# Turning points for the ambition of European climate targets

Getting granular on the process and identifying cornerstones for discussion

## **SUMMARY**

limate policy in the European Union (EU) is undergoing a paradigm shift. At the time of writing, policy-makers are debating changes in targets, governance and instruments to fit (better) with the newly established overarching objective of climate-neutrality by 2050 and to align with the Paris Agreement.

The results of this process will be crucial for the development of reduction efforts (and emission pathways) in the EU and its Member States but also have the potential to influence the international level. This document aims to inform the debate surrounding the proposal of a European Climate Law and the establishment of European greenhouse gas (GHG) emission reduction targets, a process that will begin in earnest in September 2020 after the publication of the European Commission's impact assessment.

In the following, we highlight interlinkages between relevant processes at the European level and those under the Paris Agreement.

An overview diagram visualises the current timeline of these processes and helps to identify critical moments, or windows of opportunity, for raising EU ambition in the coming decades. The European climate governance architecture, composed of GHG targets and supporting instruments, includes a broad variety of key elements. To help understand their relevance on the results of the target setting, their qualitative effects are discussed and presented in an overview figure.

# Background: Status quo and relevant processes around the EU's climate targets

Over the last 25 years, the EU has set GHG emission targets as decadal milestones (i.e., for 2010, 2020 and 2030). In each case the target was adopted internally on an iterative basis in anticipation of decisions made in the climate negotiations under the United Nations Framework Convention on Climate Change (UNFCCC). Over time, **the EU has built a unique climate policy architecture** that is comprised of specific instruments to help achieve reduction targets as well as a detailed monitoring and reporting system.

The **Paris Agreement**, adopted in 2015 as a global framework for averting the climate crisis (an approach championed by the EU), established additional procedural obligations, requiring every party to the treaty to submit new and stronger climate targets in the form of "nationally determined contributions" (NDCs) every five years. This new five-year cycle is an innovation that the EU must also implement, necessitating adjustments in its current practice for setting and increasing climate targets.

In the period 2015-2018, the EU underwent an intensive policy review process to develop new targets and thereby enshrine the Paris Agreement's commitments into Union law. New procedures for a 2030 time horizon (and beyond) were established in the so-called **Governance Regulation** ((EU) 2018/1999, formal entry into force in December 2018), which integrated energy and climate policy elements for both planning and reporting.

In December 2019, EU heads of state and government agreed that the EU will become climate-neutral by 2050 (EC 2019b), and in March 2020, this objective was formally communicated to the UNFCCC (EC 2020b). The climate-neutrality goal represents to some degree a clarification and strengthening of the EU's previous long-term commitment of 80-95% reductions by 2050 (compared to 1990 levels). The analyses underpinning the new net-zero objective show that GHG emissions must become net negative in the second half of the century to be in line with the goals of the Paris Agreement. Moreover, to facilitate

In 2019, EU heads of state and government agreed that the EU will become climate-neutral by 2050. To reach this target, the EU will adapt its unique climate policy architecture over the next few years.

achievement of this long-term goal, adequate interim milestones are critical—and the new target thus requires a review.

On 4 March 2020, the European Commission published its **proposal for a European Climate Law** (Climate Law, (EC 2020a)). As promised by Commission President Ursula von der Leyen already prior to her instalment, the draft Climate Law seeks to enshrine the climate-neutrality objective as legally binding for the block as a whole. Moreover, it also envisages a trajectory for achieving climate-neutrality by 2050 (i.e., essentially milestones along the way) — based on a proposal by the European Commission. With both elements, the Climate Law complements the existing policy framework in a way that provides additional certainty and clarity on the future direction.

The strengthened long-term outlook has the immediate potential to influence EU climate policy. The current EU target of a 40% reduction in GHG emissions from 1990 levels by 2030, adopted in 2014, is in the midst of a review — as required by the Paris Agreement. The outcome of the review will define the next stepping stone on the stairway toward climate-neutrality. A change in the target would also necessitate amendments to the implementing instruments and planning documents. Accordingly, in parallel to the preparation of the Climate Law proposal, the European Commission has laid out a roadmap of relevant policy initiatives (both strategies and legislative proposals) to get Europe on a path to climate-neutrality known as the **European Green** Deal (EC 2019a). This roadmap includes the timing for additional policies, but also reviews of the main laws that make up the climate policy architecture, such as the EU Emissions Trading System and the Effort Sharing Regulation.

In this context, this paper aims to:

 explain how the different processes established by the Governance Regulation, the Green
 Deal Roadmap and the draft Climate Law are interlinked with each other and the extent to which they are synchronized with the processes under the Paris Agreement;

- highlight the most critical moments (timing) for raising ambition in the form of higher targets in the coming decade
- and identify the most critical issues (substance) that will determine future ambition.

## Interlinkages between draft Climate Law, Governance Regulation and Green Deal Roadmap in the context of the Paris Agreement

The reference point for the EU's policy response to the climate crisis is the 2015 Paris Agreement and its aim to hold the increase in the global average temperature to well below 2°C while pursuing efforts to limit the temperature increase to 1.5°C above preindustrial levels. With Article 4 of the Agreement, the international community also aims to reach peak global GHG emissions as soon as possible and to achieve a balance between anthropogenic GHG emissions and removals by sinks in the second half of this century.

With a view to these objectives, the Paris Agreement defines an iterative, ratchet-up mechanism that requires Parties to submit NDCs every five years that represent a progression beyond the previous one. Developed country Parties such as the EU and its Member States are required to establish economy-wide absolute emissions reduction targets in their NDCs. All Parties need to account for their national anthropogenic emissions and removals corresponding to their NDCs and regularly report to the UNFCCC on progress made towards their targets.

As outlined above, the proposal for a Climate Law, the Governance Regulation and the Green Deal Roadmap make up the framework the EU will use to translate the Paris Agreement into Union and Member State legislation; coordinate actions on both levels and implement the respective reporting, review and accounting requirements.

Each of the three establishes distinc processes, amongst others, for target setting, aligning Union legislation with these targets and guiding Member States in the planning of national target setting and action commensurate with the EU-wide level of ambition. Establishing an appropriate timeline for these processes is critical because many of them are interlinked and inform the outcome of other processes. For example, the assessment of whether EU measures are sufficient to meet the 2050 climate

The European Climate Law, the Governance Regulation and the Grean Deal Roadmap form a comprehensive framework for driving progress on climate action and increase ambition in an iterative manner in the context of international committments.

neutrality objective will inform the review of the target trajectory, which is itself informed by the outcome of the Global Stocktake (GST) under the Paris Agreement.

To better illustrate these interlinkages, Figure 1 below visualises the processes established by the Climate Law, Governance Regulation and Green Deal

Roadmap that relate to target setting and review in the context of the Paris Agreement.

Due to the high number of processes visualized in Figure 1 we recommend using the table below as a guide for its interpretation. We use colour-coded text to help the reader to quickly locate the respective process in the figure.

### Table 1 − Process for definition of GHG targets

### **Process Description**

**The International** The Paris Agreement created a pledge and review system in which countries bring **Pledge and Review** forward NDCs that together form the global effort to combat climate change. Cycle Every five years the international community will undertake a Global Stocktake (GST) under the UNFCCC to review the consistency of this global effort with the agreed objectives to limit the temperature increase to 1.5°C above pre-industrial levels by the end and to reach climate-neutrality by the middle of this century. The result of the GST will outline how much additional mitigation action is needed to move the world towards a 1.5°C emission trajectory. This analysis should form the starting point for countries when they submit their **new NDCs**. Countries agreed that every NDC will represent a progression from the previous one with the intention to ratchet-up ambition over time.

> The Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC), expected between April 2021 (Working Group I) and June 2022 (Synthesis Report), will provide the latest scientific information on climate change and serve as a key input for the first formal GST. In the past, the IPCC published its AR every 7 years—a cycle that would be out of sync with the GST.

**2050 EU Climate-** The **objective of climate-neutrality** in the Union by 2050 in pursuit of the long-**Neutrality Objective** term temperature goal under Article 2 of the Paris Agreement was submitted to the UNFCCC in March 2020.

**2030 EU Climate and** The Commission will review the **2030** Climate and Energy **targets** in light of the **Energy Target** climate-neutrality objective by September 2020. Based on this review it will make proposals to the European Parliament and Council for amending the 2030 target.

> The amended 2030 target would form the starting point for the Commission to set out a trajectory at the Union level to achieve the 2050 climate-neutrality objective. Every five years, the Commission would review this target trajectory within six months after each GST (Article 3 draft Climate Law). Before making such a review, the Commission will undertake assessments that look at the collective progress of Member States towards the climate-neutrality objective as well as the consistency of Union and Member State measures with the objective. The Commission will make the results of the assessments available in its **State of the Energy Union Report**. It will further issue recommendations to Member States where it finds that measures are inconsistent with the target trajectory.

In their biennial **NECP progress reports**, Member States need to set out how they have taken due account of the recommendations.

The Presidency of the Council of the European Union and the European Commission on behalf of the EU and its Member States submitted the climate-neutrality objective to the UNFCCC as the Union Long Term Strategy (LTS), noting that Member States will also submit their own National LTS. No updating or review of the EU LTS is mentioned in the Governance Regulation.

**The EU Nationally** The current EU NDC has a timeframe for the 10-year period 2021-2030. It includes **Determined** the EU 2030 target. After the revision of the 2030 target this year, the EU would **Contribution (NDC)** need to submit this revision to the UNFCCC in form of an **update** to its existing NDC (as per paragraph 24 of decision 1/CP.21).

> The proposal for the Climate Law does not explicitly outline a process for defining the next NDCs and related targets for the time after 2030. There is no agreement under the UNFCCC on common timeframes for NDCs after 2030. So far, most NDCs have a 10-year timeframe but many countries argue that a 5-year timeframe would fit better to the 5-year cycle of the **GST** and would avoid locking in a low level of ambition. The framework established now by the draft Climate Law would allow for both 5-year and 10-year timeframes. In principle, the trajectory for the climate-neutrality objective could outline a potential reduction target for 2035, 2040, 2045 and 2050 (5-year time frames) or one each for 2040 and 2050 (10year cycle). In both cases the review of the trajectory after each **GST** would allow for raising the level of ambition either through an update to a 10-year NDC or the submission of a new 5-year NDC.

**Review of Union** As mandated by the Green Deal Roadmap and reiterated in Article 2.4 of the **legislation** proposed Climate Law, the Commission will submit proposals for the revision of key EU legislation in light of the amended 2030 target and the 2050 climate-neutrality **objective** by 30 June 2021. This timing is significantly earlier (by two years) than the regular reviews scheduled originally under those laws. A regular review of the Governance Regulation takes place within six months of each GST.

National Energy and The National Energy and Climate Plans (NECPs) are a mid-term planning tool that **Climate Plans (NECP)** Member States use to describe how they plan to contribute to the achievement of the common Union energy objectives. They include national targets, objectives and/ or contributions as well as the chosen policies and measures to attain these. Member States submit NECPs in two stages. First, the Commission assesses a draft version looking at the aggregated contribution to meeting the Union objectives and targets. If the aggregate ambition level is not consistent with these targets, the Commission issues recommendations to Member States for increasing their national level of ambition in their final NECPs that are submitted one year after the draft version.

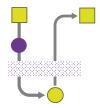
> NECPs follow a cycle that is aligned with the NDC timeframe. Around halfway through the 10-year cycle, Member States must submit an update of their NECPs. The timing of this update is connected with the **GST**, insofar as the updated NECPs inform the review of the EU NDC. The implementation of an eventual NDC update at the national level could thus only happen at the next NECP iteration.

Member States must submit a biennial NECP progress report as well as a biennial report on their national policies and measures and national GHG projections by sources, removals and sinks. The Commission undertakes a biennial assessment of these reports and issues recommendations to Member States if progress is inconsistent with Union objectives and targets. Member States must set out in the following NECP progress reports how they have taken due consideration of the recommendations. Assessment results will be made available in the annual State of the Energy Union reports.

**Inventories** The Governance Regulation sets out the timelines for Member States' annual reporting on GHG inventory data. This is a continuous reporting obligation which forms the basis for the assessment of the emission reductions achieved. Accordingly, GHG inventories are a critical input for the different review processes and inform decision-making.

### Legend for Figure 1 (right)

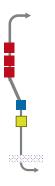
### Reading Examples



Every two years the European Commission assesses the NECP Progress Reports and other information reported under the Governance Regulation.

The Commission will make the results of the assessment available via the State of the Energy Union Report and forthwith issues recommendations to Member States in response to insufficient progress.

Member States set out in the next iteration of the NECP Progress Report how they have taken due account of the information.

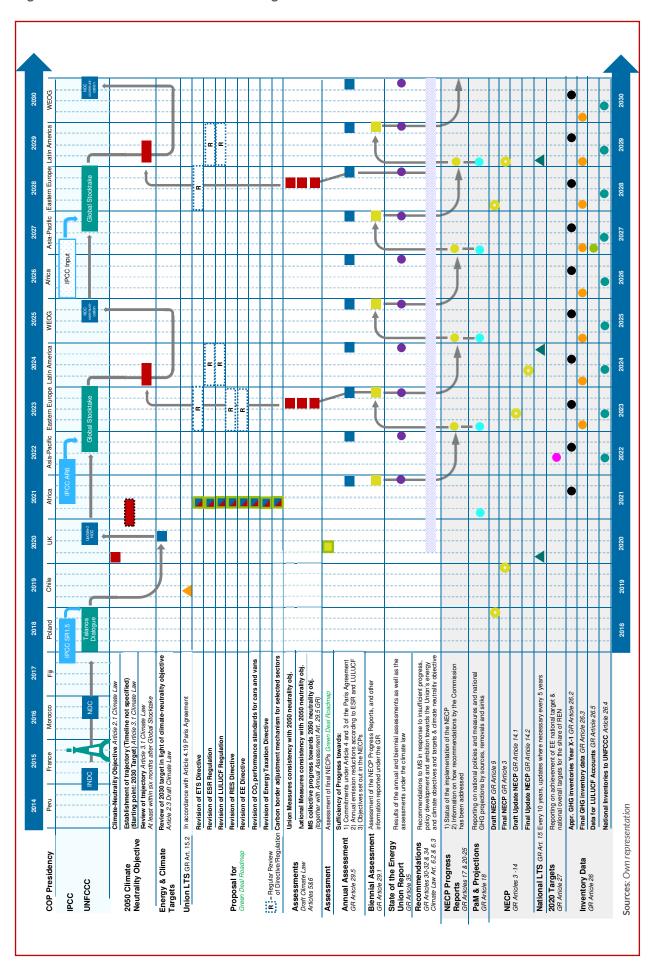


Every five years the European Commission assesses the collective progress of Member States towards the climate-neutrality objective as well as the consistency of Union and Member State measures with the objective. This assessment will be done in conjunction with the annual assessment of progress towards the EU's commitment under Articles 3 and 4 of the Paris Agreement.

The Commission will make the results of the assessments available in its State of the Energy Union Report and will forthwith issue recommendations to Member States where it finds that measures are inconsistent with the target trajectory. The results of the assessment will further inform the review of the target trajectory that takes place within six month of every Global Stocktake.

### Form Code Colour Code Review / Assessment / Revision Item related to 2050 climate-neutrality Report / Reporting Item related to 2030 target and NDC cycle Strategy Item related to NECPs Green Frame: Item mandated by Green Deal Roadmap Plan All other items use unique colours specific to that item

Figure 1 - Process for definition of GHG targets





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# Critical moments (timing) for raising ambition in the coming decade

2020 and 2021 will be important years: The adaptation of the 2030 target to fit to the long term target and related revisions of the EU climate policy architecture will take place. Review cycles in future years need to be aligned with coming revisions of the target trajectory.

The presentation of the main mechanisms and their timing in **Figure 1** above shows that the processes established by the draft Climate Law, the Governance Regulation and the laws being revised under the Green Deal Roadmap in principle are aligned with those of the Paris Agreement. Below are some of the key moments in the coming decade for raising collective ambition.

## 3.1 Revising the 2030 target in the second half of 2020

The revision of the 2030 target is one the most important moments for raising ambition in the coming decade. It will set the level of ambition for this decade but also to a large extent for the coming one because the revised 2030 target will form the starting point for the trajectory towards the climate-neutrality objective in 2050. (See next section for an analysis of dimensions of the trajectory.)

A revised and enhanced 2030 target would also function as an important lever internationally for intensifying diplomatic efforts with other major emitters to revise their targets. Until recently, the expectation was that COP 26 in Glasgow in November 2020 would function as an international political moment for increasing the global level of ambition through the submission of new or revised NDCs. Although COP 26 has been postponed to 1-12 November 2021, the timeline for increasing national pledges is unchanged with decision 1/CP.21 specifying that these should be submitted "by 2020". Keeping with the timeline for revising the 2030 target by September 2020 as outlined in the draft Climate Law would further underline that the EU should link the economic recovery stimulus with the Green Deal agenda.

The European Commission plans to undertake a thorough impact assessment as a basis for the proposal of higher EU reduction targets. Following the current schedule, a proposal for the revised EU 2030 target is expected to be published in September 2020.

If it is published before the EU-China Summit, scheduled for 13-15 September 2020 in Leipzig, Germany, the proposal could serve as a signal to revise the EU's NDC. In 2015, close cooperation between China and the US facilitated the adoption of the Paris Agreement and similar cooperation between the EU and China could be instrumental for raising the level of ambition globally. To be credible in asking China for an update to its NDC, the EU would need to clearly show it would itself be ready to take such a step. Surely an already adopted 2030 target would serve this purpose.

## 3.2 Setting out the climate-neutrality trajectory in early 2021

Article 3.1 of the proposed Climate Law would empower the Commission to adopt delegated acts for setting a trajectory at Union level to achieve the climate-neutrality objective. The Article, however, does not specify a timeline. Both, the Green Deal Roadmap and Article 2.4 of the proposed Climate Law mandate the Commission to assess by June 2021 how the Union legislation implementing the Union's 2030 target would need to be amended in order to enable the achievement of a revised 2030 target and the climate-neutrality objective. The assessments of the Union legislation would benefit from a set target trajectory because specific provisions of Union climate policy need to be aligned accordingly. This means that the EU Emissions Trading System's maximum emissions pathway, expressed in what is known as the Linear Reduction Factor, together with the reduction pathway defined by the Effort Sharing Regulation need a harmonised revision. This would imply that the trajectory needs to be set in early 2021, before the revision of these instruments. It could be enshrined also directly in the Climate Law's final form, even though the Commission proposed a different process.

### 3.3 Aligning revisions of Union legislation with the reviews of the climateneutrality trajectory

Article 3.1 of the proposed Climate Law establishes a 5-year review cycle for the climate-neutrality trajectory. According to this cycle, the Commission would have to review the trajectory at the latest within six months after each GST under the UNFCCC. This would in principle ensure that measures can be taken to revise the trajectory every time the GST finds that the level of global ambition is insufficient for reaching the temperature goals of the Paris Agreement.

For ensuring that any revisions to the trajectory will be reflected in the respective Union legislation it would be important to incorporate a process for future revisions of legislation that takes place immediately after the review. As the graphic shows, the regular reviews of the ETS directive for example are out of sync with the review of the climate-neutrality trajectory. There are many other supporting decisions and regulations for which review cycles also need to be adapted. The most important ones are listed in Figure 1.

## 3.4 Aligning the IPCC assessment cycle with the global stocktake

The current IPCC assessment cycle which provides the latest scientific findings on climate change every seven years is not compatible with the five-year cycle of the Paris Agreement. While the Sixth Assessment Report (AR 6) will be available in time for the first GST under the UNFCCC, the AR7 would be available only after the second GST if the IPCC continues with its seven-year cycle. Having up-to-date input from the IPCC for each GST is crucial for ensuring that each GST is informed by the latest scientific findings. The figure shows an indicative placeholder for IPCC input to the second GST as discussions are underway in the IPCC on the organization of its future work including the length of the assessment cycle. So far, however, no agreement has been reached on future assessment cycles.

<sup>1</sup> Since publication, this notion has been contested by the legal service of the European Parliament as legally problematic. Notwithstanding, the principle of adopting a trajectory could still be adopted in the law in some form.



# Critical issues (substance) that will determine the level of ambition in the coming decade

Setting GHG targets for different points in time and distributing them among different instruments requires decision-taking on the design of several key elements which have various interdependent implications. The design options of key elements are explained in the following. In **Figure 2** they are visualized to help understand their importance on overall future GHG emissions of the EU.

### 4.1 Choosing the new 2030 GHG target

The actual target figure for 2030 matters tremendously. It has become obvious that the existing GHG reduction of 40 % compared to 1990 (the EU's current NDC) is obsolete. EU Commission analysis estimates that the combined implementation of the 2030 targets for renewable energy and energy efficiency alone would lead to a reduction of up to 45.6% by 2030 (EC 2019b). The range under discussion for the European Commission's impact assessment to be published in September is 50-55%, as per the European Green Deal roadmap. Support for an increase in the 2030 target has been expressed by the European Parliament<sup>1</sup>, several EU Member States<sup>2</sup> and various other stakeholders and organizations, including business organizations<sup>3</sup> and environmental NGOs4, who in some cases demand a reduction of 65%. This important difference between the values of -40% and -65% is visualized in Figure 2 as the difference between the red and orange dot in 2030.

Between the years 1990 and 2018, EU GHG emissions dropped by 48 Mt  ${\rm CO_2}$ eq per year on average.

Several elements have crucial impacts on future total GHG emissions of the EU. It's not only about achieving absolute emission reductions until 2030 but also about the distribution of ambition between ETS, effort sharing and the LULUCF sector.

<sup>1</sup> https://www.euractiv.com/section/energy-environment/news/euparliament-votes-for-55-emissions-cuts-by-2030/

<sup>2</sup> https://www.reuters.com/article/us-eu-commission-timmermans/eight-eu-countries-call-on-timmermans-to-raise-2030-climate-goal-to-55-idUSKBN1WN07J

<sup>3</sup> https://www.corporateleadersgroup.com/reports-evidence-and-insights/news-items/Business-leaders-urge-EU-to-increase-2030-emissions-reduction-target

<sup>4</sup> http://www.caneurope.org/publications/blogs/1740-can-europe-calls-for-an-increase-of-the-eu-s-2030-climate-target-to-at-least-65

The average annual emission reduction would need to be about three times higher between 2030 and 2050 if the EU were to stick with its 40% reduction target. This means that the current target leaves most of the reduction effort for after 2030. To reduce the overall amount of GHG emissions for the period 2018-2050 it is important to bring emissions down in a sustainable way as soon as possible, (see section 4.4). In addition, a delayed transition increases the need for higher reductions in future years, placing the burden on future generations.

## 4.2 Distribution of increased ambition to main EU GHG policies until 2030

As indicated above, a change in the GHG target implies that the framework of supporting instruments must also be adapted.

Over the years, a system of European policies and measures has been defined and constructed to help achieve the GHG targets. This climate policy landscape is defined by three pillars: ETS, Effort Sharing Regulation and LULUCF Regulation.

- The ETS aims to reduce emissions on a European level, without national targets. It is designed to achieve a reduction of -43% compared to 2005 until 2030. See the red dot in Figure 2.
- For emissions covered under the Effort Sharing Regulation national targets are set to reduce emissions by -30% compared to 2005 until 2030.
- For the LULUCF sector there is a national target to compensate at least all accounted emissions with sinks within this sector in the periods 2021-2025 and 2026-2030. Total accounted GHG emissions from this sector on EU level should at least sum up to zero for both periods, shown as red ovals in Figure 2.

The aviation sector is currently only partly covered under the EU ETS. In fact, more than  $100\,\mathrm{Mt}\,\mathrm{CO}_2$  eq. from aviation are not covered under the existing framework. With the international system CORSIA starting in 2021, it remains to be seen how emissions from this sector will be covered in the years 2021-2030. Even if this sector is small compared to overall emissions, it shows considerably increasing emissions:

Between 1990 and 2018 emissions from domestic and international aviation increased by 113 % and are projected to increase further.

In Figure 2, two key elements of this discussion have been visualized:

- The proposed inclusion of the buildings and transport sector into the EU ETS, also understood as an "extension" of the EU ETS. In 2018, about 60% of emissions covered under the Effort Sharing Legislation are related to these two sectors. The agriculture and waste sectors as well as remaining emissions from energy and industry that are not covered under the EU ETS would stay under the Effort Sharing Legislation. This extension is shown as light blue part in Figure 2. It is assumed that more reductions will occur until 2030 in the parts covered by this potential extension than in remaining sectors under Effort Sharing legislation.
- If the ambition to reduce emissions by 2030 is increased, this additional reduction needs to be distributed between the EU ETS and the Effort Sharing Regulation. The light orange triangle visualises possible emission reductions under the EU ETS with a theoretical maximum reduction of 100%. The higher the ambition increase in the EU ETS, the lower it is under the Effort Sharing Regulation.

## 4.3 Definition of net-zero emissions in 2050

The EU has submitted its objective of achieving a climate-neutral economy by 2050 to the UNFCCC. However, it does not specify the absolute level of GHG emissions in 2050 and instead only indicates that there shall be a balance between emissions and sinks.

In the strategic long-term vision proposed by the European Commission in 2018, the results of two scenarios for climate neutrality are presented. In these scenarios, remaining total GHG emissions in 2050 sum up to 343 and 494 Mt  $\rm CO_2$  eq (or 91-94% reductions from 1990 levels), respectively (European Commission 2018).

These are counterbalanced with LULUCF removals of about the same size. Remaining total GHG emissions in these scenarios already include carbon capturing from biomass and from direct air capturing at the magnitude of between 606 and 281 Mt  $\rm CO_2$  eq.

The actual target reduction of GHG emissions in 2050 is crucial to keep the need for natural and technical sinks within feasible ranges. The importance of these sinks will increase considerably in coming years and careful assessment is necessary to avoid negative or non-permanent impacts.

### **4.4** Cumulative EU GHG emissions/ Definition of trajectories

To reduce the risk of increasing global temperatures, the volume of emissions released into the atmosphere over time is an essential parameter, because it is the concentration of atmospheric GHGs that determines the overall global GHG effect. This means, effective climate policy is not only about achieving emission reduction targets in certain individual target years but also about how many emissions have been produced over a given period of time, i.e., the cumulative amount. Figure 2 gives an impression of the difference in cumulative emissions between 2020 and 2050.

- The light-colored rhombus shows the difference in total GHG emissions arising from either (1) a linear trajectory between the current 2030 target and remaining 2050 emissions and (2) a 65 % reduction target in 2030. Cumulated European GHG emissions would be about one third lower in 2050 with an interim 2030 reduction target of 65%.
- In Figure 2, linear trajectories have been drawn between the target points. Resulting cumulated GHG emissions differ widely, depending on whether a concave or convex pathway is chosen. This point is related to the need to set reduction targets for the year 2040 around which the reduction pathway could be formed.

• Net European GHG emissions should be reduced beyond neutrality towards a negative balance to account for the historic responsibility of the EU with regard to the global GHG budget. This fact is already considered in the strategic long-term vision of the European Commission: In this document cumulative CO<sub>2</sub> emissions decrease between 2050 and 2070 (European Commission 2018). In Figure 2, this is shown as an increasing area of natural and technical sinks after 2050. Results for cumulative emissions in these scenarios project the need for average sinks of approximately 800 Mt CO<sub>2</sub> per year, if remaining GHG emissions are kept constant after 2050<sup>5</sup>.

<sup>5</sup> With the assumption of about 400 Mt per year remaining GHG emissions after 2050, these add up to 8 Gt until 2070. To achieve a net sink of 8 Gt until 2070, average sinks of 400 + 400 Mt are needed to remove emissions accordingly.

### Conclusion

During the remainder of 2020, changes to the EU targets will be discussed in order to align them with the overarching objective of achieving climateneutrality by 2050. In parallel, governance structures and supporting instruments will also undergo revisions. The results of these processes will be crucial for the development of reduction efforts and emission pathways in the EU and its Member States. The successful implementation of a climate-neutrality trajectory in line with the Paris Agreement for the EU could also positively influence the international level.

This document points to the cornerstones of the upcoming decisions in an effort to focus the discussion on the most relevant aspects. Therefore, critical moments with regard to the timing and substance are listed and supported with figures illustrating the linkages and processes.

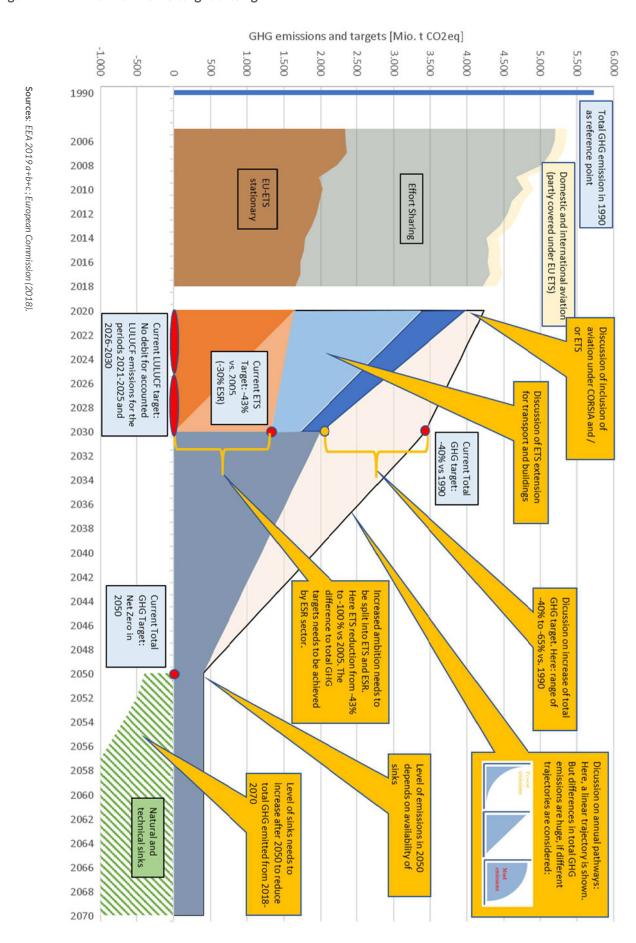
The revision of the 2030 target in the second half of 2020 and the potential setting of target trajectories in early 2021 are key opportunities to substantially reduce future emissions at EU level and to draw attention to early reduction efforts in all sectors. A reduction target of 65 % in 2030, for example, would result in cumulative GHG emissions one third lower

than with the current target. Pertinent to future target setting is the definition of climate-neutrality, especially the role of carbon sinks in future targets. Current governance structures and instruments need to be aligned with these trajectories, meaning that revisions to Union legislation must coincide with reviews of climate neutrality trajectories. Similarly, on the international level, the IPCC assessment cycle must be aligned with the global stocktaking process.

If the EU stays its course, as formulated in the European Green Deal, its ambition to become the first climate-neutral continent could become reality. To this end, policy makers must stay focused on the objective to put the European economy and society on a sustainable path towards net-zero.

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Figure 2 - Dimensions of GHG target setting



### References

- European Commission (EC) (2018). Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank. A Clean Planet for all: A European strategic long-term vision for a prosperous, modern, competitive and climate-neutral economy. Available at https://ec.europa.eu/clima/sites/clima/files/docs/pages/com 2018 733 analysis in support en 0.pdf.
- European Commission (EC) (2019a). The European Green Deal: Communication from the Commission to the European Parliament, the European Council, the European Economic and Social Committee of the Regions. COM(2019) 640 final. Brüssel. Available at https://eur-lex.europa.eu/legal-content/EL/TXT/PDF/?uri=CELEX:520 19DC0640&from=EN, last accessed on 20 Dec 2019.
- European Commission (EC) (2019b): Technical Note. Results of the EUCO3232.5 scenario on Member States. Available at https://ec.europa.eu/energy/sites/ener/files/technical\_note\_on\_the\_euco3232\_final\_14062019.pdf, last accessed on 29 May 2020
- European Commission (EC) (2020a). Proposal for a Regulation of the European Parliament and of the Council establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999 (European Climate Law) (No. COM(2020) 80 final). Available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1588581905912&uri=CELEX:52020PC0080, last accessed on 07 Apr 2020.
- European Council (2019b). European Council meeting (12 December 2019) Conclusions (No. EUCO 29/19). Brussels. Available at https://www.consilium.europa.eu/media/41768/12-euco-final-conclusions-en.pdf, last accessed on 29 May 2020.
- European Council (2020b). Long-term low greenhouse gas emission development strategy of the European Union and its Member States: Submission to the UNFCCC on behalf of the European Union and its Member States (No. 6612/20). Brussels. Available at https://unfccc.int/sites/default/files/resource/HR-03-06-2020%20EU%20 Submission%20on%20Long%20term%20strategy.pdf, last accessed on 29 May 2020.
- European Environment Agency (EEA) (2019a): Greenhouse gas data viewer, Copenhagen. Available at https://www.eea.europa.eu/data-and-maps/dashboards/emissions-trading-viewer-1, last accessed on 20.03.2020.
- European Environment Agency (EEA) (2019b): EU Emissions Trading System (ETS) data viewer. Available at https://www.eea.europa.eu/data-and-maps/data/data-viewers/eu-ets-data-viewer, last accessed on 20.03.2020.
- European Environment Agency (EEA) (2019c)): Greenhouse gas emissions under the Effort Sharing Decision (ESD), Copenhagen. Available at https://www.eea.europa.eu/data-and-maps/data/esd-2, last accessed on 20.03.2020.

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The first report aims to identify revision points in the current European energy and climate legislation framework. The second report will show the results of the analyze of potentials for natural and technical sinks in the EU and will identify possibilities for their inclusion into future EU-climate policy legislation. The last report will discuss possibilities for the target setting of energy and climate legislation after 2030 and the future climate policy architecture.

The opinions put forward in this publication are the sole responsibility of the authors and do not necessarily reflect the views of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

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