

Climate Protection Outside the EU ETS

Status and prospects after the reform

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The EU “effort-sharing” scheme for reducing greenhouse gases (GHGs) in economic sectors outside the EU Emissions Trading Scheme (EU ETS) has been comprehensively reformed for the period 2021-2030. cep evaluates the reform as follows:

- Instead of setting national GHG reduction targets, all sectors should be included in the EU ETS.
- The possibility for Member States to use flexibility options to comply with their GHG ceilings increases the efficiency of climate action outside the EU ETS.
- To increase the efficiency of GHG reduction in sectors outside the EU ETS, the Land Use, Land Use Change and Forestry (LULUCF) Regulation should be linked as closely as possible to effort sharing.

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1 Introductory remarks

The EU Emissions Trading Scheme (EU ETS)¹ limits the greenhouse gases (GHG) emitted by some 11,600 industrial installations and by aviation, making it the most important climate protection instrument in the EU. However, at around 45%, it accounts for less than half of EU-wide GHG emissions.² In economic sectors not covered by the EU ETS – in particular road transport, buildings, agriculture and waste disposal – the aim has been to reduce GHG emissions by means of "effort-sharing" within the EU since 2013. It sets different targets ("burdens") for Member States to reduce GHG emissions in the non-ETS sectors but leaves it largely up to them to decide which measures to take to achieve their respective national targets.

For the period 2013-2020, effort-sharing is regulated by the Effort-Sharing Decision [406/2009/EC]³. These rules have now been comprehensively reformed for the period 2021-2030 and re-enacted in the form of a Regulation. Following a proposal from the EU Commission⁴ in July 2016, the European Parliament and the Council agreed on a compromise at the end of 2017. With the enactment of the Effort-Sharing Regulation [(EU) 2018/842] on 30 May 2018, there is now clarity about the structure of effort-sharing for GHG reduction in the non-ETS sectors post-2021.⁵

In addition, from 2021, GHG emissions and GHG reduction through land use, land-use change and forestry (LULUCF) will be comprehensively integrated into EU climate policy for the first time by way of the newly created LULUCF Regulation [(EU) 2018/841] of 30 May 2018.⁶

In this **ceplInput**, we present the currently applicable EU legislation and changes applicable to effort-sharing post-2021 (Section 2). We describe both the objectives to be achieved by the Member States and the flexibility options that they may use to achieve them. On this basis, we assess the efficiency and effectiveness of these regulations (Section 3).

¹ Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Union and amending Council Directive 96/61/EC [hereinafter referred to as the "EU ETS Directive"]; in this context comprehensive Bonn, M.; Reichert, G. (2018), Das EU-Emissionshandelssystem - Stand und Perspektiven nach der Reform, [ceplInput 03/2018](#).

² EU Commission (2016), The EU Emissions Trading System, Fact Sheet.

³ Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020 [hereinafter the 'Effort Sharing Decision (2013-2020)'].

⁴ European Commission (2016), Proposal COM(2016) 482 of 15 July 2016 for a Regulation setting binding annual national targets for the reduction of greenhouse gas emissions for the period 2021-2030 to establish a crisis-proof Energy Union and to meet the commitments of the Paris Convention; see [cepPolicyBrief 26/2016](#) [last download of this and all other links: 10 July 2018].

⁵ Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018 setting annual binding national targets for the reduction of greenhouse gas emissions 2021 to 2030 as a contribution to climate change mitigation measures to meet commitments under the Paris Convention [hereinafter: "Effort-Sharing Regulation (2021-2030)"].

⁶ Regulation (EU) 2018/841 of the European Parliament and of the Council of 30 May 2018 on the integration of emissions and removals of greenhouse gases from land use, land-use change and forestry (LULUCF) into the framework for climate and energy policy by 2030 [hereinafter the "LULUCF Regulation"].

2 EU greenhouse gas regulation outside the EU emissions trading system

2.1 Scope

Effort sharing outside the EU ETS includes the reduction of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), fluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆). In order to compare and aggregate these different GHGs, they are converted into CO₂ equivalents ("CO₂e") according to their global warming potential.⁷ Regulated non-ETS sectors include in particular road transport, buildings, agriculture and waste management. In addition, Member States may exceptionally exempt from the EU ETS small installations with annual GHG emissions below 25,000 tonnes of CO₂e and a rated thermal input below 35 megawatts if instead they have to implement "measures" with an "equivalent" GHG emission reduction, in the context of effort-sharing.⁸

2.2 National targets

The EU aims to reduce GHG emissions in the non-ETS sectors by 10% by 2020 and by 30% by 2030 compared to 2005.⁹ In order to achieve this, the EU-wide target is divided among the Member States in the form of binding national GHG emission targets ("effort-sharing").

The burden sharing is based on the economic performance of Member States, measured by gross domestic product per capita (GDP/capita). For example, Member States with relatively high GDP per capita, such as Luxembourg and Denmark, need to reduce their GHG emissions by up to 20% by 2020 compared to 2005. In contrast, Bulgaria, for example, as a Member State with low GDP per capita, is allowed to increase GHG emissions by 20% by 2020, as it is expected to achieve above-average GDP growth in the future. Germany is obliged to reduce GHG emissions by 14% during this period.¹⁰ No country may emit more GHG in 2030 than in 2005. Countries with high GDP/capita must reduce their GHG emissions by up to 40%, with Germany having a GHG reduction target of 38%.¹¹ Table 1 shows the national GHG targets for 2020 and 2030.

Member States are responsible for meeting their national targets. Although the GHG emission reduction required for this will be complemented by further EU targets in non-ETS sectors, such as CO₂ emission limits for cars¹², Member States are in principle free to decide how to achieve their respective targets.

⁷ Art. 2 Effort-Sharing Decision (2013-2020) and Art. 2 Effort-Sharing Ordinance (2021-2030).

⁸ Art. 27 EU ETS Directive.

⁹ European Council (2014), conclusions of 23-24 October 2014, doc. EUCO 169/14, marginal 2.1.

¹⁰ Art. 3 in conjunction with Annex II Effort-Sharing Decision (2013-2020).

¹¹ Art. 4 in conjunction with Annex I Effort-Sharing Ordinance (2021-2030).

¹² EU Commission (2017), Proposal COM(2017) 676 of 8 November 2017 for a Regulation of the European Parliament and of the Council setting emission performance standards for new passenger cars and light commercial vehicles as part of the Union's integrated approach to reduce CO₂ emissions from light vehicles (recast); see [cepPolicyBrief 02/2018](#).

Tab.1 GHG emission reduction targets for non-ETS sectors for 2020 and 2030 (base year: 2005)

EU Member State	2020 target	2030 target	EU Member State	2020 target	2030 target
Luxembourg	-20%	-40%	Malta	+5%	-19%
Sweden	-17%	-40%	Portugal	+1%	-17%
Denmark	-20%	-39%	Greece	-4%	-16%
Finland	-16%	-39%	Slovenia	+4%	-15%
Germany (German)	-14%	-38%	Czechia	+9%	-14%
France (France)	-14%	-37%	Estonia	+11%	-13%
United Kingdom	-16%	-37%	Slovakia	+13%	-12%
Netherlands	-16%	-36%	Lithuania	+15%	-9%
Austria	-16%	-36%	Croatia	+11%	-7%
Belgium	-15%	-35%	Poland	+14%	-7%
Italy	-13%	-33%	Hungary	+10%	-7%
Ireland	-20%	-30%	Latvia	+17%	-6%
Spain	-10%	-26%	Romania	+19%	-2%
Cyprus	-5%	-24%	Bulgaria	+20%	0%

Source: Annex II of the Effort-Sharing Decision (2013-2020) and Annex I of the Effort-Sharing Regulation (2021-2030).

2.3 Annual emission allocations and flexibility options

Member States are required to respect certain annual GHG ceilings when meeting the 2020 and 2030 targets. These are defined in such a way that they form a linear transition from an "initial value" at a temporal "starting point" to the target value. For the period 2013-2020, the baseline shall be the average actual GHG emissions for the years 2008-2010; the starting point shall be 1 January 2009; for the period 2021-2030, the baseline shall be the average actual GHG emissions for the years 2016-2018; the starting point shall be 1 June 2019 or 1 January 2020, whichever results in an overall lower GHG emission allocation to each Member State.¹³

Each Member State receives an annual GHG emission budget ("emission allocations") according to its GHG cap, which it may not exceed in principle. However, the options ('margins') described below (2.3.1-2.3.6) are available to Member States allowing them to comply with their national GHG ceilings in the most flexible way possible.¹⁴

2.3.1 Banking and borrowing

In a given year, a Member State may borrow a certain amount of its emission allocations from subsequent years. In the years 2013-2020 and 2026-2029, this amount may not exceed 5% of its annual emission allocations. In the years 2021-2025, this share is a maximum of 10%.¹⁵

If a Member State overachieves its annual target in the period 2013-2019 by reducing its GHG emissions below its annual emission allocation, it may bank the excess emission allocations to

¹³ Art. 3 para. 2 Effort-Sharing Decision (2013-2020) and Art. 4 para. 2 Effort-Sharing Ordinance (2021-2030).

¹⁴ Ibid.

¹⁵ Art. 3 para. 3 Effort-Sharing Decision (2013-2020) and Art. 5 para. 1 and 2 Effort-Sharing Ordinance (2021-2030).

subsequent years up to 2020. Banking is limited in the period 2022-2029. No more than 30% of emission allocations may be carried over to subsequent years each year.¹⁶

2.3.2 Transfer to other Member States

A Member State may transfer excess emission allowances to other Member States. The surpluses may also have been generated by "banking" or "borrowing". However, the share shall be limited to 5% of the surrendering Member State's annual emission allowances for the period 2013-2020. In 2021-2025 the corresponding limit is also 5% and in 2026-2030 10%. The recipient State may use the transferred emission allowances to fulfil its commitment in the same year or each subsequent year of the relevant period.¹⁷

2.3.3 Crediting of international project credits

Member States may also use international "project credits" instead of emission allocations. These are awarded within the framework of the UN Climate Convention (UNFCCC) and its Kyoto Protocol¹⁸ for climate protection projects for GHG reduction in emerging countries (Joint Implementation - JI) and in developing countries (Clean Development Mechanism - CDM).¹⁹ The project credits can be traded internationally and can also be used in the EU ETS.²⁰

2.3.4 Cancellation of allowances from the EU Emissions Trading Scheme

Nine Member States – Belgium, Denmark, Finland, Ireland, Luxembourg, Malta, the Netherlands, Austria and Sweden – will be allowed to cancel altogether up to 100 million ETS allowances as from 2021 and offset the resulting emission reductions against their GHG caps in the non-ETS sectors. The eligible quantity is limited to 4% of the respective GHG emissions in 2005 for Ireland and Luxembourg and 2% for the remaining Member States.²¹ Member States must inform the EU Commission by the end of 2019 of the planned crediting of cancelled allowances for each year between 2021 and 2030.²²

2.3.5 Accounting for "climate-friendly" land use

Where a Member State has reduced more GHGs than it has emitted in the area of land use, land-use change and forestry (LULUCF)²³, the Member State may use this surplus ('net reduction') to a limited extent to comply with its GHG cap in the non-ETS sectors.²⁴ The total amount of net GHG emissions that can be offset amounts to 280 million tonnes of CO₂e across the EU and can be used disproportionately by Member States with a strong agricultural sector, such as France and Ireland, based on national ceilings set at EU level.²⁵

¹⁶ Art. 3 para. 3 Effort-Sharing Decision (2013-2020) and Art. 5 para. 3 Effort-Sharing Ordinance (2021-2030).

¹⁷ Art. 3 para. 4 and 5 Effort-Sharing Decision (2013-2020) and Art. 5 para. 4 and 5 Effort-Sharing Ordinance (2021-2030).

¹⁸ The Kyoto Protocol of 11 December 1997 to the United Nations Framework Convention on Climate Change [hereinafter Kyoto Protocol], <https://unfccc.int/sites/default/files/kpeng.pdf>.

¹⁹ Articles 6 and 12 of the Kyoto Protocol.

²⁰ Art. 5 Effort-Sharing Decision (2013-2020) and Art. 5 para. 8 Effort-Sharing Ordinance (2021-2030).

²¹ Annex II Effort-Sharing Ordinance (2021-2030).

²² Art. 6 Effort-Sharing Ordinance (2021-2030).

²³ See below section 2.5.

²⁴ Art. 7 para. 1 Effort-Sharing Ordinance (2021-2030).

²⁵ Annex III Effort-Sharing Ordinance (2021-2030).

2.3.6 Reserve for early action

Provided that the EU as a whole meets its target for GHG reductions in non-ETS sectors, a Member State may have up to 20% of the excess GHG reductions achieved between 2013 and 2020 credited to the period 2021-2030 out of a contingency reserve. This requires that its 2013 GDP per capita is below the EU average, that it has fully exploited all other flexibility options and that it has not transferred any emission allocations to the other Member States. The volume of the safety reserve will be limited EU-wide to GHG reductions of 105 million tonnes of CO₂e. If this limit is exceeded, the allowable surpluses will be reduced proportionally across all countries.²⁶

2.4 Compliance with national targets

In November 2017, the EU Commission reported on the progress made by Member States in reducing GHG emissions in the non-ETS sectors.²⁷ In 2016, this was already 11% below the 2005 level across the EU, which means that the 10% reduction targeted for 2020 had already been achieved. In the years 2013-2015, all Member States except Malta complied with their annual GHG ceilings and in some cases were able to build up large surpluses of emission allocations. Over these three years, Malta made use of the flexibility option involving transfer by acquiring Bulgarian emission allocations. To date, no Member State has used international project credits from Joint Implementation or the Clean Development Mechanism to meet its annual GHG ceiling.²⁸ It is estimated that, in addition to Malta, Belgium, Germany, Finland, Ireland, Luxembourg and Austria will not reach their 2020 targets. On the other hand, the remaining Member States will in some cases significantly exceed their national targets. Particularly large surpluses are expected in Bulgaria, Croatia, Slovakia and Hungary.²⁹

2.5 Agriculture, forestry and land-use change (LULUCF)

Depending on the type of land use, land use change and forestry (Land Use, Land Use Change and Forestry – LULUCF), different amounts of GHG are released ("emitted") or removed from the atmosphere because they are bound up in soil, plants and wood products. The conversion of forest land into agricultural land leads to GHG emissions, while reforestation reduces GHG emissions. Emissions and GHG removals by LULUCF will not be taken into account in the EU ETS or explicitly included in the regulation of non-ETS sectors until 2020.

As of 2021, GHG emissions and GHG removal by LULUCF will be comprehensively incorporated into EU climate policy for the first time through the LULUCF Regulation [(EU) 2018/841]. This contains rules on the recording and documentation of GHG emissions and GHG removal by LULUCF and the prohibition of GHG emission surpluses (net emissions) by LULUCF ("No Debit Rule").

2.5.1 Recording greenhouse gas emissions and removals

Member States have to keep accounts for the various "land accounting categories", in which they report GHG emissions with a "+" and GHG removals with a "-". The categories include "managed forest

²⁶ Art. 11 Effort-Sharing Ordinance (2021-2030).

²⁷ EU Commission (2017), Two years after Paris - Progress on EU climate commitments, Commission report COM(2017) 646 of 7 November 2017.

²⁸ See above section 2.3.3.

²⁹ *ibid.*, p. 7-9.

areas", "afforested areas", "deforested areas", "farmed arable land", "farmed grassland" and from 2026 "managed wetlands".³⁰

Member States must record³¹ the change in the carbon stock bound up there for all land accounting categories and determine the total GHG emissions and total GHG removals for the periods 2021-2025 and 2026-2030. Natural cycles and expected human intervention in managed forest areas must be excluded on the basis of a reference value.³² Member States may exclude unforeseen GHG emissions due to natural disasters from the total emissions from managed forests and afforested areas.³³

2.5.2 No-debit rule

Each Member State must ensure that both in the period 2021-2025 and in the period 2026-2030 the total GHG emissions recorded in all land registry categories taken together do not exceed the total GHG reductions ("no debit rule").³⁴

However, Member States are also granted various flexibility options in respect of compliance with the no-debit rule. For example, in the LULUCF sectors there is also the possibility of 'banking', where a Member State may carry over a net GHG reduction from the period 2021-2025 to the period 2026-2030. Member States may also transfer net GHG reduction volumes to other Member States. They also have the option of offsetting net THG emissions in the LULUCF area by cancelling emission allocations in accordance with the Effort Sharing Ordinance (2021-2030).³⁵

³⁰ Art. 5 para. 1 in connection with Art. 2 LULUCF Regulation.

³¹ *ibid.*, art. 5 par. 4 in connection with Annex I.B.

³² *ibid.*, art. 6 par. 1, art. 7 par. 1, art. 8 par. 1.

³³ *ibid.*, art. 10.

³⁴ *ibid.*, art. 4.

³⁵ *Ibid.* Art. 12.

3 Appraisal

3.1 National targets

By setting binding national GHG reduction targets, the burden of climate protection in sectors outside the EU Emissions Trading Scheme (EU ETS) is shared among the Member States. At the same time, effort-sharing gives Member States a high degree of flexibility in achieving the objectives. However, this does not ensure that GHG emissions are saved in those Member States where this would be most cost-effective, and thereby unnecessarily increases the cost of GHG reduction in the EU. Although Member States receive different GHG reduction targets, these are not based on the cost of GHG reduction but on national GDP per capita. The different national goals are thus purely motivated by distribution policy. It is therefore not surprising that many Western European Member States are finding it difficult to meet their allocated GHG reduction targets, whereas Central and Eastern European Member States were permitted to emit even more in the non-ETS sectors than they actually do.

Instead of setting national GHG reduction targets for non-ETS sectors by 2030, all economic sectors should be included in the EU ETS. In the EU ETS, each participant must hold an equivalent number of emission rights ("allowances") for the quantity of GHG it emits.³⁶ Since the total quantity of allowances - and thus the total GHG emissions permitted in EU ETS sectors - is limited at EU level and reduced annually, and the allowances are tradable, the EU-wide GHG reduction target is achieved safely and at the lowest possible cost. The cost efficiency of the EU ETS is also illustrated by the still very low allowance price.³⁷ In the case of sectors with a large number of emitters - such as road transport and the buildings sector - inclusion via so-called "upstream emissions trading" is possible, whereby it is not the emitters themselves but the fuel or fuel suppliers who are subject to certification.³⁸

Since the EU ETS reform, which was not completed until March 2018, is not expected to extend the EU ETS to other sectors at EU level in the coming years, Member States should make use of the existing possibility³⁹ and include individual sectors in the EU ETS themselves.

3.2 Annual greenhouse gas ceilings and flexibility options

The decisive factor for climate protection is not primarily the achievement of the GHG emission reduction target on a certain cut-off date, but the amount of GHG saved over the entire period. It is therefore right that Member States should not only be given a target for 2020 and 2030, but also have to respect GHG caps for each year of the period, which converge linearly over time towards the target.

The fact that Member States can use flexibility options to comply with GHG ceilings increases the efficiency of climate protection measures outside the EU ETS. For example, the option to carry over excess GHG emission allocations to subsequent years and anticipate future GHG emission allocations facilitates the reduction of GHGs over the fluctuating economic cycle because the number of GHGs emitted in a Member State also depends on its economic situation. In an economic upturn, production

³⁶ Art. 4-6 EU ETS Directive.

³⁷ Bonn, M.; Reichert, G. (2018), The EU Emissions Trading System - Status and Perspectives after the Reform, [ceplInput 03/2018](#).

³⁸ Nader, N.; Reichert, G. (2015), Extend emissions trading! - Effective and efficient reduction of greenhouse gases in road transport, [ceplInput 05/2015](#).

³⁹ Art. 24 EU ETS Directive.

and consumption increase with the volume of GHG emissions, making it more difficult for a Member State to meet the emissions cap than in a recession.

The option to sell excess GHG emission allowances to other Member States will reduce the cost of GHG emission savings in the EU. This is because emissions can be saved where this is most cost-effective in the EU as a whole. A restriction of this trading opportunity to 5% of the annual emission allocations, however, limits the efficiency potential resulting from the trading of emission allocations.

The possibility of cancelling emission allowances in the EU ETS and using them in non-ETS sectors also reduces the costs of GHG emission reduction because this causes more emission reduction to take place within the EU ETS, where – as the allowance price makes clear – the associated costs are significantly lower than in the non-ETS sectors. However, this option should not be limited to 100 million ETS allowances or to nine Member States but should be granted to all Member States without limit. Otherwise, the associated GHG emission reduction potentials cannot be fully exploited.

3.3 Agriculture, forestry and land-use change (LULUCF)

In addition to the reduction of greenhouse gas emissions resulting from the combustion of fossil fuels, the amount of greenhouse gas that can be bound up in nature is also essential for climate protection. In order to increase the efficiency of GHG regulation, LULUCF targets should therefore be linked as closely as possible to those of other non-ETS sectors because, for climate protection purposes, it is irrelevant whether a certain amount of GHG emissions is saved by more efficient cars on the road, for example, or whether it is bound up in nature by reforestation programmes. Contrary to what the EU Commission has proposed, therefore, Member States should be allowed to take unlimited account of emission-reducing land use changes and afforestation programmes when reaching their GHG emission ceilings.

In the complex calculation of GHG emissions and removals on managed forest areas, the use of reference values that take account of natural cycles and human impact on forest management is helpful. This is because GHG emissions and removals should only be recorded where they are caused by humans during the relevant period. The EU Commission should, however, specify a uniform calculation method that prevents Member States from being able to set an unrealistically high reference value so that they can easily comply with the no-debit rule.

It will be easier to comply with the no-debit rule in the period 2026-2030 if, as proposed by the EU Commission, Member States are allowed to carry forward a net GHG reduction from the period 2021-2025 to the subsequent period because GHG emissions and GHG removal are dependent on natural cycles and are therefore subject to annual fluctuations. The possibility of selling a net GHG reduction to other Member States reduces the cost of complying with the no-debit rule in the EU. This allows reforestation programmes, for example, to take place where this is most cost-effective across the EU.

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