European Commission

2019

Annual Activity Report

DG CLIMATE ACTION

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Dear reader,

The year 2019 saw major progress in the EU action to fight climate change. The EU is **on track to meet its greenhouse gas emissions reduction target for 2020**, and has put in place the key laws and measures to achieve its climate and energy targets for 2030. In 2019, a significant step was taken to accelerate the transition to **clean mobility** with the adoption of two important pieces of legislation to reduce emissions from cars and vans and from heavy-duty vehicles. For the first time, Member States prepared draft integrated **national energy and climate plans** to implement the EU's 2030 energy and climate targets.

An extensive exchange of views took place on the **EU long-term strategy** for a prosperous, modern, competitive and climate-neutral economy by 2050 ("A Clean Planet for all"). It showed that a low-carbon transition is possible and makes economic sense. Both the European Parliament and the European Council have endorsed the long-term EU climate neutrality objective. The **European Green Deal** reaffirmed the Commission's ambition to make Europe the first **climate-neutral continent by 2050** and to enshrine this objective into EU legislation (the "**Climate Law**"). It commits to assess a plan to **increase the EU's 2030 emissions reduction target to at least 50% and towards 55%** compared with 1990 levels. To engage citizens and all parts of society in climate action, the **European Climate Pact** will be launched. Climate change being a global issue, the key role played by the EU to **lead international efforts** was reaffirmed.

Additional action needs to be taken and every sector will have to contribute as current policies are expected to only reduce greenhouse gas emissions by 60% by 2050, and thus much more remains to be done to reach climate-neutrality.

This Annual Activity Report (AAR) provides an outline of our main achievements in 2019 relative to the objectives set in DG Climate Action's Strategic Plan 2016-2020 and Annual Management Plan 2019. For more information on the activities of DG Climate Action, please visit our website: https://ec.europa.eu/clima/index_en.

Mauro Petriccione

Director General of DG CLIMA

THE DG IN BRIEF

The Directorate-General for Climate Action (hereafter 'DG CLIMA') is responsible for EU policy, legislation and action to **fight climate change.** Until 30 November 2019, it was under the political guidance of Commissioner Arias Cañete and Vice-President Šefčovič. The DG's general objective under the 10 strategic political priorities of President Juncker was to contribute to achieving "**A resilient Energy Union with a forward-looking climate policy**".

In December 2019, the new Commission took office under the Presidency of Ursula von der Leyen. At the heart of its agenda is the **European Green Deal** for a climate-neutral economy by 2050, under the responsibility of Executive Vice-President Frans Timmermans.

In this context, **DG CLIMA** leads the European Commission's efforts to fight climate change at EU and international level. Its **mission** is to formulate and implement EU climate policies and strategies, so that the EU can become the **first climate-neutral and climate resilient continent by 2050.** It plays a key role in delivering the European Green Deal, in protecting people and the planet against the impacts of climate change, changing behaviour, maintaining ambitious global leadership in climate action, promoting low- and zero carbon and other innovative technologies to address climate change, greening finance in general, and ensuring the mainstreaming of climate action into the EU budget and into EU and Member States policies.

DG CLIMA has currently around **225 staff** in the establishment plan, which includes an increase of 20 staff on 1 January 2020. Close to 90% of staff are active in **policy making**. It is structured around three directorates and **led by Director General Mauro Petriccione**. In 2019, a **Deputy Director General** was appointed and a **Principal Adviser** was recruited for Energy Union Governance.

At present, DG CLIMA is developing its mission in five different ways:

1. By developing cost-efficient **EU climate legislation fostering the European Green Deal,** ensuring the effective implementation and enforcement of the EU climate legislative acquis in EU Member States and its monitoring through the Energy Union Governance.

2. Through **the EU emissions trading system (EU ETS)**, hosted and managed in-house by the Commission on behalf of the Member States. It covers around 45% of total EU greenhouse gas emissions emitted by heavy energy-consuming installations and airlines.

3. By leading the Commission task force in **international negotiations** on climate change and ozone-depleting substances, to implement the Paris Agreement of 2015 and coordinate bilateral and multilateral partnerships on climate change with non-EU countries.

4. Through the climate action sub-programme of the **LIFE programme** 2014-2020, amounting to EUR 864 million for climate-relevant measures. More than two thirds of this budget have been delegated to the Executive Agency for Small and Medium-sized Enterprises, that manages action grants (projects), including integrated projects, and operating grants (to NGOs), and to the European Investment Bank that manages two financial instruments: the Private Finance for Energy Efficiency and the Natural Capital Financing Facility. DG CLIMA also manages an off-budget fund based on revenues raised from selling ETS allowances, the New Entrants Reserve 300 programme, allocating grants to low-carbon energy demonstration projects and preparing the implementation of its successor, the Innovation Fund.

5. Cooperating with other DGs to implement the **20% climate mainstreaming target** in the EU Multiannual Financial Framework 2014-20, monitoring its achievement together with DG Budget and strengthening climate action in the next EU long-term budget with a proposed increased target of 25% for the 2021-2027 period.

EXECUTIVE SUMMARY

This Annual Activity Report is a management report of the Director-General of DG CLIMA to the College of Commissioners. Annual Activity Reports are the main instrument of management accountability within the Commission and constitute the basis on which the College takes political responsibility for the decisions it takes as well as for the coordinating, executive and management functions it exercises, as laid down in the Treaties[1].

a) Key results and progress towards the achievement of the Commission's general objectives and DG's specific objectives

Climate change is one of the most **serious challenges** facing our world today. Its extreme effects are being felt on all continents and are predicted to become more intense in the coming decades. The last decade was the warmest on record in the EU. The average annual temperature for the European land area was between 1.6°C and 1.7°C above the pre-industrial level[2]. Wildfires in the Amazon rainforest brought sharp focus to the vital role played by forests. This evidence has led to a growing sense of urgency around climate change.

At the same time, **awareness for the need for action is increasingly widespread**. In 2019, hundreds of thousands of people around the world, in particular the youth movements for climate, marched in the streets to demand more ambitious climate action. A special Eurobarometer survey[3] showed that 93% of EU citizens consider climate change a serious problem. It also proves overwhelming support (92%) from European citizens for the objective of building a climate-neutral EU economy by 2050, as set out in our long-term strategy.

The **EU long-term strategy** for a prosperous, modern, competitive and climate-neutral economy by 2050 ("A Clean Planet for all")[4] shows how Europe can lead the way while preserving the competitiveness of its industries by investing into game-changing technological solutions. In 2019, an in-depth and wide discussion on this strategy took place at European, national and local levels. Both the European Parliament and the Council endorsed the objective of net-zero greenhouse gas emissions by 2050. At the end of 2019, the new Commission 2019-2024 adopted the **European Green Deal,** with a commitment to becoming the **first climate-neutral bloc in the world by 2050**.

This success follows up on the commitment of the Juncker Commission to an agenda to build **"A resilient Energy Union with a forward-looking climate policy"**. The fourth report on the State of the Energy Union[5] showed that the Commission has delivered on this vision of an Energy Union strategy guaranteeing accessible, affordable, secure, competitive and sustainable energy for all Europeans.

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[1] Article 17(1) of the Treaty of the European Union (TFEU)

[2] Global and European temperatures, European Environment Agency

[3] Special Eurobarometer 490

[4] A Clean Planet for all - A European strategic long - term vision for a prosperous, modern, competitive and climate-neutral economy, COM(2018) 773 final

[5] COM(2019) 175 final

In 2019, the European Commission acted with speed and decisiveness to put real actions behind the Paris Agreement commitments. The EU is **on track to meet the targets under its 2020 and 2030 climate and energy packages**.

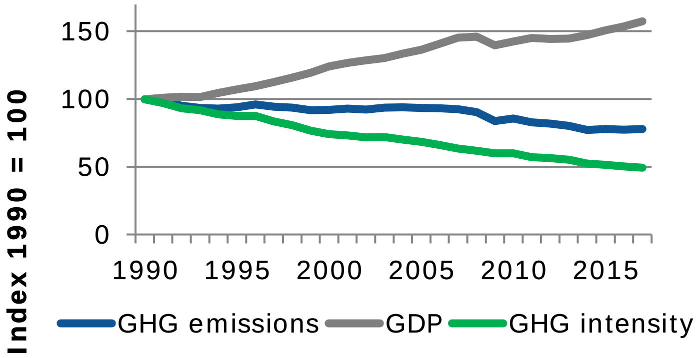


Figure 1: GHG intensity of the economy (1990-2018)[7]

Between 1990 and 2018, the EU's greenhouse gas (GHG) emissions fell by 23%[6] while the economy grew by 61%. The decoupling of growth and GHG emissions shows that growth, employment and climate action can go hand in hand.

In 2018, GHG emissions declined the most in sectors covered by the **EU Emissions Trading System (EU ETS)**, i.e. a reduction of 4.1% (see specific objective 1). To a lesser extent, emission reductions came from **sectors not covered by the EU ETS such as transport, buildings, agriculture or waste**, i.e. a reduction of 0.9% (see specific objective 2).

In 2019, a significant step was taken to accelerate the transition to clean mobility with the endorsement of two important pieces of legislation. The first-ever EU-wide **CO_2 emission standards for heavy-duty vehicles** was adopted, setting targets for reducing the average emissions from new lorries for 2025 and 2030, and stricter targets were agreed to apply for the period **post-2020 for new CO_2 emissions standards for cars and vans.** However, some challenges remain. In 2018, **emissions continued to increase by 0.5% in the transport sector** (see specific objective 3). Average CO_2 emissions per kilometre of new cars and vans remain below the current applicable targets. However, data for 2018 show an overall increase of emissions as compared to 2017. With the 2021 target of 95 g CO_2/km approaching, vehicles manufacturers will have to significantly reduce emissions of their fleets, with a much faster deployment of cars with low emissions across Europe - or pay the fines imposed by the legislation.

Furthermore, in 2019, the EU revised its system to **monitor, report and verify CO_2 emissions from shipping** to allow for harmonious implementation of the EU regulation and the international monitoring system foreseen by the **International Maritime Organisation**.

The EU also significantly contributed to the **timely recovery of the stratospheric ozone layer** (see specific objective 2). In 2019, DG CLIMA finalised the evaluation of the Ozone Regulation, which shows it is very effective in protecting the ozone layer. Based on the latest scientific consensus, the ozone hole will recover by 2060. While it remains crucial to continue having this policy in place at EU level, further simplification and better coherence with other legislation could be achieved. The **EU phase-down of fluorinated-gases**, which are often used as substitutes for ozone-depleting substances, goes into its fifth year and is fully on track.

[6] All targets, result indicators and data sources are presented in Annex 12 "Performance tables".

[7] European commission, based on data from the EU Climate Action Progress Report SWD(2019)396

The EU is now the only large economy in the world that has **fully translated its Paris Agreement pledges into legislation** to cut its GHG emissions by at least 40% by 2030. The Commission is looking to increase this ambition by increasing the EU's greenhouse gas emission reductions **target for 2030 to at least 50% and towards 55%** compared with 1990 levels.

The EU has created a unique **system of energy and climate governance** (see specific objective 6) where both the Union and its Member States plan together and deliver collectively on the 2030 targets. In 2019, for the first time, Member States prepared **draft integrated national energy and climate plans**. The draft plans show that Member States have made significant progress in defining the path to reaching the 2030 climate and energy targets, although further efforts are still needed. With implementation of the planned measures or stated ambitions in the draft plans, the **overall GHG reduction of the EU is estimated to reach the at least 40% reduction target.** However, plans currently fall short, both in terms of renewables and energy efficiency contributions. In addition, reaching an increased 2030 target would require stepping up our efforts. Based on the Commission's recommendations, Member States were invited to submit by the end of 2019 a final version of their plans[8].

The **EU budget** is at the centre of making our climate ambition come to life. Climate action has been systematically integrated into each spending programme. The share of **climate relevant spending accounted for 20.9% of the 2019 budget**. The Commission also proposed an ambitious target of 25% of expenditure contributing to climate objectives under the next multiannual financial framework (2021-2027). The EU continues to support climate action on the ground across Europe through the **LIFE programme**.

In 2019, DG CLIMA prepared for the establishment of a key funding instrument to invest in the next generation of low-carbon technologies. The **Innovation Fund** will be available to support demonstration of innovative technologies and breakthrough innovation in energy intensive industries with the first call for proposals planned for mid-2020. Around EUR 10 billion[9] will be available for the 2020-2030 period from the monetising of the EU ETS allowances.

The EU is committed to being a leader in **global climate action** (see specific objective 7). Beyond EU borders, DG CLIMA continued its extensive outreach with international partners in different fora (the United Nations Climate Summit, the G7/G20, the COP25 in Madrid etc.) to encourage other countries to raise their level of ambition and accelerate action to implement the Paris Agreement.

At the 2019 **UN climate change conference of the parties (COP25),** relocated from Santiago to Madrid, the EU and its Member States stood firm behind the Paris Agreement. The President of the new Commission 2019-2024, Ursula von der Leyen, underlined the importance given to climate change and reaffirmed the EU's goal to be the first climate-neutral continent by 2050. The COP25 did not deliver all of what the EU was hoping for regarding the Article 6 negotiations and transparency of the global carbon market, but the Parties came closer to an agreement that we can build on in the future deliberations. In the context of the European Green Deal announcement, the EU stood firm to keep a high level of ambition.

[8] By the end of February 2020, 19 final plans were submitted by Member States.

[9] Depending on the carbon price. At an estimated carbon price of EUR 20/tCO_2 some EUR 10 billion will be generated.

b) Key Performance Indicators (KPIs)

KPI 1 **Progress toward meeting the 2020 objective of -20 % reduction of greenhouse gas (GHG) emissions** General objective	☺	**Target**: -20% of greenhouse gas emissions by 2020 compared to 1990 **Result :** In 2018, EU greenhouse gas emissions (including international aviation[10]) were down by 23% from 1990 levels. Emissions were 2% lower than in 2017, reaching their lowest level since 1990. **Source:** European Commission progress report COM(2019) 559 final
KPI 2 **Average CO_2 emissions from new cars** Specific objective 3	😐	**Target:** By 2021, the fleet average emission to be achieved by all new cars must be 95 grams of CO_2 per kilometre. **Result :** The average CO_2 emissions of new passenger cars registered in 2018 were 120.4 grams of CO_2 per kilometre, which is below the current target of 130g/km. However, average emissions increased in 2017 by 0.4g CO_2/km. In 2018, the upward trend continued with an additional increase of 2.0g CO_2/km. **Source:** European Commission progress report COM(2019) 559 final and European Environmental Agency
KPI 3 **Progress towards the EU "HFC phase-down"** [11] Specific objective 2	☺	**Target**: Starting in 2015, the amount of hydrofluorocarbons (HFCs) that can be placed on the EU market is annually capped by a limited HFC quota, which is being progressively reduced in what is referred to as the 'EU HFC phase-down'. **Result:** The EU is on track to meet the HFC phase-down, complying with its annual targets. In 2018, the EU-wide placing on the market of HFCs was 1.5% below the 2018 overall market limit set by the quota system.

[10] International aviation from and to EU Member States

[11] In 2018 and 2019, compared to KPIs identified in DG CLIMA Strategic Plan 2016-2020, one KPI was revised and substituted to reflect and report on the latest key policy developments: the indicator related to the EU phase down of hydrofluorocarbons (HFCs) replaced the indicator related to the 'depletion of the ozone layer'.

		Source: European Environmental Agency
KPI 4 **Proportion of climate related spending (mainstreaming) in the EU budget** Specific objective 5	☺	**Target:** At least 20% (on average) of EU budget on climate relevant expenditure by 2020 **Result:** the share of climate relevant spending accounted for 20.9% of the budget in 2019. On average, the EU budget would deliver 19.7% for the period 2014-2020 (estimate based on draft budget 2020). **Source:** EC, Draft Budget Report 2019 SEC(2019) 250
KPI5 **Residual error rate (RER) in the sub-programme Climate Action of the LIFE programme 2014-20** Specific objective 5	☺	**Amount at risk - Residual Error Rate (RER)** **Target:** Residual Error Rate should be lower than 2% **Result:** The **detected error rate (DER)** based on ex-post audits of grants of the former LIFE+ programme was **0.90%** for 2019. The **residual error rate (RER)** after corrections was **0.80%**. **Source:** European Commission, DG Environment

c) Key conclusions on Financial management and Internal control (executive summary of section 2.1)

In accordance with the governance arrangements of the European Commission, (the staff of) DG CLIMA conducts its operations in compliance with the applicable laws and regulations, working in an open and transparent manner and meeting the expected high level of professional and ethical standards.

The Commission has adopted a set of internal control principles, based on international good practice, aimed to ensure the achievement of policy and operational objectives. The financial regulation requires that the organisational structure and the internal control systems used for the implementation of the budget are set up in accordance with these principles. DG CLIMA has assessed the internal control systems during the reporting year and has concluded that the internal control principles are implemented and function as intended. Please refer to AAR section 2.1.3 for further details.

In addition, DG CLIMA has systematically examined the available control results and indicators, including those aimed to supervise entities to which it has entrusted budget implementation tasks, as well as the observations and recommendations issued by internal auditors and the European Court of Auditors. These elements have been assessed to determine their impact on the management's assurance as regards the achievement of control objectives. Please refer to Section 2.1 for further details.

In conclusion, management has reasonable assurance that, overall, suitable controls are in place and working as intended; risks are being appropriately monitored and mitigated; and necessary improvements and reinforcements are being implemented. The Director General, in his capacity as Authorising Officer by Delegation, has signed the Declaration of Assurance albeit qualified by a reservation concerning the security of the EU ETS.

d) Provision of information to the Executive Vice-President

In the context of the regular meetings during the year between the DG and the Executive Vice-President on management matters, the main elements of this report and assurance declaration, including the reservation envisaged, have been brought to the attention of Executive Vice-President Frans Timmermans, responsible i.a. for the climate portfolio.

1. KEY RESULTS AND PROGRESS TOWARDS THE ACHIEVEMENT OF THE COMMISSION'S GENERAL OBJECTIVES AND DG'S SPECIFIC OBJECTIVES

1.1 Achievement of general policy objective(s)

As presented in its Strategic Plan 2016-2020, the mission of DG CLIMA is to foster the transition towards a low-carbon and climate resilient economy in the EU as a contribution to fighting climate change, and to support the protection and recovery of the ozone layer.

This mission materialised one of the 10 strategic priorities for 2014-19 adopted by the Juncker Commission, namely "A resilient Energy Union with a forward-looking climate policy". Thus, DG CLIMA contributes first and foremost to this key general policy objective. Moreover, DG CLIMA also contributed to the achievement of two other priorities, namely "Creating Jobs and Boosting Growth and Investment in Europe" and making the EU "a Stronger Global Actor".

Outreach and communication activities on the Long-Term Strategy

Following its publication at the end of 2018, the strategic long-term vision for a climate-neutral EU economy by 2050[12] was widely discussed in 2019. The strategy confirms Europe's leadership in global climate action and presents a vision that can lead to achieving net-zero greenhouse gas emissions by 2050 through a socially-fair transition, in a cost-efficient manner.

Outreach and communication activities on the Long-Term Strategy

In 2019, there was an intense policy debate on the EU long-term strategy for a climate-neutral economy. It opened a thorough discussion on how Europe should prepare itself towards a 2050 horizon. The outreach work aimed at explaining and building support for the 2050 Long-Term Strategy.

Various meetings took place in and outside Europe with policymakers, citizens and stakeholders. A Long-Term Strategy outreach tour was organised in various Member States with government officials, stakeholders and members of the Parliaments. Discussions also took place with the European Parliament and the Council.

The discussion was wide-ranging, covering among other topics the climate-neutrality objective, the role of renewable energy, energy efficiency, specific technologies to reach the 2050 objective and financial instruments to finance the transition. Over the year, DG CLIMA maintained the strong momentum behind the EU climate-neutrality vision.

[12] A Clean Planet for all A European strategic long-term vision for a prosperous, modern, competitive and climate-neutral economy, COM/2018/773 final

These extensive exchanges of views ensured that the transformation to a climate-neutral economy remained at the top of the political agenda for the EU. The climate neutrality objective by 2050 has been endorsed by both the European Parliament and the European Council.

The European Green Deal

President Ursula von der Leyen puts at the heart of the Commission work the need to address climate change. In her political guidelines for the next Commission, she focused on an ambitious climate agenda to make Europe the first climate-neutral continent in the world by 2050. The European Commission presented in December 2019 “**The European Green Deal** – a roadmap for **making the EU's economy sustainable”** by turning climate and environmental challenges into opportunities across all policy areas and making the transition just and inclusive for all.

Commission President Ursula von der Leyen said: *“We are determined to tackle climate change and turn it into an opportunity for the European Union”*

Reduction of greenhouse gas emissions

EU greenhouse gas emissions declined by 2% in 2018 (compared to 2017) and reached their lowest level since 1990. Emissions were 23% below the 1990 level, overachieving its 2020 target. However, implementation will have to be accelerated significantly to reach 2030 targets and for the EU to become climate-neutral by 2050.

The EU is cutting emissions while its economy is growing. Between 1990 and 2018, the EU’s combined gross domestic product (GDP) grew by 61% (while greenhouse gas emissions declined by 23%). The greenhouse gas emission intensity of the economy, defined as the ratio between emissions and GDP, fell to 303g CO_2eq/EUR, which is less than half of the 1990 level.

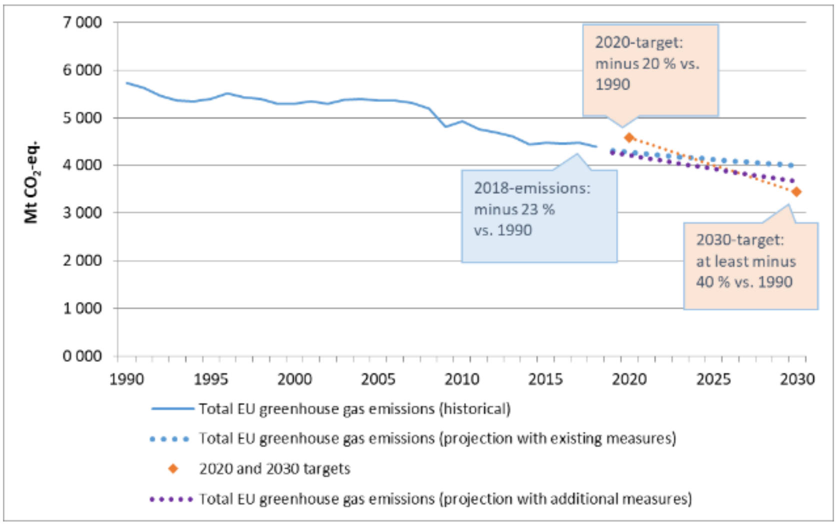


Figure 2: Total EU GHG emissions including international aviation and GHG reduction targets[13]

1.2 Achievement of specific policy objectives

SO 1: Ensuring further development and ensuring a well-functioning EU carbon market, via the EU ETS, towards further reduction of GHG emissions by energy power and heat generation installations, by energy-intensive industries and by domestic aviation

The **EU emissions trading system (EU ETS),** the world's first major carbon market, is a key tool for reducing greenhouse gas emissions cost-effectively. It covers around 45% of total EU emissions. Working on the 'cap and trade' principle, it limits emissions from more than 11,000 heavy energy-using installations (power stations & industrial plants) and airlines operating between these countries.

Emissions from installations covered by the EU ETS are falling as intended to reach the **2020 target** of a 21% reduction of emissions from these sectors. Emissions **decreased by 4.1% from 2017 to 2018**. As in previous years, the decrease was **mainly driven by the power sector**, while emissions from industry decreased only slightly. Verified emissions from aviation however continued to grow, increasing by 3.9%, or about 2.6 million tonnes CO_2 equivalent, compared to 2017.

Concerning the **surplus of allowances on the market**, the 2019 Market Stability Reserve surplus indicator (1.65 billion allowances) continues to lead to placing allowances in the reserve, reducing the 2019 auction volume by nearly 40% (almost 400 million allowances).

In 2018, a strengthened carbon price signal led to a **record amount of revenues for Member States** from the selling of **ETS allowances**. The generated amount equalled

[13] Source : EU Climate Action Progress Report SWD(2019)396

some EUR 14 billion - more than doubling the revenues generated in 2017. Member States spent or planned to spend close to 70% of these revenues on advancing climate and energy objectives - well above the 50% in the legislation.

In 2019, **implementation work** was in full swing to ensure a smooth start of the fourth trading period (2021-2030). New implementing legislation on free allocation, auctioning, the carbon leakage list, the Innovation Fund, monitoring, reporting, accreditation and verification, and the Union Registry was adopted over the past year.

In particular, the following implementing acts were adopted in 2019 for phase 4 of the EU ETS (2021-2030):

- The **carbon leakage list** to determine the free allocation that industries will receive against the risk of carbon leakage
- The Regulation on adjustments to **free allocation** due to activity level changes
- The amendment of the **Auctioning Regulation** to take into account new rules, in particular concerning the use of the common auction platform to monetise the allowances dedicated to the Innovation and Modernisation Funds (cf. specific objective 5)
- The **Innovation Fund** to support innovative low-carbon technology demonstration projects (cf. specific objective 5)

SO 2: A fair and operational framework for Member States aiming for a further reduction of GHG emissions in the non-ETS sectors in the EU (agriculture, forestry, land use, buildings, transport, waste) (= EU Effort Sharing Decision, use of Fluorinated-gases and consumption of Ozone Depleting Substances)

The EU already overachieves **its 2020 greenhouse gas emission reduction targets** for the sectors not covered by the EU ETS. These sectors include **agriculture, buildings, transport, small industry and waste**. The Effort Sharing Decision (ESD) sets national emissions targets for 2020, expressed as percentage changes from 2005 levels. **Emissions covered by the ESD were 11% lower in 2018** and current projections foresee a reduction of **13% by 2020.**

Since the system was launched in 2013, EU-wide emissions covered by the ESD have been below the total limit each year. Emissions decreased gradually from 2005 to 2014. After 2014, emissions increased in three consecutive years (2014-2017), followed by a reduction in 2018. Most of the emission reductions come from the **waste management sector**, the **industry and other sectors**. Emissions from **energy use in buildings** have shown a downward trend with year-to-year variation due to weather-related changes in heating demand. Emissions from **agriculture (non-CO_2)** were at similar level in 2018 as in 2005. Emissions from the **transport sector** have increased in each of the last five years, and are now only 3% lower than in 2005.

The EU already reached the 2020 target to reduce the GHG emissions from the non-ETS sectors by 10%

Only four Member States (Malta, Germany, Ireland and Austria) may end up with higher emissions than their emission limits over the period 2013-2020, according to their national projections. If this is eventually the case, they will need to use flexibility mechanisms, e.g. transfers of emission allocations from other Member States to comply with their legal obligations.

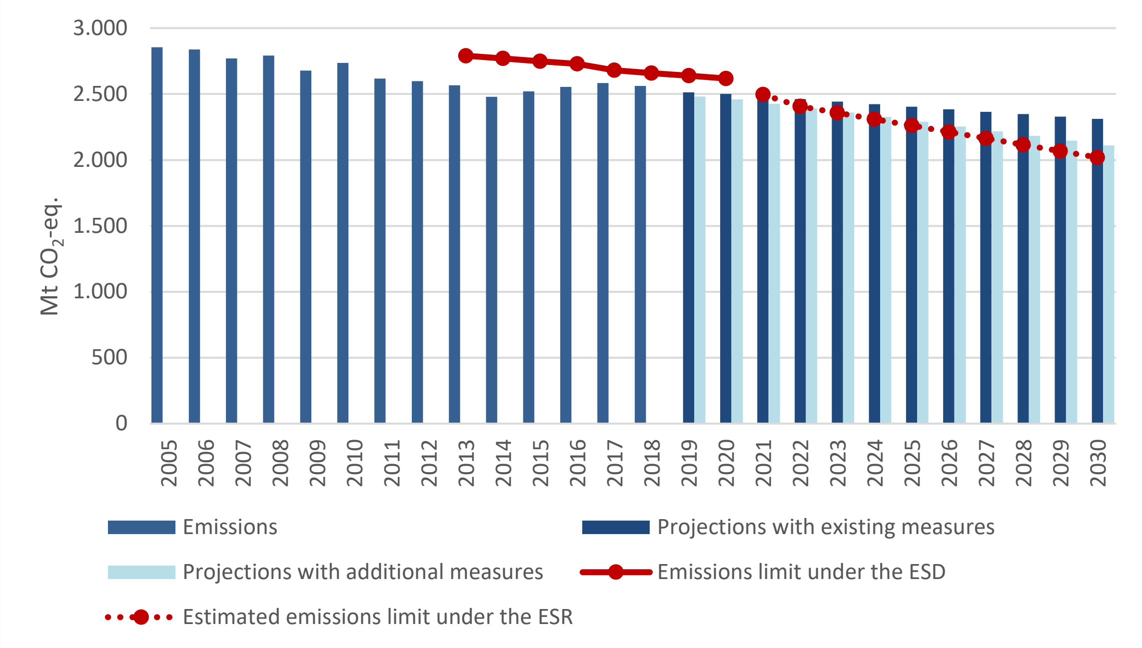


Figure 3: Emissions in sectors currently covered by the effort sharing legislation 2005-2030[14]

The EU is advancing towards its 2030 target to reduce GHG emissions in the non-ETS sectors by 30%. With planned measures, Member States are expected to reach a reduction of 27% by 2030

Similarly, the Effort Sharing Regulation sets national emission **targets for 2030 to achieve collectively a reduction of 30% by 2030.** Member States are **making good progress** in reaching this target but more efforts are still needed to achieve the 2030 target. If Member States implement the policies they are currently planning, the EU could reduce emissions collectively by around 27% by 2030. This is a clear progression as compared to existing policies, which would reduce emissions by only 20% by 2030. However, to achieve the emissions reduction target of 30%, Member States will need to identify and implement additional measures. The European Commission has recommended several Member States further specify their strategy for achieving the non-ETS target for the period 2021-30 in their National Energy and Climate Plans (cf. specific objective 6).

A worrying trend is that **removals of CO_2 from the atmosphere have declined** over the past five years. The decline is mainly due to a decline in the forest sink, e.g. because of increased biomass use but also forest fires. **Land use and forestry** can generate both emissions and removals of CO_2 from the atmosphere. While these emissions and removals do not count towards the EU domestic reduction target of 20% by 2020, they are **integrated in the 2030 Climate and Energy framework**.

In order to estimate how much European forests contribute to the EU 2030 climate targets, the **Land use, land-use change, and forestry Regulation** requires Member States to submit their national forestry accounting plans, including a proposed forest reference level for the period from 2021 to 2025, which acts as a baseline for future greenhouse gas emissions and removals from managed forest land. This is particularly important because sustainable biomass from forestry is expected to make a significant

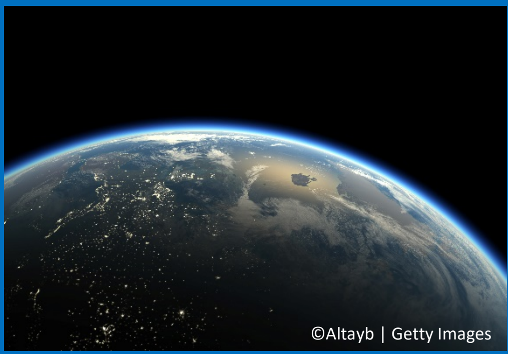
[14] Source : EU Climate Action Progress Report SWD(2019)396

contribution to the development of the bioeconomy. In 2019, an expert group composed of Member States representatives, technical specialists, NGOs and research organisations made an assessment of these national plans and on this basis the Commission published its recommendations in June 2019[15]. These recommendations formed the basis for the revision of Member States' forest reference levels, which were to be submitted by 31 December 2019.

Consumption of ozone-depleting substances and use of fluorinated-gases

In 2019, the Commission completed the evaluation of the ozone depleting regulation[16]. While the regulation is very effective in reaching its objective, it may be possible to achieve these results in a more efficient manner.

Main results of the evaluation of the ozone regulation



The evaluation shows that the regulation **significantly contributes to the timely recovery of the stratospheric ozone layer** and to limiting the emission of many highly climate warming gases. It also ensures compliance with obligations under the Montreal Protocol on Substances that Deplete the Ozone Layer and exerts influence on third countries to do likewise. Based on the latest scientific consensus, the ozone hole will recover by 2060. It has a **clear EU added value:** only a common, harmonised EU approach can implement the Montreal Protocol's obligations and respect internal market rules.

It remains crucial to have an effective policy in place and while the Regulation has been fit-for-purpose, there are opportunities for updates, further simplification and better coherence with other legislation. In particular:

- The envisaged cost savings of the measures introduced in 2009 for Member States and companies have been achieved to a good degree. Conversely, costs incurred at the EU level have been much more significant than foreseen. In particular, the impact of extending the scope of the licensing system and the setting up and running of electronic reporting was underestimated in the impact assessment and led to significant additional costs that continue into the future.
- Some further improvements may be achievable in terms of coherence. These include i.a. better coherence with customs legislation and border checking obligations. Similarly, there is some scope for simplification, improvement and clarifications as regards the internal coherence of the Regulation.

Fluorinated gases are a group of gases often used as substitutes for ozone-depleting substances. However, they are powerful greenhouse gases and the EU is leading the world in taking action to cut their emissions by two-thirds by 2030. The EU phase-down of fluorinated gases, which has now entered its fifth year, is fully on track.

[15] SWD/2019/213 final

[16] SWD(2019) 406 final

SO 3: Further decarbonisation of the transport sector in the EU beyond 2020 through development and implementation of harmonised policies (in cooperation with other DGs like DG MOVE[17], DG GROW[18]...)

The CO_2 emissions standards for new cars and vans are key drivers for road transport emissions reduction. The average CO_2 emissions of new light-duty vehicles registered in the EU in 2018 stayed well below the applicable targets, according to provisional data published by the European Environment Agency.

The average CO_2 emissions of **new passenger cars** registered in 2018 were 120.4 grams of CO_2 per kilometre, which is below the current target of 130g/km. However, average CO_2 emissions of both new passenger cars and new vans increased in 2018 (compared to 2017)

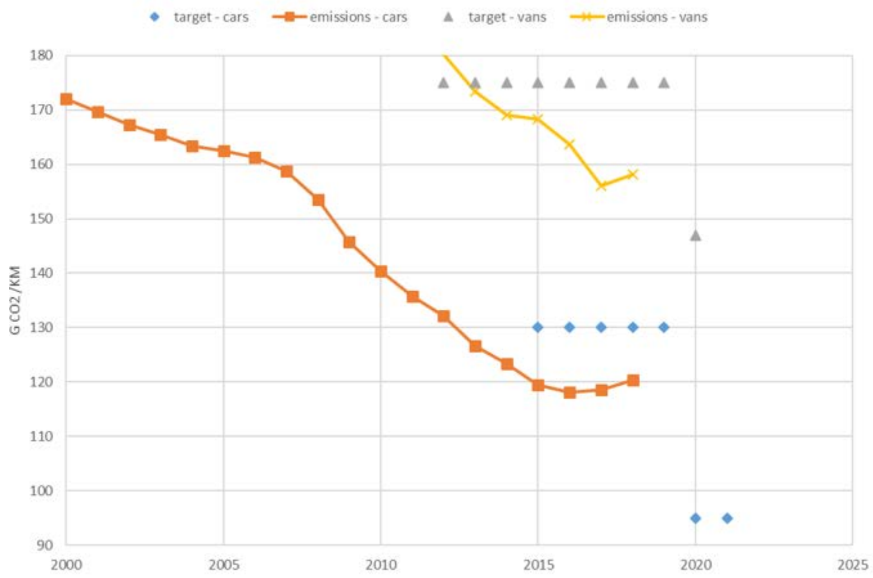


Figure 4: Average CO_2 emissions per kilometre for new cars and vans[19]

However, average CO_2 emissions of both new passenger cars and new vans were higher in 2018 than in 2017. After a steady decline from 2010 to 2016, by almost 22 grams of CO_2 per kilometre, average emissions from new cars increased in 2017 by 0.4g CO_2/km and by 2.0g CO_2/km in 2018. For the first time, average emissions of vans increased and were 2 grams per km higher in 2018 than in 2017.

Manufacturers will have to significantly reduce emissions of their fleet and accelerate the deployment of zero- and low-emission vehicles to meet the upcoming 2020 and 2021 targets. The main factors contributing to the increase of new cars emissions in 2018 include the growing share of petrol cars in new registrations, in particular in the sport

[17] DG Mobility and Transport

[18] DG for Internal Market, Industry, Entrepreneurship and SMEs

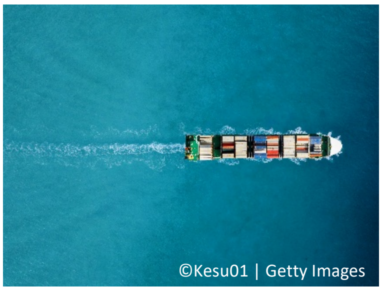
[19] Source: EU Climate Action Progress Report 2019, COM(2019) 559

utility vehicle (SUV) segment. Moreover, the market penetration of zero- and low-emission vehicles, including electric cars, remained slow in 2018[20].

In 2019, a significant step was taken towards decarbonising and modernising the mobility sector. DG CLIMA supported the **co-legislators to reach an agreement** on two important pieces of legislation to reduce emissions from the road transport. The new CO_2 Emissions Standard for **Cars & Vans** and the CO_2 standards for **heavy-duty vehicles** (i.e. lorries) were both adopted in 2019. By 2025 and 2030 respectively, average emissions from new cars will have to be 15% and 37.5% lower than in 2021, and average emissions from vans will have to be 15% and 31% lower than in 2021. Emissions from heavy-duty vehicles newly put on the market in the EU will have to be 15% lower by 2025 and 30% lower by 2030 than in 2019. Both regulations include a mechanism to incentivise the uptake of zero and low-emission vehicles and introduce new provisions to ensure the real-world representativeness of the monitored emissions.

Commissioner for Climate Action and Energy **Miguel Arias Cañete** said: *"(...) the heavy-duty transport sector can play an essential role in Europe's transition towards a climate-neutral economy. These first-ever EU-wide targets and incentives will help EU industry embrace innovation towards higher fuel efficiency and zero-emission vehicles and consolidate its current leadership position on innovative technologies, while bringing fuel cost savings to transport operators and cleaner air for all Europeans."*

The **Fuel Quality Directive** also contributes to decreasing GHG emissions from road transport. It requires fuel suppliers to reduce life cycle GHG emissions intensity of fuels supplied by 6% by 2020, compared to 2010. In 2019, it was the first time that data from Member States were reported[21]. It shows that average **GHG intensity of the fuels supplied in 2017 was 3.4% lower than in 2010**. Progress achieved varies greatly across Member States.



In February 2019, the Commission adopted a proposal to revise the **EU system for monitoring, reporting and verification of CO_2 emissions from shipping**, in order to take appropriate account of the international data collection system for fuel oil consumption of ships established by the International Maritime Organisation. The proposal will facilitate the harmonious implementation of the EU regulation and the international monitoring system, which will see maritime emissions better monitored and accounted for with a view to reducing overall emissions from the maritime sector. In addition, 2019 was a special year in that field because of the publication for the first time ever of information on CO_2 emitted by ships over 5000 gross tonnage when performing maritime transport activities related to the European Economic Area. This data collection exercise is an essential step for tackling emissions from the shipping sector.

[20] Despite significant increases in sales in 2017, battery electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEV) represent only 0.6 % and 0.8 %, respectively of new passenger car registrations in the EU.

[21] Data from 22 reporting Member States.

SO 4: Increased resilience of EU society against the effects of climate change by 2020 via effective support to Member States respecting the subsidiarity principle (adaptation)

Over the last year, further **progress has been achieved to implement the EU Adaptation Strategy**, which prepares Member States for current and future climate impacts. Twenty-six Member States have now a national adaptation strategy in place.

In 2019, more than 1,900 cities and towns in Europe committed through the **Covenant of Mayors** initiative to enhance their climate resilience, an increase of 900 since 2018. At the COP25 in Madrid, the European Commission's Executive Vice President for the **European Green Deal,** Frans Timmermans, was welcomed as the new Co-Chair of the Global Covenant of Mayors for Climate and Energy, alongside Michael R. Bloomberg.

Executive Vice President Frans Timmermans said: *"Urban climate action is at the heart of the European Green Deal and is essential to achieving a Global Green Deal. I'm proud to join the leadership of the Global Covenant of Mayors, bringing the commitment of cities into our climate pact – together with regions, civil society, industry and schools – to build on our experience and track record of supporting critical climate action needed for our people and planet."*

SO 5: Optimisation and sound and efficient management of financial incentives 2014-20 to support the innovation-based shift towards a low-carbon and climate-resilient EU economy (through the EU budget 2014-2020 and the (ETS) funds, in cooperation with all DGs)

Implementation of LIFE programme (grants and financial instruments)

The EU continues to support climate action on the ground across Europe through the LIFE programme. LIFE Climate Action supports projects to develop innovative ways to respond to the challenges of climate change in Europe. It supports mitigation and adaptation projects, and will provide EUR 864 million in co-financing for climate projects between 2014 and 2020.

Example of a LIFE project - METHAmorphosis project

The project demonstrated, at industrial-scale, two innovative waste treatment systems, one in an urban waste treatment plant, and the other in an agro-industrial waste treatment plants, to produce upgraded high quality bio-methane.

The participating automotive sector tested the biofuel in passenger vehicles and heavy-duty vehicles during thousands of kilometres driving. The car manufacturer SEAT aims to use the results for rolling out their bio-methane strategy, which has the potential to save millions of tons of CO_2 emissions in the transport sector. The project estimates that 5 years after its end the two prototypes could produce over 176 million kWh renewable biomass energy annually (translated to electricity, this value is close to the annual electricity consumption of 50,000 homes).

Total budget: EUR 3,642,167 - EU contribution: EUR 2,089,200

As an illustration, in 2019, the programme unlocked **more than EUR 3.2 billion of additional support to 12 large-scale environmental and climate projects** in ten Member States to support Europe's transition to a low-carbon economy. These projects will help Member States to implement environmental and climate legislation in a coordinated manner and on a large territorial scale. While they will tackle a wide range of environmental issues, almost a third are focused on mitigating and coping with the effects of climate change.

New Entrants Reserve 300 and Innovation fund

In 2019, the Commission decided to **reinvest unspent funds from the New Entrants Reserve 300 programme** to support low-carbon innovation projects under the InnovFin Energy Demo Projects (EDP) and the Connecting Europe Facility Debt Instrument, both managed by the European Investment Bank. Given the challenging economic and policy context since the NER 300 programme was designed, 19 projects that had been selected for funding, have not been able to raise sufficient additional financial support. They were withdrawn by July 2019 which liberated a total of EUR 1 358 million to be re-invested into existing financial instruments and into the Innovation Fund.

So far, **three projects have been selected to benefit from New Entrants Reserve 300 unspent funds under the InnovFin EDP,** amounting to some EUR 73 million. They focus on innovative wave energy technology (see box below), floating offshore wind technology and ultra-fast charging stations for electric vehicles and battery energy storage.

Wave Roller – An innovative wave energy technology

Wave Roller aims to demonstrate the feasibility of wave energy technology at commercial scale.

The project aims to bridge the gap between the demonstration installation and the commercial deployment of a near-shore Oscillating Wave Surge Converter (OWSC) device that converts wave energy into electric power.

The project is co-financed by the existing shareholders, the Finnish Funding Agency for Innovation and an InnovFin EDP financing from the European Investment Bank supported by a NER300 contribution of €10 million.

Following the revision of the ETS Directive, the Commission adopted in February 2019 the Delegated Regulation on the **Innovation Fund**. This is a key funding instrument to make our vision for a climate-neutral EU a reality. It aims to create the right financial incentives for companies and public authorities to invest now in the next generation of low-carbon innovative technologies. Around EUR 10 billion (depending on the carbon price) will be available from the monetising of the EU ETS allowances and the remainder of the NER 300 fund to support demonstration of innovative technologies and breakthrough innovation in energy-intensive industries.

Throughout 2019, the Commission has been actively engaged in outreach activities with industry and Member States to raise awareness about this fund and to discuss key issues for each sector related to the selection and implementation of projects. The first call for proposals is scheduled for launch in mid-2020, followed by regular calls until 2030.

Modernisation fund

The Modernisation Fund will support low-carbon investments in the energy systems of ten low-income EU Member States in shares pre-defined by the ETS Directive. At an estimated carbon price of 20 EUR/tCO_2, some EUR 14 billion will be generated over the coming decade. The size of the fund more than doubled following the decision from five Member States to transfer part of their solidarity and/or transitional free allowances. The European Commission's work on establishing the Modernisation Fund started with a series of technical workshops in all beneficiary Member States from September 2018 to January 2019. Further preparatory work is taking place towards adoption of an Implementing Act in the first half of 2020.

Mainstreaming

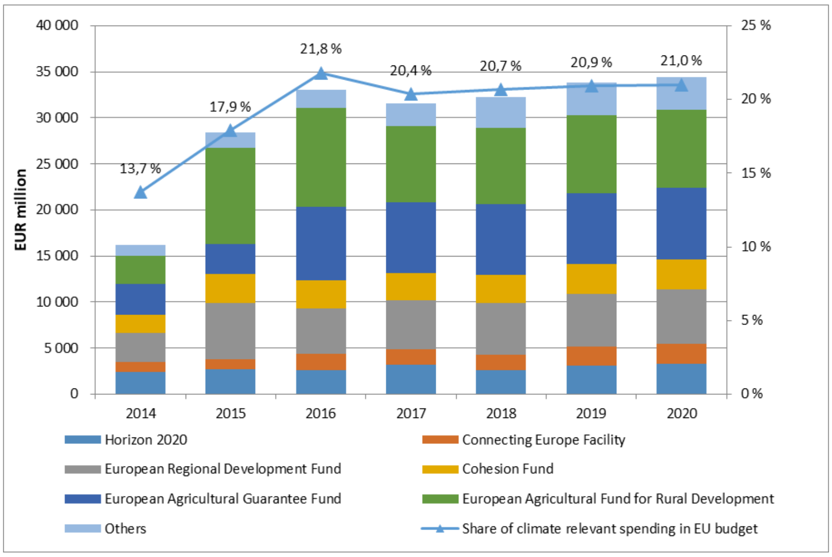


Figure 5: Climate relevant expenditure in 2014-2020 EU budget[22]

The EU has committed to spend an average of at least 20% of its budget on climate relevant expenditure in 2014-2020. The mainstreaming target has been a key driver for integrating climate action systematically into individual spending programmes. In 2019, the share of climate-relevant spending accounted for 20.9% of the budget and is expected to reach 21% in 2020. On average, the EU budget would deliver 19.7% for the period 2014- 2020.

2020. Building on this experience, on 2 May 2018 the Commission proposed a more ambitious target of 25% of expenditure contributing to climate objectives under the next (2021-2027) MFF.

[22] Source: EU Climate Action Progress Report 2019, COM(2019) 559

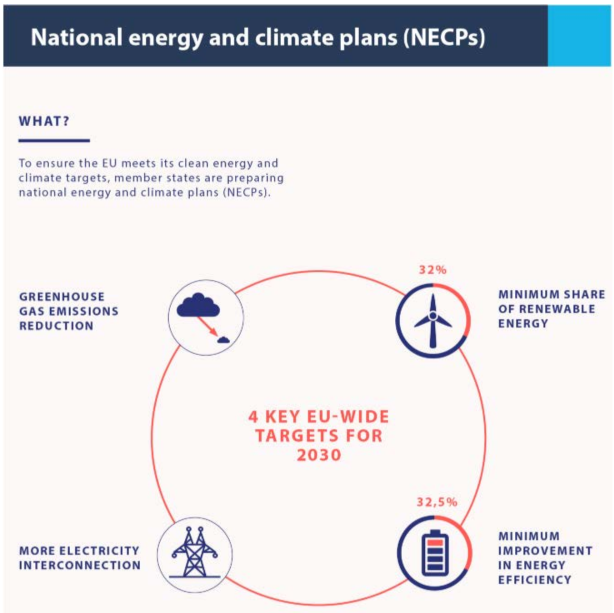
Sustainable finance

Major private investments are also needed to transform the EU economy. Sustainable finance makes sustainability considerations part of financial decision-making. Following the 2018 EU Action Plan on Sustainable Finance, an EU taxonomy for climate change mitigation and climate change adaptation was developed[23]. This unified EU green classification system aims at determining if an economic activity is environmentally sustainable based on harmonised EU criteria. It will help policy makers, industry and investors to support and invest in economic activities that contribute to achieving a climate-neutral economy.

At the international level, the international platform on Sustainable Finance was launched in 2019 by the EU in Washington. This platform is intended to be an essential stimulator for investments and redirection of capital flows towards our climate objectives at the scale required for the most important economic transition of our times.

SO 6: Implementation of the Energy Union Strategy towards an enhanced climate and energy governance mechanism including streamlined reporting and planning post-2020 (coordination with DG ENER)

The work on the **governance of the Energy Union** moved into a new phase in 2019, as all 28 Member States submitted to the Commission their **draft National Energy and Climate Plans** for the period 2021-2030 which are key to achieving our 2030 climate and energy targets.



The Commission started its analysis of the plans at the beginning of 2019, and provided Member States with its final assessment in June 2019. This is a major step towards delivering the EU's 2030 targets. While the Commission's overall assessment of the plans is positive, there is still clearly room for improvement, which is reflected in the recommendations. The Commission's assessment finds that the national plans already represent significant efforts but more needs to be done to ensure the delivery of the 2030 targets and to stay on the path towards climate neutrality in the longer term.

In its analysis of the draft national plans, the Commission looked at their aggregated contribution to meeting the EU Energy Union objectives and 2030 targets. For **greenhouse gas emissions**, the overall greenhouse gas reduction for the Union is estimated to be already **in line with a 40% GHG emission reduction for 2030 compared to 1990**. For the corresponding EU target for sectors outside the EU Emissions Trading System, there is a 2% gap. To fill this gap, Member States will need to

[23] Taxonomy technical report, June 2019. Available here : https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190618-sustainable-finance-teg-report-taxonomy_en.pdf

identify and implement additional measures in the final plans. The assessment is based on the assumption that all Member States will comply with the "no debit" rule for the land use, land use change and forestry sector, i.e. that emissions do not exceed removals. In this context, the Commission has also published a technical assessment of Member State's National Forestry Accounting Plans.

However, as they stand, the draft NECPs **fall short both in terms of renewables and energy efficiency contributions**. For renewables, the gap can be as big as 1.6 percentage points. For energy efficiency, the gap can be as big as 6.2 percentage points (if considering primary energy consumption) or 6 percentage points (if considering final energy consumption).

Commissioner for Climate Action and Energy, Miguel Arias Cañete said: *"(...) Having evaluated Member States' draft national plans, I am positive about the significant efforts that have been made. However, in the final plans even more ambition is needed to set the EU on the right track in fighting climate change and modernising our economy. I invite the Council to open a debate around the main priorities identified by the Commission and help ensure that the final plans contain an adequate level of ambition."*

The Commission's recommendations and detailed assessments aimed to help Member States **finalise their plans by the end of 2019**[24], and to implement them effectively in the years to come. These final national plans aim at providing clarity and predictability for businesses and the financial sector to stimulate necessary private investments.

In April 2019, the **fourth report on the State of the Energy Union** was adopted. It takes stock of the successful implementation of one of the key priorities of the Juncker Commission: "Building a resilient Energy Union with a forward-looking climate and energy policy". The report concludes that the policies implemented over the last five years in all policy areas have put the EU on the right track to embrace the low-carbon and clean energy transition, seizing the economic opportunities that it offers, creating growth and jobs and a healthier environment.

SO 7: Ambitious contribution to effective international negotiations on climate action (including bilateral cooperation and climate diplomacy, UNFCCC, Kyoto, Paris, ICAO, IMO) and ozone layer (Montreal) related

In 2019, DG CLIMA continued its extensive outreach with international partners in different fora, including the **G7/G20**, the **UN Secretary General (UNSG) climate summit,** the UN General Assembly in New York in September 2019 and the **UN climate change conference of Parties (COP25)** in Madrid, to enable us to achieve the Paris Agreements goals.

At the **G7/G20**, the EU worked towards generating consensus for an urgent and ambitious response to the challenge of climate change and for upholding the Paris Agreement. The G7 Environment Ministerial meeting in May 2019 delivered positive results, recognising climate change and environmental degradation as pressing global challenges and emphasising the need for effective outcomes at COP25. Leaders of the

[24] By the end of February 2020, 19 Member States had submitted their final plans.

G20 agreed to maintain their commitment to climate action under the Paris Agreement, with the exception of the United States reiterating its decision to withdraw.

The UN Secretary-General's special climate summit in September 2019 was a key opportunity to raise global ambition and to accelerate action to implement the Paris Agreement. In view of this summit, the Commission published a **Communication on the 2019 UNSG Climate Action Summit**[25], which reflected on our achievements on climate action in Europe over the past five years. Our strong record of action was presented to encourage Parties to raise the level of ambition of their existing emissions reduction contributions and to submit long-term strategies by the end of 2020. The EU had a strong story to tell at the Summit, as the only major economy to have legislated on its Paris Agreement commitments and to have presented a long-term vision for a climate-neutral economy by 2050. DG CLIMA attended a number of events and meetings on specific initiatives, focusing among others on our cooperation with China and support for climate adaptation in Africa. In this regard, the EU and Africa joined forces to strengthen and accelerate adaptation to climate change in Africa.

COP25 in Madrid

The 2019 UN climate change conference (COP25) took place in December 2019 in Madrid, Spain, under the Presidency of the Government of Chile. During the COP25, the European Union and its Member States stood firm behind the Paris Agreement.

The new Commission President Ursula von der Leyen spent her first day in office addressing the climate challenge at the COP25 in Madrid, underlining the importance given to climate action.

President Ursula von der Leyen stated: "*Our goal is to be the first climate-neutral continent by 2050. If we want to achieve that goal, we have to act now, we have to implement our policies now. Because we know that this transition needs a generational change.*"

President von der Leyen has made the case for increased ambition and the need for all parties, not just the EU, to deliver on their commitments. The EU presented its experience with its 2050 vision and intensive engagement with Member States, industry stakeholders, civil society and citizens. Interesting exchanges took place with other Parties and stakeholders on the development of long-term strategies and how to get all of society involved.

The main objectives of the COP25 were to wrap up the 'Katowice rulebook' and to clear the path for raising ambition in 2020 at the COP26 in Glasgow. The latest scientific report, notably the 1.5 degrees special report by the Intergovernmental Panel on Climate Change confirms that, collectively, Nationally Determined Contributions submitted by Parties fall far short of what is required to achieve the long-term goals of the Paris

[25] COM(2019) 412 final

Agreement. It is therefore vital that all Parties undertake and communicate ambitious efforts as part of an urgent global response.

This COP did not deliver all of what the EU had hoped. Despite hard work, no agreement was reached on the Article 6[26] negotiations and on transparency. These would have provided countries with incentives to reduce emissions now and in the future without undermining environmental integrity. However, parties came much closer to agreement than previously, and this is something that we can build on in our future deliberation.

In the context of the European Green Deal announcement, the EU stood firm to keep a high level of ambition. Europe is trying to set an example to the rest of the world by committing to climate-neutrality by 2050, and therefore could not compromise on these issues.

On a more positive note, negotiators managed to complete the second review of the Warsaw International Mechanism for loss and damage, enabling us to enhance our capacity to mobilise and catalyse effective action for averting, minimising and addressing loss and damage associated with climate change impacts. Another encouraging result of the COP25 was the creation of a new Gender Action Plan. This important initiative seeks to strengthen gender considerations in climate policy, women's participation in climate action and highlights the important role of women as agents of change.

Other international events and bilateral cooperation

In 2019, the EU continued to play a leading role in climate diplomacy, strengthening its multilateral and bilateral cooperation with other major emitters to implement the Paris Agreement.

At the EU-China summit in April 2019, the EU and China underlined their strong commitment to the Paris Agreement and the Montreal Protocol and to further intensify cooperation, including notably on green finance. At the EU-Japan summit both sides demonstrated their strong support for the rules-based international order as well as confirmed determination to show leadership through ambitious long term greenhouse gas reductions strategies by 2020. The third edition of Ministerial on Climate Action, co-convened by the EU, China and Canada, was hosted by the EU in Brussels. Ministers and representatives from 31 governments exchanged their views on the UNFCCC negotiation challenges, implementation and ambition.

In October 2019, another important step was reached as the EU, Iceland and Norway agreed to extend their climate cooperation. Building on cooperation in the EU ETS since 2008, the EU, Norway and Iceland will also align actions to reduce emissions from sectors outside the EU ETS in the next decade, with Iceland and Norway committing to apply the Effort Sharing and LULUCF Regulations.

The 31st meeting of the Parties to **the Montreal Protocol on Substances that Deplete**

[26] Article 6 of the Paris agreement includes rules for carbon markets and other forms of international cooperation

the Ozone Layer was the first such meeting since the entry into force of the Kigali Amendment. The meeting yielded positive results, with important discussions and decisions on issues including the unexpected increase in emissions of the ozone-depleting substance CFC-11, the next funding cycle of the multilateral fund dedicated to assisting developing countries in their compliance efforts, and the future focus of the scientific work of the Protocol for the next 4-year period.

In October 2019, during the **40th International Civil Aviation Organization Assembly**, climate was again high on the agenda, with two issues of special importance for DG CLIMA: CORSIA (the global offsetting scheme aimed at compensating the growth of international aviation emissions beyond 2020 levels) and the consideration of a long-term emissions reduction goal for international aviation. A lot remains to be done to agree on the last outstanding rules for CORSIA and discussions on the long-term goal also proved divisive.

International carbon market

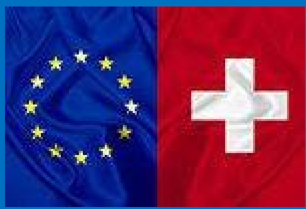
A third **carbon market workshop**, which took place in Florence, Italy in March 2019, was a success. Information on the functioning of emissions trading systems worldwide was shared and stimulating discussions took place on topics such as market stability mechanisms and auction revenue use.

In June 2019, DG CLIMA organised a **high-level conference on international carbon markets.** It brought together high-level representatives and carbon markets specialists to exchange views and foster a common understanding on the necessary rules, challenges and prospects for international carbon trading.

The EU commitment to the concept of international carbon market was demonstrated end of 2019 with the the agreement to **link the EU Emissions Trading System with the Swiss emissions trading system**. The linking agreement is the first of its kind and demonstrates that setting rules for international carbon markets work and can form the basis for good cooperation between systems.

Emission trading system linking with Switzerland

As ministers gathered at the COP25 in Madrid to discuss the rules for international carbon markets, the EU and Switzerland finalised the process that allows for the link of their emissions trading systems to enter into force. As of 2020, allowances from both systems can be used for compliance to compensate for emissions occurring in either system.



There are significant benefits to linking carbon markets. It increases the cost-effectiveness of the linked systems, thus resulting in more efficient emission reductions. It can bring carbon prices in different countries closer together, which in turn may reduce carbon leakage risks. Linking also strengthens cooperation between parties with binding targets and encourages others to take action, as well as to support global cooperation.

2. ORGANISATIONAL MANAGEMENT AND INTERNAL CONTROL

This section explains *how* the DG delivered the achievements described in the previous section. It is divided into two subsections.

The first subsection reports the control results and other relevant information that supports management's assurance on the achievement of the financial management and internal control objectives[27]. It includes any additional information necessary to establish that the available evidence is reliable, complete and comprehensive. It covers all activities, programmes and management modes relevant to the DG.

The second subsection deals with the other components of organisational management: human resources, better regulation principles, information management and external communication.

2.1 Financial management and internal control

Assurance is an objective examination of evidence for the purpose of providing an assessment of the effectiveness of risk management, control and governance processes.

This examination is carried out by management, who monitors the functioning of the internal control systems on a continuous basis, and by internal and external auditors. The results are explicitly documented and reported to the Director-General. These building blocks are:

- the annual reports and declarations by AOD and AOSDs in which all financial transactions are verified.
- the reports on control results from entrusted entities in indirect management such as the European Investment Bank (EIB) as well as the result of the Commission supervisory controls on the activities of these bodies, and participation as observer in the management board meetings of the Executive Agency for Small and Medium-sized Enterprises (EASME);
- the contribution by the Director in charge of Risk Management and Internal Control Coordinator, including the results of internal control monitoring at the DG level;
- the reports on recorded exceptions, non-compliance events and any cases of 'confirmation of instructions' (Art 92.3 FR)[28];
- the reports of the ex-post audits;
- the conclusion of the Internal Auditor on the state of internal control, and the observations and recommendations reported by the Internal Audit Service (IAS);
- the observations and the recommendations reported by the European Court of Auditors (ECA).
- The annual review report of the DG CLIMA Advisory Committee on public procurement

[27] Art 36.2 FR: a) effectiveness, efficiency and economy of operations; b) reliability of reporting; c) safeguarding of assets and information; d) prevention, detection, correction and follow-up of fraud and irregularities; and e) adequate management of risks relating to the legality and regularity of underlying transactions

[28] Art 92.3 FR : An authorising officer by (sub)delegation who receives a binding instruction which he or she considers to be irregular or contrary to the principle of sound financial management , in particular because the instruction cannot be carried out with the resources allocated , shall inform the delegating authority in writing

(CPAC report);
- DG CLIMA Risk Advisory Committee; embedded in the meeting of senior management on resources
- Periodic report and dashboards to management on resource issues.

These reports result from a systematic analysis of the evidence available. This approach provides sufficient guarantees as to the completeness and reliability of the information reported and results in a complete coverage of the budget delegated to the Director-General of DG Climate Action.

This section is for reporting the control results and other relevant elements that support management's assurance. It is structured into (a) control results, (b) audit observations and recommendations, (c) effectiveness of the internal control system, and resulting in (d) conclusions on the impact as regards assurance.

2.1.1 Control results

This section is for reporting and assessing the elements identified by management, which support the assurance on the achievement of the internal control objectives[29]. The DG's assurance building and materiality criteria are outlined in the AAR Annex 4. Annex 5 outlines the main risks together with the control processes aiming to mitigate them and the indicators used to measure the performance of the relevant control systems.

During year 2019 there was only one case of “confirmation of instructions” (new FR art 92.3) and in particular one exception event. This was related to a procurement procedure in which additional extension was asked from the tenderers, before the services reached a final decision.

In all the AARs of the DG CLIMA since 2010 the DG has issued a reservation on reputational/legal/financial grounds related to security weaknesses identified in the Union Registry for the EU ETS. (see section 2.1.5)

According to management’s factual conclusions suitable controls are in place and working as intended; risks are being appropriately monitored and mitigated; and necessary improvements and reinforcements are being implemented.

A detailed financial overview of DG CLIMA can be found in Annex 3

1. Effectiveness = the cost results and benefits

Legality and regularity of the transactions

[29] 1) Effectiveness, efficiency and economy of operations;2) *reliability of reporting; 3) safeguarding of assets and information*; 4) prevention, detection, correction and follow-up of fraud and irregularities; and 5) adequate management of the risks relating to the legality and regularity of the underlying transactions, taking into account the multiannual character of programs as well as the nature of the payments (FR Art 36.2). *The 2nd and/or 3rd Internal Control Objective(s) (ICO) only when applicable, given the DG’s activities.*

DG CLIMA is using internal control processes aiming to ensure the adequate management of the risks relating to the legality and regularity of the underlying transactions it is responsible for, taking into account the multiannual character of programmes as well as the nature of the payments concerned.

The control objective is to ensure that the final amount at risk related to payments authorised in 2019 does not exceed the agreed threshold of 2% of the amount in ABB activity 34 02. LIFE expenditure and DEVCO co-delegation amounts represent the biggest appropriations of DG CLIMA. Regarding LIFE expenditure the vast majority concerns public procurement for which the risk of payment-related errors is considered insignificant as: 1) there is an extremely limited number of pre-financings, 2) in case of partial delivery the full amount is not paid and 3) technical reports and deliverables required for the payments are discussed with the contractor and before final payment approved. The risk of errors related to the selection and award process is deemed to be low in the light of the existing ex-ante control systems (CPAC, the '4 eyes 'principle in the financial circuit segregating initiation and verification), and controls and meetings during the management of the contract.

Also, the specific procurement advisory committee CPAC, performs verifications of tendering procedures of all contracts above € 500, 000, plus of a sample of contracts of lower value.

Regarding DG DEVCO co-delegation, DG CLIMA was managing a very small number of grants under the new GPGC programmes of DG DEVCO in 2019, These are mostly grants to 'pillar assessed' international organisations that have undergone a 'systems audit' ex ante. Ex-post audits aiming at detection and correction of potential fraud, errors and irregularities are carried out only on request by DG DEVCO/NEAR, in cases where there is suspicion of fraud or irregularity. No such cases were identified in 2019.

Therefore, reasonable assurance can be provided given the following building blocks:

- robust ex-ante controls performed at various stages in the financial circuit;
- quality advice by procurement experts to the desk officers and authorising officers in the operating units;
- independent and positive CPAC verifications;
- guidance on how to deal with EDES[30] cases;
- no significant errors and weaknesses detected by the internal and external auditors;
- and no fraud cases or Ombudsman cases flagged.
- for financial instruments, the risk of payment-related errors is considered insignificant in 2019, In addition, the control environment of EIB is satisfactory and aligned with the Commission standards.

Estimation of the Average Error Rate (AER), the overall risk at closure

In the context of the protection of the EU budget, the DG's estimated overall risk at payment, estimated future corrections and risk at closure are consolidated at Commission level.

The estimated overall 'risk at payment' for 2019 expenditure is in the range between EUR 3.172 and EUR 81.329 (table next page). This is the AOD's best, conservative estimation

[30] EDES = Early Detection and Exclusion System, successor to the former Early Warning System

of the amount of relevant expenditure during the year not in conformity with the contractual and regulatory provisions applicable at the time the payment was made. The major share of DG CLIMA's expenditure concerns procurement (which is not subject to any on the spot ex-post controls), financial instruments (which are not mature enough yet for on the spot audit) and grants to pillar assessed organisation[31]. Therefore, there are no audits planned to be carried out in subsequent years. Therefore, the estimated overall risk at closure for the 2019 expenditure is in the range of Euro 3.172-81.329 approximately in the same range as in last year. Since the level of error is an estimation, in the calculation of the amount of risk and for certain categories it is expressed as a range, a fact that reflects the variations in the underlying assumptions, which are summarised as follows:

1. The grants managed by DG CLIMA in their vast majority are grants to Pillar Assessed organizations / international bodies. The risk of error is estimated as very low and an estimation (as there are no audits which have taken place) of 0% - 0,5% was used.
2. The error rate for procurement payments is estimated to be 0%-0,15%. The risk of error in procurement is minimal; however, a conservative approach in the error rate estimation has been applied.
3. For payments to international conventions in the area of climate action and for the financial instruments, the estimated error rate is minimal. A conservative approach was again followed for the estimation of error rate 0%-0,15%.
4. For administrative and support payments there ia slightly higher level of risk is warranted and therefore the estimated error rate is 0,15%-0,5%.

The overall amount at risk for the year 2019 remains is comparable to the year 2018 (€ 0,01-0,094 M).

[31] Entities that demonstrate a level of financial management and protection of the EU's financial interest equivalent to that of the Commission. This is certified by carrying out an ex-ante assessment or pillar assessment of the entity

Estimated overall amount at risk at closure

DG CLIMA	"payments made" (FY; m€)[32]	*minus* new prefinancing (in FY; m€)	*plus* cleared prefinancing (in FY; m€)	**= "relevant expenditure" (for the FY; m€)**	Average weighted detected error rate range (DER %)	Estimated overall range of amount at risk *at payment* (FY; €)	Average Recoveries and Corrections (*adjusted* **ARC**; %)	estimated future corrections [and deductions] (for FY; €)	**estimated overall range of amount at risk *at closure* (€)**
(1)	*(2)*	*(3)*	*(4)*	*(5)*= (2) – (3) + (4)	*(6)*	*(7)*= (5) x (6)	*(8)*	*(9)*= (5) x (8)	*(10)*= (7) – (9)
Procurement	11,966	0,116	0,116	11,966	0%-0,15%	0-17.949	0%	0	0-17.949
Conventions	0,858	0	0	0,858	0%-0,5%	0-4.290	0%	0	0-4.290
Financial Instruments	10,000	0	0	10,000	0%-0,15%	0-15.000	0%	0	0-15.000
Grants	6,695	5,200	5,208	6,703	0%0,5%	0-33.515	0%	0	0-33.475
Administrative	0,468	0	0	0,468	0,15%-0,5%	702-2.340	0%	0	702-2.340
Support	1,647	0	0	1,647	0,15%-0,5%	2.470-8.235	0%	0	2.470-8.235
TOTAL CLIMA	**31,633**	**5,316**	**5,324**	**31,641**	**0,010%-0,42%**	**3.172-81329**	**0%**	**0**	**3.172-81.329**

In the context of the protection of the EU budget, at the Commission's corporate level, the DGs' estimated overall amounts at risk and their estimated future corrections are consolidated.

Notes to the table
(1) differentiated for the relevant portfolio segments at a level which is lower than the DG total

[32] Amount as per Annex 3, table 2: Outturn on payment appropriations in 2019. According to this table, the payment appropriations authorised for Administrative Expenditure in the "Climate Action" policy area does not include payments done by PMO. Similarly the payment appropriations authorised for "Climate action at Union and international level" (budget chapter 34 02) does not include payments carried out by other DGs under co-delegation.

(2) Payments made or equivalent, e.g. expenditure registered in the Commission's accounting system, accepted expenditure or cleared pre-financing. In any case, this means after the preventive (ex-ante) control measures have already been implemented earlier in the cycle.
In all cases of Co-Delegations (Internal Rules Article 3), "payments made" are covered by the Delegated DGs. For Cross-SubDelegations (Internal Rules Article 12), they remain with the Delegating DGs.

(3) New pre-financing actually paid by out the department itself during the financial year (i.e. excluding any pre-financing received as a transfer from another department). "Pre-financing" is covered as in the context of note 2.5.1 to the Commission annual accounts (i.e. excluding "Other advances to Member States" (note 2.5.2) which is covered on a purely payment-made basis).
"Pre-financing paid/cleared" are always covered by the Delegated DGs, even for Cross-SubDelegations.

(4) Pre-financing actually cleared during the financial year (i.e. their 'delta' in the Financial Year 'actuals', not their 'cut-off' based estimated 'consumption').

(5) For the purpose of equivalence with the ECA's scope of the EC funds with potential exposure to legality & regularity errors (*see the ECA's Annual Report methodological Annex 1.1*), our concept of "relevant expenditure" includes the payments made, subtracts the new pre-financing paid out *[& adds the retentions made*], and adds the previous pre-financing actually cleared *[& subtracts the retentions released; and any deductions of expenditure made by MS*] during the FY. This is a separate and 'hybrid' concept, intentionally combining elements from the budgetary accounting and from the general ledger accounting.

(6) In order to calculate the weighted Average Error Rate (AER) for the total relevant expenditure in the reporting year, conservative estimations of the error rates have been used

(8) Based on the last years historic Average of Recoveries and financial Corrections (ARC), which is the best available indication of the corrective capacity of the ex-post control systems implemented by the DG over the past years.

(10) For some programmes with no set *closure* point (e.g. EAGF) and for some multiannual programmes for which corrections are still possible afterwards (e.g. EAFRD and ESIF), all corrections that remain possible are considered for this estimate.

Fraud prevention, detection and correction

DG CLIMA has developed and implemented its own anti-fraud strategy since 2013 on the basis of the methodology provided by OLAF. It is updated every 3 years. Following the publication of the last update of year 2019 focused on reaching compliance with the new Communication on the Antifraud policy of the Commission and the ensuing guidance by OLAF., sent to OLAF for a review exercise (peer review).

This Anti-Fraud Strategy was built around the following anti-fraud objectives:

1. Documentation of the conducted Fraud Risk Assessment ("Prevention"). The last assessment was performed in 2019 (EU Emissions Trading System, Illegal trade in F-gases)
2. Dissemination of anti-fraud measures and raising fraud awareness within DG CLIMA ("Prevention") ("Detection"). It was done in year 2017
3. Developing and communicating Fraud Indicators / "Red Flags" ("Detection"). It was done in year 2016
4. Developing Early Detection and Exclusion (EDES) guidelines and internal guidance on EDES-flagging. It was done in year 2016
5. Following up on Fraud Cases ("Investigation", "Sanction/Recovery"). There has not been so far any fraud cases in DG CLIMA

Each objective has a clearly structured roadmap, with indicators to monitor implementation, clear identification of units responsible and target dates when the objectives need to be carried out. During the reporting year, no fraud case was reported either from DG CLIMA or from OLAF. In addition, the anti-fraud measures already in place – notably the controls performed through ex-ante controls – did not identify any cases of fraud or potential fraud in 2019.

The antifraud strategy in place is considered as complete and reliable and the anti-fraud controls as effective. There is no significant weakness to be addressed.

Other control objectives: safeguarding of assets and information, reliability of reporting, significant intangible assets

DG CLIMA is responsible for safeguarding the accuracy, integrity and reliability of relevant market sensitive data managed by the system as the business owner and manager of the Union Registry.

As a result, DG CLIMA handles EU ETS sensitive information on a daily basis. In order to ensure a coherent protection of this sensitive non-classified (SNC) information, DG CLIMA developed the ETS Classification policy. The markings developed through this policy were adopted in 2014 by DG HR-DS[33] and used until 2019 when the classification levels and markings were reviewed by corporate services[34].

Following this revision, DG CLIMA updated its internal policy for handling SNC

[33] DG HR-DS - Security Notice 01 Revision 10 dated of 5 June 2014 "The use and application of markings"

[34] C(2019) 1903 and 1904 dated 5 March 2019 on “Information assessment and classification” and “Marking and handling of sensitive non-classified information” respectively.

documents, covering the use of the new commission-wide applicable markings (sensitive and special handling). Furthermore DG CLIMA has also organised regular training sessions for its staff on this new policy, has implemented IT security measures and action plans to secure and protect data, and has established an internal advisory group at Director General level for security matters.

No leaks/breaches of confidential data or violations of data integrity were reported in 2019.

As regards the delegation of the implementation of the financial instruments to the European Investment Bank ("indirect management"), DG CLIMA has received from the EIB reasonable assurance that in all material respects the information set out in the Financial Statements is in accordance with the accounting standards, is complete and accurate, and that it applies a professional degree of care and diligence to the execution of the tasks entrusted to it in the Delegation Agreement.

According to the assessment done during the accounting closure, there was no impairment of intangible assets in DG CLIMA in 2019.

Two projects related to IT expenditure[35] (the EUSCR and the climate adaptation clearing house) were capitalised and depreciated since 2015. The depreciation was booked during 2015 closure and it will be automatic for the next 8 years for the first project and for the next 10 years for the second.

2. Efficiency = the Time to… indicators and other efficiency indicators

The assessment by management is based on the results of key controls performed in 2019, notably ex-ante controls and controls during project implementation. The financial circuits put in place in DG CLIMA are based on a thorough risk assessment and reflect the financial environment, the organisational capacity and an analysis of the budget implementation.

Key control indicators:

1. Output indicators (controls during project implementation)	2019	2018	2017
Procurement: number of procurement files reviewed by CPAC	13	7	11
Procurement: number of negative opinions by CPAC	0	0	0
Number of exceptions registered (ICS 8)	1	0	1
# payments exceeding legal delays	5/315 = 1,6%	2/299 = 0.7%	13/331=3,9%
Number of European Ombudsman	0	0	0
Number of OLAF cases	0	0	0

3. Economy = the cost of controls

Based on an assessment of the most relevant key indicators and control results, DG CLIMA has assessed the cost-effectiveness and the efficiency of the control system and reached a positive conclusion. This section outlines the indicators used to monitor the

[35] The CSEUR project consolidating of the Kyoto registries of the MS with the Union Registry and the Climate Adapt Clearinghouse tool

efficiency of the control systems, including an overall assessment of the costs and benefits of controls (see Annex 11 for details).

Procurement – cost of controls
The overall cost of controls for procurement amounts to EUR 783.835 (6,6% of funds managed, compared to 6,2% in year 2018).

Grants - cost of controls

The overall cost of controls for grants amounts to EUR 304.291 (4,5% of funds managed, compared to 4,4% in year 2018).

Indirect Management (cost of controls)

The overall cost of controls for indirect management liaising with the EIB amounts to EUR 122.782 (1,2% of funds managed, compared to 2,3% in year 2018).

All amounts above encompass the costs from both the financial and the operational units. For indirect management the cost above does not include the management fees charged by the EIB (€ 135.348,37 for year 2019).

4. Overall conclusion on cost effectiveness of controls

Based on the most relevant key indicators and control results, DG CLIMA has assessed the effectiveness, efficiency and economy of it is control system and reached a positive conclusion on the cost effectiveness of the controls for which it is responsible.

Overall, during the reporting year the controls carried out by DG CLIMA for the management of funds were **cost effective, as the cost of controls (EUR 1.210.908) as a percentage of the budget managed (EUR 28.660.160) amount to 4,2%, which is considered satisfactory as it is lower than year 2018 (4,9%).**

"The corporate methodology for the estimation, assessment and reporting on the cost-effectiveness of controls was revisited in September 2018 and applied for the first time in the 2018 annual reporting. The difference of the estimated cost of controls as compared to years before 2018 derives from this methodology and does not reflect any substantial change in the DG's control strategy".

In 2019, the AOD used the possibility foreseen in FR Art 66.2 to differentiate the frequency of DG's controls considering the cost of controls compared to the risks involved in small transactions. Because of this examination, the number of actors in the financial circuit has been reduced for low risk transactions that are to be handled in a fully centralised financial circuit in the DG CLIMA finance unit. Standard administrative expenditure, 1st pre-financing payments, registration of invoices, de-commitments and accounting corrections are all considered as low risk transactions. Under a simplified centralised workflow, the AOSD can be asked also to act as verifying agent.

2.1.2 Audit observations and recommendations

This section sets out the observations, opinions and conclusions reported by auditors – including the limited conclusion of the Internal Auditor on the state

of internal control. Summaries of the management measures taken in response to the audit recommendations are also included, together with an assessment of the likely material impact of the findings on the achievement of the internal control objectives, and therefore on management's assurance

European Court of Auditors - Annual Report 2018 (published in 2019)

For DG CLIMA, no transactions were sampled by the Court in the annual DAS exercise, however, regarding the selected programmes (including LIFE) the auditors concluded that the performance indicators do not always provide a good picture of the actual progress made in achieving policy objectives. Therefore, it is recommended that the Commission shall take into account the weaknesses identified in the current framework and ensure that result indicators properly measure the effects of actions for policy objectives. The recommendations refer to years 2017-2019 and have to be implemented for the post-2020 period.

Special Reports (SR), performance and follow-up audits

- **SR 18/2019 – EU greenhouse gas emissions: Well reported, but better insight needed into future reductions (published 20 November 2019)**

The objective of the audit was to assess whether the Commission appropriately checks the EU greenhouse gas inventory and the information on future emission reductions submitted by Member States. The ECA made two recommendations aimed at improving a) the Commission review process for the LULUCF sector, and b) the framework for future emission reductions. The Commission accepted the important recommendations and is looking at ways to better integrate LULUCF inventory checks with a unified and standardised approach. It is considering reporting impacts on emissions of key EU policies and measures, such as the Emissions Trading System (ETS), the regulations on CO_2 emissions from road transport and other sectors covered by the Effort Sharing Regulation.

- **Performance audit of the European Commission's actions in respect of freely allocated allowances issued under the EU Emissions Trading Scheme (EU ETS)**

This audit started in January 2019 to assess the revised legislative framework of the EU ETS for the next trading period (phase 4). DG CLIMA is currently replying to the Clearing Letter for preliminary findings. The publication of the Special Report is estimated in June 2020.

- **Follow-up audit on Special Report 31/2016 on "Spending at least one euro in every five from the EU budget on climate action(...)":**

In September 2019, a follow-up questionnaire was sent, focusing on the Commission's actions taken towards ECA SR 31/2016 recommendations and their state of implementation. DG CLIMA, together with DGs BUDG, REGIO and AGRI provided further supporting evidence and an updated input on each recommendation. The Clearing Letter is expected during Q1 of 2020 and the results of the follow-up audit will be included in the ECA's Annual Report 2019.

Internal Audit Service (IAS)

Audit on Evaluation and studies in DG ENV and DG CLIMA

This audit started in January 2019. The overall objective of the audit was to assess whether DG CLIMA has put in place adequate internal control systems that ensure that evaluations and studies are managed effectively and efficiently and in accordance with the applicable legislation and corporate guidance. The audit did not result in the identification of any critical or very important issues, but there is room for improvement in the planning and design of evaluations and studies and on some specific procurement procedures. DG CLIMA provided an action plan to mitigate the risks identified.

Audit on LIFE financial instruments: effectiveness and efficiency of the current framework

Since the acceptance of the action plan in December 2018, the recommendations were taken into consideration and discussed at EIB Steering Committee meetings. A new task force group has been created in order to monitor specific topics in this file. An on-site visit plan has been implemented to conduct on-the-spot checks to financial intermediaries and a new communication plan was agreed between the parties. The EIB's website for PF4EE has been up-dated and improved. Following the signature of the second amendment of the Delegation Agreement, two new operations were signed in December 2019. They will contribute to the implementation of the actions for the very important recommendation on visibility and active promotion.

Follow-up audit on the processes for managing and sharing data on agri-environmental-climate issues in DG AGRI, DG CLIMA, and DG ENV (2016)

The IAS performed in 2019 an assessment of the state of implementation on the recommendations for this audit. The IAS concluded that the very important recommendation n°2 and important recommendations n°3 and n°4 were adequately and effectively implemented and therefore closed. However, very important recommendation n°1 regarding "Mapping of information needs and available data to agri-environmental-climate issues" is still open, but was downgraded to "important" due to the progress made in some actions.

2.1.3 Assessment of the effectiveness of the internal control systems

The Commission has adopted an Internal Control Framework based on international good practice, to ensure the achievement of its policy and management objectives. Compliance with the internal control framework is a compulsory requirement.

DG CLIMA uses the organisational structure and the internal control systems suited to achieving its policy and internal control objectives, in accordance with the internal control principles, and has due regard to the risks associated with the environment in which it operates.

During 2019 in DG CLIMA, considerable effort was made towards improving the performance of internal control principles through follow-up of actions agreed at management level and further assessment of the areas of concern and need for improvements. The annual assessment of the state of internal control in DG CLIMA was carried out in accordance with the methodology established by DG BUDG in the "Implementation Guide of the Internal Control framework of the Commission". In addition, an internal control survey was launched in the beginning of year 2020, which was addressed to the management of the DG. The response of this anonymous survey exceeded 60%. The results of the survey are used for the assessment of the state of Internal Control Framework of the DG.

The assessment of the new Internal Control Framework has not identified any major deficiencies. While there is scope for improvement in some areas (such as in the area of electronic filing of documents), DG CLIMA is confident that its internal control system as a whole, covering both financial and non-financial activities, is effective. DG CLIMA has the necessary procedures, staff skills and experience to identify and manage the main operational, financial and legal/regulatory risks.

In addition, the Internal Auditor of the Commission has stated in his limited conclusion on the state of internal control in DG CLIMA that, based on work done and the info available, the internal control systems in place for the audited processes are effective, except for the observations giving rise to the 'very important' recommendation as listed in the previous section. The implementation of the agreed action plans will address all outstanding recommendations.
DG CLIMA has assessed its internal control system during the reporting year and has concluded that it is effective and the components and principles are present and functioning well overall but some improvements are needed as minor deficiencies were identified related to proper filling and documentation of procedures followed.

2.1.4 Conclusions as regards assurance

This section reviews the assessment of the elements already reported above (in Sections 2.1.1, 2.1.2 and 2.1.3) and the sub-conclusions already reached. It draws an overall conclusion to support the declaration of assurance and whether it should be qualified with reservations.

Concerning financial management (mainly procurement), the AOD's assurance relies to a large extent on the ex-ante verifications performed in 2019, namely the mandatory controls of all commitments and payments, the advice by procurement experts in the financial unit, and the reviews performed by the Climate Procurement Advisory Committee (CPAC). These controls effectively reduce to an acceptable level the risk of significant errors being undetected. In addition, the accounting controls performed by the accounting correspondent in 2019 in the frame of the accounting revision file also mitigate the risk of errors. These results confirm the high level of accounting quality and provide reasonable assurance on the reliability of the financial statements and accounts.

DG CLIMA is satisfied about close cooperation with the Executive Agency EASME for the implementation of LIFE programme, and with the internal control and risk management in place in the agency. Furthermore, the established governance structure works well and provide an additional layer of assurance: the DG participates, as observer, in the agency's Steering Committee meetings, and task force meetings are held regularly at unit level. DG CLIMA supervises the work externalised through regular reports and ad hoc contacts with the Agency. In addition, in collaboration with other parent DGs, DG CLIMA plays a direct role in the definition of the annual work programme of the agency and/or evaluation of the calls for proposals. Finally, the agency produces and disseminates quarterly reports as foreseen in the Memorandum of Understanding. In its own AAR, EASME has given assurance on the use of the corresponding resources and on the output indicators.

Assurance is received from the Authorising Officers in DG MOVE and FPI regarding the crossed sub-delegations granted to them.

The Director General can provide the **reasonable assurance** in his Declaration.

The reservation on reputational/financial/legal grounds related to remaining significant security weakness identified in the Union Registry for the EU ETS issued in previous AARs of DG CLIMA, is repeated in the AAR 2019. Despite having finalised the last outstanding recommendation in 2019, which led to the closure in May 2019 of the IAS audit on the management of the EU ETS, the auditors noted in their closure note, that the inherent risk linked to the system remains very high. This claim is supported by the results of the latest risk assessment endorsed by DIGIT in early 2019, which show that even with the recent security measures implemented, the evolution of the risk still exacerbates the vulnerability of the system. The high value of the carbon price (25€ per ton CO^2 in 2019) has increased this risk landscape.

As follow-up of the risk assessment, a new security plan detailing supplementary security measures to improve further the protection against cyber-attack is being implemented jointly by DIGIT and CLIMA in a two-year timeframe. As the situation stands, the residual risks are unacceptable from a business viewpoint.

As assurance that the current security measures could successfully prevent a future cyber-attack cannot reasonably be provided, the reservation cannot be lifted.

Overall Conclusion

In conclusion, management has reasonable assurance that, overall, suitable controls are in place and working as intended; risks are being appropriately monitored and mitigated; and necessary improvements and reinforcements are being implemented. The Director General, in his capacity as Authorising Officer by Delegation has signed the Declaration of Assurance (albeit qualified by a reservation concerning the security of the EU ETS IT system).

2.1.5 DECLARATION OF ASSURANCE AND RESERVATIONS

I, the undersigned,

Director General of DG Climate Action

In my capacity as authorising officer by delegation

Declare that the information contained in this report gives a true and fair view[36].

State that I have reasonable assurance that the resources assigned to the activities described in this report have been used for their intended purpose and in accordance with the principles of sound financial management, and that the control procedures put in place give the necessary guarantees concerning the legality and regularity of the underlying transactions.

This reasonable assurance is based on my own judgement and on the information at my disposal, such as the results of the self-assessment, ex-post controls, and the limited conclusion of the Internal Auditor on the state of control. And the lessons learnt from the reports of the Court of Auditors for years prior to the year of this declaration.

Confirm that I am not aware of anything not reported here which could harm the interests of the Commission.

However the following reservations should be noted: Reservation on reputational/legal/financial grounds related to remaining significant security weakness identified in the Union Registry of the EU Emissions Trading System (EU ETS)

Brussels,

[SIGNED]

Mauro PETRICCIONE

[36] True and fair in this context means a reliable, complete and correct view on the state of affairs in the DG.

Reservation on remaining security weakness in the EU ETS

DG	
Title of the reservation, including its scope	Reservation related to remaining significant security weakness identified in the Union Registry of the EU Emissions Trading System (EU ETS)
Domain	Central direct management in collaboration with national authorities-Administration of the Union Registry and Union Transaction Log by the Commission
Programme and amount affected (="scope")	ABB Activity 34 02 : Climate Action at Union and international level
Reason for the reservation	In all the AARs of the DG CLIMA since 2010, the DG has issued a reservation on reputational/legal/financial grounds related to security weaknesses identified in the Union Registry for the EU ETS. Operational since January 2005, the registries system ensures the accurate accounting of allowances issued under the EU ETS. In 2010/11, several successful cyber-attacks occurred against national registries and theft of allowances was reported. Since the migration of the national registries in June 2012 to a single Union Registry, classified as a critical system and operated by the Commission, the Union Registry has been exposed to a reputational risk and legal/financial liabilities if new cyber-attacks would succeed. The Union Registry has been subject to several risk assessment to evaluate its overall security. The first risk assessment took place in 2013, followed by a deeper one in 2014. Also in 2014, an IAS audit[37] confirmed the conclusions of the prior risk assessment and produced nine recommendations. To address these recommendations, DG CLIMA implemented an action plan of more than 40 actions by 2018 and the IAS audit was formally closed in May 2019[38]. The latest risk assessment finalised in January 2019 still confirms a number of outstanding vulnerabilities to be addressed in a new 'security plan'. In observance of Commission Decision 2017/46 and its implementing rules (CD 2017/8841), the unusually high residual risk situation was escalated to the IT and Cybersecurity Board (ITCB) for advice, and was referred to and examined by the Corporate Management Board, as the Director General could not accept the residual risks. The ITCB supported[39] DG CLIMA's proposal to implement all mitigating controls following a realistic joint plan with DG DIGIT over a two-year timeframe. Until this plan is completed, and its implementation verified by a risk assessment, the EU ETS IT Systems (consisting of the Union Registry and the EU Transaction Log) must still be regarded as exposed to security threats that may possibly affect the confidentiality of the data, the integrity of the transactions and the availability of the system for the Member States and the traders. This ultimately may result in

[37] Ares(2014)206161

[38] Ares(2019)3352048

[39] Ares(2019)6494096

	legal disputes and reputational consequences for the Commission with potential financial losses. Moreover, the carbon price has increased significantly, from approximately EUR 6 per ton CO_2 in 2014 to an average of EUR 25 per ton CO_2 in 2019. The trading of allowances (carbon assets) are regulated as 'financial instruments' under the revised Markets in Financial Instruments Directive (MiFID). Though the inherent critical reputational risk did not materialise in 2019, this reservation cannot be lifted and is repeated in the AAR 2019 because of some remaining significant weaknesses and financial and reputational risks. No 'reasonable' assurance can currently be provided that the current security measures could successfully prevent a future attack.
Materiality criterion/criteria	The significance of the events of 2010/11 was assessed against the following 3 criteria: - nature of the impact on reputation of the Commission vis-à-vis stakeholders to manage a market based instrument (=medium-term negative stakeholder perception with limited impact on ability of the Commission (DG CLIMA) to meet key objectives), - breadth of awareness of the events (=international and national press coverage, pro-active communication with the MS in full transparency by the Commission via the dedicated website 'EU Climate Action' , via a dedicated webpage to ETS on the Europa server and in the Climate Change Committee) - duration: a series of incidents started in November 2010 continuing in January 2011 led to a suspension of trading of allowances on the 'spot' market that accounts for less than 20% of the ETS. Another incident occurred in a national registry in October 2011.
Quantification of the impact (= actual exposure")	Reputational risk A Swiss cement company lodged a complaint against the Commission about (alleged) theft of allowances. This led to the recording of a contingent liability amounting to EUR 16.2 million in the accounts of DG CLIMA (annexes of this AAR). The General Court dismissed both the complaint and the ensuing appeal so the contingent liability was lifted in the 2016 accounts. The EU ETS is a key element of the European Green Deal, and a potential interest of certain groups to disrupt the system cannot be entirely discarded. Not with the intention to steal, but simply with the intention to damage the reputation of the Commission or the reliability of the ETS as an effective tool to combat climate change. The impact would be difficult to quantify.
Impact on the assurance	The event falls within the scope of the declaration as it is a core activity managed by CLIMA with high visibility and media coverage to which considerable human and financial resources are currently and will continue to be allocated in the future. The EU ETS is a flagship instrument for achieving one of the headline targets of - the Agenda 2020: reduction of greenhouse gas emissions 20% compared to 1990 - the Climate and energy package of 2030: reduction by 40% of GHG emissions domestically (in the EU) and for achieving climate-neutrality in the EU by 2050 as endorsed by European Council in December 2019 The critical IT tool is managed in-house by the Commission. However, the weakness does not invalidate the general (overall) declaration of

	reasonable assurance by the Director General.
Responsibility for the weakness	The Commission as central administrator has a key role in the functioning of the EU ETS in managing the Union Registry and the Union Transaction Log.
Responsibility for the corrective action	After two follow-ups in 2015 and 2017, the IAS formally closed the 2014 security audit on the security of EU ETS IT system in DG CLIMA in May 2019, when the auditors considered all actions present in the agreed action plan as implemented. The auditors in their closure note acknowledged, however, that the inherent risk linked to the system remains very high and that they will continue to monitor closely the evolution of this cyber-security risk. The latest risk assessment of 2019 performed by DG CLIMA, endorsed by DIGIT, continue to reveal critical and very critical risk levels. Under these circumstances, the risk of successful cyber-attack is too high to be accepted by DG CLIMA. The security plan aimed at mitigating those risks was unfeasible given the resources (human/financial) allocated to the project. After raising the situation to the ITCB for awareness and further advice, initial additional resources were assigned in accordance with the security plan. It is the joint responsibility of DG CLIMA and DIGIT to report to the ITCB on the progress of a plan to implement the 12 security measures. Nevertheless, the availability to DG CLIMA of the additional resources foreseen in the security plan is not yet ensured. **Conclusion** DG CLIMA now considers the measures in the action plan that followed the 2014 IAS audit on the security and governance of the EU ETS as fully implemented. This set of measures did not manage, unfortunately, to lower the risks to business acceptable levels. With the additional resources received as of January 2020 and additional ones requested throughout 2020 and 2021, DG CLIMA (with the support of the ITCB and the close cooperation of DIGIT) aims to implement the security plan in a two-year timeframe. While the implementation of the already identified measures shall continue, the ulterior causes of this persistent high risk seem to point to structural issues that DG CLIMA and/or DIGIT cannot solve alone. A first independent study to benchmark the resources and operational model against other institutions with comparable systems was launched in 2020, and a second study to propose alternative operational models will be launched in 2020. The residual risk of a successful cyber-attack at the beginning of 2020 is, nevertheless, still too high to be accepted. The ensuing financial, legal and reputational risks are still material.

2.2 Other organisational management dimensions

In 2019, in the context of initiatives to improve economy and efficiency, DG CLIMA focused its efforts on the **electronic procurement project** , first the roll out of electronic E-submission and then the preparations for the Public Procurement Management Tool – PPMT, mandatory as from January 2020, by organising dedicated trainings in the DG.

DG CLIMA also took further steps to implement its **paperless policy**, especially regarding the use of the ARES e-Signatory for financial files.

Finally, the DG further implemented its **EMAS Policy**, by enlarging the parking space for bicycles and tendering in 2019 a feasibility and scoping study about the Commission becoming climate-neutral by 2030.

2.2.1 Human resource management

DG CLIMA's HR.BC team continued to provide strategic advice to DG CLIMA Senior Management. In 2019, an important focus was put on the analysis of the 2018 **staff satisfaction survey** results and the preparation of the resulting Development Plan for the DG. The results published in March 2019 were overall positive for DG CLIMA, with a very satisfying "staff engagement" rate at 75%. However, a number of warning signals have also been given and noted, notably, the combination of the high percentage of colleagues who identified a high workload in combination with the percentage of colleagues ready to make the extra effort when needed is particularly worrying.

In the field of **equal opportunities**, DG CLIMA maintained its baseline level in terms of female representation in middle management (33%) and reached its quantitative target of first-time appointments of female HoUs as set out in the Commission Decision of 19th July 2017. The DG improved its female representation at Senior Management level with the appointment of a female Deputy Director General in 2019.

In the field of **internal communication**, the DG continued to develop and implement a series of actions such as the weekly internal newsletter, regular debriefing sessions by management for staff and a series of internal short video interviews, including in the context of communicating with the colleagues on the Staff Satisfaction Survey.

2.2.2 Better regulation

In 2019, DG CLIMA continued to prepare its policy initiatives and manage the acquis under its responsibility in line with the **Better Regulation principles**. In 2019, DG CLIMA finalised the **evaluation** of the Ozone Regulation and the evaluation of the General Union Environment Action Programme to 2020 (7th EAP with ENV in the lead) and received a positive opinion for both of them after its first submission to the Regulatory Scrutiny Board

(RSB). The evaluation of the Ozone Regulation contributes to the REFIT programme aimed at simplifying DG CLIMA's regulatory acquis and ensure that it is 'fit for purpose'.

In 2019, DG CLIMA monitored the **enforcement** of its acquis in line with the Commission's strategy. As regards infringements, letters of formal notice were addressed to two Member States failing to adopt measures on penalties required under the F-Gas Regulation (EU) No 517/2014. 15 cases concerning non-communication of measures transposing Directive (EU) 2018/410 revising the EU Emission Trading System for phase 4 (2021-2030) were opened. Five cases concerning non-communication of measures transposing Directive 2015/652/EC on the calculation methods and reporting on fuel quality were closed. Informal dialogue with Member States through EU Pilots was used to ensure compliance with various EU legislation followed by DG CLIMA.

2.2.3 Information management aspects

In the context of the Commission's Strategy on sharing data, information and knowledge management, DG CLIMA is opening its files, as widely as possible, to other DGs in the document management system ARES. Therefore, in 2019, particular attention was given in applying the new HR.DS policy regarding SNC (**Sensitive Non-Classified**) information. Updated explanation on the markings used in ARES to restrict access to sensitive information was given to staff, whether through dedicated advice or through Intranet. DG CLIMA also implemented its own 'special handling' instructions.

A special effort was made in 2019 to ensure compliance of all information systems owned by DG CLIMA with the new Regulation on **data protection** that entered into force at the end of 2018[40]. DG CLIMA continued to implement the action plan on personal data protection adopted by the Commission on 7 November 2018, by assessing the compliance with general principles (Art. 4 Reg. 2018/1725), in particular as regards lawfulness, data minimisation and storage limitation.

The **'standard' privacy statements** proposed to staff on DG CLIMA's intranet page were updated following models received from the DPO's office, in order to provide appropriate information to data subjects concerned.

Out of the 10 **data processing operations** in DG CLIMA, 7 are being published in the Public Register of the Data Protection Officer while 3 are still being in draft.

Finally, DG CLIMA has developed a procedure to be applied in case of data breaches that need to be flagged within 72 hours to the Data Protection Officer and the European Data Protection Supervisor.

2.2.4 External communication activities

DG CLIMA's communication activities in 2019 focused on its main political priorities as well as supporting the European Commission's corporate communication campaigns and actions.

[40] Regulation 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data

Actions focused on key policy developments such as outreach around the Commission's strategic vision for a climate-neutral EU, the 2030 climate and energy framework, international climate action, and building awareness and understanding on climate change and EU climate action in the context of the increased prominence of climate issues and their integration into various policy areas.

In relation to international climate action, DG CLIMA led the organisation of significant international events. In June, DG CLIMA coordinated the organisation of the third Ministerial on Climate Action (MoCA). In December, EU negotiators attended the UN Climate Change Conference COP25 in Madrid. This year again, DG CLIMA was in charge of the organisation of the EU Side Events. The EU Pavilion at COP25, with two event rooms and a Meet-the-Expert space, hosted a broad set of side events to stimulate debate on key thematic areas, engage observers and facilitate dialogue with party delegates and other participants.

DG CLIMA also actively contributed to the preparation and promotion of corporate communication campaigns such as InvestEU, EU Protects, EU and Me, the European elections, the new European Commission and the European Green Deal. The DG also strengthened its cooperation with other DGs on communication actions, contributing to the EU Open Day, the EU Sustainable Energy Week and the R&I Days and the Climate Diplomacy Weeks by EU Delegations in partner countries.

The importance of climate action is highlighted by public attitudes measured in regular Eurobarometer opinion polls on climate change. The latest survey results were published in September 2019 just ahead of the UN Secretary-General's Climate Summit in New York. The results are striking, with 93% of Europeans considering climate change a serious problem and 92% agreeing that greenhouse gas emissions should be reduced to a minimum in order to make the EU economy climate-neutral by 2050[41].

[41] http://ec.europa.eu/clima/citizens/support/index_en.htm