above a certain GWP on the market;
* A ban on the maintenance of refrigeration installations with new fluids with a GWP greater than 2,500 from 1 January 2020.

The revision of this ‘F-Gas’ regulation is underway in order to further reduce the production and placing on the market of fluorinated greenhouse gases in the European Union. The proposal currently being discussed between Member States notably provides for a decrease of 95% on the marketing of HFCs by 2030 compared to 2015 (compared to 80% according to the F-Gas regulation currently in place).

In addition, on 29 March 2018, France ratified the Kigali amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer. While the Kigali amendment contributes to the same overall objectives as the European F-Gas II Regulation, it covers a longer commitment period up to 2036 (the F-Gas II Regulation goes up to 2030.)

* 1. Table of policies and measures

In order to not duplicate the information previously provided in the 4th Biennial Report[[14]](#footnote-14) submitted by France in 2019, table CTF3 provided in the appendix presents all measures from 2019 onwards.

1. Long-term effect of undertaken policies and measures
   1. Effect on the reduction of emissions

Greenhouse gas emissions decreased by 27.8% between 1990 and 2020 (Kyoto scope, excluding LULUCF). At the same time, the population has increased by 16% and GDP has more than doubled over the same period. Today, among developed countries, French per capita emissions are among the lowest in the world: over the same period, per capita emissions have therefore fallen from 9.4 tCO2eq to 5.93 tCO2eq.

This testifies to the effort to decarbonise the economy that has already been made in France, and which will be further increased by 2030 and 2050. But this also reflects the tertiarisation of the French economy, which is correlated with a decline in its industrial activity.

The policies and measures undertaken have already made it possible to:

* exploit significant energy saving sources to curb the upward trend in consumption;
* develop renewable energy sources;
* introduce a carbon price signal in energy taxation;
* introduce public policies in all activity sectors by targeting the different mitigation levers;
* raise public awareness of climate change mitigation issues.

Moreover, the bulk of budgetary expenditure on the fight against climate change is geared towards the long term. This is because it concerns research and transport infrastructure in the modes that emit the least greenhouse gases. This is also the case for tax expenditure, most of which aims to support housing renovation or the acquisition of low emission vehicles. Finally, it’s also the case of regulatory action, which forces investments to make significant energy savings over their entire life cycle. In the longer term, research and development funding is likely to have the greatest impact. Therefore, support for the emergence of green industries and the development of renewable energy (support for onshore and offshore wind power, photovoltaics, renewable gas, biomass) is an essential lever for meeting the challenge of energy transition, which is the only way to meet the challenge of climate change, in terms of controlling energy consumption and, more generally, in terms of a low emission and energy-efficient lifestyle and production methods.

As detailed above, France has set itself a long-term objective, carbon neutrality by 2050, and has equipped itself with tools to steer its climate and energy policy with the multiannual energy plan and above all the national low-carbon strategy. Aiming for overall coherence, this strategy sets out the course for driving the greenhouse gas emission mitigation policy in the medium and long term. It proposes a structured and continuous approach to decarbonise the various sectors by 2050. It therefore contributes to strengthening the consideration of long-term impacts in the prioritisation of the implemented measures.

Key climate change policies and measures shall be subject to a GHG assessment. Where a GHG assessment is available, it is specified in Table41 Appendix III. Only key measures are assessed. However, many measures can’t be assessed, particularly in the case of information, support, obligation and audit mechanisms for which it is difficult to isolate the triggering impact of these measures, or measures aimed at changing practices and behaviours for which it is often difficult to isolate their impact. The projection modelling exercise allows for regular updating of the estimated impact of measures. It is an exercise that needs to be seen as a whole in order to take into account the synergies that may exist between different policies and measures.

* 1. Economic and social impacts

The National Low Carbon Strategy and the MEP have been subject to a macroeconomic assessment of their economic and social impacts. The macroeconomic assessment has shown a slightly positive effect on GDP and employment (around 1 to 2 points in 2030 and 3 points in 2050 compared to a trend scenario) and a benefit on employment (around 300,000 to 400,000 jobs in 2030 and 700,000 to 800,000 jobs in 2050). In particular, these results are based on the hypothesis that the other countries are committed to the low-carbon transition in accordance with the Paris Agreement. Finally, climate change-related damages are not taken into account.

* 1. Minimising adverse effects on developing countries

As well as the transfer of technology and expertise, France helps developing countries to strengthen and enrich their climate change observation systems through its climate observation network and its research and cooperation projects (see [chapter 5](#ChapV)).

With regard to policies and measures put in place within the framework of European policies, France, as a Member State of the European Union, must transpose European law into its legislative system. In the process of adopting European policies, Europe has established a system for estimating the positive and negative impacts of these policies, including the effects on other countries in the context of impact studies. The consideration of these impact studies is a key element in the final decision to define the policy and measure. They make it possible to ensure that the negative impacts of a European policy on developing countries are minimised and to ensure that the French legislative provisions resulting from European law respect the commitment made in the framework of the Kyoto Protocol in accordance with its article 3.14. Regarding national policies, Table 3.9 on page 84 of France’s 4th Biennial Report[[15]](#footnote-15) lists the estimated direct and indirect effects of some of France’s climate policies and measures.

In addition, France's carbon footprint is receiving increasing attention. This footprint represents the emissions linked to French consumption, i.e. national emissions minus emissions linked to exports and plus those linked to imports. This indicator is one of the 10 leading sustainable development indicators monitored by France. The National Low Carbon Strategy contains a number of guidelines for reducing the carbon footprint, to ensure that national emission reductions do not lead to increases elsewhere in the world. Finally, the 2019 Energy and Climate Law stipulates that from the next National Low Carbon Strategy onwards, indicative carbon budgets will have to be defined for the carbon footprint and no longer only for national emissions.

Chapter IV - Greenhouse gas emission projections

1. Definition of scenarios
   * + 1. AME Scenario

A scenario “with existing measures” or AME 2021, taking into account all policies and measures decided and implemented until 31 December 2019, was created in 2021. This 2050 scenario updates the AME 2018 scenario by integrating all the policies and measures decided and implemented between 1 July 2017 and 31 December 2019. The general approach, for WEM scenarios is to consider that no new policies and measures are being implemented after a particular cut-off date, and that existing measures end unless a funding trajectory has been established. The AME scenario is therefore a “business-as-usual” scenario, which provides a conservative estimate of the evolution of GHG emissions with existing measures. A summary of this scenario, written in French, is available on the website of the Ministry of Ecology Transition[[16]](#footnote-16).

* + - 1. AMS Scenario

Between April 2017 and March 2018 France conducted a large-scale scenario-building exercise for the 2050 time period. The previous exercise was carried out up to 2035. A scenario "with additional measures" or AMS 2018 was then created. It represents a way for France to reach its long-term objectives, notably carbon neutrality on its national territory in 2050. This scenario had already been reported in France’s BR4 in a preliminary version. The same scenario is being reported in the BR5 in a finalized version, which has been used to establish France’s domestic carbon budgets. There are few differences between the two versions, and most of them are being technical updates related to GHG inventory methodology.

No “without measure” scenario (WOM) has been produced since considering France’s modelling architecture, it would have been highly resource intensive, and would have delivered only little additional value to France’s domestic policy-making compared to the WEM scenario.

Additional measures compared to the AME scenario are included in this scenario. The AMS scenario incorporates the additional measures adopted since 1 July 2017 (some of which are included in the AME 2021 scenario), a reinforcement and extension of existing measures and the taking into account of the guidelines adopted within the framework of the National Low Carbon Strategy and the Multiannual Energy Plan. Since the WAM scenario is being updated only every 4/5 years, and the WEM scenarios every 2 years, the AME 2021 scenario happens to include some measures, adopted between 2017 and December 2019, considered as “additional” when the AMS 2018 was elaborated (ex. Tertiary decree, closure of coal-fired power plants, EU regulation on CO2 emissions from cars and vans). However, this overlap is limited, and the AMS 2018 (WAM) scenario includes a clearly larger set of PaMs, with on the one hand PaMs that are being extended until 2050 (ex. Energy saving certificate scheme, Heat Fund, MaPrimeRénov, etc.), and on the other hand, additional measures which have not yet been implemented by December 2019 (ex. Support to modal shift in the transport sector, enhanced construction regulation for new building, etc.). The following sections provide further details on the PaMs included in each scenario.

This scenario was defined as part of the consultation process for the 2nd National Low Carbon Strategy. The hypotheses were developed within the framework of technical discussion groups with stakeholders and presented to the SNBC's Information and Steering Committee. The AMS Scenario is the reference scenario of the French energy and climate strategy. The two national planning or strategy documents, the Multiannual Energy Plan (MEP) and the National Low Carbon Strategy (SNBC) are based on this scenario, as is the National Integrated Energy and Climate Plan (PNIEC) that France submitted to the European Union in 2019. A summary of this scenario has been written in French and can be found on the website of the Ministry of Ecology Transition[[17]](#footnote-17).

All the policies and measures presented in chapter 4 and marked with an asterisk (\*) have therefore been included.

1. Key policies and measures included in the scenarios
   * 1. Carbon taxation (cross-sectoral)
        1. AME 2021

The hypotheses on carbon taxation have been modified. For the non-ETS sectors in particular, the latest AME scenario included the same carbon component on domestic energy consumption taxes with a value of €14.50/tCO2 in 2015, €22/tCO2 in 2016, €30.50/tCO2 in 2017, €39/tCO2 in 2018, €47.50/tCO2 in 2019, €56/tCO2 in 2020 then a linear growth to €100/tCO2. The AME 2021 scenario incorporates the freezing of the TICPE decided at the end of 2018 and assumes that it will remain at its current level, i.e. €44.60/tCO2, until 2050.

* + - 1. AMS 2018

The AMS 2018 scenario takes into account the decision to freeze the carbon component increase at the end of 2018. The carbon component is therefore modelled with a stable trajectory from 2018 onwards at €44.60/tCO2.

* + 1. Energy saving certificates (cross-sectoral)
       1. AME 2021

The AME 2021 scenario includes the extension of the 4th period of the energy saving certificate scheme until 31/12/2021 with an indicated target of 2,133 TWh cumulative updated over the 2018-2021 period. The value of the energy saving certificate is set at €6/MWh cumulative updated (compared to €3/MWh in the previous AME) for this period reflecting the price increase observed since 2018.

* + - 1. AMS 2018

The energy saving certificate scheme is extended until 2050. The value of the energy saving certificate progressively increases from €3/MWh cumulative updated at the beginning of the period up to €20/MWh cumulative updated in 2050.

* + 1. Renewable energy
       1. AME 2021

The heat fund was extended until 2021 and stopped thereafter. Biofuels were included at 7.9% for petrol and 7.3% for diesel in 2015 and remain stable over the period. Renewable electrical energy is expected to grow at the current rate.

* + - 1. AMS 2018

The heat fund is extended until 2050. Biofuels were included at 7.5% for petrol and diesel in 2015, rising to 10.6% in 2030 and 100% in 2050. Renewable electrical energy is expected to grow quicker than in the AME scenario.

* + 1. Transport
       1. AME 2021

For this sector, the AME 2021 incorporates in particular: the 2019 European regulations on vehicles, the measures of the Mobility Orientation Law on Transport (LOM) and the fiscal measures taken before the end of 2019.

For vehicle fleets, the scenario includes the 2019 European regulations setting emission reduction targets for new vehicles sold by 2030 compared to 2021 for passenger cars (-37.5%), light commercial vehicles (-31%) and heavy goods vehicles (-30%). The scenario also incorporates national measures relating to vehicles, in particular all the fiscal measures decided on before 2020 (bonus-malus, conversion premium, tax on company vehicles, tax incentive scheme for heavy vehicles); the reinforcement under the Mobility Orientation Law on Transport of the objectives of integrating low emission vehicles and the extension of the measure to company fleets of more than 100 vehicles, including fleet leasing companies; incentives for the installation of public and private charging stations; low emission zones. In modelling, measures relating to obligations to integrate low emission vehicles into fleet renewal, fiscal incentives, the development of low emission zones and measures to develop charging stations are considered as measures that support the achievement of European targets but have no additional effect.

For traffic, modelling takes into account all the measures in favour of cycling that have been adopted as part of the Mobility Orientation Law on Transport and the cycling plan, measures to strengthen public transport and low emission zones. For aviation, the scenario includes the ETS and CORSIA schemes. A saturation effect is taken into account in modelling for international traffic from 2025 until 2050, through a reduction in the flexibility of traffic compared to GDP of around 25% by 2050.

Traffic was modelled at key points of 2030 and 2050. The 2025 point was interpolated from 2018 to 2030. The impact of Covid-19 is taken into account, on the one hand, through the Commission's GDP chronicle, which includes a Covid-19 effect, which is reflected in traffic, including in the medium term, through the impact of GDP in the models; and, on the other hand, the 2020 point, which is evaluated on the basis of the provisional traffic data known at the time the chronicles were drawn up.

* + - 1. AMS 2018

The AMS scenario carried out prior to the adoption of the 2019 regulations anticipated the adoption of these regulations and projected a development of low emission vehicles close to the AME 21 scenario. In addition, the scenario includes a target of ending the sale of new cars and light commercial vehicles emitting greenhouse gases in 2040. The scenario therefore foresees the eventual complete electrification of the passenger car fleet, a strong development of electrification for light commercial vehicles as well as a more diversified energy mix for heavy goods vehicles including the development of NGVs (Natural Gas Vehicles) with the development of bio-NGV, electrification including hydrogen fuel cells. The scenario also includes strong energy efficiency increases with an actual consumption of 4l/100km for new cars in 2030. The inclusion rate of biofuels in liquid and gaseous fuels is developing until reaching 100% inclusion for land transport in 2050.

The scenario includes reinforced measures on demand. The modal share of cycling is multiplied by 4 by 2030. The scenario includes a modal shift towards public transportation of 3 points by 2030 and 7 points by 2050. The scenario also includes an assumption of control of mobility demand with a lower growth than in the AME scenario (remote working, limiting urban sprawl) as well as an increase in vehicle occupancy rates.

* + 1. Construction
       1. AME 2021

Concerning the construction of new buildings, the AME 2021 scenario takes into account the latest regulation in force, namely RT2012. Unlike the 2018 scenario, the E+/C- testing wasn’t included in the modelling because it only affected a limited number of dwellings.

Concerning the thermal renovation of housing, the tax credit (now called MaPrimeRénov'), the subsidies for the thermal renovation of housing for precarious households, the eco-PTZ (subsidised loan for individuals) and eco-PLS (subsidised loan for the renovation of social housing) were extended until the end of 2021.

The objective of renovating energy-consuming homes by 2028, although adopted via the 2019 Energy and Climate Law, has not been included in the central scenario due to the small number of effective measures to achieve it.

The measures concerning mandatory energy renovations during major works in the residential and tertiary sector, the obligation to carry out an energy audit in joint ownership properties, the reinforcement of the element-by-element thermal regulation and the individualisation of heating costs (already included in the previous AME) have been taken into account.

* + - 1. AMS 2018

Concerning the construction of new buildings, the AMS scenario takes into account the latest regulation in force, i.e. RT2012 and then makes hypotheses for increasingly ambitious regulations on energy consumption, decarbonisation of the energy mix and the use of materials that emit less greenhouse gases, in particular biosourced materials.

Concerning the thermal renovation of housing, the tax credit, subsidies for the thermal renovation of housing for precarious households, the eco-PTZ (subsidised loan for individuals) and eco-PLS (subsidised loan for the renovation of social housing) are extended until 2050. The scenario also includes measures for mandatory energy renovations during major works (already integrated in the AME scenario) as well as a target for the disappearance of the most energy-consuming homes from 2030, which is included in the 2019 Energy and Climate Law.

* + 1. Industry
       1. AME 2021

Industrial production grows in line with the macroeconomic framework (average annual growth rate of industrial value added). A trend improvement in the energy efficiency of processes supported by energy audit obligations and energy saving certificates is nevertheless represented, which counterbalances the first effect and leads to an almost stable energy consumption of the industrial sector between 2015 and 2030.

* + - 1. AMS 2018

The objective of carbon neutrality requires the mobilisation of all available emission reduction levers. The industrial sector is affected by the 4 main families of levers: reduction of energy consumption, decarbonisation of energy, reduction of non-energy emissions and increase of the carbon sink. A 5th lever can also be applied to the industrial sector: reducing the material intensity of the economy (through eco-design, recycling, etc.). The AMS (with additional measures) scenario therefore foresees significant gains in energy efficiency (between -15% and -40% for unit consumption compared to 2015 depending on the sector, which has different potentials, and a recovery of 15 TWh of waste heat) associated with a decarbonisation of the energy mix, with an electrification of the sector up to 74%, the rest of the consumption being mainly based on biogas (12%) and biomass (12%). In this scenario, progress is also made on the sector's non-energy emissions through improved industrial processes (e.g. low-carbon cement) and a strong reduction in fluorinated gas emissions through substitution with low warming potential fluids. In the longer term, the carbon sink is strengthened through CO2 capture and storage technologies (see section dedicated to this subject).

These transformations are taking place mainly through reinforcing the EU ETS, gradually raising the price of quotas on the market, but also via the maintenance of the carbon component in domestic consumption tax, the heat fund, energy saving certificates, energy audit obligations, innovation subsidies under the Investment Programme for the Future (PIA) and loans from the BPI are also helping to accelerate the transition in the industry. Other support measures (e.g. the EU ETS Innovation Fund) will facilitate the initiation of the necessary investments.

* + 1. Fluorinated gases
       1. AMS 2018 and AME 2021

Regulation 842/2006 (F-Gas) on fluorinated greenhouse gases and Directive 2006/40/EC (automotive air conditioning) and the resulting French regulations (art. R 543-75 et seq., R 543-99 French Environment Code) are taken into account.

* + 1. Agriculture and forestry
       1. AME 2021

Few new measures have been adopted in this area since the previous AME. The changes mainly concern an adjustment of trends in the light of recently-observed trajectories. The share of arable crop land under organic farming will increase between 2015 and 2030 from 5.5% in 2019 to 10.6% in 2030 and 16.9% in 2050. Mineral fertiliser consumption will fall by 5.2% between 2019 and 2030 and by 12.7% between 2019 and 2050.

* + - 1. AMS 2018

The share of arable crop land under organic farming will increase between 2015 and 2030 from 2.3% in 2015 to 28% in 2030 and 44% in 2050. Mineral fertiliser consumption will fall by 21% between 2015 and 2030 and by 45% between 2015 and 2050.

The change in the national diet towards a less meat-focused and better quality diet is leading to a change in the structure of agricultural production. In particular, farmers’ incomes are increasing due to increased quality but also due to diversification of income sources (increase in the production of biomass from agriculture through the use of waste, crop residues or dedicated crops, in particular intermediate crops; use of ecosystem services, in particular carbon storage, etc.). This change in production structure will be accompanied by a drop in the cattle population of 11% between 2015 and 2030 and then of 30% between 2015 and 2050.

* + 1. Waste management and processing
       1. AME 2021

The scenario includes the same measures as the previous AME scenario, the law on the circular economy and combating waste (known as the AGEC law) was adopted in early 2020 and therefore was not included in the exercise. In addition, the biomethane capture rate will remain stable between 2015 and 2030 at 50%. The share of captured biomethane recovered will reach 85% over the period 2030-2050.

* + - 1. AMS 2018

The scenario incorporates a greater circular economy and a massive shift of waste to reuse, recycling, material recovery or energy recovery. The amount of waste going to landfill will decrease by 86% between 2015 and 2050. Furthermore, the biomethane capture rate will increase between 2015 and 2030 from 50% to 60% and then to 85% in 2050. The share of captured biomethane recovered will remain stable from 2030 at 75%.

* + 1. Summary

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | AME | AMS |
| Cross-cutting | Carbon taxation | X | X |
| Energy saving certificates | X | X (until 2050) |
| Renewable energy | Heat fund | X | X (until 2050) |
| Transport | 2019 European regulations on vehicles | X | X |
| Mobility orientation law | X | X |
| Fiscal measures before the end of 2019 | X | X |
| Ending the sale of new cars emitting GHG in 2040 |  | X |
| Electrification |  | X |
| Rising of the cycling modal share | X | X (2030 and 2050) |
| Construction | RT 2012 | X | X |
| MaPrimeRénov’ | X | X |
| Eco-PTZ | X | X (until 2050) |
| Disappearance of the most energy consuming homes from 2030 |  | X |
| Industry | Energy audits and energy saving certificates | X | X |
| Electrification of the sector |  | X |
| Improved industrial processes |  | X |
| EU ETS |  | X |
| Fluorinated gases | French regulation | X | X |
| Agriculture and forestry | Share of fieldcrop land under organic farming | X | X |
| Less-meat focused diet |  | X |
| Waste management and processing | Biomethane capture rate increase | X | X |
| Geater circular economy |  | X |

* 1. Sensitivity analysis

No sensitivity analysis was conducted for AME 2021. Considering the modelling architecture used, that would have represented significant costs. Yet, considering that the modelling approach is very similar to the one used for the scenarios produced in 2018, for which such an analysis had been done (cf. BR4), one can consider that the sensitivity to the main parameters (GDP, energy prices, etc.) remain in the same margin.

1. Presentation of the overall results

The AMS 2018 scenario presented here takes 2015 as the base year, as the history up to this date is consistent with the latest inventory submitted in April 2018. The AMS 2021 scenario takes 2019 as the base year, and is based on the inventory submitted in April 2021. Considering the delay between the production of both scenarios, the base years are different, and do not align with the most recent national GHG inventory submission of 2022. Still, the observed data have been replaced with the observed data from the last annual inventory submission from 2022 (also available in CTF table 6(a) in BR5), which can explain some slope breaks in 2020.

In the projection for AMS 2018, the emissions include corrective elements relating to certain cyclical elements such as the severity of the winter. Indeed, as 2015 was warmer than the average of previous years, actual emissions were lower than if the winter had been average in previous years. An upward correction of emissions has therefore been introduced for the short-term period. A global warming scenario of 2°C in 2050 has also been considered in the scenario. In this chapter, the detailed results are presented for the Kyoto scope. Projections within the scope of the convention could not be carried out in the context of this exercise.

For the Kyoto scope, the emissions used in the scenarios (excluding the LULUCF sector) were 457 MtCO2eq in 2015, i.e. a 15.9% reduction compared to 1990.

* + - 1. AME 2021

The emissions excluding LULUCF in the Kyoto scope decrease in the AME 2021 scenario to:

* 367 MtCO2eq in 2030, i.e. 33% reduction compared to 1990
* 330 MtCO2eq in 2050, i.e. 39% reduction compared to 1990

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AME 2021 | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| (in ktCO2e) | Observed | Observed | Observed | Observed | Observed | Observed | Observed | Projected | Projected | Projected | Projected | Projected |
| All (excluding LULUCF) | 544086 | 536475 | 549005 | 551391 | 507468 | 457923 | 434539 | 398676 | 392095 | 367049 | 354446 | 329653 |
| All (including LULUCF) | 520100 | 511596 | 529295 | 504079 | 469112 | 423346 | 422251 | 365838 | 363349 | 340618 | 332886 | 317026 |

Table : GHG emission projections (in ktCO2e) for the Kyoto scope in the AME21 scenario (with existing measures)

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2021

In AME 2021, emissions fell sharply in 2020 due to the impact of the Covid-19 pandemic. The significant rebound expected in 2021–2022 is not visible in the outputs due to the 5-year time step of the modelling. Thereafter, the emissions trend is similar to that of the 2018 AME with a lag of about -50 MtCO2eq. This brings the trajectory closer to AMS 2018, but does not reach it. On the other hand, the rate of emission decline in the post-2030 period remains very low compared to what is expected in AMS.

More specifically, it is difficult, with the tools used, to assess exactly the respective role of the policies and measures adopted since 2018, and that of the updating of the scoping assumptions and methodological changes, on this -50 MtCO2eq gap. However, it can be estimated approximately:

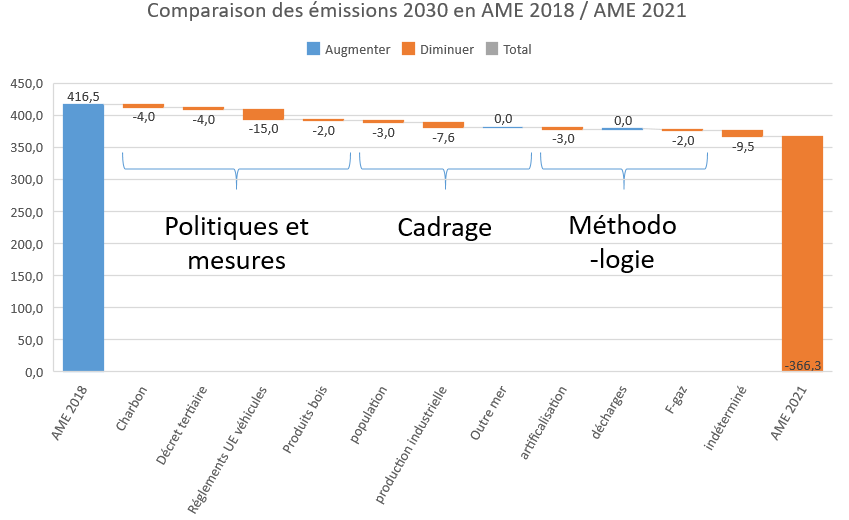


Figure 13: Comparison of emissions in 2030 between AME 2021 and AMS 2018 and the effect of different factors

Source: MTE-DGEC

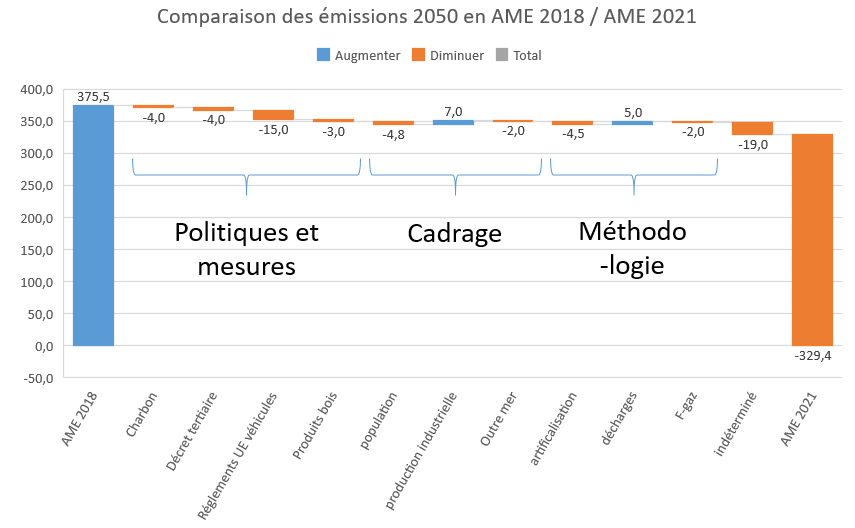


Figure 14: Comparison of emissions in 2050 between AME 2021 and AMS 2018 and the effect of different factors

Source: MTE-DGEC

|  |  |  |  |
| --- | --- | --- | --- |
| Category | Determinant | Approximate impact to 2030 (MtCO2eq) | Approximate impact to 2050 (MtCO2eq) |
| Policies and measures | Closure of coal-fired power plants | -4.0 | -4 |
| Tertiary sector decree | -4.0 | -4 |
| European vehicle regulations | -15.0 | -15 |
| Harvesting and wood products | -2.0 | -3 |
| Modification of the framework | Population | -3.0 | -4.8 |
| Industrial production | -7.6 | +7 |
| Overseas | 0.0 | -2 |
| Methodological modifications | Recalculation of the rate of artificialisation | -3.0 | -4.5 |
| Accounting for methane emissions in landfills post-2035 | 0 | +5 |
| F-Gas accounting methodology | -2.0 | -2 |
| All policies and measures | | -25 | -26 |
| Total framing | | -10.6 | +0.2 |
| Total methodology | | -5 | -1.5 |
| Total other | Indeterminate or indistinguishable determinants | -9.5 | -19 |

Table 3: Impact of different factors on the level of emissions in 2030 and 2050

Source: MTE-DGEC

* + - 1. AMS 2018

The emissions excluding LULUCF in the Kyoto scope decrease in the AMS scenario to:

* 307 MtCO2eq in 2030, i.e.: a 43% reduction compared to 1990
* 65 MtCO2eq in 2050, i.e.: a 85% reduction compared to 1990

The reduction in emissions is therefore much higher in the AMS scenario than in the AME scenario.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AMS 2018 | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| (in ktCO2e) | Observed | Observed | Observed | Observed | Observed | Observed | Observed | Projected | Projected | Projected | Projected | Projected |
| All (excluding LULUCF) | **544086** | **536475** | **549005** | **551391** | **507468** | **457923** | **434539** | **434378** | **367661** | **307094** | **247697** | **64551** |
| All (including LULUCF) | **520100** | **511596** | **529295** | **504079** | **469112** | **423346** | **422251** | **395383** | **329989** | **266934** | **202492** | **-2597** |

Table : GHG emission projections (in ktCO2e) at the Kyoto scope in the AMS 2018 scenario (with additional measures)

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2018

Figure : Emissions trajectory excluding LULUCF to 2050

Source: DGEC (French Directorate-General for Energy and Climate)

Figure : Emissions trajectory with LULUCF up to 2050

Source: DGEC (French Directorate-General for Energy and Climate)

1. Detail by sector and by gas
   1. Trends by sector of activity

The tables and graphs below present the breakdown of France’s emissions projections by sector of activity for 2020 and 2030, firstly by major sector of activity, and then by sub-detailing the energy sector. The results are presented using the CRF categories defined in the IPCC guidelines for national GHG inventories.

* + 1. Presentation by macro-sector (energy, agriculture, industrial processes and waste treatment)
       1. AME 2021

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **AME 21** | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | 2019 | **2020** | **2025** | **2030** | **2035** | **2050** |
|  | **Observed** | | | | | | | **Projected** | | | | |
| Energy | 367272 | 366079 | 381989 | 390391 | 357711 | 313634 | 297313 | 264395 | 261598 | 240639 | 231245 | 211199 |
| Industrial processes, solvents and other products | 78729 | 71997 | 64668 | 63620 | 53798 | 50664 | 46564 | 43717 | 41701 | 39058 | 36794 | 33455 |
| Agriculture (excluding energy) | 80803 | 78281 | 81292 | 76018 | 75203 | 75720 | 72498 | 73050 | 72080 | 71043 | 70093 | 68253 |
| LULUCF | -23986 | -24879 | -19709 | -47311 | -38355 | -34577 | -12288 | -32838 | - 28746 | - 26431 | - 21560 | -12627 |
| Waste | 17283 | 20118 | 21056 | 21362 | 20756 | 17905 | 18165 | 17514 | 16717 | 16308 | 16315 | 16746 |
| **Ensemble (hors UTCF)** | **544086** | **536475** | **549005** | **551391** | **507468** | **457923** | **434539** | 398676 | 392095 | 367049 | 354446 | 329653 |
| **Ensemble (avec UTCF)** | 520100 | 511596 | 529296 | 504080 | 469113 | 423346 | 422252 | 365838 | 363349 | 340618 | 332886 | 317026 |
| *For reference:* |  |  |  |  |  |  |  |  |  |  |  |  |
| *International bunker emissions* | 16921 | 17908 | 23807 | 24733 | 24227 | 23316 | 24791 | *9647* | *23890* | *24424* | *24881* | *26319* |
| *Aviation bunker emissions* | 8880 | 10709 | 14243 | 15862 | 16227 | 17705 | 19202 | *4898* | *19148* | *19698* | *20165* | *21635* |
| *Maritime bunker emissions* | 8041 | 7199 | 9564 | 8871 | 8001 | 5611 | 5589 | *4750* | *4742* | *4726* | *4716* | *4685* |

*Reading the table: Energy = category CRF1; industrial processes and solvents = category CRF2 and 3; agriculture (non-energy) = category CRF4; waste treatment = category CRF 6.*

Table : GHG emissions projections by sector of activity (in ktCO2e) in the Kyoto scope in the AME scenario (with existing measures)

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2021

Figure : Projection by sector in ktCO2e, Kyoto format, WEM scenario

Source: UNFCCC inventory, Citepa/MTES, 2022 submission and MTES emission projections, 2021

* + - 1. AMS 2018

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **AMS 2018** | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
|  | **Observed** | | | | | | | **Projected** | | | | |
| Energy | 367272 | 366079 | 381989 | 390391 | 357711 | 313634 | 297313 | 305017 | 253350 | 203515 | 151385 | -5007 |
| Industrial processes, solvents and other products | 78729 | 71997 | 64668 | 63620 | 53798 | 50664 | 46564 | 41371 | 32979 | 27368 | 24409 | 15534 |
| Agriculture (excluding energy) | 80803 | 78281 | 81292 | 76018 | 75203 | 75720 | 72498 | 73646 | 69007 | 65227 | 62117 | 47831 |
| LULUCF | -23986 | -24879 | -19709 | -47311 | -38355 | -34577 | -12288 | -38995 | -37671 | -40160 | -45205 | -67148 |
| Waste | 17283 | 20118 | 21056 | 21362 | 20756 | 17905 | 18165 | 14345 | 12325 | 10983 | 9786 | 6193 |
| **Ensemble (hors UTCF)** | **544086** | **536475** | **549005** | **551391** | **507468** | **457923** | **434539** | **434378** | **367661** | **307094** | **247697** | **64551** |
| **Ensemble (avec UTCF)** | **520100** | **511596** | **529296** | **504080** | **469113** | **423346** | **422252** | **395383** | **329989** | **266934** | **202492** | **-2597** |
| *For reference:* |  |  |  |  |  |  |  |  |  |  |  |  |
| *International bunker emissions* | 16921 | 17908 | 23807 | 24733 | 24227 | 23316 | 24791 | 24784 | 26995 | 29299 | 26287 | 13459 |
| *Aviation bunker emissions* | 8880 | 10709 | 14243 | 15862 | 16227 | 17705 | 19202 | 17005 | 19084 | 21396 | 18692 | 11003 |
| *Maritime bunker emissions* | 8041 | 7199 | 9564 | 8871 | 8001 | 5611 | 5589 | 7778 | 7911 | 7903 | 7595 | 2456 |

*Reading the table: Energy = category CRF1; industrial processes and solvents = category CRF2 and 3; agriculture (non-energy) = category CRF4; waste treatment = category CRF 6.*

Table : GHG emissions projections by sector of activity (in ktCO2e) in the Kyoto scope in the AMS scenario (with additional measures)

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2018

Figure : Projection by sector in ktCO2e, in the Kyoto format, AMS 2018 scenario

Source: UNFCCC inventory, Citepa/MTES, 2022 submission and MTES emission projections, 2018

* + 1. Details of the energy sector categories
       1. AME 2021

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AME 2021 | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
|  | **Observed** | **Observed** | **Observed** | **Observed** | **Observed** | **Observed** | **Observed** | **Projected** | **Projected** | **Projected** | **Projected** | **Projected** |
| Energy industry | 66338 | 55802 | 62526 | 66972 | 60134 | 44988 | 41680 | 49721 | 49450 | 48836 | 48946 | 30247 |
| Manufacturing and construction | 76164 | 80423 | 75532 | 71990 | 62105 | 51963 | 48031 | 47344 | 49895 | 48956 | 49242 | 50182 |
| Transport | 122293 | 132329 | 141051 | 142041 | 133750 | 133744 | 131725 | 104084 | 114627 | 102181 | 96593 | 83729 |
| Other sectors  (residential, tertiary, agriculture) | 102477 | 97525 | 102881 | 109388 | 101722 | 82940 | 75877 | 73985 | 67291 | 60718 | 57402 | 47041 |
| **All energy** | **367272** | **366079** | **381989** | **390391** | **357711** | **313634** | **297313** | **264395** | **261598** | **240639** | **231245** | **211199** |

*Reading the table: Energy industry = category CRF1A1; manufacturing and construction = category CRF1A2 and 1B; transport = category CRF 1A3; other sectors = category CRF 1A4 and 1A5.*

Table : Details of energy sector categories (in ktCO2e) in the Kyoto scope in the AME scenario (with existing measures)

Source: UNFCCC inventory, Citepa/MTES, 2022 submission and MTES emission projections, 2021

Figure : Details of energy sector categories in ktCO2e, in the Kyoto scope, AME 2021 scenario

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2021

* + - 1. AMS 2018

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AMS 2018 | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
|  | **Observed** | **Observed** | **Observed** | **Observed** | **Observed** | **Observed** | **Observed** | **Projected** | **Projected** | **Projected** | **Projected** | **Projected** |
| Energy industry | 66338 | 55802 | 62526 | 66972 | 60134 | 44988 | 41680 | 51390 | 35549 | 30007 | 19242 | -13050 |
| Manufacturing and construction | 76164 | 80423 | 75532 | 71990 | 62105 | 51963 | 48031 | 43570 | 38146 | 30122 | 23105 | 2056 |
| Transport | 122293 | 132329 | 141051 | 142041 | 133750 | 133744 | 131725 | 126491 | 110958 | 94288 | 71522 | 3221 |
| Other sectors  (residential, tertiary, agriculture) | 102477 | 97525 | 102881 | 109388 | 101722 | 82940 | 75877 | 83566 | 68697 | 49099 | 37516 | 2766 |
| **All energy** | **367272** | **366079** | **381989** | **390391** | **357711** | **313634** | **297313** | **305017** | **253350** | **203515** | **151385** | **-5007** |

*Reading the table: Energy industry = category CRF1A1 and 1B; manufacturing and construction = category CRF1A2; transport = category CRF 1A3; other sectors = category CRF 1A4 and 1A5.*

Table : Details of energy sector categories (in ktCO2e) in the Kyoto scope in the AMS scenario (with additional measures)

Source: UNFCCC inventory, Citepa/MTES, 2022 submission and MTES emission projections, 2018

Figure : Details of energy sector categories in ktCO2e, in the Kyoto scope, AMS 2018 scenario

Source: UNFCCC inventory, Citepa/MTES, 2022 submission and MTES emission projections, 2018

* 1. Trends by gas

In accordance with UNFCCC guidelines, changes in emissions by gas are presented in the tables and graphs below (overall and then by sector).

* + 1. Overall trends
       1. AME 2021

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **AME 2021** | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| ktCO2e | **Observed** | | | | | | **Projected** | | | | | |
| CO2 excluding LULUCF | 398425 | 392916 | 414788 | 425444 | 386872 | 341631 | 326725 | 291487 | 292205 | 272039 | 262355 | 241265 |
| CO2 including LULUCF | 370280 | 361121 | 390194 | 373972 | 344171 | 303032 | 310432 | 254402 | 259213 | 241362 | 236549 | 224391 |
| CH4 excluding LULUCF | 69161 | 70383 | 68603 | 63632 | 61663 | 57862 | 55740 | 55161.5 | 53575.1 | 52448.1 | 51718.6 | 51049.8 |
| CH4 including LULUCF | 70094 | 74053 | 70296 | 64820 | 62793 | 58940 | 56877 | 56289.0 | 54702.2 | 53575.1 | 52845.5 | 52176.8 |
| N2O excluding LULUCF | 64725 | 65937 | 53681 | 46307 | 40478 | 39895 | 38071 | 38446.9 | 37839.2 | 36921.5 | 36417.5 | 35003.5 |
| N2O including LULUCF | 67951 | 69183 | 56873 | 49279 | 43694 | 42840 | 40939 | 41566.3 | 40958.6 | 40040.9 | 39537.0 | 38123.0 |
| HFCs | 4402 | 1702 | 6736 | 12862 | 16930 | 17494 | 12992 | 12721.1 | 7816.6 | 5052.7 | 3427.2 | 1830.7 |
| PFCs | 5202 | 3065 | 2997 | 1760 | 617 | 537 | 615 | 462.9 | 290.7 | 217.7 | 156.5 | 130.9 |
| SF6 | 2155 | 2467 | 2180 | 1355 | 875 | 498 | 385 | 387.4 | 358.1 | 359.2 | 360.2 | 363.0 |
| NF3 | 16 | 6 | 20 | 31 | 32 | 6 | 10 | 9.4 | 10.4 | 10.4 | 10.4 | 10.5 |
| **Ensemble (hors UTCF)** | **544086** | **536476** | **549005** | **551391** | **507468** | **457924** | **434540** | **398676** | **392095** | **367049** | **354446** | **329653** |
| **Ensemble (avec UTCF)** | **520100** | **511596** | **529296** | **504080** | **469113** | **423346** | **422252** | **365838** | **363349** | **340618** | **332886** | **317026** |

*Reading the table: Energy = category CRF1; industrial processes and solvents = category CRF2 and 3; agriculture (non-energy) = category CRF4; waste treatment = category CRF 6.*

Table : GHG emissions projections by gas (in ktCO2e) in the Kyoto scope in the AME 2021 scenario (with existing measures)

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2021

Figure : Projection by gas, excluding LULUCF in ktCO2e, in the Kyoto format, AME 2021 scenario

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2021

Figure : Projection by gas, including LULUCF in ktCO2e, in the Kyoto format, AME 2021 scenario

Source: UNFCCC inventory, Citepa/MTES, 2022 submission and MTES emission projections, 2021

* + - 1. AMS 2018

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **AMS 2018** | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| ktCO2e | **Observed** | | | | | | | **Projected** | | | | |
| CO2 excluding LULUCF | 398425 | 392916 | 414788 | 425444 | 386872 | 341631 | 326725 | 325904 | 273167 | 220992 | 167257 | 6447 |
| CO2 with LULUCF | 370280 | 361121 | 390194 | 373972 | 344171 | 303032 | 310432 | 282686 | 231263 | 176617 | 117863 | -64813 |
| CH4 excluding LULUCF | 69161 | 70383 | 68603 | 63632 | 61663 | 57862 | 55740 | 52531 | 47947 | 44507 | 41496 | 32465 |
| CH4 with LULUCF | 70094 | 74053 | 70296 | 64820 | 62793 | 58940 | 56877 | 53671 | 49093 | 45641 | 42610 | 33519 |
| N2O excluding LULUCF | 64725 | 65937 | 53681 | 46307 | 40478 | 39895 | 38071 | 40268 | 37693 | 35559 | 33721 | 22856 |
| N2O with LULUCF | 67951 | 69183 | 56873 | 49279 | 43694 | 42840 | 40939 | 43352 | 40778 | 38641 | 36797 | 25914 |
| HFCs | 4402 | 1702 | 6736 | 12862 | 16930 | 17494 | 12992 | 14731 | 7995 | 5241 | 4458 | 2109 |
| PFCs | 5202 | 3065 | 2997 | 1760 | 617 | 537 | 615 | 479 | 395 | 330 | 299 | 205 |
| SF6 | 2155 | 2467 | 2180 | 1355 | 875 | 498 | 385 | 458 | 459 | 460 | 460 | 463 |
| NF3 | 16 | 6 | 20 | 31 | 32 | 6 | 10 | 6 | 6 | 6 | 6 | 6 |
| **Ensemble (hors UTCF)** | **544086** | **536476** | **549005** | **551391** | **507468** | **457924** | **434540** | **434378** | **367661** | **307094** | **247697** | **64551** |
| **Ensemble (avec UTCF)** | **520100** | **511596** | **529296** | **504080** | **469113** | **423346** | **422252** | **395383** | **329989** | **266934** | **202492** | **-2597** |

Table : GHG emission projections by gas (in ktCO2e) at Kyoto scope in the WAM 2018 scenario (With Additional Measures)

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2018

Figure : Projection by gas in ktCO2-eq, excluding LULUCF, in the Kyoto format, AMS scenario

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2018

Figure : Projection by gas in ktCO2-eq, including LULUCF, in the Kyoto format, AMS 2018 scenario

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2018

* + 1. Cross-sectoral and gas-specific trends
       1. AME 2021

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AME 21 – CO2 | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| Energy | 351435 | 350115 | 370522 | 381286 | 350369 | 307160 | 291379 | 259004 | 256402 | 235838 | 226591 | 206719 |
| Industrial processes, solvents and other products | 42902 | 38604 | 40574 | 40644 | 32910 | 30753 | 31576 | 29085 | 32247 | 32522 | 31943 | 30222 |
| Agriculture (excluding energy) | 1894 | 1973 | 1989 | 1965 | 1986 | 2176 | 2032 | 2139 | 2205 | 2273 | 2342 | 2518 |
| LULUCF | -28145 | -31795 | -24595 | -51471 | -42701 | -38599 | -16293 | -37085 | - 32,992 | - 30,678 | - 25,806 | -16,873 |
| Waste | 2194 | 2223 | 1704 | 1549 | 1608 | 1542 | 1738 | 1259 | 1351 | 1406 | 1478 | 1805 |
| **Ensemble (hors UTCF)** | **398425** | **392916** | **414788** | **425444** | **386872** | **341631** | **326725** | **291487** | **292205** | **272039** | **262355** | **241265** |
| **Ensemble (avec UTCF)** | **370280** | **361121** | **390194** | **373972** | **344171** | **303032** | **310432** | **254402** | **259213** | **241362** | **236549** | **224391** |

Table : CO2 emission projections (in ktCO2e) at Kyoto scope in the WEM 2021 scenario (with existing measures)

Source: UNFCCC inventory, Citepa/MTES, 2022 submission and MTES emission projections, 2021

Figure : Projection by gas, excluding LULUCF in ktCO2e, in the Kyoto format, AME 2021 scenario

Source: UNFCCC inventory, Citepa/MTES, 2022 submission and MTES emission projections, 2021

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AME 21 – CH4 | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| Energy | 12404 | 11918 | 7568 | 4922 | 3704 | 2743 | 2398 | **2320** | **2262** | **2191** | **2158** | **2199** |
| Industrial processes, solvents and other products | 220 | 221 | 236 | 207 | 147 | 85 | 66 | **67** | **75** | **75** | **75** | **73** |
| Agriculture (excluding energy) | 42218 | 41145 | 42197 | 39373 | 39325 | 39281 | 37445 | **37180** | **36538** | **35950** | **35340** | **34518** |
| LULUCF | 933 | 3670 | 1693 | 1189 | 1130 | 1078 | 1138 | **1128** | **1127** | **1127** | **1127** | **1127** |
| Waste | 14318 | 17099 | 18602 | 19129 | 18487 | 15753 | 15830 | **15594** | **14700** | **14232** | **14146** | **14260** |
| **Ensemble (hors UTCF)** | 69161 | 70383 | 68603 | 63632 | 61663 | 57862 | 55740 | **55161** | **53575** | **52448** | **51719** | **51050** |
| **Ensemble (avec UTCF)** | 70094 | 74053 | 70296 | 64820 | 62793 | 58940 | 56877 | **56289** | **54702** | **53575** | **52846** | **52177** |

Table: CH4 emissions projections (in ktCO2e) in the Kyoto scope in the AME 2021 scenario (with existing measures)

Source: UNFCCC inventory, Citepa/MTES, 2022 submission and MTES emission projections, 2021

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AME 21 – N2O | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| Energy | 3433 | 4046 | 3900 | 4183 | 3638 | 3731 | 3537 | **3072** | **2933** | **2611** | **2495** | **2281** |
| Industrial processes, solvents and other products | 23831 | 25932 | 11924 | 6760 | 2287 | 1291 | 918 | **983** | **903** | **821** | **822** | **825** |
| Agriculture (excluding energy) | 36691 | 35162 | 37106 | 34680 | 33892 | 34263 | 33020 | **33731** | **33337** | **32820** | **32410** | **31217** |
| LULUCF | 3226 | 3246 | 3193 | 2971 | 3216 | 2944 | 2867 | **3119** | **3119** | **3119** | **3119** | **3119** |
| Waste | 771 | 796 | 750 | 684 | 661 | 610 | 597 | **662** | **666** | **670** | **690** | **681** |
| **Ensemble (hors UTCF)** | 64725 | 65937 | 53681 | 46307 | 40478 | 39895 | 38071 | **38447** | **37839** | **36921** | **36418** | **35004** |
| **Ensemble (avec UTCF)** | 67951 | 69183 | 56873 | 49279 | 43694 | 42840 | 40939 | **41566** | **40959** | **40041** | **39537** | **38123** |

Table : N2O emissions projections (in ktCO2e) in the Kyoto scope in the AME scenario (with existing measures)

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2021

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AME 21 - HFC | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| Energy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Industrial processes, solvents and other products | 4402 | 1702 | 6736 | 12862 | 16930 | 17494 | 12992 | 12721 | 7817 | 5053 | 3427 | 1831 |
| Agriculture (excluding energy) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LULUCF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Waste | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ensemble (hors UTCF)** | 4402 | 1702 | 6736 | 12862 | 16930 | 17494 | 12992 | **12721** | **7817** | **5053** | **3427** | **1831** |
| **Ensemble (avec UTCF)** | 4402 | 1702 | 6736 | 12862 | 16930 | 17494 | 12992 | **12721** | **7817** | **5053** | **3427** | **1831** |

Table: HFC emissions projections (in ktCO2e) in the Kyoto scope in the AME scenario (with existing measures)

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2021

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AME 21 - PFC | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| Energy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Industrial processes, solvents and other products | 5202 | 3065 | 2997 | 1760 | 617 | 537 | 615 | 462.9 | 290.7 | 217.7 | 156.5 | 130.9 |
| Agriculture (excluding energy) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LULUCF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Waste | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ensemble (hors UTCF)** | 5202 | 3065 | 2997 | 1760 | 617 | 537 | 615 | **462.9** | **290.7** | **217.7** | **156.5** | **130.9** |
| **Ensemble (avec UTCF)** | 5202 | 3065 | 2997 | 1760 | 617 | 537 | 615 | **462.9** | **290.7** | **217.7** | **156.5** | **130.9** |

Table : PFC emissions projections (in ktCO2e) in the Kyoto scope in the AME 2021 scenario (with existing measures)

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2021

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AME 21 – SF6 | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| Energy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Industrial processes, solvents and other products | 2155 | 2467 | 2180 | 1355 | 875 | 498 | 385 | 387.4 | 358.1 | 359.2 | 360.2 | 363.0 |
| Agriculture (excluding energy) | 0 | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| LULUCF | 0 | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| Waste | 0 | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **Ensemble (hors UTCF)** | 2155 | 2467 | 2180 | 1355 | 875 | 498 | 385 | **387.4** | **358.1** | **359.2** | **360.2** | **363.0** |
| **Ensemble (avec UTCF)** | 2155 | 2467 | 2180 | 1355 | 875 | 498 | 385 | **387.4** | **358.1** | **359.2** | **360.2** | **363.0** |

Table : SF6 emissions projections (in ktCO2e) in the Kyoto scope in the AME 2021 scenario (with existing measures)

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2021

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AME 21 - NF3 | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| Energy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Industrial processes, solvents and other products | 16 | 6 | 20 | 31 | 32 | 6 | 10 | 9.4 | 10.4 | 10.4 | 10.4 | 10.5 |
| Agriculture (excluding energy) | 0 | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| LULUCF | 0 | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| Waste | 0 | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **Ensemble (hors UTCF)** | 16 | 6 | 20 | 31 | 32 | 6 | 10 | **9.4** | **10.4** | **10.4** | **10.4** | **10.5** |
| **Ensemble (avec UTCF)** | 16 | 6 | 20 | 31 | 32 | 6 | 10 | **9.4** | **10.4** | **10.4** | **10.4** | **10.5** |

Table : NF3 emissions projections (in ktCO2e) in the Kyoto scope in the AME 2021 scenario (with existing measures)

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2021

**AMS 2018**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AMS 18 – CO2 | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| Energy | 351435 | 350115 | 370522 | 381286 | 350369 | 307160 | 291379 | 297 837 | 246 729 | 197 348 | 145 879 | -8 529 |
| Industrial processes, solvents and other products | 42902 | 38604 | 40574 | 40644 | 32910 | 30753 | 31576 | 24 658 | 23 181 | 20 509 | 18 386 | 12 017 |
| Agriculture (excluding energy) | 1894 | 1973 | 1989 | 1965 | 1986 | 2176 | 2032 | 1 894 | 1 742 | 1 620 | 1 478 | 1 445 |
| LULUCF | -28145 | -31795 | -24595 | -51471 | -42701 | -38599 | -16293 | -43 218 | -41 903 | -44 376 | -49 395 | -71 260 |
| Waste | 2194 | 2223 | 1704 | 1549 | 1608 | 1542 | 1738 | 1 515 | 1 515 | 1 515 | 1 515 | 1 515 |
| **Ensemble (hors UTCF)** | **398425** | **392916** | **414788** | **425444** | **386872** | **341631** | **326725** | **325 904** | **273 167** | **220 992** | **167 257** | **6 447** |
| **Ensemble (avec UTCF)** | **370280** | **361121** | **390194** | **373972** | **344171** | **303032** | **310432** | **282 686** | **231 264** | **176 617** | **117 863** | **-64 813** |

Table : CO2 emissions projections (in ktCO2e) in the Kyoto scope in the AMS 2018 scenario (with additional measures)

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2018

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AMS 18 – CH4 | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| Energy | 12404 | 11918 | 7568 | 4922 | 3704 | 2743 | 2398 | 3 247 | 3 120 | 3 049 | 2 893 | 2 422 |
| Industrial processes, solvents and other products | 220 | 221 | 236 | 207 | 147 | 85 | 66 | 54 | 50 | 45 | 39 | 23 |
| Agriculture (excluding energy) | 42218 | 41145 | 42197 | 39373 | 39325 | 39281 | 37445 | 37 174 | 34 794 | 32 781 | 31 121 | 26 140 |
| LULUCF | 933 | 3670 | 1693 | 1189 | 1130 | 1078 | 1138 | 1 140 | 1 146 | 1 134 | 1 114 | 1 054 |
| Waste | 14318 | 17099 | 18602 | 19129 | 18487 | 15753 | 15830 | 12 056 | 9 982 | 8 631 | 7 443 | 3 880 |
| **Ensemble (hors UTCF)** | 69161 | 70383 | 68603 | 63632 | 61663 | 57862 | 55740 | **52 531** | **47 947** | **44 507** | **41 496** | **32 465** |
| **Ensemble (avec UTCF)** | 70094 | 74053 | 70296 | 64820 | 62793 | 58940 | 56877 | **53 671** | **49 093** | **45 641** | **42 610** | **33 519** |

Table : CH4 emissions projections (in ktCO2e) in the Kyoto scope in the AMS 2018 scenario (with additional measures)

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2018

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AMS 18 – N2O | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| Energy | 3433 | 4046 | 3900 | 4183 | 3638 | 3731 | 3537 | 3 932 | 3 501 | 3 118 | 2 613 | 1 100 |
| Industrial processes, solvents and other products | 23831 | 25932 | 11924 | 6760 | 2287 | 1291 | 918 | 984 | 893 | 778 | 761 | 712 |
| Agriculture (excluding energy) | 36691 | 35162 | 37106 | 34680 | 33892 | 34263 | 33020 | 34 579 | 32 471 | 30 826 | 29 519 | 20 246 |
| LULUCF | 3226 | 3246 | 3193 | 2971 | 3216 | 2944 | 2867 | 3 083 | 3 085 | 3 082 | 3 076 | 3 059 |
| Waste | 771 | 796 | 750 | 684 | 661 | 610 | 597 | 773 | 828 | 837 | 827 | 798 |
| **Ensemble (hors UTCF)** | 64725 | 65937 | 53681 | 46307 | 40478 | 39895 | 38071 | **40 268** | **37 693** | **35 559** | **33 721** | **22 856** |
| **Ensemble (avec UTCF)** | 67951 | 69183 | 56873 | 49279 | 43694 | 42840 | 40939 | **43 352** | **40 778** | **38 641** | **36 797** | **25 914** |

Table : N2O emissions projections (in ktCO2e) in the Kyoto scope in the AMS 2018 scenario (with additional measures)

Source: UNFCCC inventory, Citepa/MTE, 2022 submission and MTE emission projections, 2018

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AMS 18 - HFC | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| Energy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Industrial processes, solvents and other products | 4402 | 1702 | 6736 | 12862 | 16930 | 17494 | 12992 | 14 731 | 7 995 | 5 241 | 4 458 | 2 109 |
| Agriculture (excluding energy) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LULUCF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Waste | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ensemble (hors UTCF)** | 4402 | 1702 | 6736 | 12862 | 16930 | 17494 | 12992 | **14 731** | **7 995** | **5 241** | **4 458** | **2 109** |
| **Ensemble (avec UTCF)** | 4402 | 1702 | 6736 | 12862 | 16930 | 17494 | 12992 | **14 731** | **7 995** | **5 241** | **4 458** | **2 109** |

Table : GHG emission projections (in ktCO2e) at the Kyoto scope in the AMS 2018 scenario (with additional measures)

Source: UNFCCC inventory, Citepa/MTES, 2022 submission and MTES emission projections, 2018

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AMS 18 - PFC | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| Energy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Industrial processes, solvents and other products | 5202 | 3065 | 2997 | 1760 | 617 | 537 | 615 | 479 | 395 | 330 | 299 | 205 |
| Agriculture (excluding energy) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LULUCF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Waste | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ensemble (hors UTCF)** | 5202 | 3065 | 2997 | 1760 | 617 | 537 | 615 | **479** | **395** | **330** | **299** | **205** |
| **Ensemble (avec UTCF)** | 5202 | 3065 | 2997 | 1760 | 617 | 537 | 615 | **479** | **395** | **330** | **299** | **205** |

Table : GHG emission projections (in ktCO2e) at the Kyoto scope in the AMS 2018 scenario (with additional measures)

Source: UNFCCC inventory, Citepa/MTES, 2022 submission and MTES emission projections, 2018

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AMS 18 – SF6 | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| Energy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Industrial processes, solvents and other products | 2155 | 2467 | 2180 | 1355 | 875 | 498 | 385 | 458 | 460 | 460 | 460 | 463 |
| Agriculture (excluding energy) | 0 | **0** | **0** | **0** | **0** | **0** | **0** | 0 | 0 | 0 | 0 | 0 |
| LULUCF | 0 | **0** | **0** | **0** | **0** | **0** | **0** | 0 | 0 | 0 | 0 | 0 |
| Waste | 0 | **0** | **0** | **0** | **0** | **0** | **0** | 0 | 0 | 0 | 0 | 0 |
| **Ensemble (hors UTCF)** | 2155 | 2467 | 2180 | 1355 | 875 | 498 | 385 | **458** | **460** | **460** | **460** | **463** |
| **Ensemble (avec UTCF)** | 2155 | 2467 | 2180 | 1355 | 875 | 498 | 385 | **458** | **460** | **460** | **460** | **463** |

Table : SF6 emissions projections (in ktCO2e) in the Kyoto scope in the AMS 2018 scenario (with additional measures)

Source: UNFCCC inventory, Citepa/MTES, 2022 submission and MTES emission projections, 2018

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AME 18 – NF3 | **1990** | **1995** | **2000** | **2005** | **2010** | **2015** | **2019** | **2020** | **2025** | **2030** | **2035** | **2050** |
| Energy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Industrial processes, solvents and other products | 16 | 6 | 20 | 31 | 32 | 6 | 10 | 6 | 6 | 6 | 6 | 6 |
| Agriculture (excluding energy) | 0 | **0** | **0** | **0** | **0** | **0** | **0** | 0 | 0 | 0 | 0 | 0 |
| LULUCF | 0 | **0** | **0** | **0** | **0** | **0** | **0** | 0 | 0 | 0 | 0 | 0 |
| Waste | 0 | **0** | **0** | **0** | **0** | **0** | **0** | 0 | 0 | 0 | 0 | 0 |
| **Ensemble (hors UTCF)** | 16 | 6 | 20 | 31 | 32 | 6 | 10 | **6** | **6** | **6** | **6** | **6** |
| **Ensemble (avec UTCF)** | 16 | 6 | 20 | 31 | 32 | 6 | 10 | **6** | **6** | **6** | **6** | **6** |

Table : NF3 emissions projections (in ktCO2e) in the Kyoto scope in the AMS 2018 scenario (with additional measures)

Source: UNFCCC inventory, Citepa/MTES, 2022 submission and MTES emission projections, 2018

1. Meeting France’s targets
   * 1. Meeting the Kyoto Protocol’s 2020 targets

In 2010, the EU committed to reducing its greenhouse gas emissions by 20% below 1990 levels by 2020. This target was submitted by the EU-28 as part of the Convention, and there are no Member State-specific targets. As part of the Energy and Climate Package, the EU has established internal rules that underpin the implementation of this target. This is divided into two sub-targets compared to 2005, one for the ETS sectors for the whole of the EU (a target of -21% in 2020 compared to 2005 emissions) and the other for the non-ETS sectors shared between each Member State (a target of -14% in 2020 compared to 2005 emissions for France). The non-ETS target is also a target to be achieved over a period and not in a given year.

The 2020 inventory shows that emissions from sectors not covered by the ETS amounted to 307.8 MtCO2eq in 2020, whereas the emissions cap was 355.2 MtCO2eq. As French emissions were lower than those resulting from the effort-sharing decision in previous years, France has a surplus of allowances. **The 2020 target has therefore been met**.

* + 1. Achieving France’s 2030 targets

Under the Paris Agreement, the EU has committed to reducing its greenhouse gas emissions by 40% by 2030. As for 2020, this reduction effort is divided between the ETS and non-ETS sectors, the latter being shared between Member States. The reduction target for France in the non-ETS sectors is -37% compared to 2005. As part of the increase in European ambition via the Green Deal, the EU’s overall target has been set at -55% net by 2030 compared to 1990. For France, this corresponds to a target of -47.5% in 2030 compared to 2005 for the EU’s non-ETS sector

In addition, France has set a national target of reducing its overall emissions by 40% in 2030 compared to 1990.

The AME 2021 scenario makes it possible to achieve the objectives of the second carbon budget, as well as the first period of the ESR (2021-2025) - before updating under the Green Deal. In contrast, projected emissions in 2030 amount to 367 MtCO2eq, a 33% reduction compared to 1990, indicating that additional measures are required to reach the current -40% target. In the AMS scenario, emissions reach 307 MtCO2eq in 2030, i.e. a 43% reduction compared to 1990, which makes it possible to reach the current -40% target, but will need to be updated in line with the new targets of the Green Deal. This is the subject of the Stratégie Française pour l’Energie et le Climat (French Strategy for Energy and Climate), which is currently being revised.

1. The evolution of models and methodologies
   1. Modelling used

The modelling process for the AMS 2018 scenario was presented in the previous national communication and the last biennial report.

The process for AMS 2021 has broadly followed the same lines, with some notable differences:

Unlike the previous period, which was linked to the updating of national programmes, this time the consultations were limited to the administrations concerned (other MTE directorates, MASA/DGPE, MEFR/DGT, ADEME) as well as the external modellers (Citepa and CSTB). Five working groups were set up (agriculture-forest-land / buildings / transport / industry / energy-waste), each of which held between 2 and 4 meetings as required between September 2020 and February 2021.

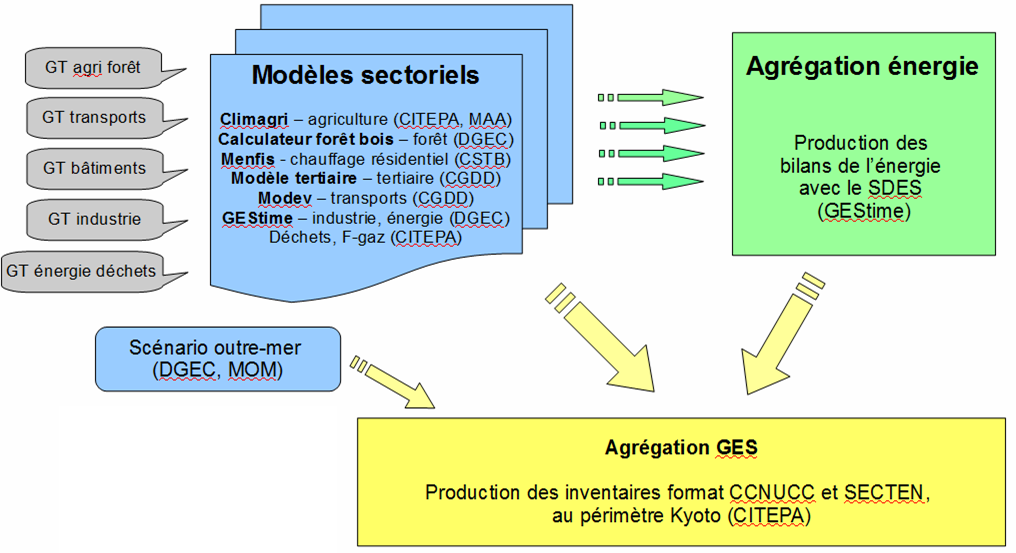


Figure 26: Modelling process for AME 2021

Source: MTE/DGEC

In terms of modelling, the process is largely the same as that used in 2018 : the use of a large variety of sectoral technico-economic models, whose energy consumptions and GHG emissions are aggregated in accordance with GHG inventory methodologies. This modelling approach allows for a fine description of sectoral transformations associated with the scenario. Its main weakness, compared to the use of a single top-down model, is that extra attention needs to be given to the potential interactions between sectors, and that it takes a long time to proceed to all the modelling (one full run may take up to 6 months). All models have been elaborated with a view to make analysis on GHG emissions and energy consumptions. The integration of several policies and measures at the same time within each sectors helps to prevent double-counting between PaMs.

The main difference with the modelling approach used in 2018 resides in the use of GEStime, an internal tool developed by the DGEC, which has replaced the use of MedPro for energy aspects and for industry. GEStime is an accounting model which allows energy consumption and greenhouse gas emissions to be represented statically for a given time horizon as a function of a series of physical levers in each of the sectors. It is based on the year 2015 using data from the SDES energy balance and the Citepa inventory. New tools have also been used to model land artificialisation and air transport.

|  |  |  |
| --- | --- | --- |
| Sector | Tools used | Managed by |
| Agriculture | Climagri and CITEPA modules | CITEPA |
| Forest | Forestry calculator and CITEPA module | DGEC, CITEPA |
| Land (artificialisation) | Artificial growth calculator\*, CITEPA module | DGEC, CITEPA |
| Residential | Menfis | CSTB |
| Tertiary | Tertiary model | CGDD |
| Excluding heating (residential and tertiary) | GEStime\* | DGEC (French Directorate-General for Energy and Climate) |
| Transport | Modev (traffic) | CGDD |
| Private car type model\* | DGITM |
| Aviation\* | DGAC |
| Industry | GEStime\* | DGEC (French Directorate-General for Energy and Climate) |
| Energy production | GEStime\* | DGEC (French Directorate-General for Energy and Climate) |
| Waste | CITEPA module | CITEPA |
| F-Gas | CITEPA module | CITEPA |
| GHG aggregations | CITEPA modules | CITEPA |

\* new AME 2021

Table 25: Details of the tools and models used[[18]](#footnote-18)

Source: MTE/DGEC

A report describing all the assumptions and the modelling process for AME 2021 is available in French[[19]](#footnote-19). It also contains detailed information about the difference between AME2018 (BR4) and AME 2021 (BR5).

* + 1. Sectoral models
       1. Modelling the transport sector

Traffic projections are based on the Modev model of the Commissariat Général au Développement Durable (French General Commission for Sustainable Development). Modev model changes in passenger and freight traffic as a function of demographic and economic growth variables (GDP, final household consumption, sectoral added value), changes in transport infrastructure and services, and the prices of the various modes of transport. Modev models changes to the overall demand for transport (passengers and goods) as well as changes to the modal split between the different modes of transport and the traffic on the network.

The traffic modelling is completed with models of vehicle fleets which include, in particular, a modelling of the spread of electric vehicles and changes to the distribution of diesel/petrol engines, according to hypotheses on changes to cost of vehicles and batteries and changes in the unit consumption of the various types of vehicles.

* + - 1. Modelling the building sector

The residential sector is modelled with the Menfis model managed by the CSTB (Higher Technical Building Council). The Menfis model models changes in the energy performance of the stock of residential buildings annually from 2008 to 2050. The energy performance dynamics are obtained by renovation, destruction of buildings, and new constructions. Renovation processes are central to Menfis. With technical-economic calculations, Menfis determines annually which parts of the building can be renovated and at which energy performance level. By modelling the rebound effect, it predicts changes in energy consumption and greenhouse gas emissions.

The tertiary sector was modelled by the CGDD using the Énergies Demain Enerter® Tertiaire tool, which evaluates the energy consumption of tertiary buildings and estimates the impact of rehabilitation measures on this stock.

* + - 1. Modelling the agriculture and forestry sector

The agriculture and forestry sector was modelled by Citepa using the ClimAgri® model initially developed in 2009 by Solagro and Bio Intelligence Service for ADEME. ClimAgri models energy consumption and greenhouse gases in the agricultural sector based on assumptions about the characteristics of crop production (description of production, inputs, technical practices and itineraries, yields) and bioconversions, i.e. the transformation of fodder and concentrates into the production of eggs, milk and meat, by describing livestock, inputs and breeding practices.

* + - 1. Modelling the industrial sector

Changes in tonnages, energy performance, recycling rates and mix developed in the previous scenarios were updated by a group of experts, taking into account recent developments in the sector. The associated energy consumption was calculated using the GEStime tool.

* + - 1. Modelling of fluorinated gases

For the F-Gas sector, an assessment of HFC emissions was carried out using the RIEP software developed by the Energy and Processes Centre of MINES ParisTech. In the RIEP software, equipment containing fluorinated gases is grouped into eight application areas: domestic refrigeration, commercial refrigeration, refrigerated transport, industry, air conditioning, chillers, on-board air conditioning (including automotive air conditioning) and heat pumps. Each database describes, for 41 equipment sub-sectors, the national markets and production of equipment, the technical characteristics of the equipment (related to load, installed power, lifetime, etc.) as well as the emission levels and recovery efficiency of the maintenance and end-of-life channels. Market and production data are taken from statistical sources available for mainland France and referenced in the French Inventory studies that are updated each year. The other hypotheses are derived from the results of field surveys, communications from equipment manufacturers, results of experimental measurements and expert assessments.

* + 1. Modelling energy scenarios

The GEStime tool, developed internally by the DGEC, was used to aggregate energy consumption and to model changes in the energy sector in 5-year steps.

* + 1. Modelling greenhouse gas emissions

Based on the activity scenarios described above, Citepa developed emission projection scenarios up to 2050. The emission projections are consistent with the national greenhouse gas emission inventory submitted to the UNFCCC. The methods used to convert activity data into emissions are therefore consistent with the inventory report.

* 1. Baseline scenario assumptions

The economic framework used to develop the scenarios is as follows. It is important to note that the assumptions are different between the AMS and the AME scenario, as the scenarios were not designed at the same time. Moreover, CTF table 5 contains the assumptions relative to the AME21 scenario.

* + 1. Assumptions about changes to energy prices

The assumptions used for the price of fossil fuels come from the economic framework proposed by the European Commission to all EU countries.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| AME 2021 | **2020** | **2025** | **2030** | **2035** | **2040** | **2050** |
| Oil (Brent crude oil) | 38 | 67.4 | 80 | 86.4 | 92.8 | 113.2 |
| Coal (CIF ARA 6000) | 74.2 | 111.7 | 121.9 | 131.3 | 137.8 | 147.3 |
| Gas (GCG average EU import) | 146.9 | 238.2 | 249.4 | 285.8 | 341.4 | 343.8 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| AMS 2018 | **2015** | **2020** | **2025** | **2030** | **2035** |
| Oil (Brent crude oil) | 48.19 | 75.01 | 85.15 | 93.8 | 97.85 |
| Coal (CIF ARA 6000) | 11.47 | 14.31 | 17.09 | 20.51 | 21.72 |
| Gas (NCV, CIF average EU import) | 38.8 | 48.25 | 52.21 | 56.77 | 60.63 |

Table 26: Imported energy price assumptions (in € 2013/boe) in AME 21 and AMS 18

Source: EU economic framework

* + 1. Carbon price assumptions under the ETS

The carbon price assumptions for companies included in the ETS come from the economic framework proposed by the European Commission to all EU countries.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EU ETS carbon price | **2015** | **2020** | **2025** | **2030** | **2035** | **2040** | **2045** | **2050** |
| AMS 2018 (€2013/tCO2) | 7,5 | 15 | 22,5 | 33,5 | 42 |  |  |  |
| AME 2021 (€2016/tCO2) |  | 25 | 28 | 30 | 40 | 53 | 70,1 | 89,4 |

Table 27: Carbon price assumptions under the ETS

Source: EU economic framework

* + 1. Demographic assumptions

The population growth assumptions for AMS 2018 come from the central scenario by INSEE (French National Institute of Statistics and Economic Studies) which produces the reference demographic projections for France.

The Eurostat scenario, provided in the European Commission’s framework, was used for AMS 2021. Indeed, the data observed up to 2019 already deviated from the data in the 2016 INSEE scenario, which justified this change of source, leading to a decrease in the population of about 2 million inhabitants in 2050. As Eurostat does not provide a disaggregated figure between mainland France and the DROMs, the figures from the INSEE low fertility scenario, recalculated on the Eurostat totals, were used to calculate the population of the DROMs.

* + - 1. AME 2021

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Population (in thousands of inhabitants) | **2019** | **2020** | **2025** | **2030** | **2035** | **2040** | **2045** | **2050** |
| France | 67.0 | 67.20 | 68.15 | 69.12 | 70.10 | 70.93 | 71.46 | 71.78 |
| of which mainland France | 64.90 | 65.09 | 66.01 | 66.95 | 67.91 | 68.69 | 69.20 | 69.49 |
| of which Dom-Com | 2.11 | 2.11 | 2.14 | 2.16 | 2.20 | 2.23 | 2.26 | 2.28 |

Table 28: Population growth assumptions for AME 2021

Source: EU economic framework, Insee, 2016

* + - 1. AMS 2018

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Population (in thousands of inhabitants) | **2015** | **2020** | **2025** | **2030** | **2035** | **2040** | **2045** | **2050** |
| France | 66,391 | 67,820 | 69,093 | 70,281 | 71,417 | 72,449 | 73,312 | 74,025 |
| of which mainland France | 64,293 | 65,684 | 66,918 | 68,064 | 69,157 | 70,143 | 70,961 | 71,628 |
| of which Dom-Com | 2,098 | 2,136 | 2,175 | 2,217 | 2,260 | 2,306 | 2,351 | 2,397 |

Table 29: Population growth assumptions for AMS 2018

Source: Insee, 2016

Figure 27: Population growth assumption for AME 2021 and AMS 2018

Source: MTE/DGEC, INSEE

* + 1. Assumptions on economic growth

The economic growth assumptions are those recommended for France by the European Commission. These assumptions are also consistent with the assumptions used by the French Ministry of the Economy for long-term economic frameworks. The GDP trajectory for AME 2021 includes the impact of the Covid-19 pandemic, and assumes a rapid recovery of the economy.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| * + - 1. AMS 2018 | 1.31 | -8.25 | 7.4 | 1.77 | 0.87 | 1.33 | 1.63 |
| **Average annual GDP growth rate** | **2015-2020** | **2020-2025** | **2025-2030** | **2030-2035** | **2035-2040** | **2040-2045** | **2045-2050** |
| AMS 2018 | 1.6 | 1.3 | 1.4 | 1.7 | 1.7 | 1.7 | 1.7 |

Table 30: GDP growth assumptions

Source: EU economic framework for France

* + 1. Assumptions on industrial production

Industrial value added has been indexed to GDP up to 2025 to reflect the impact of the pandemic, and then follows the AMS 2018 trajectory thereafter (AME 2018 trajectory, with strong growth up to 2030 and then a marked slowdown, was deemed obsolete). The AME 21 trajectory is also broadly in line with that included in the European Commission’s baseline scenario (‘EC ref’), although more dynamic between 2025 and 2040.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Average annual growth rate of industrial value added** | **2015-2020** | **2020-2025** | **2025-2030** | **2030-2035** | **2036-2040** | **2041-2045** | **2046-2050** |
| AME 2021 | 2019: 1.4  2020: -8.3 | 2.63 | 0.9 | 1 | 1.3 | 1.3 | 1.3 |
| AMS 2018 | 1.4 | 1 | 1.1 | 1.3 | 1.3 | 1.3 | 1.3 |

Table 31: Assumptions for the evolution of industrial value added

Source: EU economic framework for France

Chapter V - Assistance to developing countries in the form of financial resources, technology and capacity building

General information

In 2021, France provided more than €6 billion in public funding for climate change mitigation and adaptation in developing countries, through bilateral and multilateral sources. This level of commitment has increased significantly compared to 2017 (+36% with a level of commitments of €4.4bn in 2017) and has reached more than €26.4bn since 2017, mainly through the activity of the French Development Agency (AFD) Group[[20]](#footnote-20). In the absence of a universally accepted definition of “new and additional financial resources” in article 4, paragraph 3 of the Convention, France defines new and additional climate finance as newly committed or disbursed climate finance during the year 2021. In its climate finance reporting France provides information only on those newly committed or disbursed resources included in its 2021 budget year. However, for the benefit of comparison between the different parties, we can also mention the evolution of our climate finance since the signing of the Paris Agreement, which is a baseline shared by several of the parties. In this respect, we provided 6.1 bn of new and additionnal climate finance in 2021, representing a significant increase since the 2015 baseline (e.g. 3bn).The total commitment of multilateral funding is therefore not reported, but only the share disbursed in 2020 and 2021.

In addition, France provides technological cooperation and supports capacity building in developing countries through a number of channels, which are also presented in this report.

1. Mobilising financial resources from bilateral sources
   1. Financial support provided by the French Development Agency (AFD) Group

AFD, the main operator of French bilateral official development assistance, has developed an ambitious climate strategy for the 2017–2022 period, with the key objective of making all AFD Group financing consistent with low-carbon and resilient development. This ‘100% Paris Agreement’ objective is one of the pillars of the Strategic Orientation Plan[[21]](#footnote-21) adopted in 2018 for the AFD Group. Thus, the Group (including Proparco) has set itself the target of allocating 50% of its financial commitments in foreign countries to projects with climate co-benefits. The plan also involves ensuring that the 50% of AFD Group financing that does not have climate co-benefits does not undermine the objectives of the Paris Agreement.

Since 2017, the AFD Group has committed at least 50% of its financing in developing countries to projects with climate co-benefits each year. In 2021, the AFD Group has committed over €6bn of financing with ‘climate’ co-benefits (compared to €4bn in 2017), including €2bn for adaptation in developing countries, confirming the strengthening of its ambition to contribute to France’s new objective. The AFD Group’s climate commitments have thus made it possible to finance 330 projects in developing countries in 2021. In line with its climate strategy, the AFD (excluding Proparco) will reach 58% of loans with a ‘climate’ co-benefit in 2021, with Proparco reaching 34%. The AFD Group’s climate financing increased significantly between 2017 and 2021 (+36%).

Figure 28: The evolution of the AFD Group’s total climate financing (left figure) including adaptation financing (right)

Source: AFD, 2021 activity report

In order to ensure that the financing provided meets the needs of recipient countries in terms of climate change mitigation and adaptation, AFD’s local agencies identify the projects and needs of recipient countries in conjunction with the partners and project owners in these countries. It also relies on signing financing contracts with national and local authorities in the countries of intervention. In addition, following COP21, AFD deployed several specific instruments to support the implementation of developing countries’ climate commitments. The strategic documents prepared by AFD, which determine its areas of operation in sectors and on crosscutting issues, are subject to a consultation with the supervisory ministries and a presentation to stakeholders prior to being submitted to the Board of Directors.

In the case of Country Intervention Frameworks, a dialogue with stakeholders (local authorities, donors, private sector, CSOs, etc.) is systematically conducted prior to the drafting of the document. In addition, following COP21, AFD deployed several specific instruments to support the implementation of developing countries’ climate commitments, such as the AdaptAction Facility endowed with 30M€ in its first phase, and the 2050 Facility, also endowed with 30M€ in its first phase. Finally, for each country of intervention, “climate country sheets” have been developed to inform sustainable development analyses of projects, support public policy dialogue with national authorities, and the drafting of all geographical strategies. These fact sheets, as well as sectoral strategies, contribute to the identification of upstream projects answering countries’ needs.

AFD is supporting non Annex I Parties through research aiming to better assess economic and social consequences of low carbon transitions. On a medium/long term, such research supports public policy dialogue on designing appropriate policies and investments.

Through the development of GEMMES, the modelling tool for macroeconomic climate impacts, AFD has contributed to the production of knowledge on long-term macro economics impacts linked to a low carbon transition. The tool is deployed across several countries (Brazil, Ivory Coast, Colombia, Morocco, Tunisia, Vietnam, Algeria, South Africa) and its results have paved the way for a dialogue with the authorities on their long-term strategies, in connection with or in addition to support from the 2050 Facility.

In addition, AFD developed, the ESTEEM model (Exposure to Structural Transition in an Ecological-Economic Model) identifies the transition risks to which the economies of developing countries are exposed, which makes it possible to anticipate them and to define a transition trajectory adapted to the situation of each country.

* 1. Methodology for accounting for the AFD Group’s climate commitments

The methodologies for accounting for climate finance for mitigation and adaptation are built around common principles agreed in 2015, and enriched in 2021 for the mitigation part, at AFD’s initiative and shared with the members of the International Development Finance Club (IDFC) and the multilateral development banks.

* + 1. Greenhouse gas (GHG) mitigation or carbon sequestration

A project contributes to mitigation when it reduces greenhouse gas (GHG) emissions compared to a baseline situation without the project, or if it is dedicated to actions that contribute to mitigation (studies, capacity building, etc.).

* + 1. Adaptation to climate change

A project contributes to adaptation when it limits or reduces the vulnerability of goods, people and ecosystems to the consequences of climate change. This is based on analysing the context of vulnerability to climate change, the project’s willingness to address climate risks and vulnerabilities, and the beneficial impact of the project’s actions on the vulnerability issues identified in the area.

* + 1. Support for the implementation of climate change policies

Accounting for PrPPs (Public-private research project) loans should reflect policy and sectoral dialogue with the counterparty as well as the expected climate impacts. It is done:

* either in proportion to public policy matrix climate indicators or in proportion to the volume of climate-related investments;
* or using a flat rate of 40% if the financing receives a +2 or +3 rating according to the sustainable development analysis on climate, and if climate objectives are formalised and monitored.
  1. Private climate finance mobilised by AFD Group financing

€1.7bn of private finance was mobilised by the AFD Group’s climate projects in 2021, including €690.4m by Proparco. Lines of credit granted to public development banks and commercial banks account for 76% of this total. This private financing is not included in the €6bn of climate financing.

* 1. Financial support provided by the French Global Environment Facility (FGEF)

The FFEM (French Global Environment Facility - FGEF) is a bilateral public fund created in 1994 and is one of the main instruments of French cooperation and development policy in the field of the environment. It contributes, in the form of grants, to the financing of innovative projects with an economic and social development objective and a significant and sustainable impact on one or other of the major components of the global environment (in particular combating climate change, protecting biodiversity, combating land degradation and desertification as well as combating the degradation of terrestrial and marine waters). The fund has been replenished for the period 2015–2018 with €90 million, and then with €120 million for the period 2019–2022. It has already supported more than 400 projects in over 120 countries, two-thirds of which are in Africa.

Between 2019 and 2022, the FGEF allocated a total commitment volume of €103 million to 60 projects, including €55 million with co-benefits for the fight against climate change (representing 54% of its total financial commitments). Over this period, more than 70% of the financing concerns projects in Africa. The majority of projects during this period were led by NGOs or local stakeholders.

* 1. Financial support provided in the form of grants (FASEP) and loans by the French Treasury

In parallel, the Ministry of the Economy and Finance contributes, in the form of grants or repayable advances, to the financing of feasibility studies, technical assistance and demonstrators of innovative technologies dedicated to the environment and sustainable development, within the framework of the study and private sector assistance funds (known as FASEP). This instrument finances services provided by French consultancy firms, and benefits public entities in countries eligible for Official Development Assistance and for sustainable economic development projects meeting the needs of these countries (better access to water, renewable energies, improved transport supply, etc.).

Through Treasury loans, the French Ministry of the Economy and Finance also supports infrastructure projects carried out by public entities in emerging countries eligible for official development assistance[[22]](#footnote-22). The sectors concerned are mainly related to sustainable development and climate change (public transport, water and the environment, renewable energy, etc.).

1. Mobilising financial resources from multilateral sources

For multilateral flows, France reports only the climate-relevant share on contributions to several concessionary financing instruments: IDA, the African Development Fund, the Asian Development Fund and IFAD. France considers its core contribution to the funds or to the concessionary arms of the multilateral development banks and multiplies it by the average imputed multilateral shares, based on the adjusted shares communicated to the OECD (<http://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/climate-change.htm>). The mitigation-adaptation split are taken from the input provided by the MDBs and Funds, per our request.

With a contribution of €13 billion ($15.5 billion) in 2021, France ranks fifth among the G7 countries in terms of official development assistance as a proportion of gross national income. It considers that the multilateral system must be an exemplary driving force in combating climate change, with the particular aim of supporting the implementation of nationally-determined contributions by developing countries that have signed the Paris Agreement. In this respect, France is one of the main contributors to multilateral financial institutions and funds dedicated to the climate.

A significant part of France’s action is dedicated to its participation in development banks and multilateral development funds, such as the International Development Association (IDA), the World Bank concessional window, the African Development Fund (FAD), the African Development Bank concessional window and the International Fund for Agricultural Development (IFAD). These banks and funds devote part of their resources to combating the effects of climate change. France accounts for the ‘climate’ share attributable to its contribution to these concessional funds. **In 2018, the ‘climate’ share of disbursements in these institutions was estimated at €372m.**

* 1. Contribution to the Green Climate Fund

The Green Climate Fund, agreed at the 2009 Copenhagen Summit, was intended to become the main multilateral fund dedicated to financing mitigation and adaptation in developing countries towards low-carbon and resilient economies. Its initial capitalisation was $10.3 billion USD. It aims for a balanced distribution between mitigation and adaptation and a minimum allocation of 50% of its resources to adaptation for least-developed countries, African states and small island developing states.

By August 2022, the Green Climate Fund (GCF) had approved 200 projects in 117 developing countries with a total commitment of $10.8 billion USD (excluding co-financing), through a range of financial instruments (grants, loans, equity, guarantees). The co-financing associated with these projects amounted to approximately $30.6 billion USD. These projects are estimated to have reduced more than 2.1 billion tonnes of CO2 and to have had a direct impact on 637 million beneficiaries.

In terms of geographical distribution, Africa accounts for 81 projects, Asia-Pacific for 83 projects and Latin America and the Caribbean for 50 projects. In terms of targets, 66% of approved project funding is for mitigation projects and 34% for adaptation projects (in nominal terms). As of 31 July 2022, the public sector is financing 65% of the projects ($7 billion USD) and the private sector 35% ($3.7 billion USD).

**France contributed €1.5bn ($1.7bn) to the last replenishment of the Green Climate Fund for the period 2019–2023.**. This strong commitment, which represents a significant budgetary effort, makes France the third largest contributor (in terms of grant element[[23]](#footnote-23)) to the replenishment behind the United Kingdom and Germany, and the fourth largest historical contributor behind these countries and Japan. This contribution was made mainly in the form of a grant (80%), with the remaining 20% was provided in the form of a very concessional loan (zero interest rate, 25-year maturity). This contribution was in addition to the first contribution made by France at the time of the initial mobilisation of resources, amounting to €774 million, the payment of which was completed in 2018. A negotiation period for the next replenishment covering the period 2023–2025 started in the summer of 2022 and will end in October 2023 when the contributions will be announced.

The Green Climate Fund aims to achieve a balance between financing for climate change mitigation and adaptation. At the end of 2022, 51% of the fund’s commitments were for mitigation projects, compared to 49% for adaptation (in grant equivalent).

To date[[24]](#footnote-24), 51% of the fund’s commitments are for mitigation projects, compared to 49% for adaptation.

* 1. Contribution to the Global Environment Facility

Created in 1991, the Global Environment Facility (GEF), of which France was one of the main promoters alongside Germany, is one of the major multilateral instruments for preserving the global environment. In addition to reducing greenhouse gas emissions, this fund intervenes in the areas of biodiversity protection, protection of international waters, combating ozone layer depletion, soil degradation and persistent organic pollutants.

The GEF is the financial mechanism for five conventions:

* Convention on Biological Diversity (CBD);
* United Nations Framework Convention on Climate Change (UNFCCC);
* Stockholm Convention on Persistent Organic Pollutants (POPs);
* United Nations Convention to Combat Desertification (UNCCD);
* Minamata Convention on Mercury.

The 8th replenishment of the GEF concluded on 8 April 2022 with all contributors agreeing to a total of $5.25 billion in resources being mobilised for the next four years. This represents an all-time high for the GEF, which raised $4.1 billion in the previous replenishment in 2018.

France, a historic contributor for over 30 years, has taken part fully in this effort by the international community, by making a record contribution of $360 million, an increase of almost 40% in euros compared to its contribution to the previous replenishment.

The resources mobilised will be used to finance climate and environmental projects in developing countries, particularly the least developed countries and small island developing states.

* 1. Contribution to the Least Developed Countries Fund

The Least Developed Countries Fund (LDCF) is dedicated to adaptation and technology transfer in developing countries, hosted and managed by the GEF. France contributed €15M in grants in 2016, **€10 million in 2017 and €7.5 million in 2018** and €20M in 2021 (announced at COP26)**.**

**France contributed €15 million to the adaptation fund in 2018** (announced at COP24) and, at COP27, announced a further contribution of €10 million to the adaptation fund.

The funding tables for sections 1 and 2 are presented in [appendix II](#AnnexII).

1. Technological cooperation

France’s actions in terms of technological cooperation are already presented in Chapter 15: ‘Information on minimising adverse effects on developing countries of policies and measures implemented by France (Article 3.14)’ of the French annual GHG inventory report for the UNFCCC (NIR). Additional information is provided below.

* 1. ADEME’s role

At national level, ADEME has supported the development and deployment of new climate technologies, thanks to its annual budget allocation, the Programme d'Investissements d'Avenir (Investment Programme for the Future), and more recently the French Economic Recovery Plan (2020-2022).

ADEME has contributed to the international deployment of French climate technologies through several programmes and partnerships.

Following COP21 and at the request of the French Ministry of Ecology, ADEME managed a programme to support the Climate Action Agenda coalitions. This programme mainly concerned the Global Alliance for Buildings and Construction (GlobalABC) and Mission Innovation, and included a cross-disciplinary focus: “Women and Climate”. The activities supported by this programme included technical and capacity-building dimensions.

The Global Alliance for Buildings and Construction (GlobalABC) was initiated at COP21 by France, together with UNEP. This alliance, co-chaired by France and now bringing together 36 countries and more than 200 organisations, has the mission of mobilising all these stakeholders for the transition to a zero-emission, energy-efficient and climate-resilient building sector, with a view to achieving the objectives of the Paris Agreement. ADEME has contributed to the implementation of the GlobalABC, notably by financing flagship operations in Senegal and Vietnam for bioclimatic and low-carbon buildings in hot and tropical climates and by co-chairing a working group on adaptation to climate change.

The Mission Innovation coalition aims to strengthen public support for research and innovation in low-carbon technologies. In 2015, France and India were the leading countries on the theme of ‘access to renewable energy for off-grid populations’. In this context, ADEME launched a call for projects on access to off-grid renewable energy in 2017.

It should be noted that this call for projects laid the foundation for a partnership with the French Development Agency, which made it possible to launch a second call for projects on access to off-grid renewable energy in 2019.

The ‘Women and Climate’ focus of the programme was conducted in partnership with the International Association of Francophone Mayors (AIMF). A flagship project was selected with the REFELA-CAMEROUN Network of Local Elected Women in Africa for the implementation of pilot actions for public lighting and the supply of electricity to public buildings, as well as the strengthening of the skills of elected women in the production and management of sustainable energy.

Since the 7th National Communication there has been a more general awareness of the need to strengthen adaptation to climate change while continuing mitigation efforts. As a continuation of its national work on climate change adaptation, ADEME launched a call for projects in 2022 aimed at strengthening this issue in the multilateral initiatives of the Action Agenda.

ADEME contributes directly to the implementation of the Technology Mechanism of the United Nations Framework Convention on Climate Change through its role as the designated National Entity of the Climate Technology Centre and Network (CTCN).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Recipient country or region | Objective | Measures and activities related to technology transfer | Sector | Source of funding | Activities undertaken by: | Status | Additional information |
| Africa | Mitigation | ADEME 2017 call for projects: Access to renewable energy for off-grid populations. ADEME management. | Energy | Ministry of Ecology Transition. ADEME management. | companies | Currently being finalised | As part of the ‘Mission Innovation’ multilateral coalition. Nine projects in Togo, Burkina Faso, Mauritania, Cape Verde, Madagascar, Benin and Uganda |
| Africa | Mitigation | ADEME 2019 call for projects: Access to renewable energy for off-grid populations. ADEME management. | Energy | French Development Agency. ADEME management. | companies | Ongoing | Following the 2017 call for projects. |
| Africa | Mitigation | Support for various innovative projects for access to sustainable energy. | Energy | Ministry of Ecology Transition. ADEME management. | companies | Ongoing | As part of the ‘Mission Innovation’ multilateral coalition. Finance for various innovative projects for access to sustainable energy. Example: setting up a methaniser in Lusaka (Zambia) in the Mtendere district. |
| World | Mitigation and adaptation | Support to the Global Alliance for Buildings and Construction (GlobalABC) | Building and construction | Ministry of Ecology Transition. ADEME management. | companies | Ongoing | As part of the Global Alliance for Buildings and Construction (GlobalABC). Co-chairing the working group on climate change adaptation. Financing of flagship projects in Senegal and Vietnam for bioclimatic and low-carbon buildings in hot and tropical climates. |
| Cameroon | Mitigation | Women and Climate: pilot actions | Energy | Ministry of Ecology Transition. ADEME management. Partners: AIMF, Veolia Foundation, FEICOM as well as the targeted municipalities in Cameroon | Secretariat of the Network of Local Elected Women of Cameroon | Completed (2018-2020) | Support to the network of women mayors in Cameroon. The project aims to strengthen the network of local elected women in Cameroon and to implement pilot actions for public lighting and electricity supply to public buildings. Partnership: AIMF, Veolia Foundation, ADEME, FEICOM along with the targeted municipalities. |

* 1. Le Citepa

CITEPA, an operator for the DGEC, produces national emissions inventories and contributes to capacity-building in third countries (one of the activity programme lines refers to this). At international level, it carries out capacity-building actions on climate change and air pollution. These actions include twinning, IPAs *(Instruments for Pre-Accession Assistance),* and calls for tender from international donors; and, to a lesser extent, via a line of its programme with the DGEC (around €40 k/year), CITEPA can also act in all emerging and developing countries (each year in around twenty countries depending on the calls for tender). Most of the time, collaborations are bilateral via calls for tenders from technical agencies AFD/GIZ/European Environment Agency, as well as UN agencies (UNDP) or development banks (AFD/BM/ADB, etc.).

Mandated by the Ministry (to produce atmospheric emission inventories in France and to strengthen the capacities of third countries), CITEPA

* maintains a good international image through its work strengthening / transferring skills in the last three years: Pakistan, Kazakhstan, Vietnam, Chad, Nigeria, Niger, Zambia, Rwanda, Comoros, Morocco, Tunisia, Algeria, Union for the Mediterranean, Albania, Serbia, Croatia, Colombia, etc.)
* Key countries in the future will be: Morocco, Tunisia, other SEMED countries, Senegal, Ivory Coast, Niger, Nigeria, Rwanda, Cameroon, Kenya, Serbia/Croatia, Kazakhstan, Pakistan, India, Colombia, Uzbekistan.

CITEPA is sometimes called upon by the AFD/EF, the MEAE, and the DGEC to activate clusters of experts: a. GHG (Francophone cluster); b. Atmospheric Pollutants (AP) with GHG co-benefits; c. Air Quality Chain with AIRPARIF.

It participates in meetings of the DAEI operators’ network.

1. Building capacity
   1. Adapting to climate change

France is involved in projects that aim to share its own experience in adaptation policy planning with developing countries. France has had an adaptation strategy since 2006. In 2011, the first national adaptation plan was published. This national plan was assessed in 2015. In 2018, the second national plan for adapting to climate change was issued (PNACC-2).

Within the framework of the Climate Services agreement signed in 2017 between the French Ministry of Ecological and Solidarity Transition and the main research organisations in climate science, the second part of the 4th work package (WP4) focuses on a climate service demonstrator for West African agriculture. On a continent that is particularly vulnerable to climate variability and change, the aim is to have effective climate risk management tools to provide real added value to adaptation strategies.

* 1. Preparation and implementation of Nationally Determined Contributions (NDCs)

Since 2017, the AFD Group’s AdaptAction programme has been supporting vulnerable countries in the implementation of their adaptation strategies through technical assistance and capacity-building activities to consolidate their climate governance, better integrate adaptation to climate change into their public policies, and implement foundational adaptation projects.

Phase 1 of the AdaptAction programme (€30 million from 2017–2022) has deployed more than 70 support initiatives in 15 countries (Least Developed Countries, Africa, Small Island States). The programme has exceeded its leverage target on the project portfolio, catalysing the financing of 10 projects for a total of €582 million financed or co-financed by the AFD, the Green Fund or the European Union.

For phase 2 (€15 million from 2022 to 2025), the scope of the programme has been refocused on Africa with 12 partner countries. The aim of phase 2 is to strengthen the resilience of populations and ecosystems thanks to a three-part initiative: understand/plan/invest with 2 cross-sectoral components:

* Focus 1 - ‘Understanding’ supports operational research on the human dimensions of climate, to promote the translation of climate science into public policy and action;
* Focus 2 - ‘Planning’ aims to better integrate adaptation into governance mechanisms and sectoral public policy strategies;
* Focus 3 - ‘Investing’ produces vulnerability studies and project feasibility studies to contribute to the emergence of more robust adaptation projects.
* A cross-disciplinary component dedicated to a better understanding of gender and social inclusion in all the focuses (mobilisation of dedicated expertise, capacity building, deployment of specific activities).
* A cross-disciplinary component dedicated to *knowledge management* and highlighting the value of knowledge; this will contribute to capitalisation and exchange of North-South, South-South and also South-North knowledge and good practices (contributor of a community of knowledge and practices).

Phase 2 of AdaptAction thus aims to be a laboratory or learning system to better formalise and structure innovative approaches to adaptation, in particular the links between climate, biodiversity and society.

It was announced at the COP27 that this will be extended to 6 Mediterranean countries (€7.5 million) in partnership with UNCDF - LoCAL, including €6 million in funding from the European Union. This partnership will promote the alignment of adaptation strategies and investments between national and local levels, down to the most vulnerable populations (vertical integration of adaptation).

* 1. Establishing a national reporting system (GHG inventory, projections, mitigation measures, adaptation)

Since 2014, France has participated technically and financially in the activities of the ‘Francophone Cluster’ by co-financing capacity-building workshops for French-speaking developing countries with Belgium, Switzerland and Germany. The Francophone Cluster is an initiative of the Partnership for Transparency in the Paris Agreement. It was created following the French-speaking workshop for Africa on Measurement, Reporting and Verification (MRV) issues held in Gammarth, Tunisia, on 17-18 December 2013. Its aim is to enable the exchange of information, expertise and experiences between French-speaking partners, developing and developed countries, concerning GHG inventories, the development of mitigation measures, the MRV process and the formulation of Nationally Determined Contributions (NDCs).

Several workshops have been organised since 2013 (see http://mitigationpartnership.net/cluster-francophone). A side event to present the feedback from these workshops took place during COP21 in Paris. In 2015, two workshops were held (Paris, Rabat); in 2016, two workshops were also held in Abidjan and Casablanca, and a workshop was held in Rome in 2017 for one week. In 2018, a workshop was held in Cameroon on the Measurement and Evaluation of Adaptation Measures. In 2019, a workshop in Saly, Senegal, brought together 65 participants from 20 French-speaking African developing countries to understand how to successfully implement the 2006 IPCC Guidelines in the ‘Agriculture, Forestry and Other Land Use’ (AFAT) and waste treatment sectors with the aim of submitting Biennial Update Reports (BURs) and future Biennial Transparency Reports (BTRs) and stimulating the implementation of NDCs. CITEPA, a public operator with world-renowned expertise and a specialist in French inventories since their inception, is a major stakeholder in the Francophone cluster and runs these workshops, the next of which is currently being prepared to support countries in updating and upgrading their NDCs for COP26 in Glasgow in 2020.

* 1. French support for the implementation of a national GHG inventory system in Algeria

The French Ministry of Europe and Foreign Affairs, represented by the French Embassy in Algeria, is co-financing support for Algerian authorities, including the National Agency for Climate Change (ANCC) and the French Ministry of the Environment. This support, which began in 2018, is carried out by CITEPA as a State Operator and concerns the institutionalisation of the national GHG inventory system, the training of Algerian experts in GHG inventory methods based on the 2006 IPCC guidelines, and their assistance in implementing emission calculations for all sectors over long time series. This work could be used in the exercises underway to develop the National Communication and the RBA, as well as in the revision of the NDC.

* 1. Software for MRV of air pollutant and GHG emissions: RISQ

Developed by CITEPA and customised for implementation in emerging and developing countries. This tool exists in three versions: Excel, Access and Web. It contributes to the transparency, accuracy, reliability, coverage and consistency of national inventories; to the sustainability of capacity-building actions in southern countries; and to the scalability of their measurement, reporting and verification (from nations to cities, from nations to their neighbours). RISQ has been or will be implemented in France, Morocco, Nigeria, Niger, Rwanda, Tunisia, Algeria and Monaco. (Developed with Citepa’s own funding)

* 1. The Franco-Chinese centre with CRAES

CITEPA and its Chinese partner CRAES, which depends on the Chinese Ministry of Pollution Control, met for the first time in Beijing in 2014. On 1 August 2015, they signed a five-year framework agreement to integrate GHGs and pollutants in order to establish a synergy between urban air quality and the fight against climate change. This collaboration based on knowledge, quantification, reporting and projections of emissions in China aims at a progressive integration of air-climate-energy issues. A report was published in 2015 on the outcomes of this joint work, which led to the creation of the Franco-Chinese centre for pollutants, GHG emissions and their reduction. The centre promotes good practices in GHG emissions inventory, measurement, reporting and verification, in support of public policies. These actions were presented during a specific side-event at the 5th Franco-Chinese International Conference on Atmospheric Environment, which took place in Xi’an in October 2016. A workshop was also held in Paris in May 2017. In 2019, this partnership was completed by a visit by the NTSC, a division of the Chinese MEE, and head of the China NDC. In 2019-2020, the demonstration of an integrated approach to climate and air pollution reporting and policies and measures was carried out in two provinces (including Inner Mongolia). This pilot, involving two regional RISQ software packages, was submitted for funding to the Asian Development Bank (AsDB) in March 2019.

A new presentation of the RISQ software, for application in different Asian countries, took place in the first half of 2020. This project is self-financed by CITEPA.

* 1. ADEME’s role

At the national level, ADEME supports the capacity building of local authorities as regards climate change. This expertise has been shared internationally in capacity-building programmes for local authorities in sub-Saharan Africa. In partnership with the European Commission, ADEME contributed to the work of the Covenant of Mayors for Sub-Saharan Africa (Com SSA). In partnership with the International Association of Francophone Mayors (AIMF), ADEME supports the Network of Local Elected Women of Africa (REFELA). Finally, ADEME supports the pan-African organisation United Cities and Local Governments of Africa (UCLG-Africa) and its African Local Government Academy (ALGA).

ADEME also contributes to the multilateral initiative Mobilise Your City, which aims to increase the skills of local authorities in sustainable urban mobility.

In parallel to the 2017 and 2019 calls for projects on access to off-grid renewable energy, ADEME led a working group of French supply stakeholders with the Syndicat des Energies Renouvelables. This facilitation, from 2018 to 2022, has made it possible to develop a common vision for French stakeholders for energy access, to develop proposals to remove the barriers that these stakeholders face, and to promote French expertise internationally. Their proposals to accelerate universal access to sustainable off-grid energy services were proposed in a White Paper published in 2020.

Table CTF9 presents some capacity-building initiatives.

Table 32: Table CTF9 - Capacity building programmes and projects

| **Beneficiary Country / Region** | **Field** | **Programme or project title** | **Programme or project description** |
| --- | --- | --- | --- |
| Africa | Multiple Areas | AMMA-CATCH | Concerning the GCOS (Global Climate Observing System) in Africa, the AMMA-CATCH programme is an observation system for long-term monitoring of monsoon impacts in West Africa. It was initiated by the MESR (French Ministry of Higher Education and Research) and is supported by the IRD (French Public Research Institution) and the INSU (French National Institute for Earth Sciences and Astronomy). http://www.amma-catch.org/ |
| Mediterranean basin | Multiple Areas | MISTRALS | Launched in 2008 and scheduled to run until 2020, MISTRALS is an international meta-programme of fundamental research and interdisciplinary and systematic observations dedicated to understanding the functioning and evolution of the environment in the Mediterranean basin under the pressures of anthropogenic global change, in order to predict its future evolution. Beyond its academic vocation, MISTRALS also aims to transform research objectives and results into concepts and data accessible to decision-makers, territorial stakeholders and managers, in order to identify national and transnational needs and requirements and to respond to societal, environmental and economic issues for the sustainable development of countries and populations sharing the Mediterranean area. http://www.mistrals-home.org/spip/spip.php?rubrique39 |
| Africa | Adaptation | Climate Services | Demonstrator 2 under the Climate Services agreement signed in 2017 between MTES and the climate laboratories: IPSL/LSCE; CNRM; CECI. This is a climate service demonstrator for agriculture in West Africa. |
| Africa, SIDS | Mitigation, Adaptation | French INDC preparation facility | Preparation of the INDCs of some thirty countries |
| Africa | Mitigation | Francophone cluster | Training on GHG inventories and mitigation measures |
| Africa (Ethiopia, Zambia) | Mitigation | AFD | Gap analysis of the MRV system in terms of GHG inventories and emission mitigation |
| Africa (Comoros) | Mitigation (capacity building) | Adapt'Action | Strengthening an NDC |
| Global | Mitigation (MRV, transparency) | RISQ | Developed by CITEPA and customised for implementation in emerging and developing countries, this tool exists in three versions: Excel, Access and Web. It contributes to the transparency, accuracy, reliability, coverage and coherence of national inventories; to the sustainability of capacity building actions in southern countries; and to the scalability of their measurement, reporting and verification (from nations to cities, from nations to their neighbours). RISQ has been or will be implemented in France, Morocco, Nigeria, Niger, Rwanda, Tunisia, Algeria and Monaco. (Developed with CITEPA's own funding) |
| China | Mitigation (with air pollution co-benefits) | Franco-Chinese Centre | Creation of a Franco-Chinese Centre dedicated to the integration of GHG and atmospheric pollutant emission inventory systems, by combining French (CITEPA) and Chinese (Chinese Academy of Environmental Sciences Research in Beijing - CRAES) expertise, following contacts in 2014. The centre promotes good practices in GHG emissions inventory, measurement, reporting and verification, in support of public policies. These actions were presented during a specific side-event at the 5th Franco-Chinese International Conference on Atmospheric Environment, which took place in Xi’an in October 2016. A workshop was also held in Paris in May 2017. |
| Southern Europe, Mediterranean basin, Europe, Vietnam | Adaptation | Bilateral and multilateral cooperations | The ONERC (French National Observatory on the Effects of Global Warming) has participated in various activities: - working group 6 set up by the European Commission to monitor work on adaptation to climate change and which is currently working on the revision of the EU strategy on adaptation to climate change; - as part of the work of the European Environment Agency: - assessment and updating of the Climate-Adapt platform as part of the revision of the EU strategy - Participation in reviewing the European Environment Agency’s topic-based reports - Multilateral meeting of European countries to share experiences on the assessment of public adaptation policies; - Hosting delegations from foreign countries, in particular members of the National Observatory on Climate Change of Cameroon (ONACC) Multilateral dialogue with the countries bordering the Alpine region in the framework of the Alpine Convention (Climate Advisory Council); Météo-France and the ministries concerned participate in the work of setting up the global framework for climate services within the framework of the WMO, and the agreement signed in 2017 with the MTES. |
| Multi-country | Mitigation | Mobilise Your City | Launched at COP 21, MobiliseYourCity is a Franco-German Global Climate Action Agenda initiative implemented by GIZ, AFD, CEREMA, CODATU and ADEME, with support from the FGEF. It aims to roll out sustainable urban mobility plans in 100 cities in 20 developing countries. It takes the form of a partnership programme in which: (i) cities and governments commit to developing sustainable urban mobility plans (SUMPs) and national urban mobility policies (NUMPs) to improve mobility and reduce GHG emissions; and (ii) actions are financed to support them in this objective, to provide them with a robust methodological framework, and to facilitate exchange between peers. |
| Mediterranean, Asia, Sub-Saharan Africa, Latin America | Mitigation | PEEB - Programme for Energy Efficiency in Buildings | Launched at COP 22, the Programme for Energy Efficiency of Buildings contributes to the Global Alliance for Buildings and Construction (GABC) and is implemented by GIZ, AFD and ADEME, with the support of the FGEF (French Global Environment Facility). The aim of this programme is to stimulate and finance projects to improve the energy performance of buildings in developing countries. Five pilot countries were targeted in the initial phase of the PEEB project: Mexico, Morocco, Tunisia, Senegal and Vietnam. Priority is given to new buildings, as the majority of buildings in developing countries that will exist in 2035 have yet to be built. The programme consists of setting up a technical cooperation facility for the emergence at international level of innovative financing solutions, support for national public policies and assistance in structuring and accompanying projects. This facility thus aims to promote and support the financing by international and local financial institutions of investments in energy efficient buildings. |
| Latin America and the Caribbean  Morocco, Algeria, Tunisia, Lebanon |  | Support for the implementation of an energy efficiency monitoring system (energy efficiency indicators and evaluation of energy efficiency policies) | Following on from the European Odyssee Mure project, which has been running for more than 20 years and which has enabled the development and implementation in the European Union of a methodology for evaluating energy savings based on energy efficiency indicators, ADEME is supporting the implementation of this methodology: In Morocco, Algeria, Tunisia and Lebanon from 2012 to 2014 within the framework of MEDENER (Mediterranean Association of National Agencies for Energy Management); Since 2014 in some twenty Latin American and Caribbean countries with CEPAL-UN (United Nations Economic Commission for Latin America and the Caribbean) as part of the IPEEC (International Partnership for Energy Efficiency Cooperation); Since 2016, more detailed work has been carried out with Mexico in partnership with the CONUEE (Comisión Nacional para el Uso Eficiente de la Energía) supported by the AFD. |
| Morocco | Support for strengthening the energy sector | Twinning between MTES and MEMDD | France (MTES) has been selected, together with Germany (BMWi) as a partner to implement an EU-funded twinning with Morocco entitled ‘Support for strengthening the energy sector’ (2017-2019).  The overall aim of the project is to facilitate the achievement of the objectives of the national energy strategy (security of energy supply and availability, widespread access to energy, demand management and environmental preservation). |
| Africa | Cities, Mitigation and adaptation | CICLIA | Agreed in 2016, partly financed by the AFD and partly delegated to the AFD by European Union and SECO funds: technical support for climate planning in cities; preparation of climate co-benefit projects; assistance and capacity building for local project owners |
| French-speaking Africa | Negotiation | Capacity-building workshops for French-speaking African women negotiators | Since 2018, France and Canada have been funding capacity-building workshop cycles for French-speaking African women negotiators to ensure their active contribution during inter-sessional meetings and Conferences of the Parties. In 2022, 200 women negotiators participated in the workshops and more than 50 of them received additional financial support to participate in COP27. These workshops, supported by a mentoring system, aim, among other things, to acquire knowledge about negotiation processes and stakeholders and to develop negotiation skills in simulations. |

* 1. AFD’s role

AFD provides technical assistance through specific programmes such as AdaptAction Facility, and through technical assistance grants in addition to soverain and non soverain loans

Appendix I - Summary tables of emissions by sector

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **GREENHOUSE GAS SOURCE AND SINK CATEGORIES** | CO2**(1)** | CH4 | N2O | **HFCs** | **PFCs** | SF6 | **Unspecified mix of HFCs and PFCs** | NF3 | **Total** | |
| **Total (net emissions)(1)kt**CO2e | 276517,49 | 56252,96 | 39298,64 | 11822,65 | 543,49 | 347,77 | NO,NA | 8,54 | 384791,52 | |
| **1. Energy** | 264912,62 | 2137,89 | 3460,04 |  |  |  |  |  | 270510,55 | |
| A. Fuel combustion (sectoral approach) | 262709,51 | 1286,68 | 3309,02 |  |  |  |  |  | 267305,22 | |
| 1. Energy industries | 37537,83 | 46,05 | 252,68 |  |  |  |  |  | 37836,56 | |
| 2. Manufacturing industries and construction | 45369,28 | 102,97 | 516,48 |  |  |  |  |  | 45988,73 | |
| 3. Transport | 109312,02 | 145,05 | 1156,99 |  |  |  |  |  | 110614,06 | |
| 4. Other sectors | 69013,99 | 990,60 | 1374,75 |  |  |  |  |  | 71379,34 | |
| 5. Other | 1476,39 | 2,02 | 8,13 |  |  |  |  |  | 1486,53 | |
| B. Fugitive emissions from fuels | 2203,10 | 851,21 | 151,02 |  |  |  |  |  | 3205,33 | |
| 1. Solid fuels | NO,NA | 25,56 | NO,NE |  |  |  |  |  | 25,56 | |
| 2. Oil and natural gas | 2203,10 | 825,65 | 151,02 |  |  |  |  |  | 3179,77 | |
| C. CO2 transport and storage | NO,NA |  |  |  |  |  |  |  | NO,NA | |
| **2. Industrial processes and product use** | 26762,04 | 57,12 | 742,88 | 11822,65 | 543,49 | 347,77 | NO,NA | 8,54 | 40284,48 | |
| A. Mineral industry | 9082,96 |  |  |  |  |  |  |  | 9082,96 | |
| B. Chemical industry | 6282,91 | 31,24 | 606,27 | 94,45 | NO,NA | NO,NA | NO,NA | NO,NA | 7014,86 | |
| C. Metal industry | 9862,56 | 25,64 | NO | NO,IE | 61,33 | 7,66 | NO |  | 9957,18 | |
| D. Non-energy products from fuels and solvent use | 1071,19 | 0,24 | 2,03 |  |  |  |  |  | 1073,46 | |
| E. Electronic Industry |  |  |  | 6,62 | 77,41 | 4,08 | NO,NA | 8,54 | 96,65 | |
| F. Product uses as ODS substitutes |  |  |  | 11720,99 |  |  |  |  | 11720,99 | |
| G. Other product manufacture and use | 462,31 | NO | 134,58 | 0,59 | 404,76 | 336,02 |  |  | 1338,27 | |
| H. Other | 0,10 | NO,NA | NO,NA |  |  |  |  |  | 0,10 | |
| **3. Agriculture** | 1858,83 | 37165,76 | 31621,31 |  |  |  |  |  | 70645,91 | |
| A. Enteric fermentation |  | 33258,60 |  |  |  |  |  |  | 33258,60 | |
| B. Manure management |  | 3840,68 | 2364,21 |  |  |  |  |  | 6204,89 | |
| C. Rice cultivation |  | 38,23 |  |  |  |  |  |  | 38,23 | |
| D. Agricultural soils |  | NO | 29248,37 |  |  |  |  |  | 29248,37 | |
| E. Prescribed burning of savannas |  | NO | NO |  |  |  |  |  | NO | |
| F. Field burning of agricultural residues |  | 28,26 | 8,73 |  |  |  |  |  | 36,99 | |
| G. Liming | 640,81 |  |  |  |  |  |  |  | 640,81 | |
| H. Urea application | 1036,18 |  |  |  |  |  |  |  | 1036,18 | |
| I. Other carbon-containing fertilizers | 181,84 |  |  |  |  |  |  |  | 181,84 | |
| J. Other | NO | NO | NO |  |  |  |  |  | NO | |
| **4. Land use, land-use change and forestry(1)** | -18618,93 | 1130,14 | 2867,64 |  |  |  |  |  | -14621,14 | |
| A. Forest land | -31276,74 | 611,29 | 381,80 |  |  |  |  |  | -30283,65 | |
| B. Cropland | 11507,10 | 109,50 | 1346,42 |  |  |  |  |  | 12963,02 | |
| C. Grassland | -9313,49 | 123,86 | 99,88 |  |  |  |  |  | -9089,76 | |
| D. Wetlands | 494,83 | 8,92 | 0,73 |  |  |  |  |  | 504,48 | |
| E. Settlements | 10743,98 | 58,41 | 592,19 |  |  |  |  |  | 11394,58 | |
| F. Other land | NO,NA | NO | NO,NE |  |  |  |  |  | NO,NE,NA | |
| G. Harvested wood products | -814,43 |  |  |  |  |  |  |  | -814,43 | |
| H. Other | 39,82 | 218,17 | NA |  |  |  |  |  | 257,99 | |
| **5. Waste** | 1602,93 | 15762,03 | 606,76 |  |  |  |  |  | 17971,72 | |
| A. Solid waste disposal | NA | 12212,19 |  |  |  |  |  |  | 12212,19 | |
| B. Biological treatment of solid waste |  | 1125,28 | 215,09 |  |  |  |  |  | 1340,37 | |
| C. Incineration and open burning of waste | 1602,93 | 37,98 | 62,83 |  |  |  |  |  | 1703,74 | |
| D. Waste water treatment and discharge |  | 2386,59 | 328,84 |  |  |  |  |  | 2715,42 | |
| E. Other | NO | NO | NO |  |  |  |  |  | NO | |
| **6. Other *(as specified in summary 1.A)*** | NO | NO | NO | NO | NO | NO | NO | NO | NO | |
| **Memo items:(2)** |  |  |  |  |  |  |  |  |  | |
| **International bunkers** | 11437,54 | 8,51 | 91,23 |  |  |  |  |  | 11537,28 | |
| Aviation | 8183,82 | 0,70 | 66,37 |  |  |  |  |  | 8250,89 | |
| Navigation | 3253,71 | 7,81 | 24,86 |  |  |  |  |  | 3286,39 | |
| **Multilateral operations** | 1,42 | NE | NE |  |  |  |  |  | 1,42 | |
| CO2 **emissions from biomass** | 59133,68 |  |  |  |  |  |  |  | 59133,68 | |
| CO2 **captured** | NO,NA |  |  |  |  |  |  |  | NO,NA | |
| **Long-term storage of C in waste disposal sites** | NE |  |  |  |  |  |  |  | NE | |
| **Indirect** N2O |  |  | NO,NE |  |  |  |  |  |  | |
| **Indirect** CO2**(3)** | NO,IE,NA |  |  |  |  |  |  |  |  | |
| **Total** CO2 **equivalent emissions without land use, land-use change and forestry** | | | | | | | | | | 399412,67 | |
| **Total** CO2 **equivalent emissions with land use, land-use change and forestry** | | | | | | | | | | 384791,52 | |
| **Total** CO2 **equivalent emissions, including indirect** CO2**, without land use, land-use change and forestry** | | | | | | | | | | NA | |
| **Total** CO2 **equivalent emissions, including indirect** CO2**, with land use, land-use change and forestry** | | | | | | | | | | NA | |
| (1) For carbon dioxide (CO2) from land use, land-use change and forestry the net emissions/removals are to be reported. For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+). | | | | | | | | | | | |
| (2) See footnote 7 to table Summary 1.A. |  |  |  |  |  |  |  |  |  | |
| (3) In accordance with the UNFCCC Annex I inventory reporting guidelines, for Parties that decide to report indirect CO2, the national totals shall be provided with and without indirect CO2. | | | | | | | | | | | |

Table 33: Emissions by sector in 2020 for the Convention scope (Table Summary 2)

Source: Citepa/MTE inventory, UNFCCC submission April 2022, Convention scope

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **GREENHOUSE GAS SOURCE AND SINK CATEGORIES** | CO2**(1)** | CH4 | N2O | **HFCs** | **PFCs** | SF6 | **Unspecified mix of HFCs and PFCs** | NF3 | **Total** |
| **Total (net emissions)(1)kt**CO2e | 271428,23 | 55747,40 | 39147,49 | 11735,32 | 543,49 | 346,60 | NO,NA | 8,54 | 378957,08 |
| **1. Energy** | 259171,93 | 2127,58 | 3430,11 |  |  |  |  |  | 264729,61 |
| A. Fuel combustion (sectoral approach) | 256968,82 | 1276,37 | 3279,09 |  |  |  |  |  | 261524,28 |
| 1. Energy industries | 36821,76 | 45,11 | 248,42 |  |  |  |  |  | 37115,28 |
| 2. Manufacturing industries and construction | 41588,56 | 95,64 | 502,47 |  |  |  |  |  | 42186,67 |
| 3. Transport | 108179,03 | 143,25 | 1147,00 |  |  |  |  |  | 109469,28 |
| 4. Other sectors | 68903,09 | 990,36 | 1373,08 |  |  |  |  |  | 71266,53 |
| 5. Other | 1476,39 | 2,02 | 8,13 |  |  |  |  |  | 1486,53 |
| B. Fugitive emissions from fuels | 2203,10 | 851,21 | 151,02 |  |  |  |  |  | 3205,33 |
| 1. Solid fuels | NO,NA | 25,56 | NO,NE |  |  |  |  |  | 25,56 |
| 2. Oil and natural gas | 2203,10 | 825,65 | 151,02 |  |  |  |  |  | 3179,77 |
| C. CO2 transport and storage | NO,NA |  |  |  |  |  |  |  | NO,NA |
| **2. Industrial processes and product use** | 26755,88 | 57,12 | 741,71 | 11735,32 | 543,49 | 346,60 | NO,NA | 8,54 | 40188,67 |
| A. Mineral industry | 9082,96 |  |  |  |  |  |  |  | 9082,96 |
| B. Chemical industry | 6282,91 | 31,24 | 606,27 | 94,45 | NO,NA | NO,NA | NO,NA | NO,NA | 7014,86 |
| C. Metal industry | 9862,56 | 25,64 | NO | NO,IE | 61,33 | 7,66 | NO |  | 9957,18 |
| D. Non-energy products from fuels and solvent use | 1067,63 | 0,24 | 2,01 |  |  |  |  |  | 1069,88 |
| E. Electronic Industry |  |  |  | 6,62 | 77,41 | 4,08 | NO,NA | 8,54 | 96,65 |
| F. Product uses as ODS substitutes |  |  |  | 11633,67 |  |  |  |  | 11633,67 |
| G. Other product manufacture and use | 459,72 | NO | 133,43 | 0,59 | 404,76 | 334,86 |  |  | 1333,36 |
| H. Other | 0,10 | NO,NA | NO,NA |  |  |  |  |  | 0,10 |
| **3. Agriculture** | 1858,83 | 36998,76 | 31528,56 |  |  |  |  |  | 70386,15 |
| A. Enteric fermentation |  | 33136,51 |  |  |  |  |  |  | 33136,51 |
| B. Manure management |  | 3795,76 | 2350,47 |  |  |  |  |  | 6146,24 |
| C. Rice cultivation |  | 38,23 |  |  |  |  |  |  | 38,23 |
| D. Agricultural soils |  | NO | 29169,35 |  |  |  |  |  | 29169,35 |
| E. Prescribed burning of savannas |  | NO | NO |  |  |  |  |  | NO |
| F. Field burning of agricultural residues |  | 28,26 | 8,73 |  |  |  |  |  | 36,99 |
| G. Liming | 640,81 |  |  |  |  |  |  |  | 640,81 |
| H. Urea application | 1036,18 |  |  |  |  |  |  |  | 1036,18 |
| I. Other carbon-containing fertilizers | 181,84 |  |  |  |  |  |  |  | 181,84 |
| J. Other | NO | NO | NO |  |  |  |  |  | NO |
| **4. Land use, land-use change and forestry(1)** | -17961,34 | 1105,69 | 2850,17 |  |  |  |  |  | -14005,48 |
| A. Forest land | -31389,29 | 586,83 | 364,33 |  |  |  |  |  | -30438,12 |
| B. Cropland | 11507,10 | 109,50 | 1346,42 |  |  |  |  |  | 12963,02 |
| C. Grassland | -8543,35 | 123,86 | 99,88 |  |  |  |  |  | -8319,62 |
| D. Wetlands | 494,83 | 8,92 | 0,73 |  |  |  |  |  | 504,48 |
| E. Settlements | 10743,98 | 58,41 | 592,19 |  |  |  |  |  | 11394,58 |
| F. Other land | NO,NA | NO | NO,NE |  |  |  |  |  | NO,NE,NA |
| G. Harvested wood products | -814,43 |  |  |  |  |  |  |  | -814,43 |
| H. Other | 39,82 | 218,17 | NA |  |  |  |  |  | 257,99 |
| **5. Waste** | 1602,93 | 15458,25 | 596,95 |  |  |  |  |  | 17658,14 |
| A. Solid waste disposal | NA | 11964,89 |  |  |  |  |  |  | 11964,89 |
| B. Biological treatment of solid waste |  | 1125,28 | 215,09 |  |  |  |  |  | 1340,37 |
| C. Incineration and open burning of waste | 1602,93 | 37,98 | 62,83 |  |  |  |  |  | 1703,74 |
| D. Waste water treatment and discharge |  | 2330,11 | 319,03 |  |  |  |  |  | 2649,14 |
| E. Other | NO | NO | NO |  |  |  |  |  | NO |
| **6. Other *(as specified in summary 1.A)*** | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| **Memo items:(2)** |  |  |  |  |  |  |  |  |  |
| **International bunkers** | 11173,11 | 8,20 | 89,15 |  |  |  |  |  | 11270,46 |
| Aviation | 8045,68 | 0,70 | 65,25 |  |  |  |  |  | 8111,63 |
| Navigation | 3127,43 | 7,51 | 23,90 |  |  |  |  |  | 3158,84 |
| **Multilateral operations** | 1,42 | NE | NE |  |  |  |  |  | 1,42 |
| CO2 **emissions from biomass** | 59126,82 |  |  |  |  |  |  |  | 59126,82 |
| CO2 **captured** | NO,NA |  |  |  |  |  |  |  | NO,NA |
| **Long-term storage of C in waste disposal sites** | NE |  |  |  |  |  |  |  | NE |
| **Indirect** N2O |  |  | NO,NE |  |  |  |  |  |  |
| **Indirect** CO2**(3)** | NO,IE,NA |  |  |  |  |  |  |  |  |
| **Total** CO2 **equivalent emissions without land use, land-use change and forestry** | | | | | | | | 392962,57 | |
| **Total** CO2 **equivalent emissions with land use, land-use change and forestry** | | | | | | | | 378957,08 | |
| **Total** CO2 **equivalent emissions, including indirect** CO2**, without land use, land-use change and forestry** | | | | | | | | NA | |
| **Total** CO2 **equivalent emissions, including indirect** CO2**, with land use, land-use change and forestry** | | | | | | | | NA | |
| (1) For carbon dioxide (CO2) from land use, land-use change and forestry the net emissions/removals are to be reported. For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+). | | | | | | | | | |
| (2) See footnote 7 to table Summary 1.A. |  |  |  |  |  |  |  |  |  |
| (3) In accordance with the UNFCCC Annex I inventory reporting guidelines, for Parties that decide to report indirect CO2, the national totals shall be provided with and without indirect CO2. | | | | | | | | | |

Table 34: Emissions by sector in 2020 for the Kyoto scope (Table Summary 2)

Source: Citepa/MTE inventory, UNFCCC submitted in April 2022, Kyoto scope.

Appendix II - Assistance to developing countries in the form of financial resources, technology and capacity building - financing tables

Table 35: Summary of financial and technology support to developing countries in 2019

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Allocation channels* | *2019* | | | |
| *European euro - EUR* | | | |
| *Core/ generalb, 1* | *Climate-specific ²* | | |
| *Mitigationc* | *Adaptationc* | *Cross-cuttingc* |
| *Total contributions through multilateral channels:* |  |  |  |  |
| Multilateral climate change funds*e* |  | 112 | 83 673 900 |  |
| Other multilateral climate change funds*f* |  | 11 346 000 | 3 455 000 | 27 438 235 |
| Multilateral financial institutions, including regional development banks | 169 273 651 | 67 836 289 | 101 437 362 |  |
| *Total contributions through bilateral, regional and other channels* |  | 2 610 876 034 | 1 358 523 803 | 1 582 252 769 |
| Total climate specific by funding type (total for mitigation, adaptation, crosscutting) |  | **2 690 058 435** | **1 547 090 065** | **1 609 691 004** |
| Total climate specific finance |  | **5 846 839 504** | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Total climate specific by funding source (MEUR) | | Total climate specific by financial instrument (MEUR) | |
|
| ODA | 5 205 | Grant | 903 |
| OOF | 751 | Concessional loan | 4 321 |
|  |  | Non-concessional loan | 562 |
|  |  | Other | 170 |

Table 36: Summary of financial and technology support to developing countries in 2020

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Allocation channels* | *2020* | | | |
| *European euro - EUR* | | | |
| *Core/ generalb, 1* | *Climate-specific ²* | | |
| *Mitigationc* | *Adaptationc* | *Cross-cuttingc* |
| *Total contributions through multilateral channels:* |  |  |  |  |
| Multilateral climate change funds*e* |  | 30 661 600 | 32 518 400 | 13 152 000 |
| Other multilateral climate change funds*f* |  | 11 350 000 | 4 340 000 | 30 716 000 |
| Multilateral financial institutions, including regional development banks |  | 70 137 364 | 91 099 446 | 0 |
| *Total contributions through bilateral, regional and other channels* |  | 2 821 914 779 | 1 840 040 308 | 108 387 150 |
| Total climate specific by funding type (total for mitigation, adaptation, crosscutting) |  | **2 934 063 743** | **1 967 998 154** | **152 255 150** |
| Total climate specific finance |  | **5 054 317 047** | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Total climate specific by funding source (EUR) | | Total climate specific by financial instrument (MEUR) | |
|
| ODA | 287 705 390 | Grant | 284 290 458 |
| OOF | 1 039 762 | Concessional loan | 3 657 665 |
|  |  | Non-concessional loan | 0 |
|  |  | Other | 174 989 |

Table 37: Table CTF 7a - Summary of multilateral financial support to developing countries in 2019

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Allocation channels* | *Year 2019* | | | | | | | | | |
| *European euro - EUR* | | | | | *USDb* | | | | |
| *Core/ generalc, 1* | *Climate-specificd, 2* | | | | *Core/ generalc, 1* | *Climate-specificd, 2* | | | |
| *Mitigation* | *Adaptation* | *Cross-cuttinge* | *Otherf* | *Mitigation* | *Adaptation* | *Cross-cuttinge* | *Otherf* |
| *Total contributions through multilateral channels:* | 493,530,000.00 | 11,350,000.00 | 20,970,000.00 | 7,060,000.00 | 367,770,000.00 |  |  |  |  |  |
| Multilateral climate change funds*g* |  | 11,350,000.00 | 15,960,000.00 | 7,060,000.00 | 203,500,000.00 |  |  |  |  |  |
| Other multilateral climate change funds*h* |  | 11,350,000.00 | 3,460,000.00 | 7,060,000.00 |  |  |  |  |  |  |
| Multilateral financial institutions, including regional development banks | 493,530,000.00 |  | 5,010,000.00 |  | 164,270,000.00 |  |  |  |  |  |
| Specialized United Nations bodies |  |  |  |  |  |  |  |  |  |  |
| *Total contributions through bilateral, regional and other channels* |  | 2,610,876.03 | 1,358,523.80 |  | 1,582,252.77 |  |  |  |  |  |
| Total | 493,530,000.00 | 13,960,876.03 | 22,328,523.80 | 7,060,000.00 | 369,352,252.77 |  |  |  |  |  |

Table 38: Table CTF 7a - Summary of multilateral financial support to developing countries in 2020

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Allocation channels* | *Year 2020* | | | | | | | | | |
| *European euro - EUR* | | | | | *USDb* | | | | |
| *Core/ generalc, 1* | *Climate-specificd, 2* | | | | *Core/ generalc, 1* | *Climate-specificd, 2* | | | |
| *Mitigation* | *Adaptation* | *Cross-cuttinge* | *Otherf* | *Mitigation* | *Adaptation* | *Cross-cuttinge* | *Otherf* |
| *Total contributions through multilateral channels:* |  |  | 7,332,500.00 | 30,716,000.00 | 288,719,733.00 |  |  |  |  |  |
| Multilateral climate change funds*g* |  |  | 4,340,000.00 | 30,716,000.00 | 87,682,000.00 |  |  |  |  |  |
| Other multilateral climate change funds*h* |  |  | 4,340,000.00 | 30,716,000.00 | 11,350,000.00 |  |  |  |  |  |
| Multilateral financial institutions, including regional development banks |  |  | 2,992,500.00 |  | 201,037,733.00 |  |  |  |  |  |
| Specialized United Nations bodies |  |  |  |  |  |  |  |  |  |  |
| *Total contributions through bilateral, regional and other channels* |  | 2,821,914,779.30 | 1,840,040,308.01 | 108,177,150.00 | 210,000.00 |  |  |  |  |  |
| Total |  | 2,821,914,779.30 | 1,847,372,808.01 | 138,893,150.00 | 288,929,733.00 |  |  |  |  |  |

Table 39: Table CTF 7b - Bilateral, regional and other contributions in 2019

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Recipient country/ region/project/programmeb* | *Total amount* | | *Statusc, 3* | *Funding sourceg, 4* | *Financial instrumentg, 5* | *Type of supportg, h, 6* | *Sectord, g, 7* | *Additional informatione* |
| *Climate-specificf, 2* | |
| *European euro - EUR* | *USD* |
| Total contributions through bilateral, regional and other channels | 5,551,652.60 |  |  |  |  |  |  |  |
| South Africa / Regeneration of city centres, including energy efficiency | 63,169.20 |  | Committed | Oda | Concessional Loan | Mitigation | Other (urban Development And Management) | AFD |
| Angola / Improving resilience of the agricultural sector | 38,073.00 |  | Committed | Oda | Concessional Loan | Adaptation | Agriculture | AFD |
| Benin / "Reinventing Ganvié" - promotion of sustainable tourism for the development of the city of Ganvié | 10,005.00 |  | Committed | Oda | Concessional Loan | Adaptation | Other (urban Development And Management) | AFD |
| Benin / "Reinventing Ganvié" - promotion of sustainable tourism for the development of the city of Ganvié | 1,015.00 |  | Committed | Oda | Grant | Adaptation | Other (urban Development And Management) | AFD |
| Benin / Sanitation of a river basin in Cotonou | 20,000.00 |  | Committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Benin / Supporting the transition to agroecology in the cotton sector | 10,000.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Burkina Faso / Yeleen projet: building solar power plants and rural electrification | 70,000.00 |  | Committed | Oda | Concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Burkina Faso / Yeleen projet: building solar power plants and rural electrification | 5,000.00 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Burkina Faso / Ohango project - improve water and sanitation through a market-based approach | 2,460.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Burkina Faso / Improve access to water and sanitation in 32 communities | 3,350.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Burkina Faso / Supporting sustainable waste management | 510.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | NGO |
| Cameroon / Supporting sustainable waste management | 225.00 |  | Committed | Oda | Grant | Mitigation | Water And Sanitation | NGO |
| Central African Republic / Renovation works for Baoli hydroelectric power plant | 600.00 |  | Committed | Oda | Grant | Mitigation | Water And Sanitation | AFD |
| Central African Republic / Promoting local initiatives for sustainable flood management | 2,000.00 |  | Committed | Oda | Grant | Adaptation | Other (urban Development And Management) | AFD |
| Central African Republic / Local development taking into account adaptation issues in North-West of Central African Republic | 4,950.00 |  | Committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Comoros / Support to rural export food chains | 4,500.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Comoros / Support to rural export food chains | 500.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Comoros / Supporting the setting up of a broad healthcare system | 2,400.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Comoros / Strenghtening community health | 150.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Comoros / Sustainable production of ylang-ylang essential oil, by increasing energy efficiency of the production processes | 288.00 |  | Committed | Oda | Grant | Other (Crosscutting) | Other (energy Generation - Distribution - Efficiency) | NGO |
| Côte D'ivoire / Biomass power plant | 135,000.00 |  | Committed | Oda | Concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | PROPARCO |
| Côte D'ivoire / Resilient buildings for the marketplaces of Bouake and Yopongon | 15,300.00 |  | Committed | Oda | Concessional Loan | Adaptation | Other (urban Development And Management) | AFD |
| Côte D'ivoire / Rehabilitation of the road between Bouaké and Ferkessédougou | 33,000.00 |  | Committed | Oda | Concessional Loan | Mitigation | Other (transport And Storage) | AFD |
| Côte D'ivoire / Innovative monitoring of rainfall | 28,000.00 |  | Committed | Oda | Concessional Loan | Adaptation | Other (urban Development And Management) | AFD |
| Côte D'ivoire / ACE Impact: high-level education in relation to mitigation, climate risk management and agroecology | 6,171.00 |  | Committed | Oda | Concessional Loan | Other (Crosscutting) | Other (government And Civil Society) | AFD |
| Côte D'ivoire / Access to solar energy | 98,000.00 |  | Committed | Oda | Concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Côte D'ivoire / Urban mobility in Abidjan | 77,400.00 |  | Committed | Oda | Concessional Loan | Mitigation | Other (transport And Storage) | AFD |
| Côte D'ivoire / Biomass power plant | 5,000.00 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | PROPARCO |
| Djibouti / Extending the sanitation network in Djibouti | 7,370.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Djibouti / Integrated urban development in Balbala | 210.00 |  | Committed | Oda | Grant | Adaptation | Other (urban Development And Management) | AFD |
| Egypt / Financial intermediation to support climate finance | 72,000.00 |  | Committed | Oda | Concessional Loan | Other (Crosscutting) | Other (banking And Financial Services) | AFD |
| Egypt / Financial intermediation to support climate finance | 1,500.00 |  | Committed | Oda | Grant | Other (Crosscutting) | Other (banking And Financial Services) | AFD |
| Egypt / Supporting the development of public policies related to the energy sector | 50,250.00 |  | Committed | Oda | Concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Egypt / Supporting the development of public policies related to the energy sector | 670.00 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Egypt / Financial intermediation to support climate finance | 36,200.00 |  | Committed | Oda | Concessional Loan | Other (Crosscutting) | Other (banking And Financial Services) | PROPARCO |
| Egypt / Water recycling for re-use in production processes | 542.35 |  | Committed | Oof | Non-concessional Loan | Adaptation | Water And Sanitation | PROPARCO |
| Ethiopia / Budgetary programme | 11,900.00 |  | Committed | Oda | Concessional Loan | Mitigation | Other (government And Civil Society) | AFD |
| Ethiopia / Public policies directed towards sustainable development | 910.00 |  | Committed | Oda | Grant | Mitigation | Other (government And Civil Society) | AFD |
| Ethiopia / Public policies directed towards sustainable development | 770.00 |  | Committed | Oda | Grant | Mitigation | Other (government And Civil Society) | AFD |
| Ethiopia / Public policies directed towards sustainable development | 420.00 |  | Committed | Oda | Grant | Mitigation | Other (government And Civil Society) | AFD |
| Ethiopia / Sanitation for clean water | 7,500.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Gabon / Investments for the development of sustainable agriculture | 30,000.00 |  | Committed | Oda | Concessional Loan | Other (Crosscutting) | Agriculture | AFD |
| Gambia / Water supply in Banjul | 6,600.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Guinea / Hydrolectrical power plan | 40,000.00 |  | Committed | Oda | Concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Kenya / Energy-efficient building of the Nairobi university | 16,800.00 |  | Committed | Oof | Non-concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Kenya / Accounting for environmental issues within university education in Nairobi | 2,800.00 |  | Committed | Oda | Grant | Other (Crosscutting) | Other (government And Civil Society) | AFD |
| Kenya / Sustainable forestry in Mau | 1,300.00 |  | Committed | Oda | Grant | Adaptation | Other (biodiversity) | AFD |
| Kenya / Ecological continuities in Nothern Kenya | 3,700.00 |  | Committed | Oda | Grant | Adaptation | Other (biodiversity) | AFD |
| Kenya / Wind power plant | 24,274.03 |  | Committed | Oof | Non-concessional Loan | Mitigation | Other (urban Development And Management) | PROPARCO |
| Kenya / Financial intermediation for agriculture | 3,687.97 |  | Committed | Oof | Non-concessional Loan | Other (Crosscutting) | Agriculture | PROPARCO |
| Liberia / Supporting youth integration | 1,100.00 |  | Committed | Oda | Grant | Mitigation | Other (government And Civil Society) | AFD |
| Madagascar / Support the Sectorial Education Plan | 1,144.00 |  | Committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Madagascar / Support the Sectorial Education Plan | 240.00 |  | Committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Madagascar / Public policy reform to support disaster-risk management | 10,000.00 |  | Committed | Oda | Concessional Loan | Adaptation | Other (government And Civil Society) | AFD |
| Madagascar / Public policy reform to support disaster-risk management | 1,500.00 |  | Committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Madagascar / Organisation of agricultural producers in northern Antananarivo | 495.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Madagascar / Contribution to the Foundation for Biodiversity and Protected Areas, aiming to support the creation of at least two new protected areas, in regions vulnerable to deforestation | 8,000.00 |  | Committed | Oda | Grant | Adaptation | Other (biodiversity) | AFD |
| Madagascar / Women Solar Entrepreneurs | 400.00 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | NGO |
| Madagascar / Access to clean drinking water | 300.00 |  | Committed | Oda | Grant | Mitigation | Water And Sanitation | NGO |
| Mali / Agriculture & rural development | 4,745.00 |  | Committed | Oda | Grant | Other (Crosscutting) | Agriculture | AFD |
| Mali / Drinking water supply | 15,000.00 |  | Committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Mali / Electricity distribution grid | 27,500.00 |  | Committed | Oda | Concessional Loan | Adaptation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Mali / Sustainable production of cotton | 9,250.00 |  | Committed | Oda | Grant | Other (Crosscutting) | Agriculture | AFD |
| Mali / Water in northern Mali | 630.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Mali / Water management in Menaka Region | 1,680.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Mali / Social protection mechanism | 5,000.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Morocco / Extension of the Rabat tramway | 80.00 |  | Committed | Oda | Grant | Mitigation | Other (transport And Storage) | AFD |
| Morocco / Agroecology | 40,000.00 |  | Committed | Oda | Concessional Loan | Adaptation | Agriculture | AFD |
| Morocco / Agroecology | 1,200.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Morocco / Rehabilitation of regional ports | 15,000.00 |  | Committed | Oda | Concessional Loan | Adaptation | Other (transport And Storage) | AFD |
| Morocco / Rehabilitation of regional ports | 120.00 |  | Committed | Oda | Grant | Adaptation | Other (transport And Storage) | AFD |
| Morocco / Improving sustainable management of local governments | 29,000.00 |  | Committed | Oda | Concessional Loan | Other (Crosscutting) | Other (environmental Policy And Administrative Management) | AFD |
| Morocco / Support to NGOs in the area of migrations | 4,500.00 |  | Committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Morocco / Gender & climate | 380.00 |  | Committed | Oda | Grant | Other (Crosscutting) | Other (government And Civil Society) | NGO |
| Mauritius / Sunref project: financial intermediation for the fight against climate change | 10,000.00 |  | Committed | Oda | Concessional Loan | Other (Crosscutting) | Other (banking And Financial Services) | AFD |
| Mauritius / Renewable energy | 4,000.00 |  | Committed | Oof | Equity | Mitigation | Other (energy Generation - Distribution - Efficiency) | PROPARCO |
| Mauritania / Support to local development and community initiatives in regions of Gorgol, Assaba and Guidimakha | 2,904.50 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Mauritania / Support to local development and community initiatives in regions of Gorgol, Assaba and Guidimakha | 55.50 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Mauritania / Support to local development and community initiatives in regions of Gorgol, Assaba and Guidimakha | 370.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Mauritania / Support to local development and community initiatives in regions of Gorgol, Assaba and Guidimakha | 370.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Mauritania / Professional training related to energy | 3,940.00 |  | Committed | Oda | Grant | Mitigation | Other (government And Civil Society) | AFD |
| Mauritania / Professional training related to energy | 60.00 |  | Committed | Oda | Grant | Mitigation | Other (government And Civil Society) | AFD |
| Mauritania / Access to clean drinking water | 7,939.50 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Mauritania / Access to clean drinking water | 100.50 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Mauritania / Preservation of natural capital | 5,000.00 |  | Committed | Oda | Grant | Mitigation | Other (biodiversity) | AFD |
| Mauritania / Food security | 850.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Mozambique / Guarantee for the Dondo solar project | 6,370.00 |  | Committed | Oda | Concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Mozambique / Chimanimani natural reserve | 3,000.00 |  | Committed | Oda | Grant | Mitigation | Other (biodiversity) | AFD |
| Other (multi-countries (africa)) / Infrastructures for sustainable cities | 13,322.68 |  | Committed | Oof | Equity | Mitigation | Other (urban Development And Management) | PROPARCO |
| Niger / Professional training for sustainable development | 1,500.00 |  | Committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Niger / Sustainable pastoral livestock and land management | 9,800.00 |  | Committed | Oda | Grant | Other (Crosscutting) | Agriculture | AFD |
| Niger / Sustainable pastoral livestock and land management | 40,000.00 |  | Committed | Oda | Concessional Loan | Other (Crosscutting) | Agriculture | AFD |
| Niger / Sustainable pastoral livestock and land management | 200.00 |  | Committed | Oda | Grant | Other (Crosscutting) | Agriculture | AFD |
| Niger / Food security | 1,000.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Niger / Water | 355.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | NGO |
| Nigeria / ACE Impact: high-level education in relation to mitigation, climate risk management and agroecology | 6,836.38 |  | Committed | Oda | Concessional Loan | Other (Crosscutting) | Other (government And Civil Society) | AFD |
| Nigeria / Renewable energy | 2,665.48 |  | Committed | Oof | Equity | Mitigation | Other (energy Generation - Distribution - Efficiency) | PROPARCO |
| Uganda / Access to clean drinking water | 35,190.00 |  | Committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Uganda / Access to clean drinking water | 765.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Uganda / Access to clean drinking water | 510.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Uganda / Rural development | 1,200.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Uganda / Rural development | 4,500.00 |  | Committed | Oda | Concessional Loan | Adaptation | Agriculture | AFD |
| Uganda / Access to financial services in rural areas | 250.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Democratic Republic Of The Congo / Clean water to fight against cholera epidemics | 1,000.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Democratic Republic Of The Congo / Supporting resilience in outlying districts of Kinshasa | 7,500.00 |  | Committed | Oda | Grant | Adaptation | Other (urban Development And Management) | AFD |
| Senegal / Promoting integrated management of solid waste | 40,000.00 |  | Committed | Oda | Concessional Loan | Mitigation | Other (urban Development And Management) | AFD |
| Senegal / Ecological transition of the Senegal river | 40,000.00 |  | Committed | Oda | Concessional Loan | Adaptation | Agriculture | AFD |
| Senegal / Ecological transition of the Senegal river | 10,000.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Senegal / Decontamination of the Hann Bay | 11,270.00 |  | Committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Senegal / Gender & climate | 3,250.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Senegal / Rural entrepreneurship | 233.86 |  | Committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Senegal / Food security | 400.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | NGO |
| Senegal / Solar power plant | 21,800.00 |  | Committed | Oof | Non-concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | PROPARCO |
| Senegal / Solar power plant | 18,200.00 |  | Committed | Oof | Non-concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | PROPARCO |
| Other (tanzania) / Solar power plant | 78,000.00 |  | Committed | Oda | Concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Other (tanzania) / Building climate-resilient facilities for a cancer treatment center | 1,800.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Chad / Sustainable development of local governments in Northern Chad | 5,100.00 |  | Committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Chad / Support to small businesses | 700.00 |  | Committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Chad / Management of runoff water from rainfall | 8,000.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Chad / Inclusive development for areas hosting refugees | 845.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Chad / Inclusive development for areas hosting refugees | 845.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Chad / Supporting the sustainable seed sector | 2,000.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Togo / Middle school reform | 4,500.00 |  | Committed | Oda | Grant | Other (Crosscutting) | Other (government And Civil Society) | AFD |
| Togo / National water management plan | 20,000.00 |  | Committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Tunisia / Rural sanitation program | 49,000.00 |  | Committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Tunisia / Rural sanitation program | 980.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Tunisia / Human rights | 3,100.00 |  | Committed | Oda | Grant | Adaptation | Other (government And Civil Society) | NGO |
| Tunisia / Food security & access to water | 12,000.00 |  | Committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Tunisia / Bejaoua pumping station | 500.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Tunisia / Food security & access to water | 7,000.00 |  | Committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Tunisia / Loans for SMEs | 7,500.00 |  | Committed | Oof | Non-concessional Loan | Mitigation | Other (banking And Financial Services) | PROPARCO |
| Zimbabwe / Pathosystem Coordination, MAnagement of animal and humans’ Networks | 800.00 |  | Committed | Oda | Grant | Adaptation | Other (environmental Policy And Administrative Management) | AFD |
| Côte D'ivoire / Preparatory studies for line 1 of the Abidjan metro | 19,200.00 |  | Committed | Oda | Concessional Loan | Mitigation | Other (transport And Storage) | Treasury loan |
| Côte D'ivoire / Rehabilitation and upgrade of hybrid pumps | 19,000.00 |  | Committed | Oda | Concessional Loan | Other (Crosscutting) | Water And Sanitation | Treasury loan |
| Egypt / Security and performance diagnosis of the egyptian railway service | 269.28 |  | Committed | Oda | Grant | Mitigation | Other (transport And Storage) | FASEP |
| Senegal / Support to the CETUD bus network | 399.85 |  | Committed | Oda | Grant | Mitigation | Other (transport And Storage) | FASEP |
| Uganda / Experimental smart solar public lighting | 791.83 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FASEP |
| South Africa / Energy supply for the SKA telescope | 152.82 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FASEP |
| Ghana / Urbain train between Accra and Kasoa | 277.52 |  | Committed | Oda | Grant | Mitigation | Other (transport And Storage) | FASEP |
| Cameroon / Demonstrator for a modular waste treatment system | 899.97 |  | Committed | Oda | Grant | Mitigation | Other (waste Management) | FASEP |
| Kenya / Experimental system for reducing water loss | 413.64 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | FASEP |
| Tunisia / Teleprocessing of public lighting | 500.00 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FASEP |
| Togo / Solar public lighting network | 401.80 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FASEP |
| Senegal / Using white paint on roofs as a cooling system | 481.00 |  | Committed | Oda | Grant | Adaptation | Other (energy Generation - Distribution - Efficiency) | FASEP |
| Senegal / Treatment unit for electronic and eletric waste in Dakar | 500.00 |  | Committed | Oda | Grant | Mitigation | Other (waste Management) | FASEP |
| South Africa / Using artificial intelligence for high-performance water network management | 358.96 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | FASEP |
| Senegal / Solar micro-grid for the Diamniadio industrial park | 492.25 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FASEP |
| Tunisia / Pilot project for a floating solar farm on Tunis Lake | 496.38 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FASEP |
| Côte D'ivoire / Rainfall tracking in Abidjan | 498.90 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | FASEP |
| South Africa / Hydroelectric micro-turbine in Umhlanga | 494.38 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FASEP |
| Cameroon / Decarbonation of the Pasteur Health Center in Cameroon | 527.69 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FASEP |
| Guinea / Energy self-sufficient system for a dialysis room | 199.00 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FASEP |
| Togo / Solar-powered cooling system for a storage warehouse | 200.00 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FASEP |
| Morocco / Smart camera to support flooding risk management | 412.00 |  | Committed | Oda | Grant | Adaptation | Water And Sanitation | FASEP |
| Mali / Draining waste management in Bamako | 186.00 |  | Committed | Oda | Grant | Other (Crosscutting) | Other (waste Management) | FASEP |
| Egypt / Commercial electric bikes | 200.00 |  | Committed | Oda | Grant | Mitigation | Other (transport And Storage) | FASEP |
| Burkina Faso / Demonstrator for low-voltage electric network optimisation | 203.00 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FASEP |
| Ethiopia / PUR Project | 499.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | FFEM |
| Uganda / Zembo (solar powered moto-taxis) | 600.00 |  | Committed | Oda | Other | Mitigation | Other (transport And Storage) | FFEM |
| Other (benin - Ivory Coast) / Agro gazélec - recycling agricultural waste to produce biogas | 2,200.00 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FFEM |
| Other (mali - Niger - Burkina Faso) / Wood-to-energy in Sahel region | 2,000.00 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FFEM |
| Madagascar / Energy-positive local governements | 3,000.00 |  | Committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FFEM |
| Côte D'ivoire / TERRI4SOL | 1,500.00 |  | Committed | Oda | Grant | Adaptation | Agriculture | FFEM |
| Kenya / Ecological continuities in Nothern Kenya | 2,000.00 |  | Committed | Oda | Grant | Adaptation | Other (biodiversity) | FFEM |
| Albania / Reform of the electricity sector | 20,000.00 |  | committed | Oda | Concessional Loan | Other (Crosscutting) | Other (environmental Policy And Administrative Management) | AFD |
| Albania / Reform of the electricity sector | 400.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (environmental Policy And Administrative Management) | AFD |
| Bangladesh / Upgrading the electricity network in Southern Dhaka | 100,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Cambodia / Skills for Competitiveness | 2,988.00 |  | committed | Oda | Concessional Loan | Other (Crosscutting) | Other (government And Civil Society) | AFD |
| Cambodia / Improving the quality of life of communities in Phnom Penh precarious neighbourhoods | 400.00 |  | committed | Oda | Grant | Adaptation | Other (government And Civil Society) | NGO |
| Cambodia / Sustainable and climate risk resilient agriculture in the Siem Reap province | 630.00 |  | committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Cambodia / Water purification station | 70,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| China / Improving the ageing process in Guizhou | 20,000.00 |  | committed | Oda | Concessional Loan | Other (Crosscutting) | Other (urban Development And Management) | AFD |
| China / Climate investment fund | 56,000.00 |  | committed | Oda | Concessional Loan | Other (Crosscutting) | Other (banking And Financial Services) | AFD |
| China / Natural site management | 31,800.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (banking And Financial Services) | AFD |
| Georgia / Water infrastructures in Khashuri | 29,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Georgia / Energy efficiency | 60,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| India / Subway in Surat | 250,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (transport And Storage) | AFD |
| India / Equity investment in solar unit deployment in India | 13,485.56 |  | committed | Oof | Other | Mitigation | Other (energy Generation - Distribution - Efficiency) | PROPARCO |
| Indonesia / Marine meteorology system | 63,718.24 |  | committed | Oda | Concessional Loan | Adaptation | Other (environmental Policy And Administrative Management) | AFD |
| Indonesia / Climate finance | 119,946.69 |  | committed | Oda | Concessional Loan | Other (Crosscutting) | Other (banking And Financial Services) | AFD |
| Indonesia / Support to fiscal reform | 30,600.00 |  | committed | Oda | Concessional Loan | Other (Crosscutting) | Other (government And Civil Society) | AFD |
| Indonesia / Developing sustainable fishing after a tsunami | 100.00 |  | committed | Oda | Grant | Adaptation | Other (biodiversity) | AFD |
| Other (irak) / Increase social and economic resilience through access to water | 10,800.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Jordan / Public policies in the water sector | 96,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Jordan / Climate risk management | 350.00 |  | committed | Oda | Grant | Adaptation | Other (urban Development And Management) | AFD |
| Jordan / Climate risk management | 150.00 |  | committed | Oda | Grant | Adaptation | Other (urban Development And Management) | AFD |
| Jordan / Sanitation networks | 50,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Jordan / Sanitation networks | 4,700.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Jordan / Sanitation networks | 5,300.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Other (laos) / Restoration of gravity-based irrigation systems | 1,110.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (laos) / Nutrition and food security | 300.00 |  | committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Other (laos) / Rural development | 270.00 |  | committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Lebanon / Improve access to water and education for refugees | 9,450.00 |  | committed | Oda | Grant | Mitigation | Other (government And Civil Society) | AFD |
| Lebanon / Improve access to water and education for refugees | 500.00 |  | committed | Oda | Grant | Other (Crosscutting) | Water And Sanitation | NGO |
| Myanmar / Restoration of five hydroelectric power plants | 35,700.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Myanmar / Biodiversity protection | 1,500.00 |  | committed | Oda | Grant | Adaptation | Other (biodiversity) | AFD |
| Nepal / Hydroelectric power plant | 22,391.40 |  | committed | Oof | Non-concessional Loan | Mitigation | Other (urban Development And Management) | PROPARCO |
| Uzbekistan / Hydroelectric power plant | 55,800.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Pakistan / High-speed bus system in Karachi | 90,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (transport And Storage) | AFD |
| Philippines / Supporting public-private partnerships | 12,000.00 |  | committed | Oda | Concessional Loan | Other (Crosscutting) | Other (government And Civil Society) | AFD |
| Sri Lanka / Sanitation management | 99,630.00 |  | committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Other (palestinian Autonomous Territories) / Rural development | 2,720.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (palestinian Autonomous Territories) / Rural development | 680.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (palestinian Autonomous Territories) / Interconnection of water networks | 10,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Other (palestinian Autonomous Territories) / Water treatment plant | 7,500.00 |  | committed | Oda | Grant | Mitigation | Water And Sanitation | AFD |
| Other (palestinian Autonomous Territories) / Improving water management in agriculture | 232.00 |  | committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Other (vietnam) / Improved ticketing service for the Hanoi metro | 8,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (transport And Storage) | Treasury loan |
| Serbia / Preliminary studies for the Belgrade metro | 3,320.00 |  | committed | Oda | Grant | Mitigation | Other (transport And Storage) | FASEP |
| Indonesia / Feasability study on the implementation of smart grids | 156.00 |  | committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FASEP |
| Other (lebanon And Egypt) / SupMed - land degradation | 1,700.00 |  | committed | Oda | Grant | Adaptation | Agriculture | FFEM |
| Other (timor-leste) / Transition towards peasant agriculture for food sovereignty | 1,221.00 |  | committed | Oda | Grant | Adaptation | Agriculture | FFEM |
| Argentina / Renewable energy | 35,961.52 |  | committed | Oof | Non-concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | PROPARCO |
| Argentina / Financial intermediation | 44,567.25 |  | committed | Oof | Other | Mitigation | Other (banking And Financial Services) | PROPARCO |
| Bolivia / Energy transition | 73,800.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Brazil / Restoration of efficient cooling system | 22,896.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (urban Development And Management) | AFD |
| Brazil / Energy efficiency | 60,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Brazil / Supporting the strategy change of BRDE | 49,000.00 |  | committed | Oda | Concessional Loan | Other (Crosscutting) | Other (government And Civil Society) | AFD |
| Brazil / Renewable energy | 200,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Colombia / Upgrading the water and sanitation network in Pasto | 5,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Colombia / Agroecology | 320.00 |  | committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Costa Rica / Public policy | 134,819.34 |  | committed | Oda | Concessional Loan | Mitigation | Other (environmental Policy And Administrative Management) | AFD |
| Dominican Republic / Reforestation and soil restoration | 20,000.00 |  | committed | Oda | Concessional Loan | Other (Crosscutting) | Agriculture | AFD |
| Dominican Republic / Reforestation and soil restoration | 1,500.00 |  | committed | Oda | Grant | Other (Crosscutting) | Agriculture | AFD |
| Dominican Republic / Reform of the transport sector | 89,461.44 |  | committed | Oda | Concessional Loan | Mitigation | Other (environmental Policy And Administrative Management) | AFD |
| Ecuador / Transforming the financial system for climate | 12,500.00 |  | committed | Oof | Non-concessional Loan | Other (Crosscutting) | Other (banking And Financial Services) | AFD |
| Ecuador / Transforming the financial system for climate | 7,500.00 |  | committed | Oof | Non-concessional Loan | Other (Crosscutting) | Other (banking And Financial Services) | AFD |
| Ecuador / Transforming the financial system for climate | 15,000.00 |  | committed | Oof | Non-concessional Loan | Other (Crosscutting) | Other (banking And Financial Services) | AFD |
| Ecuador / Transforming the financial system for climate | 6,800.00 |  | committed | Oof | Non-concessional Loan | Other (Crosscutting) | Other (banking And Financial Services) | AFD |
| Ecuador / Social housing | 27,010.22 |  | committed | Oda | Concessional Loan | Adaptation | Other (urban Development And Management) | AFD |
| Ecuador / Public policy in the agriculture sector | 135,049.97 |  | committed | Oda | Concessional Loan | Adaptation | Other (environmental Policy And Administrative Management) | AFD |
| Guatemala / Wind power plant | 18,155.41 |  | committed | Oof | Non-concessional Loan | Mitigation | Other (urban Development And Management) | PROPARCO |
| Haiti / Agroforestry for coffee production | 10,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Haiti / Climate risk management | 1,500.00 |  | committed | Oda | Grant | Adaptation | Other (urban Development And Management) | AFD |
| Haiti / Reduce climate-induced diseases | 1,200.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Haiti / Developing and inclusive, sustainable and resilient city | 1,200.00 |  | committed | Oda | Grant | Adaptation | Other (urban Development And Management) | NGO |
| Mexico / Public policies for sustainable development | 250,000.00 |  | committed | Oda | Concessional Loan | Other (Crosscutting) | Other (environmental Policy And Administrative Management) | AFD |
| Paraguay / Financial intermediation | 33,433.27 |  | committed | Oof | Non-concessional Loan | Other (Crosscutting) | Other (banking And Financial Services) | PROPARCO |
| Peru / Green social housing | 73,500.00 |  | committed | Oda | Concessional Loan | Other (Crosscutting) | Other (urban Development And Management) | AFD |
| Cuba / Extending the programme to fight against the Marabu invasive specie | 50.00 |  | committed | Oda | Grant | Other (Crosscutting) | Agriculture | FASEP |
| Brazil / Feasability study for a tramway in Niteroi | 331.00 |  | committed | Oda | Grant | Mitigation | Other (transport And Storage) | FASEP |
| Mexico / Improving efficiency of geothermal power plants | 655.00 |  | committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | FASEP |
| Other (mexico And Colombia) / Education related to climate change | 1,100.99 |  | committed | Oda | Grant | Other (Crosscutting) | Other (government And Civil Society) | FFEM |
| Other (peru - Ecuador - Bolivia) / Sustainable value chain for the production of Cocoa | 2,500.00 |  | committed | Oda | Grant | Other (Crosscutting) | Agriculture | FFEM |
| Other (carribean States) / Protected marine areas in Costa Rica and the Sargasses sea | 2,997.00 |  | committed | Oda | Grant | Adaptation | Other (biodiversity) | FFEM |
| Other (multi-countries) / Renewable energy | 25,098.27 |  | committed | Oof | Other (Guarantees) | Mitigation | Other (energy Generation - Distribution - Efficiency) | PROPARCO |
| Other (multi-countries) / Renewable energy | 1,100.00 |  | committed | Oof | Other (Guarantees) | Mitigation | Other (energy Generation - Distribution - Efficiency) | PROPARCO |
| Other (multi-countries) / Renewable energy | 16,500.00 |  | committed | Oof | Equity | Mitigation | Other (energy Generation - Distribution - Efficiency) | PROPARCO |
| Other (multi-countries) / Small-scale energy efficiency projects | 10,890.28 |  | committed | Oof | Equity | Mitigation | Other (energy Generation - Distribution - Efficiency) | PROPARCO |
| Other (multi-countries) / Guarantees for low-carbon infrastructure | 100,000.00 |  | committed | Oof | Non-concessional Loan | Mitigation | Other (banking And Financial Services) | AFD |
| Other (multi-countries) / Public purchase guarantees for energy contracts | 50,000.00 |  | committed | Oof | Non-concessional Loan | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Other (multi-countries) / Agricultural risk management | 760.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Rural land management | 450.00 |  | committed | Oda | Grant | Other (Crosscutting) | Agriculture | AFD |
| Other (multi-countries) / Nature-based accounting for ecosystem services | 800.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (environmental Policy And Administrative Management) | AFD |
| Other (multi-countries) / Strenghtening the resilience of coastal ecosystems | 8,500.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Other (multi-countries) / Strengthening the agro-pastoral value chain | 2,400.00 |  | committed | Oof | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Strengthening the agro-pastoral value chain | 2,400.00 |  | committed | Oof | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Strengthening the agro-pastoral value chain | 2,400.00 |  | committed | Oof | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Strengthening the agro-pastoral value chain | 3,200.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Strengthening the agro-pastoral value chain | 15,280.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Strengthening the agro-pastoral value chain | 720.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Civil society support for agroecology | 1,050.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Development smart initiative for research in agriculture | 5,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Development smart initiative for research in agriculture | 5,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Mobilise your city | 4,600.00 |  | committed | Oda | Grant | Mitigation | Other (transport And Storage) | AFD |
| Other (multi-countries) / Mobilise your city | 400.00 |  | committed | Oda | Grant | Mitigation | Other (transport And Storage) | AFD |
| Other (multi-countries) / Fair trade and sustainable value chains in West Africa | 800.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Fair trade and sustainable value chains in West Africa | 720.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Spatial hydrology in the Congo basin | 1,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Other (multi-countries) / Research to fight against invasive species | 2,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Climate facility IDFC | 4,697.45 |  | committed | Oda | Grant | Other (Crosscutting) | Other (banking And Financial Services) | AFD |
| Other (multi-countries) / Climate facility IDFC | 200.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (banking And Financial Services) | AFD |
| Other (multi-countries) / Climate facility IDFC (GL event) | 102.55 |  | committed | Oda | Grant | Other (Crosscutting) | Other (banking And Financial Services) | AFD |
| Other (multi-countries) / Biodiversity facility | 2,035.51 |  | committed | Oda | Grant | Other (Crosscutting) | Other (biodiversity) | AFD |
| Other (multi-countries) / Research related to sea management | 7,964.49 |  | committed | Oda | Grant | Other (Crosscutting) | Other (environmental Policy And Administrative Management) | AFD |
| Other (multi-countries) / Agroecology and sustainable food systems | 5,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Protected marine areas in the Mediterranean Sea | 4,000.00 |  | committed | Oda | Grant | Adaptation | Other (biodiversity) | AFD |
| Other (multi-countries) / Knowledge transfer in Sahel region | 107.33 |  | committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Other (multi-countries) / Knowledge transfer in Sahel region | 19.42 |  | committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Other (multi-countries) / Knowledge transfer in Sahel region | 26.00 |  | committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Other (multi-countries) / Knowledge transfer in Sahel region | 9.17 |  | committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Other (multi-countries) / Knowledge transfer in Sahel region | 10.33 |  | committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Other (multi-countries) / Knowledge transfer in Sahel region | 19.50 |  | committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Other (multi-countries) / Knowledge transfer in Sahel region | 3.25 |  | committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Other (multi-countries) / Knowledge transfer in Sahel region | 0.00 |  | committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Other (multi-countries) / Knowledge transfer in Sahel region | 0.00 |  | committed | Oda | Grant | Adaptation | Other (government And Civil Society) | AFD |
| Other (multi-countries) / Climate finance strategy | 150,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (banking And Financial Services) | AFD |
| Other (multi-countries) / Mobilise your city | 1,000.00 |  | committed | Oda | Grant | Mitigation | Other (transport And Storage) | AFD |
| Other (multi-countries) / Mobilise your city | 2,000.00 |  | committed | Oda | Grant | Mitigation | Other (transport And Storage) | AFD |
| Other (multi-countries) / Professional training for sustainable forest management | 5,000.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (government And Civil Society) | AFD |
| Other (multi-countries) / Professional training for teachers, including on climate change and environnmental issues | 2,250.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (government And Civil Society) | AFD |
| Other (multi-countries) / Professional training in the health sector, including sustainable development issues | 219.00 |  | committed | Oda | Grant | Other (Crosscutting) | Water And Sanitation | AFD |
| Other (multi-countries) / Professional training for agriculture | 2,900.00 |  | committed | Oda | Grant | Other (Crosscutting) | Agriculture | AFD |
| Other (multi-countries) / Blue Action Fund: Safeguarding marine biodiversity | 2,000.00 |  | committed | Oda | Grant | Adaptation | Other (biodiversity) | AFD |
| Other (multi-countries) / Monitoring of water and sanitation objectives in the context of Sahel Alliance | 350.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Other (multi-countries) / Sustainable agriculture | 911.40 |  | committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Other (multi-countries) / Supporting the scaling-up of climate finance | 107,855.47 |  | committed | Oof | Non-concessional Loan | Other (Crosscutting) | Other (banking And Financial Services) | AFD |
| Other (multi-countries) / Professional training related to water | 375.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Other (multi-countries) / Wildlige management in the conservation area of Kavango-Zambèze | 2,310.00 |  | committed | Oda | Grant | Adaptation | Other (environmental Policy And Administrative Management) | AFD |
| Other (multi-countries) / Initiative for Biodiversity, Climate and Resilience in the Pacific Ocean | 12,804.00 |  | committed | Oof | Grant | Adaptation | Other (biodiversity) | AFD |
| Other (multi-countries) / Social services | 800.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (government And Civil Society) | NGO |
| Other (multi-countries) / Mobilisation for nature protection | 3,000.00 |  | committed | Oda | Grant | Adaptation | Other (biodiversity) | NGO |
| Other (multi-countries) / Agroecology | 3,500.00 |  | committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Other (multi-countries) / Support to the BOAD | 75,000.00 |  | committed | Oda | Concessional Loan | Other (Crosscutting) | Other (government And Civil Society) | AFD |
| Other (multi-countries) / Financial intermediation for climate & gender equality | 135,000.00 |  | committed | Oda | Concessional Loan | Other (Crosscutting) | Other (environmental Policy And Administrative Management) | AFD |
| Other (multi-countries) / Critical Ecosystem Partnership Fund | 5,600.00 |  | committed | Oda | Grant | Adaptation | Other (biodiversity) | AFD |
| Other (multi-countries) / Air quality | 2,400.00 |  | committed | Oda | Grant | Mitigation | Other (environmental Policy And Administrative Management) | AFD |
| Other (multi-countries) / Air quality | 600.00 |  | committed | Oda | Grant | Mitigation | Other (environmental Policy And Administrative Management) | AFD |
| Other (multi-countries) / Air quality | 2,000.00 |  | committed | Oda | Grant | Mitigation | Other (environmental Policy And Administrative Management) | AFD |
| Other (multi-countries) / Media cooperation to favor social cohesion | 570.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (government And Civil Society) | AFD |
| Other (multi-countries) / Media cooperation to favor social cohesion | 1,330.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (government And Civil Society) | AFD |
| Other (multi-countries) / Energy efficiency | 2,200.00 |  | committed | Oda | Grant | Mitigation | Other (government And Civil Society) | PROPARCO |
| Other (multi-countries) / Energy efficiency | 300.00 |  | committed | Oda | Grant | Mitigation | Other (government And Civil Society) | PROPARCO |
| Other (multi-countries) / Research related to sea management | 1,000.00 |  | committed | Oda | Grant | Adaptation | Other (environmental Policy And Administrative Management) | AFD |
| Other (multi-countries) / Development of sustainable fisheries | 1,599.60 |  | committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Other (multi-countries) / Education related to water | 750.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (government And Civil Society) | NGO |
| Other (multi-countries) / Access to energy | 1,500.00 |  | committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | AFD |
| Other (multi-countries) / Creating a shared governance of natural resources | 1,500.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (government And Civil Society) | NGO |
| Other (multi-countries) / Climate-smart local development and land management | 9,500.00 |  | committed | Oda | Grant | Mitigation | Agriculture | AFD |
| Other (multi-countries) / Climate-related investments | 150,000.00 |  | committed | Oda | Concessional Loan | Other (Crosscutting) | Other (banking And Financial Services) | AFD |
| Other (multi-countries) / Research for sustainable seeds | 1,500.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Public policy dialogue | 300.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (government And Civil Society) | AFD |
| Other (multi-countries) / Scaling up of urban laboratories for sustainable development | 260.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (urban Development And Management) | AFD |
| Other (multi-countries) / Impact evaluation of urban laboratories for sustainable development | 40.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (urban Development And Management) | AFD |
| Other (multi-countries) / Urban laboratories for sustainable development | 100.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (urban Development And Management) | AFD |
| Other (multi-countries) / Urban laboratories for sustainable development | 160.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (urban Development And Management) | AFD |
| Other (multi-countries) / Urban laboratories for sustainable development | 440.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (urban Development And Management) | AFD |
| Other (multi-countries) / Control of fruit fly | 2,100.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Control of fruit fly | 1,835.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Scientific research and knowledge management on biodiversity | 700.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (biodiversity) | AFD |
| Other (multi-countries) / Sustainable energy | 560.00 |  | committed | Oda | Grant | Mitigation | Other (energy Generation - Distribution - Efficiency) | NGO |
| Other (multi-countries) / Professional training related to sustainable development | 500.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (government And Civil Society) | NGO |
| Other (multi-countries) / Education with high environmental standards | 800.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (government And Civil Society) | NGO |
| Other (multi-countries) / Technical assistance facility for the African Union | 165.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (environmental Policy And Administrative Management) | AFD |
| Other (multi-countries) / Xingu natural reserve | 1,100.00 |  | committed | Oda | Grant | Mitigation | Other (biodiversity) | AFD |
| Other (multi-countries) / 2050 Facility - establish low-carbon and resilient development pathways | 20,000.00 |  | committed | Oda | Grant | Other (Crosscutting) | Other (environmental Policy And Administrative Management) | AFD |
| Other (multi-countries) / Financial intermediation | 22,391.40 |  | committed | Oof | Non-concessional Loan | Mitigation | Other (banking And Financial Services) | PROPARCO |
| Other (multi-countries) / Financial intermediation | 37,500.00 |  | committed | Oof | Other | Other (Crosscutting) | Other (banking And Financial Services) | PROPARCO |
| Other (multi-countries) / Energy efficiency for educational buildings | 20,050.00 |  | committed | Oof | Non-concessional Loan | Mitigation | Other (government And Civil Society) | PROPARCO |
| Other (multi-countries) / Sustainable agribusiness | 8,468.83 |  | committed | Oof | Non-concessional Loan | Adaptation | Agriculture | PROPARCO |
| Other (multi-countries) / Sustainable agribusiness | 8,468.83 |  | committed | Oof | Non-concessional Loan | Adaptation | Agriculture | PROPARCO |

Table 40: Table CTF 7b - Bilateral, regional and other contributions in 2020

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Recipient country/ region/project/programmeb* | *Total amount* | | *Statusc, 3* | *Funding sourceg, 4* | *Financial instrumentg, 5* | *Type of supportg, h, 6* | *Sectord, g, 7* | *Additional informatione* |
| *Climate-specificf, 2* | |
| *European euro - EUR* | *USD* |
| Total contributions through bilateral, regional and other channels | 4,770,342,237.31 |  |  |  |  |  |  | FASEP |
| South Africa / Feasability study of a "waste to energy" project | 407,300.00 |  | committed | Oda | Grant | Mitigation | Cross-cutting | AFD |
| South Africa / Support for the implementation of a financing facility in South-African secondary cities | 1,818,824.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (capacity Building) | AFD |
| South Africa / Subscription/support to the emission of the first green bond by the DBSA | 150,000,000.00 |  | committed | Oda | Other (bond) | Mitigation | Other (financial Intermediation) | AFD |
| South Africa / Subscription/support to the emission of the first green bond by the DBSA | 50,000,000.00 |  | committed | Oda | Other (bond) | Adaptation | Other (financial Intermediation) | AFD |
| South Africa / Support to finance for affordable housing | 300,000.00 |  | committed | Oda | Grant | Adaptation | Other (health) | FASEP |
| Angola / Rehabilitation project of a irrigated perimeter | 674,540.00 |  | committed | Oda | Grant | Cross-cutting | Agriculture | AFD |
| Angola / Optimisation of the energy sector in Angola, cofinancing with the World Bank | 136,460,206.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | AFD |
| Benin / ACE Impact Benin | 4,300,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (capacity Building) | NGO |
| Benin / Guide local actors in market diffusion of Nubian vault | 1,300,000.00 |  | committed | Oda | Grant | Mitigation | Energy | FASEP |
| Burkina Faso / Innovative and ecological water treatment system | 573,000.00 |  | committed | Oda | Grant | Cross-cutting | Water And Sanitation | FASEP |
| Burkina Faso / Optimization of low tension city networks | 11,743.00 |  | committed | Oda | Grant | Mitigation | Energy | PROPARCO |
| Burkina Faso / Solar plant financing | 9,300,000.00 |  | committed | Oof | Concessional Loan | Mitigation | Energy | PROPARCO |
| Burkina Faso / Solar plant financing | 6,900,000.00 |  | committed | Oof | Concessional Loan | Mitigation | Energy | AFD |
| Burkina Faso / Improvement and securing of agricultural production | 10,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Agriculture | AFD |
| Burkina Faso / Improvement and securing of agricultural production | 10,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Agriculture | AFD |
| Burkina Faso / Improvement and securing of agricultural production | 3,500,000.00 |  | committed | Oda | Grant | Mitigation | Agriculture | AFD |
| Burkina Faso / Improvement and securing of agricultural production | 3,500,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Burkina Faso / Support to decentralisation and local and regional authorities (PADCT in French) | 5,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (risk Management) | AFD |
| Burkina Faso / Support to decentralisation and local and regional authorities (PADCT in French) | 1,750,000.00 |  | committed | Oda | Grant | Adaptation | Other (risk Management) | AFD |
| Burkina Faso / Project to strenghten the resilience of drinkable water public services in a context of crisis | 1,500,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | NGO |
| Burkina Faso / Live and live better in non planned areas | 500,000.00 |  | committed | Oda | Grant | Adaptation | Other (risk Management) | NGO |
| Burkina Faso / Help and action - Together for Resilient Public Action against crises | 500,000.00 |  | committed | Oda | Grant | Adaptation | Other (capacity Building) | FASEP |
| Cameroon / Local energy transition (energy production, storage and energy efficiency, intelligent monitoring of flux) | 500,000.00 |  | committed | Oda | Grant | Mitigation | Energy | FASEP |
| Cameroon / Ecological and portable toilets in the town of Yaoundé | 469,300.00 |  | committed | Oda | Grant | Cross-cutting | Water And Sanitation | FASEP |
| Cameroon / Study for the projet of hydroelectric dam in Kekem | 695,118.00 |  | committed | Oda | Grant | Cross-cutting | Energy | FASEP |
| Cameroon / Implementation of tools against atmospheric pollution in Yaoundé | 568,450.00 |  | committed | Oda | Grant | Adaptation | Other (pollution) | FASEP |
| Cameroon / Land management plateform and monitoring of agricultural productions | 613,615.00 |  | committed | Oda | Grant | Cross-cutting | Agriculture | NGO |
| Cameroon / Inclusive finance in Africa facing ecological and social transition challenges: stakes and capacity building of African actors with a innovative and adapted training offer | 650,000.00 |  | committed | Oda | Grant | Cross-cutting | Other (capacity Building) | AFD |
| Cameroon / Support to the development of pro-biodiversity agricultural sectors | 2,500,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD/STOA |
| Cameroon / Hydropower dam (Nachtigal) | 33,000,000.00 |  | committed | Oof | Equity | Mitigation | Energy | AFD |
| Central African Republic / Rehabilitation of the bypass road of Bangui airport | 750,000.00 |  | committed | Oda | Grant | Adaptation | Transport | AFD |
| Chad / Drinkable water supply of NDjaména via the rehabilitation and network extension and strenghtening of the Chadian Society of Waters | 7,500,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Chad / Binder Léré Park as a sustainable land management tool, development of populations and biodiversity conservation | 2,400,000.00 |  | committed | Oda | Grant | Mitigation | Agriculture | AFD |
| Chad / Binder Léré Park as a sustainable land management tool, development of populations and biodiversity conservation | 5,600,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Chad / Chad Lake Initiative for land development of Kanem and Bahr El Ghazal | 2,380,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | FASEP |
| Côte D'ivoire / Affordable and sustainable housing | 694,000.00 |  | committed | Oda | Grant | Cross-cutting | Other (urban Development And Management) | FASEP |
| Côte D'ivoire / Reliable, affordable and sustainable electricity in Bingerville | 528,000.00 |  | committed | Oda | Grant | Mitigation | Energy | FASEP |
| Côte D'ivoire / Study for the first part of sanitation project in Yopougon | 847,452.00 |  | committed | Oda | Grant | Cross-cutting | Water And Sanitation | FASEP |
| Côte D'ivoire / Smart transport system for Abidjan | 232,819.20 |  | committed | Oda | Grant | Mitigation | Transport | Treasury loan |
| Côte D'ivoire / Abidjan metro project management assistance | 2,600,000.00 |  | committed | Oof | Other (Loan) | Mitigation | Transport | AFD |
| Côte D'ivoire / Third phase of the financing "Development of education, formation, youth integration" (DEFI 3) | 39,390,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (education) | AFD |
| Côte D'ivoire / Project Resilience of cotton systems in the North of Ivory Coast | 40,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Agriculture | FFEM |
| Côte D'ivoire / Soil restauration and degraded forest landscapes in Ivory Coast | 600,000.00 |  | committed | Oda | Grant | Mitigation | Agriculture | AFD |
| Comoros / Improvement of scolar environment in the Comores (PDFC) | 4,378,000.00 |  | committed | Oda | Grant | Mitigation | Other (education) | AFD |
| Comoros / Improvement of scolar environment in the Comores (PDFC) | 5,970,000.00 |  | committed | Oda | Grant | Adaptation | Other (education) | AFD |
| Comoros / Improvement of scolar environment in the Comores (PDFC) | 22,000.00 |  | committed | Oda | Grant | Mitigation | Other (education) | AFD |
| Comoros / Improvement of scolar environment in the Comores (PDFC) | 30,000.00 |  | committed | Oda | Grant | Adaptation | Other (education) | AFD |
| Comoros / Strenghtening the resilience of COI countries by the development of improved meteorologic, hydrologic and climate services (Hydromet) | 5,000,000.00 |  | committed | Oda | Grant | Adaptation | Other (risk Management) | AFD |
| Congo / Programme of sustainable land use in the Republic of Congo | 6,300,000.00 |  | committed | Oda | Grant | Mitigation | Agriculture | AFD |
| Congo / Programme of sustainable land use in the Republic of Congo | 700,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | FFEM |
| Congo / Pilote project about the elaboration of information system on water for adaptation to climate changes in the Congo Basin | 400,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | PROPARCO |
| Other (république Démocratique Du Congo) / Solar network development and refinancing | 1,000,000.00 |  | committed | Oof | Other (Non-concessionnal loan) | Mitigation | Energy | AFD |
| Other (république Démocratique Du Congo) / Adduction project of drinkable water Mpungwe-Bukavu | 13,500,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Other (république Démocratique Du Congo) / Programme of strenghtening of the health system in two health zones in the province of North Kivu | 1,350,000.00 |  | committed | Oda | Grant | Adaptation | Other (health) | NGO |
| Other (république Démocratique Du Congo) / Programme Convention - Reinforcement programme of civil society initiatives for change | 750,000.00 |  | committed | Oda | Grant | Adaptation | Cross-cutting | NGO |
| Other (république Démocratique Du Congo) / Programme Convention - Reinforcement programme of civil society initiatives for change | 750,000.00 |  | committed | Oda | Grant | Mitigation | Cross-cutting | AFD |
| Djibouti / Project of extension and strenghtening of the sanitation network of Djibouti - phase II (global projet 12 EURM) | 5,440,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | FASEP |
| Egypt / Implementation of decentralised water treatment systems | 790,450.00 |  | committed | Oda | Grant | Cross-cutting | Water And Sanitation | AFD |
| Egypt / Building of the French University of Egypt | 840,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | AFD |
| Egypt / Building of the French University of Egypt | 140,000.00 |  | committed | Oda | Grant | Mitigation | Energy | AFD |
| Egypt / Loan of public policy in the social protection sector (phase 2) | 9,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (urban Development) | AFD |
| Ethiopia / INTERAIDE Ethiopia - South Ethiopian Rural development | 2,550,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Ethiopia / INTERAIDE Ethiopia - South Ethiopian Rural development | 2,000,000.00 |  | committed | Oda | Grant | Mitigation | Agriculture | NGO |
| Ethiopia / INTERAIDE Ethiopia - South Ethiopian Rural development | 500,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Gambia / Resilience of Organisations for Transformative Smallholder Agriculture | 2,730,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Ghana / Credit Line to Ghana Infrastructure Investment Fund (GIIF) | 7,528,119.80 |  | committed | Oda | Concessional Loan | Adaptation | Cross-cutting | AFD |
| Ghana / Credit Line to Ghana Infrastructure Investment Fund (GIIF) | 30,112,479.20 |  | committed | Oda | Concessional Loan | Mitigation | Cross-cutting | AFD |
| Ghana / Project of agricultural management of water in the North West of Ghana | 3,500,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Guinea / Financing complement for the project of rehabilitation and extension of the transport and electricity distribution network | 18,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | NGO |
| Guinea-bissau / Sustainable development of mangrove agriculture in Guinea-Buissau | 187,500.00 |  | committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Guinea-bissau / Sustainable development of mangrove agriculture in Guinea-Buissau | 187,500.00 |  | committed | Oda | Grant | Mitigation | Agriculture | FASEP |
| Kenya / Agricultural yield improvements by satellite | 800,000.00 |  | committed | Oda | Grant | Cross-cutting | Agriculture | FASEP |
| Kenya / Director scheme for river regeneration in Nairobi | 699,000.00 |  | committed | Oda | Grant | Cross-cutting | Water And Sanitation | Treasury loan |
| Kenya / Rehabilitation, extension, exploitation of line 4 of the urban rail network of Nairobi | 51,200,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Transport | Treasury loan |
| Kenya / Interconnexion project between geothermal crater of Menengai and Rongai station | 65,200,000.00 |  | committed | Oda | Concessional Loan | Cross-cutting | Energy | PROPARCO |
| Kenya / SME financing | 18,516,804.00 |  | committed | Oof | Other (Non-concessionnal loan) | Mitigation | Other (capacity Building) | PROPARCO |
| Kenya / Refinancing of a senior loan - food industry sector | 376,975.00 |  | committed | Oda | Concessional Loan | Adaptation | Agriculture | AFD |
| Kenya / Fight against Covid-19 spread through the improvement of access to sanitation and hygiene in informal districts of Nairobi | 990,000.00 |  | committed | Oda | Grant | Adaptation | Other (health) | FASEP |
| Madagascar / Vegetalized sanitation system | 739,110.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | FASEP |
| Madagascar / Study for the reduction of physical and commercial losses associated to drinkable water distribution | 245,974.40 |  | committed | Oda | Grant | Mitigation | Water And Sanitation | AFD |
| Madagascar / Project of support to professional training in Madagascar | 495,000.00 |  | committed | Oda | Grant | Adaptation | Energy | AFD |
| Madagascar / Project of support to professional training in Madagascar | 495,000.00 |  | committed | Oda | Grant | Mitigation | Energy | AFD |
| Madagascar / Projet of support to professional training in Madagascar | 55,000.00 |  | committed | Oda | Grant | Adaptation | Energy | AFD |
| Madagascar / Projet of support to professional training in Madagascar | 55,000.00 |  | committed | Oda | Grant | Mitigation | Energy | AFD |
| Madagascar / Projet of support to professional training in Madagascar | 275,000.00 |  | committed | Oda | Grant | Adaptation | Energy | AFD |
| Madagascar / Projet of support to professional training in Madagascar | 275,000.00 |  | committed | Oda | Grant | Mitigation | Energy | AFD |
| Madagascar / Support to Pasteur Institute Madagascar | 210,000.00 |  | committed | Oda | Grant | Adaptation | Other (health) | NGO |
| Madagascar / Inclusive and lasting access to water, hygiene and sanitation services for vulnerable populations in Manakara | 800,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | NGO |
| Madagascar / Young farmers project - phase 2 (PROJA 2) | 700,000.00 |  | committed | Oda | Grant | Cross-cutting | Agriculture | NGO |
| Madagascar / Consolidation and development of inclusive microfinance institutions' networks of Madagascar | 800,000.00 |  | committed | Oda | Grant | Cross-cutting | Other (capacity Building) | NGO |
| Madagascar / Economy to the service of biodiversity and men | 300,000.00 |  | committed | Oda | Grant | Cross-cutting | Agriculture | NGO |
| Madagascar / Agrisud International | 400,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | FFEM |
| Madagascar / Towards a lateral electrification model for rural zones in the North of Madagascar | 2,440,000.00 |  | committed | Oda | Grant | Mitigation | Energy | NGO |
| Malawi / Maintenance models and support to the governance of Water and Sanitation | 2,500,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | NGO |
| Malawi / Support to family agricultures | 2,000,000.00 |  | committed | Oda | Grant | Cross-cutting | Agriculture | FASEP |
| Mali / Treatment of disposed waste in the city of Bamako | 117,843.60 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Mali / Credit line with portfolio guarantee Euriz and technical assistance on grant | 4,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (financial Intermediation) | AFD |
| Mali / Credit line with portfolio guarantee Euriz and technical assistance on grant | 12,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (financial Intermediation) | AFD |
| Mali / Credit line with portfolio guarantee Euriz and technical assistance on grant | 200,000.00 |  | committed | Oda | Grant | Adaptation | Other (financial Intermediation) | AFD |
| Mali / Credit line with portfolio guarantee Euriz and technical assistance on grant | 600,000.00 |  | committed | Oda | Grant | Mitigation | Other (financial Intermediation) | AFD |
| Mali / Security and Development in North and Centre Mali - Phase 3 | 2,800,000.00 |  | committed | Oda | Grant | Adaptation | Other (security) | AFD |
| Mali / Security and Development in North and Centre Mali - Phase 3 | 750,000.00 |  | committed | Oda | Grant | Adaptation | Other (security) | AFD |
| Mali / Security and Development in North and Centre Mali - Phase 3 | 700,000.00 |  | committed | Oda | Grant | Adaptation | Other (security) | NGO |
| Mali / GERES - Renewable Energy Group, Environment and Solidarities | 750,000.00 |  | committed | Oda | Grant | Mitigation | Energy | AFD |
| Mali / 3 Frontiers | 50,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Mali / 3 Frontiers | 50,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Mali / 3 Frontiers | 30,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Mali / 3 Frontiers | 70,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Mali / Control and adaptation of intermediary cities in the medium valley of Senegalan river | 1,500,000.00 |  | committed | Oda | Grant | Adaptation | Other (urban Development) | C |
| Mali / PISCCA - Environment protechtion, fighting against climate change and sustainable development | 210,000.00 |  | committed | Oda | Grant | Other | Other (other) | AFD |
| Mauritania / Improvement of food security with draining stimulus in the regions of Gorgol and Guidimaka - Phase 2 | 8,425,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Mauritania / Improvement of food security with draining stimulus in the regions of Gorgol and Guidimaka - Phase 2 | 1,500,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Mauritania / Improvement of food security with draining stimulus in the regions of Gorgol and Guidimaka - Phase 2 | 75,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Mauritania / Project in support of the national facility for adaptive social protection | 2,500,000.00 |  | committed | Oda | Grant | Adaptation | Other (health) | AFD |
| Mauritania / Project in support of the national facility for adaptive social protection | 2,500,000.00 |  | committed | Oda | Grant | Adaptation | Other (health) | NGO |
| Mauritania / GRET - Professionals of united development | 900,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Mauritius / Contingency loan covid and Adaptation at CC Mauritius | 99,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Cross-cutting | AFD |
| Mauritius / Contingency loan covid and Adaptation at CC Mauritius | 48,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Cross-cutting | AFD |
| Mauritius / Contingency loan covid and Adaptation at CC Mauritius | 495,000.00 |  | committed | Oda | Grant | Adaptation | Cross-cutting | AFD |
| Mauritius / Contingency loan covid and Adaptation at CC Mauritius | 240,000.00 |  | committed | Oda | Grant | Mitigation | Cross-cutting | AFD |
| Morocco / Convergence and resilience of territories - FEC 2 | 40,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (financial Intermediation) | AFD |
| Morocco / Convergence and resilience of territories - FEC 2 | 40,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (financial Intermediation) | AFD |
| Morocco / Convergence and resilience of territories - FEC 2 | 700,000.00 |  | committed | Oda | Grant | Adaptation | Other (financial Intermediation) | AFD |
| Morocco / Convergence and resilience of territories - FEC 2 | 700,000.00 |  | committed | Oda | Grant | Mitigation | Other (financial Intermediation) | AFD |
| Morocco / Revitalisation of Moroccan rural lands through jobs and entrepreneurship in the agricultural and para-agricultural sector | 52,500,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Agriculture | AFD |
| Morocco / Revitalisation of Moroccan rural lands through jobs and entrepreneurship in the agricultural and para-agricultural sector | 210,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Morocco / Women autonomisation by sustainable entrepreneurship in rural zones of the region of Marrakech-Safi | 400,000.00 |  | committed | Oda | Grant | Adaptation | Other (capacity Building) | NGO |
| Morocco / Women autonomisation by sustainable entrepreneurship in rural zones of the region of Marrakech-Safi | 400,000.00 |  | committed | Oda | Grant | Mitigation | Other (capacity Building) | NGO |
| Morocco / Project of improvement of agricultural sector performances | 350,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Morocco / Territorial approach Climate-Energy: Adaptation and mitigation measures on rural territories and link cities | 700,000.00 |  | committed | Oda | Grant | Adaptation | Other (capacity Building) | NGO |
| Morocco / Territorial approach Climate-Energy: Adaptation and mitigation measures on rural territories and link cities | 700,000.00 |  | committed | Oda | Grant | Mitigation | Other (capacity Building) | AFD |
| Mozambique / Resilience of mangrove ecosystems and natural disaster risk reduction in Mozambique | 950,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Mozambique / Resilience of mangrove ecosystems and natural disaster risk reduction in Mozambique | 950,000.00 |  | committed | Oda | Grant | Mitigation | Agriculture | AFD |
| Mozambique / Resilience of mangrove ecosystems and natural disaster risk reduction in Mozambique | 2,050,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Mozambique / Resilience of mangrove ecosystems and natural disaster risk reduction in Mozambique | 2,050,000.00 |  | committed | Oda | Grant | Mitigation | Agriculture | AFD |
| Niger / Karey Gorou - Strenghtening of water supply in Niamey | 24,400,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | NGO |
| Niger / Nariindu 3: promoting local milk in Sahel | 285,000.00 |  | committed | Oda | Grant | Mitigation | Agriculture | PROPARCO |
| Nigeria / Financing in the renewable energy sector | 4,000,000.00 |  | committed | Oda | Other (financial intermediation) | Mitigation | Energy | AFD |
| Nigeria / Project of urban transport in the town of Kaduna | 110,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Transport | AFD |
| Rwanda / Contribution to the national program of energy access | 80,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | FASEP |
| Rwanda / Citizen platform for sustainable city | 158,832.00 |  | committed | Oda | Grant | Mitigation | Other (digital) | FASEP |
| Senegal / Improvement project of management and information tools on air and seawater quality in Dakar | 784,583.71 |  | committed | Oda | Grant | Adaptation | Other (digital) | FASEP |
| Senegal / Implementation of a low-carbon district for the train station area Petersen (Dakar) | 570,000.00 |  | committed | Oda | Grant | Cross-cutting | Transport | FASEP |
| Senegal / Demonstrator of ecoconstruction for youth learning | 72,000.00 |  | committed | Oda | Grant | Mitigation | Other (health) | AFD |
| Senegal / Express Regional Train of Dakar | 30,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Transport | AFD |
| Senegal / Autonomous Sanitation in Dakar region (PAAD in French) | 10,800,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Senegal / Autonomous Sanitation in Dakar region (PAAD in French) | 800,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Water And Sanitation | AFD |
| Senegal / Autonomous Sanitation in Dakar region (PAAD in French) | 2,700,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Senegal / Autonomous Sanitation in Dakar region (PAAD in French) | 200,000.00 |  | committed | Oda | Grant | Mitigation | Water And Sanitation | AFD |
| Senegal / Support to the development of secondary education - phase 2 | 5,700,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (education) | AFD |
| Senegal / Support to the development of secondary education - phase 2 | 1,350,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (education) | NGO |
| Senegal / Sustainable management of forestry resources of Bignona | 350,000.00 |  | committed | Oda | Grant | Cross-cutting | Forestry | NGO |
| Senegal / Rural communities and electricity access in Casamance | 480,000.00 |  | committed | Oda | Grant | Mitigation | Energy | NGO |
| Senegal / Access Programme to Renewable Energies - phase 2 | 400,000.00 |  | committed | Oda | Grant | Mitigation | Energy | NGO |
| Senegal / Strenghtening sanitary, social and economic covid-19 crisis resilience for populations of the Podor Department | 350,000.00 |  | committed | Oda | Grant | Adaptation | Other (capacity Building) | NGO |
| Senegal / Women Engage for a Common Future - WECF France | 450,000.00 |  | committed | Oda | Grant | Adaptation | Other (capacity Building) | FFEM |
| Senegal / Fight against desertification with the support to pastoralism in FERLO | 48,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Seychelles / Project in support to epidemiological surveillance network and emergy management (SEGA One Health Network) - Third phase (2018-2022) | 1,080,000.00 |  | committed | Oda | Grant | Adaptation | Other (health) | AFD |
| Sudan / Aflasafe Sudan | 550,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| TANZANIA / Phase 5 of the Bus Rapid Transit (BRT) of Dar Es Salaam | 178,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Transport | AFD |
| TANZANIA / Complementary financing to a field hospital project of Aga Khan Hospital of Dar Es Salaam to improve treatment of patients affected with covid-19 in Tanzania | 54,000.00 |  | committed | Oda | Grant | Adaptation | Other (health) | AFD |
| Togo / Programme of extension of electric networks in Urban centres of Togo | 40,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | AFD |
| Togo / Project of improvement of sanitary conditions in scolar and rural environment in the Savanas' Region (phase II) | 7,600,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | NGO |
| Togo / Agroecology for food soverainety and climate change adaptation in West Africa - phase 2 | 250,000.00 |  | committed | Oda | Grant | Mitigation | Agriculture | NGO |
| Togo / Agroecology for food soverainety and climate change adaptation in West Africa - phase 2 | 250,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | NGO |
| Togo / Entrepreneurs of the World | 900,000.00 |  | committed | Oda | Grant | Mitigation | Energy | FASEP |
| Tunisia / Hydro-meteorological monitoring system | 567,522.00 |  | committed | Oda | Grant | Adaptation | Other (research) | AFD |
| Tunisia / Loan of public policy to support reforms in favour of the resilience of Tunisian economy | 12,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (capacity Building) | AFD |
| Tunisia / Loan of public policy to support reforms in favour of the resilience of Tunisian economy | 80,000.00 |  | committed | Oda | Grant | Mitigation | Other (capacity Building) | FASEP |
| Uganda / Artificial smart solution for the performance of the drinkable water network of Kampala | 599,396.00 |  | committed | Oda | Grant | Mitigation | Water And Sanitation | PROPARCO |
| Uganda / Financing of a hospital construction | 5,777,484.00 |  | committed | Oof | Concessional Loan | Mitigation | Energy | AFD |
| Albania / Project of improvement of the drinkable water service in the region of Durrës | 46,800,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Albania / Project of improvement of the drinkable water service in the region of Durrës | 1,200,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Water And Sanitation | AFD |
| Albania / Project of improvement of the drinkable water service in the region of Durrës | 780,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Albania / Project of improvement of the drinkable water service in the region of Durrës | 20,000.00 |  | committed | Oda | Grant | Mitigation | Water And Sanitation | NGO |
| Albania / Strenghtening project of humid zones management in the Balkans for the conservation of the dalmatian Pelican | 350,000.00 |  | committed | Oda | Grant | Cross-cutting | Agriculture | NGO |
| Albania / Strenghtening project of humid zones management in the Balkans for the conservation of the dalmatian Pelican | 350,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | FASEP |
| Armenia / Development of floating solar power station | 794,016.00 |  | committed | Oda | Grant | Mitigation | Energy | AFD |
| Bangladesh / Financing of investments in renewable energy, energy efficiency and women' entrepreneurship | 45,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | AFD |
| Bangladesh / Modernisation of social programs and support to the covid-19 crisis' response | 34,500,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (cities) | AFD |
| Cambodia / Development program of rural infrastructures "RID4CAM" | 50,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Agriculture | AFD |
| Cambodia / Agricultural Value Chain Competitiveness and Safety Enhancement Project | 20,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Agriculture | AFD |
| China / Ecological revitalisation in the District of Pingnan (Fujian Province) | 16,400,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Energy | AFD |
| China / Ecological revitalisation in the District of Pingnan (Fujian Province) | 2,800,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | AFD |
| China / Energy cogeneration from agricultural and forestry biomass in the city of Xinzhou (Shanxi Province) | 27,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | AFD |
| Cook Islands / Financing grant of Oceanian Network of Public Health Surveillance (ROSSP in French) | 2,000,000.00 |  | committed | Oda | Grant | Adaptation | Other (health) | FASEP |
| Georgia / Improvement of floading risk prevention and water surface quality deradation in Tbilissi | 735,095.00 |  | committed | Oda | Grant | Mitigation | Water And Sanitation | AFD |
| Georgia / Third loan of public policy for the development of energy efficiency and reform implementation (top-up Covid) | 120,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | PROPARCO |
| India / Acquisition of a stake - energy sector | 4,466,262.00 |  | committed | Oof | Equity | Mitigation | Energy | PROPARCO |
| India / Financing of a photovoltaic plant | 33,875,935.00 |  | committed | Oda | Other (Guarantee) | Mitigation | Energy | AFD |
| India / Project of continuous supply of drinkable water in the city of Chandigarh | 22,080,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| India / Project of continuous supply of drinkable water in the city of Chandigarh | 22,560,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Water And Sanitation | AFD |
| India / Public policy loan in the sector of the social protection in the framework of the Covid-19 pandemics in India | 4,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (capacity Building) | AFD/STOA |
| India / Calabria windpower farm | 45,000,000.00 |  | committed | Oof | Equity | Mitigation | Energy | AFD |
| Indonesia / KRisNA - capacity building of Indonesian oceanographic research project | 43,200,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Energy | AFD |
| Indonesia / KRisNA - capacity building of Indonesian oceanographic research project | 64,800,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | AFD |
| Indonesia / Program to strengthen resilience against natural disasters (PrPP DREAM: Disaster Risk Enhancement and Management Programme) | 77,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (disaster Risk) | AFD |
| Indonesia / Public policy Loan for resilience strenghtening of Indonesian financial system | 13,900,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Energy | AFD |
| Indonesia / Public policy Loan for resilience strenghtening of Indonesian financial system | 2,800,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | PROPARCO |
| Jordan / Partial refinancing - waste water treatment | 28,676,405.00 |  | committed | Oda | Concessional Loan | Cross-cutting | Water And Sanitation | AFD |
| Jordan / Sanitation project in the region of Ramtha and Sahel Houran | 10,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Jordan / Sanitation project in the region of Ramtha and Sahel Houran | 10,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Water And Sanitation | AFD |
| Jordan / Support to the mobility and urban transport of Grand Amman Municipality: proceedng of financing of BRT (Bus Rapid Transit) Network | 50,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Transport | AFD |
| Jordan / Smart development of eco-friendly solutions and economic regional agricultural techniques (Smart Desert) | 7,500,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| LAOS / Project of sustainable management in micro-watershed plans in the North of Laos (SWAN Laos) | 4,500,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | NGO |
| LAOS / Sustainable management project of Nyot Ou Land: Soil protection and support to tea producers | 155,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | NGO |
| LAOS / Sustainable management project of Nyot Ou Land: Soil protection and support to tea producers | 155,000.00 |  | committed | Oda | Grant | Mitigation | Agriculture | FASEP |
| Lebanon / Caracterization and recyling of waste for reconstruction | 328,000.00 |  | committed | Oda | Grant | Mitigation | Other (waste Management) | AFD |
| Lebanon / Structuration of the drinkable water and sanitation service at Ersaal and Valley | 11,288,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Lebanon / Structuration of the drinkable water and sanitation service at Ersaal and Valley | 1,162,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Lebanon / I. MO Disaster Risk Reduction Lebanon | 9,600,000.00 |  | committed | Oda | Grant | Adaptation | Other (risk Management) | AFD |
| Lebanon / I. MO Disaster Risk Reduction Lebanon | 2,494,475.00 |  | committed | Oof | Grant | Adaptation | Other (risk Management) | AFD |
| Lebanon / I. MO Disaster Risk Reduction Lebanon | 1,500,000.00 |  | committed | Oda | Grant | Adaptation | Other (risk Management) | AFD |
| Lebanon / I. MO OICC Support to the NGO "Arc-en-ciel" (in French) or Rainbow | 210,000.00 |  | committed | Oda | Grant | Mitigation | Other (capacity Building) | AFD |
| Lebanon / Rehabilitation of a public hospital of Quarantine in Beyrouth | 80,000.00 |  | committed | Oda | Grant | Mitigation | Energy | C |
| Malaysia / ClimaTe Resilient lAndscapes for wildLife conservation | 327,000.00 |  | committed | Oda | Grant | Cross-cutting | Other (other) | Treasury loan |
| Mongolia / Construction of transport by urban cable | 60,700,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Transport | AFD |
| Montenegro / Support to project financing Climate and Sustainability in Montenegro | 5,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (financial Intermediation) | AFD |
| Montenegro / Support to project financing Climate and Sustainability in Montenegro | 25,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (financial Intermediation) | NGO |
| Nepal / Integrated project for global reconstruction - phase 3 | 500,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Pakistan / Urban and touristic development in Fort of Lahort and surroundings | 11,660,000.00 |  | committed | Oof | Concessional Loan | Adaptation | Other (urban Development) | AFD |
| Pakistan / Hydroelectric plant of Keyal Khwar | 120,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | AFD |
| Pakistan / Partial restoration of Clean Access Energy project | 19,100,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | AFD |
| PALESTINIAN AUTONOMOUS TERRITORIES / Support to East-Jerusalem for its identity and resilience (AJIR) | 320,000.00 |  | committed | Oda | Grant | Adaptation | Cross-cutting | AFD |
| PALESTINIAN AUTONOMOUS TERRITORIES / Support to East-Jerusalem for its identity and resilience (AJIR) | 320,000.00 |  | committed | Oda | Grant | Mitigation | Cross-cutting | AFD |
| PALESTINIAN AUTONOMOUS TERRITORIES / Contribution to the project "Gaza Central Desalination Plant and Associated Works Program" (GCDP & AWP) through WB fiduciary funds for associated works | 4,180,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| PALESTINIAN AUTONOMOUS TERRITORIES / Complementary financing to "Municipal Development Programme" of MDLF to support local authorities in their response to the effects of covid-19 pandemics | 420,000.00 |  | committed | Oda | Grant | Adaptation | Other (risk Management) | FASEP |
| Philippines / Extenion/cable transport in Manilla | 40,000.00 |  | committed | Oda | Grant | Mitigation | Transport | FASEP |
| Serbia / Demonstrator of a virtual natural reserve to sensitize populations to biodiversity preservation | 475,425.00 |  | committed | Oda | Grant | Adaptation | Other (biodiversity) | PROPARCO |
| Serbia / SME financing and green loans | 13,500,000.00 |  | committed | Oof | Other (Non-concessionnal loan) | Mitigation | Other (financial Intermediation) | C |
| Sri Lanka / Infrastructure and coastal change management in the South and East of Sri Lanka | 250,000.00 |  | committed | Oda | Grant | Cross-cutting | Other (other) | FASEP |
| Vanuatu / Implementation of an integrated solution of waste management | 420,040.00 |  | committed | Oda | Grant | Mitigation | Other (waste Management) | FASEP |
| VIETNAM / NAGIS - National Geographic Information System in support of sustainable management of aquacol sector resistant to the effects of climate change | 606,887.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| VIETNAM / Green credit line with BIDV | 88,566,115.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | PROPARCO |
| VIETNAM / Senior loan to a bank for green projects financing | 13,833,810.00 |  | committed | Oof | Other (Non-concessionnal loan) | Mitigation | Cross-cutting | PROPARCO |
| VIETNAM / Portfolio financing of green credits | 42,376,473.00 |  | committed | Oof | Other (Non-concessionnal loan) | Mitigation | Cross-cutting | AFD |
| VIETNAM / Energy Transition Partnership | 2,500,000.00 |  | committed | Oda | Grant | Mitigation | Energy | AFD |
| VIETNAM / Support to Mekong River Commission | 1,500,000.00 |  | committed | Oda | Grant | Adaptation | Other (risk Management) | PROPARCO |
| Uzbekistan / Financing of a 100 MW solar plant | 39,000,000.00 |  | committed | Oof | Concessional Loan | Mitigation | Energy | PROPARCO |
| Uzbekistan / Financing of a 100 MW solar plant | 3,500,000.00 |  | committed | Oof | Other (Non-concessionnal loan) | Mitigation | Energy | PROPARCO |
| Uzbekistan / Financing of a 100 MW solar plant | 1,300,000.00 |  | committed | Oof | Other (Non-concessionnal loan) | Mitigation | Energy | AFD |
| Uzbekistan / Project of development of urban sanitation systems in Uzbekistan, in the cities of Karmana, Kitob and Chakhrisabz | 51,450,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Uzbekistan / Project of development of urban sanitation systems in Uzbekistan, in the cities of Karmana, Kitob and Chakhrisabz | 51,450,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Water And Sanitation | AFD |
| Uzbekistan / Project of inclusive financing and climate intelligent development in the sector of breeding | 30,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Agriculture | AFD |
| Uzbekistan / Project of inclusive financing and climate intelligent development in the sector of breeding | 40,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Agriculture | AFD |
| Uzbekistan / Public policy Loan Energy-Climate in the framework of the development program of the energy sector for a low-carbon economy | 120,000,000.00 |  | committed | Oof | Concessional Loan | Mitigation | Energy | FASEP |
| Brazil / Platform to improve water management, waste and public lighting | 102,000.00 |  | committed | Oda | Grant | Cross-cutting | Cross-cutting | FASEP |
| Brazil / Reinforcement of the follow-up and evaluation of urban sanitation in two priority hydrographic bassins in Brazil | 800,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Brazil / Second credit line to Banco de Desenvolvimento de Minas Gerais for the implementation of a carbon credit mechanism in the State of Minas Gerais | 24,500,000.00 |  | committed | Oof | Other (Non-concessionnal loan) | Adaptation | Other (financial Intermediation) | AFD |
| Brazil / Second credit line to Banco de Desenvolvimento de Minas Gerais for the implementation of a carbon credit mechanism in the State of Minas Gerais | 24,500,000.00 |  | committed | Oof | Other (Non-concessionnal loan) | Mitigation | Other (financial Intermediation) | AFD |
| Brazil / Teresina 2030, integrated development program in the municipality of Teresina | 15,480,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (capacity Building) | AFD |
| Brazil / Teresina 2030, integrated development program in the municipality of Teresina | 5,760,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (capacity Building) | AFD |
| Brazil / Support to the financing strategy of sustainable economic boost of BADESC | 10,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | PROPARCO |
| Brazil / Green credit line | 85,940,186.00 |  | committed | Oof | Other (Non-concessionnal loan) | Mitigation | Energy | PROPARCO |
| Brazil / Credit line for the financing of climate projects | 62,134,754.00 |  | committed | Oof | Other (Non-concessionnal loan) | Mitigation | Energy | PROPARCO |
| Brazil / Green credit line | 26,963,868.00 |  | committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Brazil / Support to local populations and Employment and social link Preservation in response to covid crisis | 17,500,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (other) | AFD |
| Brazil / TerrIndigena: Strenghen autochtone land protection | 4,000,000.00 |  | committed | Oda | Grant | Mitigation | Other (capacity Building) | AFD/STOA |
| Brazil / Windpower (Ventos Serra do Mel III) | 17,000,000.00 |  | committed | Oof | Equity | Mitigation | Energy | AFD/STOA |
| Brazil / Metropolitan transport - Line 6 of the Sao Paulo subway | 50,000,000.00 |  | committed | Oof | Equity | Mitigation | Transport | FASEP |
| Colombia / Water purificators deployment for drinkable water access of rural and indigenous populations in Vichada region | 513,868.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | FASEP |
| Colombia / Mobile environmental DNA analysis laboratory | 291,496.40 |  | committed | Oda | Grant | Adaptation | Other (other) | AFD |
| Colombia / FINDETER 2 (Financiera de Desarrollo Territorial) | 27,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Cross-cutting | AFD |
| Colombia / FINDETER 2 (Financiera de Desarrollo Territorial) | 33,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Cross-cutting | AFD |
| Colombia / PN Municipality Barranquilla | 60,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (other) | AFD |
| Colombia / PN Municipality Barranquilla | 19,200,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Other (other) | PROPARCO |
| Colombia / Supply financing for electric buses | 12,525,841.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy, transport | PROPARCO |
| Colombia / Supply financing for electric buses | 9,304,970.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy, transport | PROPARCO |
| Colombia / Supply financing for electric buses | 12,104,523.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy, transport | PROPARCO |
| Colombia / Supply financing for electric buses | 9,064,748.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy, transport | AFD |
| Colombia / Loan in support of sustainable land development in the framework of PND 2018-2022 | 69,300,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Cross-cutting | AFD |
| Colombia / Loan in support of sustainable land development in the framework of PND 2018-2022 | 71,400,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Cross-cutting | AFD |
| Costa Rica / "Climate" credit line to Costa Rica National Bank | 20,544,005.00 |  | committed | Oda | Concessional Loan | Adaptation | Energy | AFD |
| Costa Rica / "Climate" credit line to Costa Rica National Bank | 20,544,005.00 |  | committed | Oda | Concessional Loan | Mitigation | Energy | AFD |
| Costa Rica / "Climate" credit line to Costa Rica National Bank | 6,163,201.50 |  | committed | Oof | Other (Non-concessionnal loan) | Adaptation | Energy | AFD |
| Costa Rica / "Climate" credit line to Costa Rica National Bank | 6,163,201.50 |  | committed | Oof | Other (Non-concessionnal loan) | Mitigation | Energy | PROPARCO |
| Costa Rica / Portfolio refinancing of small and medium-sized entreprises | 26,642,984.00 |  | committed | Oof | Other (Non-concessionnal loan) | Mitigation | Other (other) | AFD |
| Cuba / Support to the capacity enhancement of vaccine research and production of the Finlay Institute | 8,500,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Other (health) | PROPARCO |
| Dominican Republic / Financing of wind plant | 18,445,080.00 |  | committed | Oof | Other (Non-concessionnal loan) | Mitigation | Energy | FASEP |
| Ecuador / Farm of insect breeding for aquaculture | 705,270.00 |  | committed | Oda | Grant | Cross-cutting | Agriculture | AFD |
| Haiti / Urgency planning on the banks of the River of the Orange trees in Jacmel | 75,000.00 |  | committed | Oda | Grant | Adaptation | Other (risk Management) | AFD |
| Haiti / Project of support to irrigation in the South of Haiti | 9,100,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Haiti / Haitian fund for biodiversity | 9,900,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Haiti / Haitian fund for biodiversity | 1,100,000.00 |  | committed | Oda | Grant | Mitigation | Agriculture | AFD |
| Haiti / Support to the fight againt Covid-19 and capacity building in medical biology | 135,000.00 |  | committed | Oda | Grant | Adaptation | Other (health) | AFD |
| Haiti / Support to the fight againt Covid-19 and capacity building in medical biology | 405,000.00 |  | committed | Oda | Grant | Mitigation | Other (health) | AFD |
| Haiti / Support to the fight againt Covid-19 and capacity building in medical biology | 165,000.00 |  | committed | Oda | Grant | Adaptation | Other (health) | AFD |
| Haiti / Support to the fight againt Covid-19 and capacity building in medical biology | 495,000.00 |  | committed | Oda | Grant | Mitigation | Other (health) | NGO |
| Haiti / Public school as a vector of education and social development in rural communities of Grand'Anse and Nippes | 2,000,000.00 |  | committed | Oda | Grant | Adaptation | Other (education) | NGO |
| Haiti / Improving life conditions of rural Haitian youth by the development of a sustainable and local milk channel in Lascahobas | 240,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | C |
| Haiti / Regional project to strenghten and structure civil society organisations and coalition of caribean actors to implement the Paris Agreement | 340,000.00 |  | committed | Oda | Grant | Cross-cutting | Other (other) | FASEP |
| Mexico / Strengthening of geothermal plants' yield | 655,538.00 |  | committed | Oda | Grant | Mitigation | Energy | FASEP |
| Mexico / Air quality prevision | 625,805.00 |  | committed | Oda | Grant | Adaptation | Other (climate) | AFD |
| Mexico / Credit line FIRA (Fideicomisos Instituidos en Relacion con la Agricultura) focused on climate change vulnerability and socio-economic marginalisation | 40,856,349.00 |  | committed | Oda | Concessional Loan | Adaptation | Agriculture | AFD |
| Mexico / Cross-c | 120,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Cross-cutting | AFD |
| Mexico / Integration of biodiversity in agricultural productive sectors and fishing | 24,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Cross-cutting | PROPARCO |
| Paraguay / Financing of green projects and SME | 18,047,439.00 |  | committed | Oof | Other (Non-concessionnal loan) | Mitigation | Other (financial Intermediation) | NGO |
| Peru / Sustainable banana Peru/Dominican Republic - improving sustainable livelihoods of small trade banana producers | 500,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| SURINAM / Support to "SWM" for drinkable water supply in Surinam | 10,220,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Water And Sanitation | AFD |
| Other (multi-countries) / Development of GI (Geographical Indications) in South-East Asia (PRCC) | 1,000,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Programme to support fairtrade in West Africa | 1,600,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Projet of impact reduction of natural disasters, health crises and effects of climate change on populations of three ocean basins (support PIR of CRF) | 750,000.00 |  | committed | Oda | Grant | Adaptation | Other (risk Management) | AFD |
| Other (multi-countries) / Operational research on the desert locust in the Western region | 1,000,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Illuminate roads to support the Sahel of tomorrow | 28,600.00 |  | committed | Oda | Grant | Adaptation | Other (capacity Building) | AFD |
| Other (multi-countries) / Contribution of the AFD to the framework agreement France IUCN | 4,000,000.00 |  | committed | Oda | Grant | Adaptation | Cross-cutting | AFD |
| Other (multi-countries) / Contribution to the Sustainable Renewable Risk Mitigation Initiative (SRMI) | 1,000,000.00 |  | committed | Oda | Grant | Mitigation | Energy | AFD |
| Other (multi-countries) / Improving knowledge of water cycle under the influence of anthropogenic action and climate change | 3,000,000.00 |  | committed | Oda | Grant | Adaptation | Water And Sanitation | AFD |
| Other (multi-countries) / CIRAD Partnership "One Health: Health and Lands" | 1,600,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / CIRAD Partnership "One Health: Health and Lands" | 400,000.00 |  | committed | Oda | Grant | Mitigation | Agriculture | AFD |
| Other (multi-countries) / Programme of services' capacity building and advocacy of agricultural professional organisations in Africa and Latin America (SEPOP) | 4,000,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Credit line to CAF for adaptation and mitigation of climate change | 75,000,000.00 |  | committed | Oda | Concessional Loan | Adaptation | Cross-cutting | AFD |
| Other (multi-countries) / Credit line to CAF for adaptation and mitigation of climate change | 25,000,000.00 |  | committed | Oda | Concessional Loan | Mitigation | Cross-cutting | AFD |
| Other (multi-countries) / Promotion/advocacy project of SDGs in the media area in Sahelian langages | 862,500.00 |  | committed | Oda | Grant | Adaptation | Other (capacity Building) | AFD |
| Other (multi-countries) / Promotion/advocacy project of SDGs in the media area in Sahelian langages | 862,500.00 |  | committed | Oda | Grant | Mitigation | Other (capacity Building) | AFD |
| Other (multi-countries) / Promotion/advocacy project of SDGs in the media area in Sahelian langages | 262,500.00 |  | committed | Oda | Grant | Adaptation | Other (capacity Building) | AFD |
| Other (multi-countries) / Promotion/advocacy project of SDGs in the media area in Sahelian langages | 262,500.00 |  | committed | Oda | Grant | Mitigation | Other (capacity Building) | AFD |
| Other (multi-countries) / Promotion of pro-nature firms in Southern Africa, in partnership with the NGO Conservation International | 5,000,000.00 |  | committed | Oda | Grant | Mitigation | Agriculture | AFD |
| Other (multi-countries) / COMBO+ Facility | 1,600,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / COMBO+ Facility | 400,000.00 |  | committed | Oda | Grant | Mitigation | Agriculture | AFD |
| Other (multi-countries) / Credit Line Climate IFAD | 261,000,000.00 |  | committed | Oof | Concessional Loan | Adaptation | Other (financial Intermediation) | AFD |
| Other (multi-countries) / Credit Line Climate IFAD | 39,000,000.00 |  | committed | Oof | Concessional Loan | Mitigation | Other (financial Intermediation) | AFD |
| Other (multi-countries) / Regional contribution to support Biodiversity (CRAB) | 2,000,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD |
| Other (multi-countries) / Financing of the triennal programme 2020-2022 of PPIAF | 102,000.00 |  | committed | Oda | Grant | Adaptation | Other (capacity Building) | AFD |
| Other (multi-countries) / Financing of the triennal programme 2020-2022 of PPIAF | 102,000.00 |  | committed | Oda | Grant | Mitigation | Other (capacity Building) | PROPARCO |
| Other (multi-countries) / Africa Renewable Energy Fund II | 15,000,000.00 |  | committed | Oda | Other (participation) | Mitigation | Energy | PROPARCO |
| Other (multi-countries) / Climate Finance Partnership | 25,523,226.00 |  | committed | Oda | Equity | Mitigation | Energy | FFEM |
| Other (multi-countries) / Collective and contextualized strategy to promote a resilient and sustainable agricultural production in rural Mediterranean zones | 1,700,000.00 |  | committed | Oda | Grant | Adaptation | Agriculture | FFEM |
| Other (multi-countries) / Programme of conservation and valorisation of ecosystems, soil and genetic heritage in fairtrade organic cocoa sector in the Andin region | 1,060,000.00 |  | committed | Oda | Grant | Mitigation | Agriculture | FFEM |
| Other (multi-countries) / Exploitation of agroecology potential to help food and agriculture systems transition towards more sustainable systems in South-East Asia (Laos, Myanmar, Cambodge and Vietnam) | 1,148,400.00 |  | committed | Oda | Grant | Adaptation | Agriculture | AFD/STOA |
| Other (multi-countries) / Wind and solar power (JCM Power - Malawi & Pakistan) | 18,000,000.00 |  | committed | Oof | Grant | Mitigation | Energy | AFD/STOA |
| Other (multi-countries) / Solar power (Daystar - Nigeria & Ghana) | 8,000,000.00 |  | committed | Oof | Grant | Mitigation | Energy | FASEP |

Appendix III – Policies and measures

Table41: Table CTF3 – Policies and measures for years 2019, 2020, 2021 and 2022

Only the most recent measures from table CTF3 are listed there.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  | Estimate of mitigation impact (not cumulative) (kt CO2 eq) | | | |
| Name of mitigation action | Included in with measures GHG projection scenario | Sectors affected | GHGs affected | Objective and/or activity affected | Type of instrument | Status of implementation | Brief description | Start year of implementation | Implementing entity or entities | 2020 | 2025 | 2030 | 2035 |
| Stratégie protéines végétales | Yes | Agriculture | CH4, CO2, N2O |  | Regulatory, Other (Support) | Adopted | L'objectif est d'engager durablement l'agriculture française dans le développement de cultures de légumineuses. La stratégie s'articule autour de 3 axes principaux : le développement de la production de protéines végétales et le renforcement de l'autonomie de l'élevage français, en mobilisant les outils réglementaires et incitatifs de la Politique Agricole Commune ; la poursuite d'efforts de recherche et d'appui technique coordonnés aux producteurs ; le renforcement de la gouvernance. | 2019 | Ministère de l'Agriculture et de l'Alimentation (Government) |  |  |  |  |
| Projet protéines du futur | Yes | Agriculture |  |  | Economic, Information, Other (Support), Other (Consulting) | Planned | Etabli par les ministères en charge de l'économie et de l'agriculture en coopération avec l'ANIA (Association nationale des industries alimentaires) et Coop de France (entreprises-coopératives agricoles et agroalimentaires), dans le cadre du conseil national de l'industrie, le Contrat stratégique de la filère agroalimentaire (CSF) a été signé le 16 novembre 2018. Il comporte notamment un projet de développement des protéines végétales dans l'alimentation (projet protéines du futur), complémentaire du plan de filière oléo-protéagineux 2018-2022. Objectifs: soutien à des projets de R&D, mise en place dun référentiel sensoriel, communication grand public et veille réglementaire, accompagnement de start-ups. | 2019 | Comité stratégique de filière(Companies / businesses / industrial associations); Ministère de l'Agriculture et de l'Alimentation(National government) |  |  |  |  |
| Droit à l'injection (biométhane) | Yes | Energy, Agriculture, Waste management/waste | CH4 |  | Regulatory | Implemented | Lorsqu'une installation de production de biométhane est située à proximité d'un réseau de gaz naturel, les gestionnaires des réseaux de gaz naturel effectuent les renforcements nécessaires pour permettre l'injection dans le réseau de gaz du biométhane produit (dans des conditions et limites permettant de s'assurer de la pertinence technico-économique des investissements). L'objectif est de faciliter la réalisation de projets de méthanisation aujourd'hui limités par la capacité de l'antenne de réseau de gaz locale. | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Volet agricole de la feuille de route économie circulaire | Yes | Agriculture, Waste management/waste, Energy | N2O, CO2 |  | Information | Adopted | Le volet agricole de la feuille de route économie circulaire vise à mobiliser les matières fertilisantes issues du recyclage pour substituer en partie les engrais minéraux issus de ressources non renouvelables et contribuer à lapport de matières organiques, et donc de carbone, dans les sols. | 2019 | Ministère de l'Agriculture et de l'Alimentation(National government) |  |  |  |  |
| Obligations d'économies d'énergie dans le parc tertiaire | Yes | Energy | CO2 |  | Regulatory | Implemented | Les bâtiments, parties de bâtiments ou ensemble de bâtiments à usage tertiaire dont la surface est supérieure à 1000m² ont des obligations d'actions de réduction des consommations d'énergie. Ils doivent atteindre, pour chacune des années 2030, 2040 et 2050, les objectifs suivants : soit un niveau de consommation d'énergie finale réduit, respectivement, de 40 %, 50 % et 60 % par rapport à une consommation énergétique de référence qui ne peut être antérieure à 2010 ; soit un niveau de consommation d'énergie finale fixé en valeur absolue, en fonction de la consommation énergétique des bâtiments nouveaux de leur catégorie. | 2019 | Ministère de la Transition Ecologique (National government)(National government); Ministère de la Cohésion des Territoires(National government) |  |  |  |  |
| Accompagnement de la filière agroalimentaire dans l'amélioration de sa performance environnementale | Yes | Industry/industrial processes, Energy | HFCs, PFCs, CO2 |  | Economic, Information | Adopted | Etabli par les Ministères en charge de l'économie et de l'agriculture en coopération avec l'ANIA (Association nationale des industries alimentaires) et Coop de France (entreprises-coopératives agricoles et agroalimentaires), dans le cadre du conseil national de l'industrie, le Contrat stratégique de la filère agroalimentaire (CSF) a été signé le 16 novembre 2018. Il comporte notamment des mesures d'accompagnement de la performance environnementale des entreprises, notamment : diagnostic des usages des fluides frigorigènes et identification des alternatives; retour d'expérience sur le guide sur l'efficacité énergétique du 1er contrat de filière, en vue d'un ajustement des programmes d'accompagnement de l'industrie alimentaire. | 2019 | Comité stratégique de filière(Companies / businesses / industrial associations); Ministère de l'Agriculture et de l'Alimentation(National government) |  |  |  |  |
| Renforcement du fonds chaleur : dispositif de soutien financier de projets de production de chaleur à partir d’énergies renouvelables | Yes | Energy | CO2 |  | Economic | Implemented | Le fonds chaleur soutient financièrement des projets de production de chaleur à partir d’énergies renouvelables : biomasse (sylvicole, agricole, biogaz…), géothermie (en utilisation directe ou par le biais de pompes à chaleur), solaire thermique, énergies de récupération, ainsi que le développement des réseaux de chaleur utilisant ces énergies. Les secteurs concernés sont l’habitat collectif, le tertiaire, l’agriculture et l’industrie. Le fonds chaleur permet à la chaleur renouvelable d’être compétitive par rapport à la chaleur produite à partir d’énergies conventionnelles, en garantissant un prix de la chaleur d'origine renouvelable inférieur denviron 5 % à celui obtenu avec des énergies conventionnelles. Le fonds chaleur a été doté sur la période 2009-2018 d’un montant de 2,16 Md€ en engagements juridiques. La programmation pluriannuelle de l'énergie 2019-2028 prévoit un renforcement du fonds chaleur avec un budget de 307 M€ en 2019 puis 350M€ en 2020 et 2021, et 339M€ en 2022. Il est également prévu une simplification des règles, notamment en supprimant l’obligation des avances remboursables pour les remplacer par des subventions. | 2019 | ADEME(Others) |  |  |  |  |
| Arrêt des dernières centrales à charbon | Yes | Energy | CO2 |  | Regulatory, Economic | Adopted | L’objectif fixé dans la programmation pluriannuelle de lénergie 2019-2028 est d’arrêter les dernières centrales électriques fonctionnant exclusivement au charbon ou d’accompagner leur évolution vers des solutions moins carbonées. Cette mesure a été mise en oeuvre via l'article 3 de la loi n° 2019-1147 dite "énergie climat" de 2019, avec un dispositif qui conduira à la fermeture des 4 dernières centrales d'ici fin 2024. | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  | 4 000,00 | 4 000,00 | 4 000,00 |
| Interdiction de l'ouverture de nouvelles centrales de production exclusive d'électricité fonctionnant aux énergies fossiles | Yes | Energy | CO2 |  | Regulatory | Adopted | La programmation pluriannuelle de l'énergie 2019-2028 prévoit de ne plus autoriser de nouveau projet de centrale de production exclusive d’électricité à partir d’énergies fossiles. | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Mesures en faveur de l'hydroélectricité | Yes | Energy | CO2 |  | Regulatory, Economic | Adopted | La programmation pluriannuelle de l'énergie 2019-2028 (PPE 2) prévoit les mesures suivantes en faveur de l'hydroélectricité : optimiser la production et la flexibilité du parc hydroélectrique, notamment au-travers de suréquipements et de l’installation de centrales hydroélectriques sur des barrages existants non-équipés, lancer des appels d’offres pour la petite hydroélectricité selon un calendrier défini dans la PPE 2. | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Mesures en faveur de l'éolien terrestre | Yes | Energy | CO2 |  | Regulatory, Economic | Adopted | La programmation pluriannuelle de l'énergie 2019-2028 (PPE 2) prévoit les mesures suivantes en faveur de l'éolien terrestre : rendre obligatoire d’ici 2023 le recyclage des matériaux constitutifs des éoliennes lors de leur démantèlement, favoriser la réutilisation des sites éoliens en fin de vie pour y réimplanter des machines plus performantes, lancer des appels d’offres à hauteur de 2 GW/an selon un calendrier défini dans la PPE. | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Mesures en faveur de l'électricité photovoltaïque | Yes | Energy | CO2 |  | Regulatory, Economic | Adopted | La programmation pluriannuelle de l'énergie 2019-2028 (PPE 2) prévoit les mesures suivantes en faveur du photovoltaïque : privilégier le développement du photovoltaïque au sol, moins coûteux, de préférence sur les terrains urbanisés ou dégradés et les parkings, en veillant à ce que les projets respectent la biodiversité et les terres agricoles, soutenir l’innovation dans la filière du photovoltaïque par appel d’offres afin d’encourager de nouvelles solutions solaires au sol (agrivoltaïsme, centrales flottantes…) et sur les bâtiments. La PPE 2 définit un calendrier d’appel d’offres correspondant à 2 GW par an pour les centrales au sol et 0,9 GW par an pour les installations sur grandes toitures, et elle maintient un objectif de 3050 MW installés par an pour les installations sur petites et moyennes toitures (inférieures à 100 kWc) via un système de guichet ouvert en orientant les projets vers l’autoconsommation. | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Mesures de promotion du gaz renouvelable | Yes | Energy | CO2, CH4 |  | Regulatory, Economic | Adopted | La programmation pluriannuelle de l'énergie 2019-2028 (PPE 2) prévoit les mesures suivantes en faveur du développement du gaz renouvelable : donner de la visibilité en adoptant un calendrier d’appel d’offres pour le biométhane injecté : deux appels d’offres, pour un objectif de production annuelle de 350 GWh PCS/an chacun, seront lancés chaque année ; consolider l’obligation d’achat de biogaz à un tarif réglementé et lancer des appels d’offres permettant d’atteindre les objectifs de production à un coût maîtrisé grâce à de fortes baisses des coûts ; mettre en place un dispositif de soutien adapté pour le biométhane non injecté dans les réseaux de gaz naturel (en particulier le biométhane utilisé directement pour des véhicules au bioGNV). | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Mesures en faveur du développement du stockage et du pilotage de la demande d'électricité | Yes | Energy | CO2 |  | Regulatory | Adopted | La programmation pluriannuelle de l'énergie 2019-2028 (PPE 2) prévoit d'engager, au cours de la première période de la PPE (2019-2023), les démarches permettant le développement des stations de pompage d’électricité pour un potentiel de 1,5 GW identifié en vue des mises en service des installations entre 2030 et 2035. Elle fixe en outre un objectif deffacement de 6,5 GW à l’horizon 2028 avec un objectif intermédiaire de 4,5GW en 2023. | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Coup de pouce économies d'énergie pour les ménages | Yes | Energy, Other (Building) | CO2 |  | Regulatory, Economic, Voluntary Agreement | Adopted | Ce nouveau dispositif prévoit la mise en place, dans le cadre du dispositif des certificats d’économies d’énergie (CEE), de bonifications de certaines opérations pour lesquelles le demandeur se sera engagé à travers une charte permettant l’octroi de primes significatives pour les ménages diminuant ainsi leur reste à charge lors des travaux. La bonification concerne des opérations pour lesquelles le demandeur des CEE est signataire de l’une des chartes d’engagement Coup de pouce Chauffage ou Coup de pouce Isolation . Tous les ménages peuvent bénéficier de cette offre. Les montants de primes attribués sont cependant différenciés en fonction de leurs niveaux de ressources. Les ménages les plus modestes bénéficient de primes plus importantes. La programmation pluriannuelle de l'énergie 2019-2028 prévoit de poursuivre et renforcer le coup de pouce CEE pour l’arrêt des chaudières fioul au profit des pompes à chaleur, des chaudières biomasse, des systèmes solaires combinés, des chaudières à gaz à très haute performance énergétique dans les zones de desserte en gaz naturel ou un raccordement à un réseau de chaleur renouvelable. | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Mesures pour développer les biocarburants | Yes | Transport | CO2 |  | Regulatory, Fiscal | Adopted | La programmation pluriannuelle de l'énergie 2019-2028 (PPE 2) prévoit de poursuivre le soutien national au développement des biocarburants via une incitation à l’incorporation pour les opérateurs qui mettent à la consommation les carburants. Par ailleurs, au-delà du plafond existant pour les biocarburants conventionnels, il prévoit de limiter l’incorporation de biocarburants réalisés à partir de matières premières présentant un risque élevé d'induire des changements indirects dans laffectation des sols (ex : certaines huiles de palme ou de soja), comme le prévoit la nouvelle directive européenne relative aux énergies renouvelables. | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Aide fiscale aux entreprises pour le remplacement de leurs équipements fonctionnant avec des HFC par des équipements sans HFC | Yes | Industry/industrial processes, Energy | HFCs |  | Fiscal | Adopted | Les entreprises soumises à l'impôt sur les sociétés ou à l'impôt sur le revenu selon un régime réel dimposition peuvent déduire de leur résultat imposable une somme égale à 40 % de la valeur d'origine des biens d'équipement de réfrigération et de traitement de lair fonctionnant sans HFC acquis à l'état neuf à compter du 1er janvier 2019 et jusquau 31 décembre 2022. | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Feuilles de route de décarbonation des filières industrielles | Yes | Industry/industrial processes |  |  | Research, Information, Other (Support), Other (Consulting) | Adopted | Depuis 2019, dans le cadre du Pacte productif, un groupe de travail sur la décarbonation de l’industrie a été mis en place avec le CNI et les CSF des filières les plus émettrices. Jusqu’à présent, les feuilles de route des secteurs visées par ces travaux couvrent les trois quarts des émissions de l’industrie (de 2015) et donnent les objectifs des filières à horizon 2030. Trois premières feuilles de route ont été publiées pour les secteurs mines-métallurgie, ciment et chimie en mai 2021. | 2019 | Ministère de l'économie(National government); Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Déploiement de zones à faibles émissions | Yes | Transport | CO2 |  | Regulatory | Adopted | Les agglomérations de plus de 150 000 habitants situées sur le territoire métropolitain devront avoir instauré une zone à faibles émissions mobilité avant le 31 décembre 2024. Pour les zones à faibles émissions où les normes de qualité de l'air ne sont pas atteintes, sont interdits a minima : au plus tard le 1er janvier 2025, les véhicules diesel et assimilés dont la date de première immatriculation est antérieure au 31 décembre 2010 ainsi que les véhicules essence et assimilés dont la date de première immatriculation est antérieure au 31 décembre 2005. | 2019 | Collectivités locales et autorités organisatrices de transport (Local)(Local government) |  |  |  |  |
| Renforcement des transports collectifs et partagés (loi d'orientation des mobilités 2019) | Yes | Transport | CO2 |  | Regulatory, Economic | Adopted | La loi d'orientation des mobilités prévoit un renforcement des transports collectifs et partagés : une augmentation de 40 % des investissements en transports entre la période 2014-2018 et 2019-2023 pour notamment améliorer les transports du quotidien ; une meilleure information multimodale (100 % des informations de mobilité accessibles pour un trajet en un seul clic) ; un cadre et des outils pour favoriser le développement des alternatives à la voiture individuelle notamment dans les territoires ruraux (covoiturage, services à la demande, mise à disposition de véhicules en autopartage). | 2019 | Ministère en charge des transports(National government); Collectivités locales(Local government) |  |  |  |  |
| Stratégie de développement de la mobilité propre de la programmation pluriannuelle de l’énergie 2019-2028 | Yes | Transport | CO2 |  | Regulatory | Adopted | La stratégie de développement de la mobilité propre constitue un volet spécifique de la programmation pluriannuelle de l’énergie. La stratégie de mobilité propre (horizon 2028) prévoit un développement renforcé des ventes de véhicules électriques pour les voitures et les véhicules utilitaires légers par rapport à une trajectoire AME, un développement renforcé des véhicules à faibles émissions (électriques et GNV) pour les poids lourds, un développement renforcé des biocarburants ainsi qu’un renforcement des gains de performance énergétique des véhicules (tous véhicules routiers mais aussi navigation et aérien) par rapport à une trajectoire en AME. La stratégie de développement de la mobilité propre mobilise également les leviers relatifs à la demande de transport : maîtrise de la mobilité, report modal et optimisation de l’usage des véhicules. Un renforcement des mesures de l’AME ainsi que les dispositions de la future loi mobilités constituent les leviers d’action. A plus long terme, la stratégie nationale bas carbone prévoit la fin de la vente des véhicules thermiques à horizon 2040 pour les véhicules particuliers. | 2019 | Ministère de la transition écologique (government)(National government) |  |  |  |  |
| Feuille de route économie circulaire | Yes | Waste management/waste | CH4, CO2 |  | Information | Adopted | La feuille de route sur l’économie circulaire, publiée en avril 2018, vise à mieux produire (éco-conception, incorporation de matières recyclées), mieux consommer (développement du réemploi et de la réparation, allongement de la durée de vie des produits), mieux gérer les déchets (optimisation du tri des déchets, développement du recyclage et de la valorisation) et mobiliser tous les acteurs. La feuille de route propose 50 mesures en faveur de l’économie circulaire. Un projet de loi sur l’économie circulaire et une meilleure gestion des déchets est en préparation pour 2019. | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| La loi anti-gaspillage pour une économie circulaire | Yes | Waste management/waste | CO2, CH4 |  | Information | Adopted | La loi anti-gaspillage pour une économie circulaire vise à mettre en place un ensemble de mesures articulées autour de quatre grandes orientations : mettre fin au gaspillage pour préserver les ressources naturelles, mobiliser les industriels pour transformer les modes de production, renforcer l'information du consommateur et améliorer la collecte des déchets et lutter contre les dépôts sauvages | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Label Bas-Carbone certifiant des projets de réduction des émissions | Yes | Cross-cutting | CO2 |  | Economic, Voluntary Agreement | Implemented | Le label Bas-Carbone vise à favoriser l’émergence de projets additionnels de réductions d'émissions de gaz à effet de serre sur le territoire français, par la mise en place d'un cadre de suivi, notification et vérification des émissions de GES, permettant la valorisation de réductions d'émissions additionnelles, réalisées volontairement par des personnes physiques ou morales dans des secteurs d'activité variés. Le terme réductions d'émissions désigne indifféremment des quantités de GES dont l'émission a été évitée ou des quantités de GES séquestrées. Le label vient en réponse à la demande de compensation locale volontaire des émissions de GES. Les porteurs de projets pourront ainsi se faire rémunérer par un partenaire volontaire (acteur public ou privé), qui pourra faire reconnaître ses contributions à des réductions d'émissions additionnelles issues de ces projets. Ces réductions d'émissions sont reconnues à la suite dune vérification. Une fois reconnues, les réductions d'émissions ne sont ni transférables, ni échangeables que ce soit de gré-à-gré ou sur quelque marché volontaire ou obligatoire que ce soit. Les réductions d'émissions peuvent seulement être utilisées pour la compensation volontaire des émissions d'acteurs non étatiques (entreprises, collectivités, particuliers, etc.). | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| La programmation pluriannuelle de l'énergie 2 (2019-2023 ; 2024-2028) | Yes | Energy | CO2 |  | Regulatory | Implemented | Comme le prévoit la loi de transition énergétique pour la croissance verte, la programmation pluriannuelle de l'énergie a fait l'objet d'un cycle complet de révision amorcé en 2017 et poursuivi jusqu'à sa publication en 2020. La PPE 2 couvre deux périodes successives de cinq ans : 2019-2023 et 2024-2028. Elle a été adoptée par le décret du 21 avril 2020. | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Soutien au développement de l'hydrogène | Yes | Energy | CO2 |  |  | Adopted | La programmation pluriannuelle de l'énergie 2019-2028 prévoit plusieurs mesures de promotion de l'hydrogène : mettre en place un soutien au développement de l’hydrogène à hauteur de 100M€ et lancer des appels à projet sur la mobilité et la production d’hydrogène à l’aide d’électrolyseurs ; mettre en place d’ici 2020 d’un système de traçabilité de l’hydrogène décarboné ; prolonger la mesure de sur-amortissement à l’achat de véhicules hydrogène a minima dans les mêmes conditions que pour le GNV (poids lourds>3,5t) ; mobiliser les institutions financières (financements privés et publics dont CDC, BPI) et standardiser les modèles de cofinancement pour les projets de déploiements d’écosystèmes dans les territoires ; mener avec tous les acteurs concernés une réflexion sur la simplification et l’harmonisation des procédures d’autorisation et d’homologation des bateaux et des solutions d’avitaillement hydrogène associées. Par ailleurs, avec la stratégie nationale pour le développement de l'hydrogène décarboné, le gouvernement investit plus de 7 Md€ jusqu’à l’horizon 2030, dont 2 Md€ sur la période 2021-2022, notamment pour développer les mobilités lourdes à l'hydrogène et soutenir la recherche. | 2019 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| La Stratégie nationale bas-carbone révisée | Yes | Cross-cutting | Other (All GHGs) |  | Regulatory, Information, Voluntary Agreement, Research | Adopted | La Stratégie Nationale Bas-Carbone (SNBC) est la feuille de route de la France pour lutter contre le changement climatique. Elle donne des orientations pour mettre en œuvre, dans tous les secteurs d’activité, la transition vers une économie bas-carbone, circulaire et durable. Elle définit une trajectoire de réduction des émissions de gaz à effet de serre jusqu’à 2050 et fixe des objectifs à court-moyen termes : les budgets carbone. | 2020 | National government |  |  |  |  |
| Obligation d'une part minimale de produits de qualité et bio dans les repas de la restauration collective | No | Agriculture |  |  | Regulatory, Information | Adopted | L’approvisionnement de la restauration collective devra comprendre, en 2022, 50% (en valeur) de produits bio, sous autres signes de qualité ou locaux, dont 20% de produits issus de l’agriculture biologique. A partir de 2020, les usagers devront être informés de la part de produits de qualité entrant dans la composition des repas. | 2020 | Ministère de l'Agriculture et de l'Alimentation(National government) |  |  |  |  |
| Aide à la rénovation énergétique MaPrimeRénov' | No | Energy | CO2 |  | Fiscal, Economic | Implemented | Lancée le 1er janvier 2020, MaPrimeRénov' (MPR) remplace le crédit d’impôt pour la transition énergétique (CITE) et les aides de l’Agence nationale de l’habitat (Anah) « Habiter mieux agilité ». Dans le cadre du Plan de relance de l’économie, le dispositif a été renforcé depuis le 1er octobre 2020. MPR est accessible à tous les propriétaires et à toutes les copropriétés. Plusieurs bonifications existent :  - un bonus sortie de passoire, lorsque les travaux permettent de sortir le logement de l’état de passoire thermique, - un bonus bâtiment basse consommation pour récompenser l’atteinte d'un niveau de performance énergétique bon ou très bon, - un forfait rénovation globale pour encourager les travaux ambitieux qui permettent un gain énergétique de plus de 55%, - un forfait assistance à maîtrise d'ouvrage pour les ménages souhaitant se faire accompagner dans la réalisation de leurs travaux, - des aides individuelles pour les ménages aux revenus modestes et très modestes (respectivement de 750 € et 1 500 €). | 2020 | Ministère de la Transition Ecologique (National government)(National government); Ministère de la Cohésion des Territoires(National government); Ministère de l'économie(National government) |  |  |  |  |
| Volet "décarbonation de l'industrie" du Plan de relance | No | Industry/industrial processes | Other (All GHGs) |  | Economic | Adopted | Dans le cadre du plan de relance, 1.2 Mds d'euros sont dédiés à la décarbonation de l'industrie pour la période 2020-2022.   Pour les projets supérieurs à 3M€, des appels à projets ADEME financent la chaleur décarbonée d'une part, et l'efficacité énergétique et la décarbonation des procédés industriels d'autre part. Pour les projets inférieurs à 3M€, un guichet d'aide pour des équipements éligibles est tenu par l''Agence des Services et Paiements. | 2020 | ADEME; ASP |  |  |  |  |
| Règlement européen n°2019/631 du 17 avril 2019 fixant des objectifs de réduction d’émissions à horizon 2025 et 2030 pour les voitures particulières et véhicules utilitaires légers neufs | No | Transport | CO2 |  | Regulatory | Adopted | Le règlement européen n°2019/631 du 17 avril 2019 prévoit un renforcement des objectifs fixés aux constructeurs pour les voitures et véhicules utilitaires légers avec une réduction des émissions des voitures neuves de 15% d’ici 2025 et de 37,5% en 2030 par rapport aux émissions de 2021 pour les voitures et une réduction des émissions de 15 % d’ici à 2025 et de 31 % en 2030 par rapport aux émissions de 2021 pour les véhicules utilitaires légers. | 2020 | Ministère de la Transition Ecologique (Government) |  | 4 650,00 | 12 560,00 | 23 730,00 |
| Le forfait mobilités durables vélo et covoiturage | No | Transport | CO2 |  | Fiscal, Economic, Voluntary Agreement | Implemented | Depuis 2020, tous les employeurs privés et publics peuvent contribuer aux frais de déplacement domicile-travail en covoiturage ou en vélo de leurs salariés. Ce forfait peut s’élever jusqu’à 700 €/an en franchise d’impôt et de cotisations sociales. | 2020 | Employeurs(Companies / businesses / industrial associations); Ministère de la Transition Ecologique(National government) |  |  |  |  |
| Augmentation de 2c€ de la taxe sur le gazole utilisé pour le transport routier de marchandises | No | Transport | CO2 |  | Fiscal | Implemented | La taxe énergétique sur le gazole utilisé pour le transport routier de marchandises a été augmentée de 2 c€/L de 43,19 c€/L à 45,19 c€/L. | 2020 | Ministère des finances (Government) |  |  |  |  |
| Services publics eco-responsables | No | Cross-cutting | Other (All GHGs) |  | Regulatory | Implemented | La circulaire du premier ministre n°6145/SG visant l’engagement de l’Etat dans des services publics écoresponsables. Elle repose sur un socle de 20 mesures obligatoires à destination de tous les services de l'Etat. Ces mesures portent sur :  - la mobilité durable des agents, - la suppression du plastique à usage unique, - une politique d’achat zéro-déforestation, - une alimentation plus respectueuse de l’environnement, - la réduction de la consommation d’énergie dans les bâtiments publics, - la suppression des produits phytopharmaceutiques, - l’économie circulaire et la maîtrise de l’empreinte carbone du numérique. | 2020 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Les projets alimentaires territoriaux (PAT) | No | Agriculture |  |  | Other (Support), Information | Adopted | Les projets alimentaires territoriaux (PAT) ont l'ambition de fédérer les différents acteurs d'un territoire autour de la question de l'alimentation, contribuant ainsi à la prise en compte des dimensions sociales, environnementales, économiques et de santé de ce territoire.  La nouvelle procédure de reconnaissance révisée en 2021, propose deux niveaux : un premier niveau qui identifie les PAT émergents, afin de les accompagner dans leur construction, et un deuxième niveau qui valorise et donne de la visibilité aux projets opérationnels qui mettent en œuvre un plan d’actions effectives sur leur territoire. | 2021 | Ministère de l'Agriculture et de l'Alimentation (Government) |  |  |  |  |
| Bon diagnostic carbone | No | Agriculture |  |  | Information, Other (Support), Other (Consulting) | Implemented | Le Bon diagnostic carbone a pour objectif d’offrir la possibilité aux agriculteurs nouvellement installés depuis moins de 5 ans, de réaliser un diagnostic carbone suivi d’un plan d’actions et d’un accompagnement personnalisé de leur exploitation, pour s’engager dans la transition agroécologique et de se mobiliser dans la lutte contre le changement climatique. | 2021 | Ministère de l'Agriculture et de l'Alimentation (Government); ADEME (others) |  |  |  |  |
| Volet forestier du Plan de Relance | No | Forestry/LULUCF | CO2 |  | Economic, Voluntary Agreement | Adopted | La mesure de « Renouvellement forestier », prévue par le plan France relance, dotée d’un budget de 150 millions d’euros, vise 45 000 hectares de forêts améliorés, adaptés, régénérés ou reconstitués avant fin 2024. Elle permettra de soutenir financièrement les propriétaires forestiers pour les accompagner dans leurs projets d'investissements. L’enjeu est d’adapter les forêts françaises au changement climatique et à valoriser leur rôle en terme d'atténuation. | 2021 | Ministère de l'Agriculture et de l'Alimentation(National government) |  |  |  |  |
| Interdiction d’installer des systèmes de chauffage et de production d’eau chaude sanitaire consommant principalement des combustibles à haut niveau d’émissions de gaz à effet de serre dans les bâtiments à usage d’habitation ou à usage professionnel | No | Energy | CO2 |  | Regulatory | Implemented | À partir du 1er juillet 2021 seront interdits les systèmes de chauffage et de production d'eau chaude sanitaire utilisant principalement des combustibles très fortement émetteurs en gaz à effet de serre dans les bâtiments résidentiels et les bâtiments tertiaires. Un seuil de 250 gCO2eq/kWh au-delà duquel les équipements ne devront plus être installés est fixé. Il concerne principalement les installations au fioul et au charbon | 2021 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Favoriser la réalisation d'audit énergétique pour les logements passoires thermiques | No | Energy | CO2 |  | Economic | Implemented | La programmation pluriannuelle de l'énergie 2019-2028 prévoit le financement à 100% d'un audit énergétique pour les ménages modestes propriétaires de logements passoires thermiques (diagnostics de performance F ou G) et de rendre cet audit obligatoire avant la mise en location d’un logement privé de catégorie F ou G ainsi que lors de la mutation d’un logement classé F ou G, d’ici 2021, pour inciter les propriétaires à engager des travaux. | 2021 | Ministère de la Transition Ecologique (National government)(National government); Ministère de la Cohésion des Territoires(National government) |  |  |  |  |
| Projet de taxation des HFC | No | Cross-cutting | HFCs |  | Fiscal | Implemented | Au niveau national, la loi de finances pour 2019 avait prévu la mise en place à partir du 1er janvier 2021 d’une taxe sur les HFC dont le tarif devait évoluer de la manière suivante : 15€ par tonne équivalent CO2 en 2021, 18€ en 2022, 22€ en 2023, 26€ en 2024 et 30€ à compter de 2025. L’entrée en vigueur de la taxe HFC a été repoussée au 1er janvier 2025 par la loi de finances 2022 compte tenu de l’atteinte des objectifs de réduction de l’utilisation de HFC qui avaient été fixés aux professionnels du froid et de la réfrigération en 2019. | 2021 | Ministère de la Transition Ecologique (National government)(National government) |  |  |  |  |
| Règlement européen n°2019/1242 du 20 juin 2019 fixant des objectifs de réduction d’émissions à horizon 2025 et 2030 pour les poids lourds | No | Transport | CO2 |  | Regulatory | Implemented | Le règlement européen n°2019/1242 du 20 juin 2019 fixe des objectifs aux constructeurs pour les poids lourds avec une réduction de 15 % des émissions d’ici à 2025 et une réduction de 30% en 2030 par rapport aux émissions de 2021. | 2021 | Ministère de la Transition Ecologique (Government) |  | 1 250,00 | 3 125,00 | 5 625,00 |
| Interdiction des vols s'il existe une alternative ferroviaire de moins de 2h30 | No | Transport | CO2 |  | Regulatory | Adopted | Le projet de loi climat et résilence de 2021 interdit l’exploitation de services aériens sur des liaisons intérieures au territoire national, dès lors qu’un trajet alternatif, par un autre moyen de transport collectif, moins émetteur de CO2, existe en moins de 2h30. Un décret fixera les conditions dans lesquelles des aménagements à l’interdiction sont prévus pour les services aériens qui assurent majoritairement le transport de passagers en correspondance ou qui offrent un transport aérien majoritairement décarboné. | 2021 | Ministère de la Transition Ecologique (Government) |  |  |  |  |
| Taxation du carburant utilisé par l'aviation de loisir | No | Transport | CO2 |  | Fiscal | Adopted | La taxe sur les carburants utilisés pour l'aviation de loisir a été relevée pour être alignée sur la taxe sur l'essence | 2021 | Ministère des finances(Government) |  |  |  |  |
| Dispositif fiscal de suramortissement pour les engins non routiers utilisés par les entreprises du bâtiment et des travaux publics et les exploitants aéroportuaires et fonctionnant à l'électricité, l'hydrogène et le gaz naturel | No | Transport | CO2 |  | Fiscal |  | Dispositif fiscal de suramortissement pour les engins non routiers utilisés par les entreprises du bâtiment et des travaux publics et les exploitants aéroportuaires tels que engins de piste des aéroports, matériels et outillages pour les opérations industrielles, matériels de manutention, fonctionnant à l'électricité, l'hydrogène et le gaz naturel | 2021 | Ministère des finances(Government) |  |  |  |  |
| Réglementation environnementale 2020 (RE 2020) dans les bâtiments neufs | No | Other (Building), Energy | CO2 |  | Regulatory | Adopted | La future réglementation environnementale dans la construction neuve (article 181 de la loi ELAN de 2018) et succède à la RT 2012 et met en place un standard environnemental innovant pour les bâtiments neufs, réunissant des exigences à la fois en matière de réduction de la consommation d’énergie, de développement des énergies renouvelables, et de prise en compte des émissions de gaz à effet de serre sur l’ensemble du cycle de vie du bâtiment (depuis sa construction jusqu’à sa démolition, en passant par son exploitation). La fixation des modalités de la future réglementation environnementale s’appuiera sur les retours de l’expérimentation Bâtiments à Energie Positive & Réduction Carbone (E+C-) lancée fin 2016. | 2022 | Ministère de la Transition Ecologique(National government); Ministère de la Cohésion des Territoires(National government) |  | 7 350,00 | 14 700,00 | 15 650,00 |
| Obligation de rénovation des passoires énergétiques | No | Other (Building), Energy | CO2 |  | Regulatory, Information | Planned | La loi énergie-climat de 2019 crée des obligations de rénovation des passoires énergétiques à horizon 2028. Une première phase incitative prévoie l’obligation dès 2022 de réaliser un audit énergétique en cas de mise en vente ou location d’une passoire thermique, contenant des propositions de travaux adaptés au logement ainsi que leur coût estimé, et d’informer l’acquéreur ou locataire sur ses futures dépenses en énergie. Il est prévu dans une deuxième phase une obligation avant 2028 pour les propriétaires de passoires thermiques de réaliser des travaux d’amélioration de la performance énergétique de leur logement. | 2022 | Ministère de la Transition Ecologique (National government)(National government); Ministère de la Cohésion des Territoires(National government) |  | 3 000,00 | 6 000,00 |  |
| Volet "décarbonation de l'industrie" du plan France 2030 | No | Industry/industrial processes | Other (All GHGs) |  | Economic | Planned | Le plan d’investissement « France 2030 » prévoit de soutenir le déploiement de solutions de décarbonation de sites industriels à hauteur de 5 milliards d’euros sur la période 2022-2026 | 2022 | ADEME |  |  |  |  |
| Stratégie d'accélération de la décarbonation de l'industrie du PIA4 | No | Industry/industrial processes | Other (All GHGs) |  | Economic, Research | Implemented | Dans le cadre du PIA4 (4ème programme des investissements d’avenir), une stratégie d’accélération de la décarbonation de l’industrie a été élaborée. Elle prévoit de consacrer une enveloppe de 610 millions d’euros au déploiement de dispositifs d’aide couvrant l’ensemble de la chaîne d’innovation et d’industrialisation - du concept de laboratoire préparant les technologies en rupture de la prochaine décennie à l’innovation incrémentale qui pourra être déployée à court terme, à l’industrialisation de la technologie et son accès au marché -, pour assurer un continuum des financements | 2022 | ADEME |  |  |  |  |
| Compensation des émissions des vols intérieur | No | Transport | CO2 |  | Regulatory | Adopted | Le projet de loi climat et résilence de 2021 va rendre obligatoire pour tous les opérateurs aériens la compensation carbone des émissions des vols intérieurs métropolitains ainsi que, sur une base volontaire, celle pour les vols depuis et vers l’outre-mer. Un calendrier progressif de mise en oeuvre est appliqué, pour un début de mise en application dès 2022 et une compensation de 100 % des émissions en 2024. Par ailleurs, afin de garantir le bénéfice environnemental de la mesure, les types de crédits carbone pouvant être utilisés seront encadrés, et favoriseront notamment les puits de carbone et les projets soutenus sur le territoire des États membres de l’Union européenne. | 2022 | Ministère de la Transition Ecologique (Government) |  |  |  |  |
| Interdiction des avions publicitaires | No |  | CO2 |  | Regulatory | Adopted | Les avions publicitaires sont interdits dans le cadre du projet de loi climat et résilience | 2022 | Ministère de la transition écologique(Government) |  |  |  |  |
| Obligation d'incorporation de biocarburants dans les carburants aéronautiques | No | Transport | CO2 |  | Regulatory | Adopted | Les carburants d'aviation font l'objet d'une obligation d'incorporation (1% à compter de 2022) | 2022 | Ministère de la transition écologique(Government) |  |  |  |  |
| Plan de relance aéronautique - soutien à l'innovation verte dans l'aviation | No | Transport | CO2 |  | Research | Adopted | Le plan de relance pour l'aéronautique inclut 1,5 Mds€ de soutien pour l'avion vert | 2022 | Ministère de la transition écologique(Government) |  |  |  |  |
| Mesures en faveur du ferroviaire (voyageurs et marchandises) actées dand le cadre du Plan de relance | No | Transport | CO2 |  | Economic | Adopted | Le plan de relance a acté un ensemble de mesures en faveur du ferroviaire (regénération de lignes, mesures en faveur du fret) pour un montant de 4,7 Mds € d'investissement | 2022 | Ministère de la transition écologique (Government) |  |  |  |  |
| Volet forestier du Plan d'investissement France 2030 | No | Forestry/LULUCF | CO2 |  | Economic, Research | Adopted | Dans le cadre du plan France 2030, 500 M€ sont dédiés aux forêts françaises, avec les priorités suivantes : opérations de renouvellement forestier (200 M€ y seront dédiés), renforcement et modernisation de l’appareil de production au service du développement du bois construction, développement d’une chaîne de production performante et innovante, développement des débouchés pour tous les co-produits du bois est soutenu via un plan cellulose permettant de créer de nouveaux débouchés : production d’énergie, valorisation de la cellulose par la chimie verte, etc. | 2022 | National government |  |  |  |  |
| Dispositif éco-énergie tertiaire (dit "décret tertiaire") | No | Energy | CO2 |  | Regulatory | Adopted | Cette obligation prévue par la loi ELAN et précisée par décret oblige les entreprises et administrations à réduire la consommation énergétique de leurs locaux tertiaires, dès lors que leur surface est supérieure à 1000m², de 40% en 2030, 50% en 2040, 60% en 2050. | 2022 | Ministère de la Transition Ecologique (National government)(National government) |  | 3 000,00 | 6 000,00 | 7 500,00 |



1. <https://www.legifrance.gouv.fr/affichCodeArticle.do?cidTexte=LEGITEXT000006074220&idArticle=LEGIARTI000022476854&> dateTexte=&categorieLien=cid [↑](#footnote-ref-1)
2. https://www.ecologie.gouv.fr/suivi-strategie-nationale-bas-carbone [↑](#footnote-ref-2)
3. <https://www.ecologie.gouv.fr/rapportages-climat-france> [↑](#footnote-ref-3)
4. Citepa, June 2022. Inventory of greenhouse gas emissions and atmospheric pollutants in France –

   Secten Format. [↑](#footnote-ref-4)
5. Citepa, June 2022. Inventory of greenhouse gas emissions and atmospheric pollutants in France –

   Secten Format. [↑](#footnote-ref-5)
6. <https://eur-lex.europa.eu/legal-content/FR/TXT/PDF/?uri=CELEX:32019R0807&from=EN> [↑](#footnote-ref-6)
7. https://www.ecologie.gouv.fr/artificialisation-des-sols#scroll-nav\_\_3 [↑](#footnote-ref-7)
8. https://agriculture.gouv.fr/filiere-graines-et-plants-forestiers-plus-de-50-millions-deuros-pour-batir-lavenir-de-la-foret [↑](#footnote-ref-8)
9. http://bois.bpifrance.fr/ [↑](#footnote-ref-9)
10. https://fondschaleur.ademe.fr/ [↑](#footnote-ref-10)
11. Citepa, June 2022. Inventory of greenhouse gas emissions and atmospheric pollutants in France –

    Secten Format. [↑](#footnote-ref-11)
12. https://www.ecologie.gouv.fr/sites/default/files/Projet%20de%20FAQ.pdf [↑](#footnote-ref-12)
13. professional packaging (2025), including packaging used by catering professionals (2023), construction products or materials in the building sector (2022), toys (2022), sports and leisure goods (2022), DIY and garden items (2022), mineral or synthetic oils (2022), tobacco products (2021), chewing gum (2024), single-use sanitary textiles (2024), fishing gear containing plastic (2025), medical technical aids (possibility) [↑](#footnote-ref-13)
14. <https://unfccc.int/sites/default/files/resource/BR_FRA_resubmission.pdf> [↑](#footnote-ref-14)
15. <https://unfccc.int/sites/default/files/resource/BR_FRA_resubmission.pdf> [↑](#footnote-ref-15)
16. [https://www.ecologie.gouv.fr/sites/default/files/Synth%C3%A8se\_du\_sc%C3%A9nario\_AME2021\_postQAQC%5B1%5D.pdf](https://www.ecologie.gouv.fr/sites/default/files/Synthèse_du_scénario_AME2021_postQAQC%5b1%5d.pdf) [↑](#footnote-ref-16)
17. <https://www.ecologique-solidaire.gouv.fr/scenarios-prospectifs-energie-climat-air#e2> [↑](#footnote-ref-17)
18. Detailed information about the models can be found on <https://reportnet.europa.eu/public/country/FR>, GovReg: National projections of anthropogenic greenhouse gas emissions [2023], Table4.zip [↑](#footnote-ref-18)
19. https://www.ecologie.gouv.fr/sites/default/files/Synth%C3%A8se\_du\_sc%C3%A9nario\_AME2021\_postQAQC%5B1%5D.pdf [↑](#footnote-ref-19)
20. Source: AFD Group Climate Report 2021 [↑](#footnote-ref-20)
21. https://www.afd.fr/fr/ressources/plan-dorientation-strategique-2018-2022-synthese [↑](#footnote-ref-21)
22. In the case of non-concessional loans, this instrument is not included in French official development assistance flows but in Other Public Sector Assistance (AASP). [↑](#footnote-ref-22)
23. If the total contribution was taken into account and not the grant element alone, France would be ahead of Germany in these rankings. [↑](#footnote-ref-23)
24. As of 20 July 2022. Source : https://www.greenclimate.fund/projects/dashboard [↑](#footnote-ref-24)