

TACKLING 60% OF THE EU'S CLIMATE PROBLEM

THE LEGISLATIVE FRAMEWORK OF THE EFFORT SHARING DECISION

Carbon Market Watch Report
May 2014

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ABOUT THIS PAPER

Sectors not included under the EU Emissions Trading Scheme (EU ETS), the so called non-ETS sectors are covered under the Effort Sharing Decision (ESD) which defines the 2020 greenhouse gas reduction targets for these sectors for each Member State. Although these non-ETS sectors include nearly 60% of the EU's emissions, there has been little focus on the non-ETS sectors and the functioning of the ESD. The EU ETS started already in 2005. The ESD, on the other hand, is part of the 2020 climate and energy package which started only in 2013. The relatively short experience with the ESD may be one of the reasons for the limited awareness about the ESD. Few countries and even NGOs have thought about either the risks of potential loopholes or the opportunities the ESD offers to go beyond the current mitigation commitments.

This paper aims at providing a comprehensive overview on how non-ETS sector mitigation targets are set and implemented. It explains the compliance cycle and introduces the legislative framework for the ESD under the 2020 climate and energy package. Finally, it describes the various trading and flexibilities options and then explains how the different legislative pieces work together. How Member States are doing in implementing their ESD targets is discussed in "Tackling 60% of the EU's Climate Problem: Member States progress in implementing the Effort Sharing Decision"

INTRODUCTION

The EU Climate Package of 2009 includes two main pieces of legislation related to greenhouse gas emissions:

- The Effort Sharing Decision (ESD) which covers all emission sources from fuel combustion, fugitive emissions from fuels, industrial processes, solvent and other product use, agriculture and waste except for the emissions from installations covered by the EU ETS. The ESD does not cover emissions from the LULUCF sector.
- The EU Emissions Trading System Directive (EU ETS) which covers emissions from large installations in the power and industrial sectors.

ESD emission reduction targets were set individually for each Member State based on its wealth, measured by its GDP per capita. The wealthiest Member States need to reduce their emissions by 20% below 2005 levels by 2020 and the poorest is allowed to increase emissions by 20% by 2020. The Member State targets add up to an overall EU ESD target of a 10% reduction below 2005 emissions levels by 2020. The EU's ESD target, together with the EU ETS reduction target add up to the overall EU reduction target of 20% compared to 1990 levels by 2020. The Member States' targets under the ESD are presented in figure 1 below.

These targets are translated into an annual emission budget for each Member State. The budget, the so-called Annual Emission Allocation (AEA), corresponds to the absolute amount of emissions allowed to that Member State. The Annual Emission Allocation

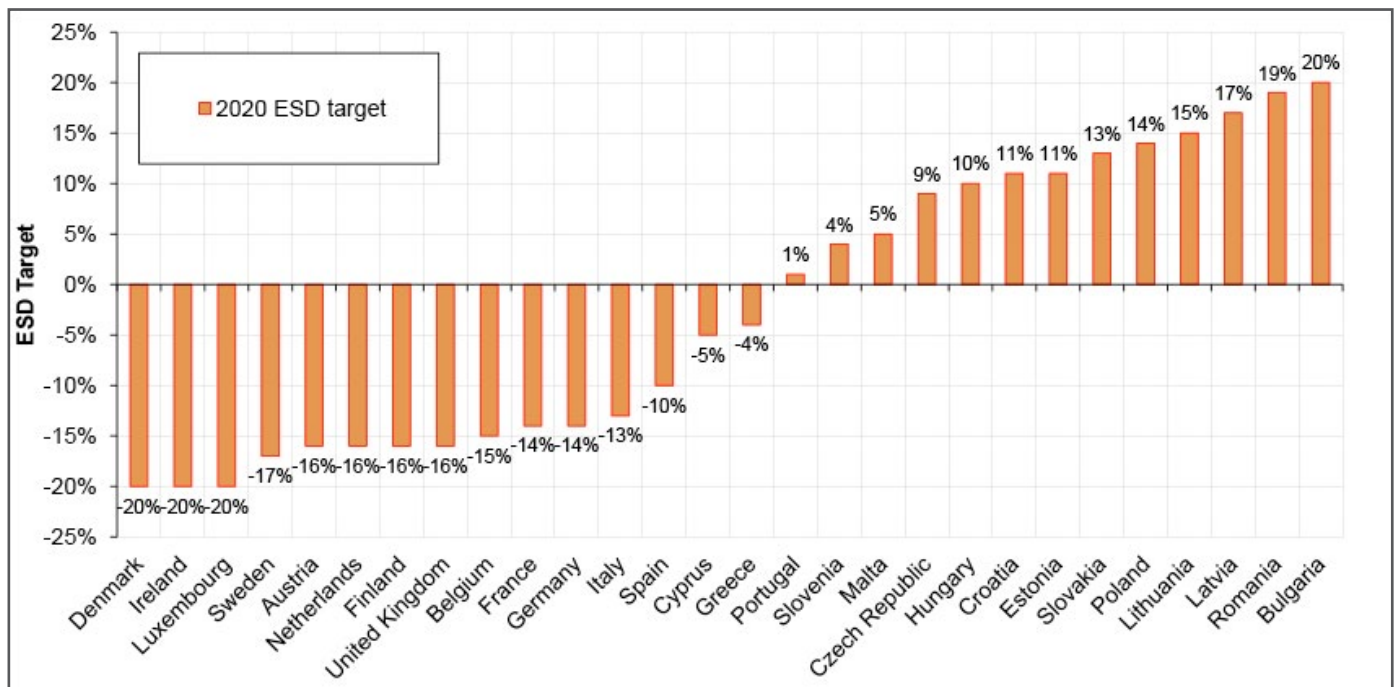


Figure 1: ESD targets of individual Member States (baseline 2005). Source: European Commission.

units (AEAus), corresponding to one ton of CO₂eq each, can be traded between Member States.

The ESD and ancillary legislation set an emissions target for 2020 for each Member State in the non-ETS sectors. This creates a framework for reporting the GHG emissions and ESD compliance status and regulates the use of flexibilities such as the use of offsets, in their efforts to comply with the ESD.

Whereas under the EU-ETS Directive each covered installation has to comply with the Directive, the ESD is directed to Member States and therefore only Member States (and not companies or individual emission sources) have a compliance obligation under the ESD. It is up to each Member State to introduce national policies which ensure that the Member State is compliant with the ESD.

The ESD was drawn up in 2009 before an agreement on the second commitment period of the Kyoto Protocol was reached in 2012. Therefore there are some discrepancies between the two legislative frameworks in terms of scope of covered emissions, use of flexibilities and reporting requirements. As a result, each Member State currently faces a double compliance situation: it has to comply with the ESD as well as with the Kyoto Protocol.

The following sections present each of the pieces that comprise the ESD legislation and explain how the different pieces of legislation work together.

THE LEGISLATIVE FRAMEWORK

The legislative framework regulating the emissions from non-ETS sectors consists of the Effort Sharing Decision (ESD) but also of a number of other pieces of legislation. Each of these pieces of legislation is listed below and the relevant contents are summarized. Many aspects related to Member States' compliance obligations under the ESD are regulated through a combination of provisions from more than one piece of legislation listed below. Therefore, we first summarize the different pieces of legislation and then explain how the ESD functions as a whole and how the various pieces of legislation interact.¹

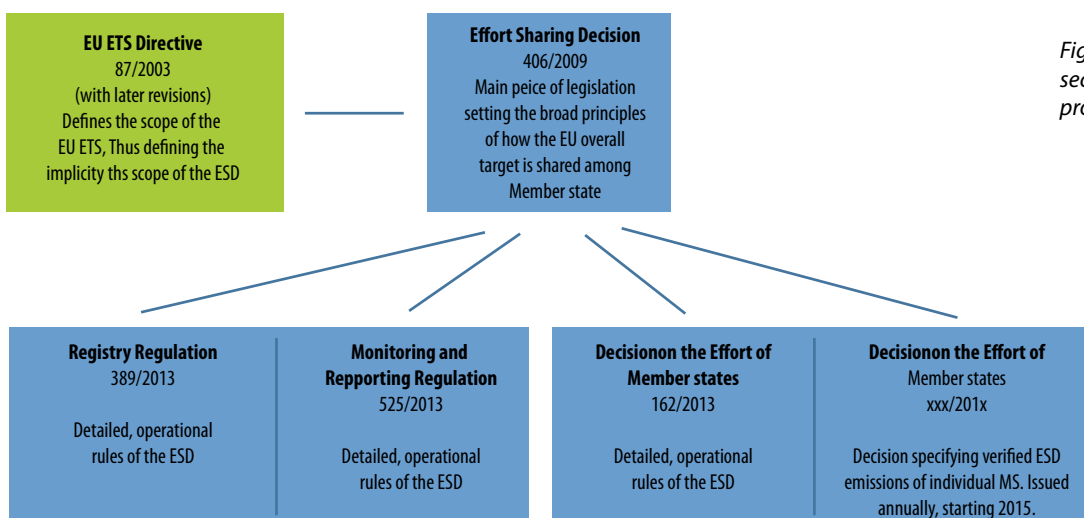


Figure 2: ESD emissions by sector. Based on numbers provided by AEA et al (2012a)

EFFORT SHARING DECISION

The [Effort Sharing Decision \(ESD\) No 406/2009/EC](#), 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 was adopted on 23 April 2009. It is the core of the legislative framework. The ESD consists of the following main elements:

- Definition of a GHG target for 2020 for each Member State as a percentage of 2005 emissions and definition on how the annual targets for the years 2013-2019 shall be calculated (Article 3).
- Provisions on the general principles on the flexibilities allowed to Member States (Article 3 and 5), such as banking, borrowing, the use of the Kyoto flexible mechanisms Clean Development Mechanism (CDM) and Joint Implementation (JI) and the inter-Member State transfer of Allocated Emission Allowance units (AEAs).
- Main parameters Member States need to report to the European Commission or in the context of a National Inventory to show compliance with the ESD. These include for example an inventory of the domestic GHG emissions for each year until 2020, the geographical distribution and types of international credits used, projected progress towards meeting the ESD targets and intended national policies to ensure compliance (Article 6).
- Penalties to Member States in case of non-compliance in any of the years until 2020 (Article 7). A Member State which is not in compliance for a specific year will see the AEA amount decrease by an amount equal to 1.08 times the shortfall of the previous year. Also, such a Member State will not be able to transfer its unused CDM/JI quota to another Member State (see below more on flexible mechanisms).
- Principles on how the ESD should be adjusted if an international agreement on climate change is reached² which would result in the EU taking a tighter overall 2020 target (Article 8).
- Principles on how the scope of the ESD would change according to possible changes in the scope of the EU ETS Directive (Article 10).

The ESD called for many details of the legislation to be enacted at a later stage through an expert panel of Member States and the European Commission (the so-called comitology procedure - the European Commission proposes changes through delegated acts but is not a formal member of the Climate Change Committee and does not have voting power). All of these detailed regulations, relevant to the functioning of the ESD framework, have since been enacted.³ These are presented below.

REGISTRY REGULATION

The [Commission Regulation \(EU\) No 389/2013](#) establishing a Union Registry pursuant to Directive 2003/87/EC (EU ETS Directive)[...] was adopted on 2 May 2013.

The main body of the Registry Regulation consists of provisions related to the EU ETS registries and the EU's Kyoto registries but it also includes key provisions related to the ESD framework. While the ESD sets the aims and main principles for the legal framework, the registry regulation specifies the procedural and operational details which allow for the practical implementation of the ESD by the Member States. The following aspects of the ESD legislative framework are included in the Registry Regulation:

- The technical infrastructure underlying the ESD, which consist of a system of emission unit accounts in the EU Union Registry. These accounts, used by the Member States and the European Commission⁴ allow for Member States to hold AEAs (emission units under the ESD), CERs (offset credits from the CDM), ERUs (offset credits from JI), to compare the amounts held against the amount required to show compliance. The Registry Regulation also describes the procedure to submit units for compliance and cancel at the end of the annual compliance cycle (this is described in detail below).
- Detailed rules on the transfers, banking, borrowing and restrictions of use of AEAs, CERs and ERUs.
- The sequence and timing of most of the events of the annual ESD compliance cycle. The timing of some events is specified either in the ESD or in the MMR (see below).

DECISION ON THE EFFORT OF MEMBER STATES

The [Commission Implementing Decision \(2013/634/EU\)](#) on the adjustments to Member States' annual emission allocations for the period from 2013 to 2020 pursuant to Decision No 406/2009/EC (ESD) was adopted on 31 October 2013.

This relatively short Decision, known as the AEA Decision, defines the Annual Emission Allocation (AEA) i.e. the absolute maximum amount in tonnes of GHG emissions that each Member State is allowed to emit in any year from 2013 to 2020 in the non-ETSs. For each Member State this amount follows a linear decreasing or increasing trajectory over the whole period.

The Member States' emissions reported to the European Commission annually (see "Annual Emission Decision" below), will be compared to these Annual Emission Allocations in order to determine which Member States has or has not complied with the ESD.

²Such an agreement should result in the tightening of the EU's overall target beyond 20%. In this second commitment period of the Kyoto Protocol the EU did not commit to a tighter target, thus such a review process has not been triggered to-date.

³Technical regulations related to the formats of reporting emission data are still pending at the time of writing.

⁴No private person can have an ESD-related account or hold or transfer AEAs.

MONITORING AND REPORTING REGULATION

[Regulation \(525/2013\)](#) (MMR Regulation) on a mechanism for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level relevant to climate change [...] was adopted 21 May 2013.

The MMR Regulation aims to improve the quality of data reported, help the EU and its Member States to keep track of progress towards meeting emission targets for 2013-2020. It requires the reporting of emissions from EU-ETS, non-ETS and LULUCF as well as a reporting on mitigation measures and policies.

The MMR Regulation sets details on what data and information related to ESD compliance the Member States have to report to the European Commission or to the public. Also dates and the format of publication of data are determined. The details of the reporting obligations are presented below.

Some aspects of the ESD compliance cycle (presented below) are linked to the dates of publication of emissions data. Therefore the ESD compliance cycle's timeline is partially determined also in the MMR Regulation.

ANNUAL EMISSION DECISIONS

Based on the emission reports that Member States file – according to the rules of the MMR Regulation – the European Commission will issue annual Decisions specifying the final volume of each Member State's ESD emissions for the respective year. Thereafter, each Member State needs to surrender a corresponding amount of AEAus, CERs or ERUs for compliance. These Decisions will be published by March 15 of each year. The first Decision for the 2013 emissions will be published in 2015, in line with the reporting and compliance cycles of the ESD.

THE EUROPEAN SEMESTER

Europe 2020 is a 10-year strategy proposed by the [European Commission](#). It aims at "smart, sustainable, inclusive growth" with greater coordination of national and European policy. The strategy elements were adopted on 17 June 2010. All Member states have committed to achieving the five Europe 2020 headline targets⁵ of which climate change and energy sustainability is one. These EU-level targets are translated into national targets in each Member State, reflecting the different situations and conditions.

Monitoring progress and ensuring the active involvement of EU countries is done through the European Semester, an annual cycle of macro-economic, budgetary and structural policy coordination. Each year, the European Commission undertakes a detailed analysis of each Member State's policies and reforms and provides recommendations for the next 12-18 months (European Commission 2013f). There is the option to issue warnings or sanctions in the case of Member States not performing well enough.⁶ In the second phase of the annual cycle, known as the National Semester, Member States implement the policies they have agreed. The monitoring of the implementation of the non-ETS obligations is partly ensured under the European Semester. But the European Semester is not an assessment of whether Member States achieve their emissions reduction obligations, it assesses whether they have the right policies in place. The annual assessment of ESD target compliance is done through the follow-up instruments of the ESD framework described above.

HOW THE EFFORT SHARING DECISION WORKS

The ESD legal framework consists of a patchwork of multiple legal instruments. Describing these instruments in isolation does not give a holistic view of how the ESD works in practice. Therefore, this section takes a look at the main elements of the ESD, such as the nature of targets, the reduction measures by Member States, the reporting and compliance cycles from a cross-legislative perspective.

NATURE OF THE TARGETS

The ESD targets for Member States stem from the EU's commitment to reduce its overall emissions by 20% (or more if an international agreement had been reached) compared to 1990 levels by 2020. This EU overall target was enacted in 2008, ahead of the Copenhagen UNFCCC climate conference which was supposed to deliver a second commitment period to the Kyoto Protocol.

As the EU overall target was set before an international agreement, the EU was able (or had to) determine the nature of the target and create a full set of compliance procedures until 2020 – independent of the rules of a future international regime. In the 2020 climate and energy package, the EU decided to continue with the dual approach which was used already during the first commitment period

5. The 5 targets for the EU in 2020:

1. Employment: 75% of the 20-64 year-olds to be employed
2. R&D: 3% of the EU's GDP to be invested in R&D
3. Climate change and energy sustainability:
 - greenhouse gas emissions 20% (or even 30%, if the conditions are right) lower than 1990
 - 20% of energy from renewables
 - 20% increase in energy efficiency

4. Education: Reducing the rates of early school leaving below 10% at least 40% of 30-34-year-olds completing third level education

5. Fighting poverty and social exclusion: at least 20 million fewer people in or at risk of poverty and social exclusion
(source: http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/targets/index_en.htm)
For more details on the European Semester, see http://ec.europa.eu/europe2020/index_en.htm

of the Kyoto Protocol: the overall EU reduction effort was split into two sub-targets, one for the EU ETS sector and another one for the non-ETS sectors. The combination of these two sub-targets would ensure that the EU would reach the overall 20% reduction target by 2020 compared to 1990 levels set later under the Kyoto Protocol's second commitment period.

The sub-target for the non-ETS sector was set at 10% below 2005 emissions by 2020. The base year of 2005 was chosen because it was the first year of operation of the EU ETS. Thus it was the first year in which the "EU ETS sector", i.e. the combination of all included installations, and the "non-ETS sector" were defined and respective verified emission data was gathered.

In the ESD, the effort was shared among the Member States so that individual targets span from a 20% reduction to an allowed 20% increase of emissions by 2020 over 2005 levels, depending on the wealth of the nations. The ESD calls for a linear reduction or increase path for each Member State's emissions. For Member States with a decreasing path, the path starts in 2013 from the level of its

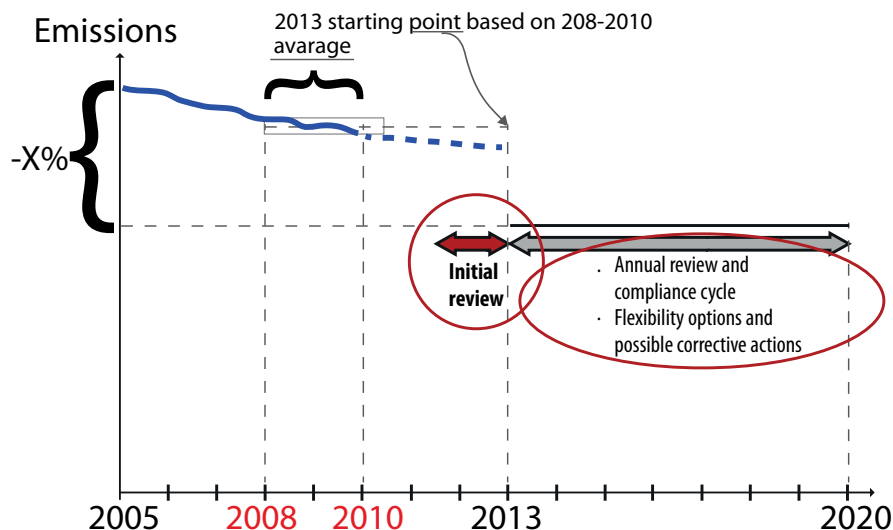


Figure 3: Reduction path for a Member State with a negative ESD target, taken from (Barkman 2013).

average 2008-2010 emissions and ends on its 2020 ESD target. For Member States with an increasing path, the path starts in 2009 from the level of its average 2008-2010 emissions and ends on its 2020 ESD target, see figure 3. The European Commission calculated the absolute amount of emissions (in tonnes of CO₂eq) for each Member State for each year from 2013-2020. Each Member State needs to report and comply with this annual target and if it fails to do so, it will get a penalty already in the following year and not at the end of the full period (i.e. failure to comply with the 2014 target would tighten a MS's 2015 compliance obligation).

Compliance with the target of a specific year will be assessed almost a year and a half after that year. This is due to the lag time in reporting and getting the emissions data verified by a panel of experts.

EMISSIONS REDUCTION MEASURES

The ESD remains quiet on where, how and with what policies Member States should reduce emissions. The choice of reduction measures remain therefore the responsibility of the Member States. Aside from the Member States' domestic policy measures, there are also other EU policies which result in emission reductions in Member States' non-ETS sectors.

EMISSION UNITS UNDER THE EFFORT SHARING DECISION

For each year from 2013 to 2020, each Member State gets an "Annual Emission Allocation" or AEA. This allocation is measured in tonnes CO₂eq and it corresponds to the annual targets of that Member State as defined in the "Decision on the Effort of Member States" (see first section).

The Registry Regulation introduces the concept of an Annual Emission Allocation Unit (AEAu) which corresponds to one tonne of CO₂eq. Effectively this is a new type of transferable or tradable carbon unit. Each AEAu has a unique identifier. Holding and transferring these AEAus is not allowed for companies. Only Member States and the European Commission can hold AEAus.

Under the ESD each Member State has an ESD compliance account for each year (i.e. a Member State has a total of eight compliance accounts). Each account contains the initial amount of AEAus corresponding to that Member State's allocation for that year. The use and transfers of these units is described in the next section on the flexibilities of the ESD.

FLEXIBILITIES

In order to meet its annual emissions targets under the ESD in the most cost-effective way, Member States are allowed to make use of seven different flexibilities as defined in ESD and the registry regulations:

1. BORROWING

- A Member State is allowed to borrow up to 5% of its AEA entitlements from its future compliance years.

2. BANKING

- A Member State is allowed to carry over unused AEAus of a specific year to any future compliance year until 2020 without limitations.

7. Kyoto units are Certified Emission Reduction (CERs) issued from CDM projects, Emission Reduction Units (ERUs) issued from JI projects, Removal Units (RMU) generated from carbon sink activities, Assigned Amount Units (AAU) which are tradable fractions of Annex 1 countries' emission allocations.

8. Thus each Member State is allowed to use Kyoto units, during the period 2013-2020, up to an amount corresponding to eight times three percent of its 2005 emissions. EU wide this amounts to some 700 million CERs and ERUs over the whole period.

3. TRANSFER OF 5% OF AEA us TO ANOTHER MEMBER STATE

- A Member State is allowed to transfer up to 5% of its AEAus of a future year to other Member States, which may use this emission allocation any time until 2020. This provides additional flexibility to Member States in planning their ESD compliance. For example, a Member State which expects to over-comply with its target and generate surplus AEAus, can initiate trades already today and does not need to wait until a specific year's compliance figure has been calculated (which is required in the flexibility number 4, below).
- Transfers can be done regardless of whether or not the transferring Member State is predicted to have an over- or under-allocation for that future year. However, such a transfer does not free the transferring Member State from its obligation to show full compliance with its target on that specific future year also.

4. TRANSFER OF UNUSED AEAus TO ANOTHER MEMBER STATE

- A Member State is allowed to transfer the unused AEAus (e.g. due to lower emissions than its initial allocation of that year) to another Member State without quantitative limitations. Such a transfer is possible only once compliance of the transferring Member State has been established for that year.

5. USE OF KYOTO UNITS

- The annual use of Kyoto units (CERs and ERUs, but not AAUs or RMUs) is allowed up to an amount equivalent to 3% of the non-ETS emission of the Member State in 2005. Member States meeting certain condition can use an additional 1% if the CERs come from Least Developed Countries (LDC) or Small Island Developing States (SIDS). The unused CER quota can be banked to future years; the unused LDC/SIDS CER quota cannot be banked.
- The quality restrictions on the use of CERs under the EU ETS do not apply under the ESD, but many Member States have officially declared that they will refrain from using credits from industrial gas projects restricted under the EU ETS. The ESD states that credits should be purchased by Member States in a way which ensures equitable geographical distribution of projects but no precise definition of such a distribution is provided.

6. TRANSFER OF THE UNUSED CDM QUOTA

- A Member State is allowed to transfer its Kyoto unit quota to another Member State up to an amount corresponding to 3% of its 2005 emissions. The LDC/SIDS credit quota cannot be transferred to another Member State.

7. ARTICLE 24A CREDITS

- Member States can make unlimited use of credits from the crediting mechanism foreseen in Article 24a of the ETS Directive (domestic offsets). However, it seems unlikely that the European Commission would propose a legal framework for issuing domestic offsets under Article 24a. Thus this remains a theoretical possibility.

The ESD legislative framework specifies only how transfers between various ESD accounts can be initiated and carried out, but it remains silent about the transaction modalities. Thus the Member States are free to structure their transactions as they wish. A transfer of AEAus or the use of any other flexibility may be coupled with a monetary payment, with a transfer of technology deal or with another political deal. An AEAu deal could include, if the transacting Member States wish to do so, a Green Investment Scheme (GIS) which is an arrangement used often for AAU transactions under the Kyoto Protocol. It requires that the seller country invests the revenues of the sales into mitigation actions.

REPORTING REQUIREMENTS, FREQUENCY AND CYCLE

A key element of a Member State showing compliance with the ESD is the measurement and reporting of its actual emissions. Thus the steps in reporting emissions largely define also the compliance cycle under the ESD. Besides reporting the emissions, the ESD framework requires the Member States and the European Commission to report also other related information. The reporting obligations are determined in the [Registry Regulation](#) and the [MMR Regulation](#). This section presents the reporting requirements and cycle – the section that follows will present the annual compliance cycle. Reporting requirements under the ESD framework can be separated in two groups:

1. Reports which are directly related to the ESD compliance cycle.
2. Reports which give additional information on policies and progress but are not directly related to the annual compliance with the ESD.

REPORTING DIRECTLY RELATED TO THE COMPLIANCE CYCLE

Under this category of reporting, Member States need to follow an annual reporting cycle for each compliance year starting from 2013. Figure 4 below visualises the reporting obligations and the related deadlines for the compliance year 2013. Deadlines with similar relative timing apply for all subsequent compliance years.

9. The conditions are listed in Article 5 of the ESD. Member States that fulfill the conditions are: Belgium, Denmark, Ireland, Spain, Italy, Cyprus, Luxembourg, Austria, Portugal, Slovenia, Finland, Sweden.

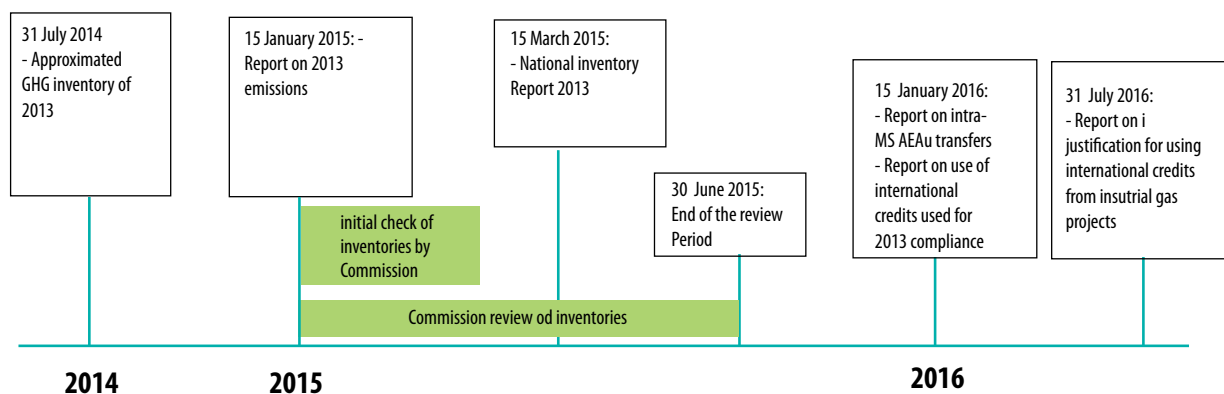


Figure 4: Reporting cycle related to the ESD compliance

The reporting that are part of the annual ESD reporting cycle include reporting of greenhouse gases, AEU transfers and use of international credits:

1. REPORTING ON GREENHOUSE GASES

- By 31 July 2014 each Member State needs to send an approximated GHG inventory for the year 2013, including ESD emissions to the European Commission. Based on these the European Commission will compile an approximated GHG inventory for the Union for publication by 30 September 2014.
- Member States need to report their finalized 2013 ESD GHG emissions to the European Commission by 15 January 2015 (as part of their overall GHG inventory). The European Commission performs an initial check of this data and sends its comments to each Member State within six weeks. The regulation remains quiet on how the Member States have to take into account the European Commission's comments. The Commission also starts a review of the inventory data on January 15, which is completed by 30 June.
- By 15 March 2015, the Member States have to send a full "national inventory report" to the European Commission – this report has to include also updates of data submitted in the January 2015 report on ESD emissions (including possible updates since 15 January), taking into account the comments by the European Commission.
- These reports will be included in the "national inventories" to be submitted to the UNFCCC by the Member States (and by the European Commission for the EU) by 15 April 2015 and published according to UNFCCC rules.

2. REPORTING ON AEU TRANSFERS

- Each year, as part of the report submitted by Member States to the European Commission by 15 January, the Member States need to report "summary information" on concluded AEU transfers with other Member States in the previous year. These reports include all AEU transfers undertaken during the previous year – not only AEU's used for compliance in the previous year or the year before the previous one (e.g. a Member State may wish to sell some of its 2018 AEU's already in 2014 – such a transfer has to be reported by January 2016).
- As part of their first report on GHG emissions, to be submitted by the Member States to the European Commission (15 January 2015), the Member States need to report about their future intentions to make use of intra-Member-State AEU transfers. This information will be public at latest in the UNFCCC national inventory submission of the Member State (15 April 2015).

3. REPORTING ON USE OF INTERNATIONAL CREDITS

- By 31 July 2016 Member States need to report to the European Commission the justification why they used international credits for ESD compliance in 2013 from project types restricted under the EU ETS. There is no process for the European Commission to reject a Member State's justification. They also need to report on the geographical distribution, types, possible quality criteria, and how their purchase policy "enhanced the achievement of an international agreement on climate change". The meaning of the last item is left unspecified in the ESD framework.
- The Member States' have to publish the reports related to the use of international credits. The European Commission has to publish a corresponding union-wide summary report drawn up based on the Member States' reports.

REPORTING NOT DIRECTLY RELATED TO THE ESD COMPLIANCE CYCLE

These reporting requirements are specified in the [MMR Regulation \(525/2013\)](#).

REPORTING ON POLICIES

- By 15 March 2015 and every two years thereafter Member States have to report to the European Commission on their policies aiming at reducing GHG emissions and implementation of EU policies. In case "substantial changes" happen over the first year of the 2-year reporting period, these need to be reported by 15 March 2016. What constitutes a "substantial change" has not been defined.

- The report has to include, among others, information about the objective of the policy, type of instrument, indicators to be monitored, quantitative estimates of the mitigation effects, projected costs and benefits of the policies. The report has to also include information on any measures aiming at over-achieving the Member States ESD obligation.
- Information on the costs and effects of national policies as well as implementation of Union policies need to be made public. The ESD framework does not require the publication of the full report submitted to the European Commission as referred to in the earlier two sub-bullet-points.

REPORTING ON PROJECTIONS

- By 15 March 2015 and every two years thereafter Member States have to report to the European Commission their GHG emission projections. The next four years ending with 0 or 5 should be covered (i.e. in 2015 projections should include the years 2020, 2025, 2030 and 2035), ESD and ETS projections are to be reported separately and the impact of policies is to be specified. In case of “substantial changes” over the first year, an update needs to be communicated by 15 March of the second year of the reporting period. These reports have to be made public.

REPORTING ON PROGRESS TOWARDS GOAL

- Each year, the European Commission in cooperation with the Member States has to assess the progress made towards achieving the targets of the ESD. A concluding report by the European Commission on this matter has to be submitted to the Council and the European Parliament each year by 31 October. The first progress report called for by the new MMR Regulation was published on 10 October 2013 and can be found here.

The ESD framework includes also additional parameters to be reported, these include inter alia: updates on ESD emission data if there are changes after submission of final inventory, updates on reporting systems set up in the MS, objectives of specific policies, types of policy instruments (including assessments and technical reports on these), status of implementation of policy instruments, indicators used to evaluate progress over time, ex-ante and ex-post evaluation of effects of policy instruments, sensitivity analysis for projections. For most of the reporting requirements described above, the detailed form of reporting will be defined in future Decisions by the European Commission.

THE COMPLIANCE CYCLE

In order to show annual compliance with the ESD, the Member States face a relatively complex compliance cycle with various deadlines and milestones. This compliance cycle builds on the reporting cycle described in the previous section – thus, the starting point of the compliance cycle is the 2013 emission reports which the Member States need to submit to the European Commission on 15 January and 15 March of 2015 (again, same relative deadlines apply for subsequent years also). The compliance cycle is not described in any single piece of legislation, but it can be drawn up by combining various provisions of the ESD, the Registry Regulation and the MMR Regulation. Figure 5 below depicts the annual compliance cycle for Member States. The cycle is described in more detail below the figure.

By 15 March 2015 the Member States will have submitted their national inventory reports to the European Commission. These reports include the ESD emissions of Member States for 2013. A panel of experts start to scrutinize the inventories and once this process is completed, the European Commission issues a Decision specifying that Member State’s emission data (Annual Emission Decision). When this data is available for half of the Member States, the data is entered into the Union Registry. The data is then compared to the amount of AEAUs of each Member State and the balance calculated.

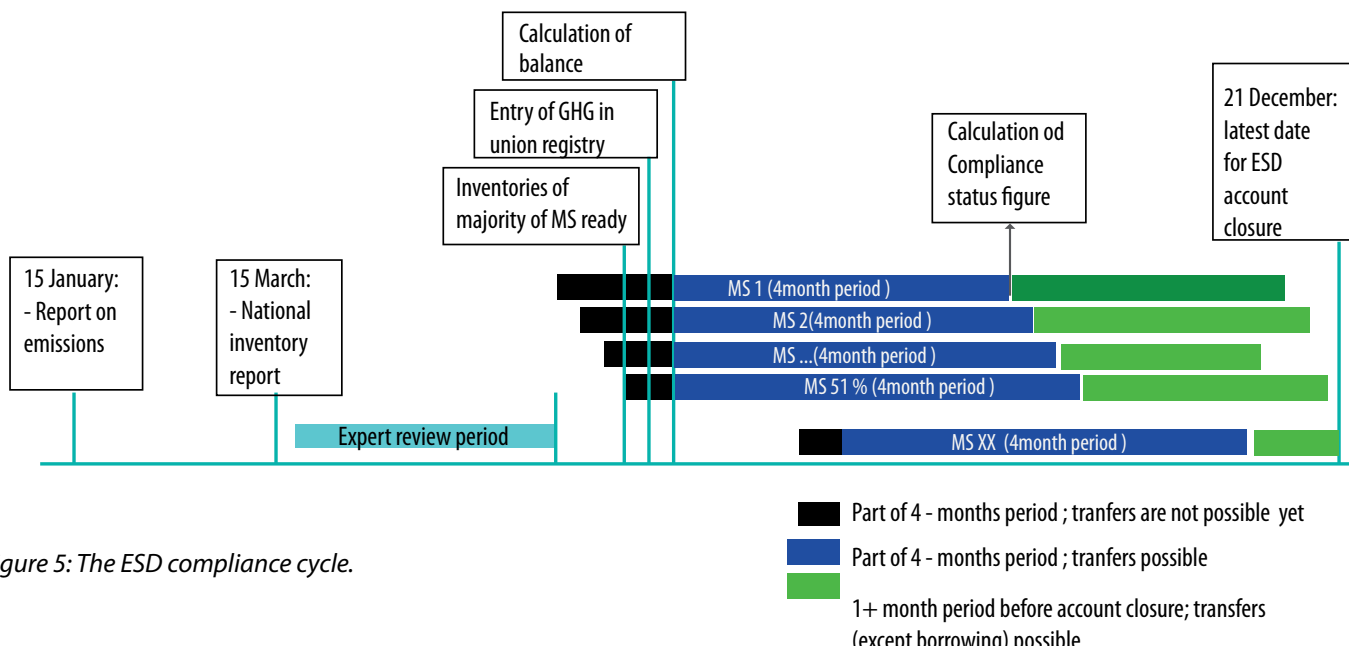


Figure 5: The ESD compliance cycle.

Starting from the date when the Annual Emission Decision (AED) is issued for a Member State, that state has four months before its compliance (taking into account the use of flexibilities) is determined. In the above figure, this is referred to as the “Calculation of the compliance status figure”.

If a Member State has more AEAUs and credits on its account than its emissions data require on the day compliance is determined, the Member State is allowed to bank the units or to transfer these spare units to other Member States whose compliance status figure has not yet been calculated. If a Member State has less AEAUs and credits on its account than its emissions data require, it will face (four months after the AED is issued) penalties for non-compliance.

A Member State exceeding its annual AEA will face an infringement procedure by the European Commission. It will also have its AEA amount for the following year decreased by an amount equal to 1.08 times the shortfall of the previous year. Transfer of emission allocations and project-based credits will be temporarily suspended (Barkman 2013).

Latest by 21 December 2015 all the ESD compliance accounts of the Member States for 2013 will be closed. The Member State is allowed to carry over unused AEAUs to any compliance year until 2020 without limitations. In case a Member State has not emptied its account from spare AEAUs or credits on that day, these units will be cancelled. This ends the annual compliance cycle of the ESD.

The transfers of up to 5% of AEAUs to another Member State are allowed at any point of the year and unlike other AEAu transfers, are not limited only to the time span specified in figure 5 above.

INTERACTION WITH OTHER EU LEGISLATION

Besides the ESD and the EU ETS Directive, there are other pieces of EU legislation which have a direct impact on GHG emissions in various sectors, including sectors and sources covered by the ESD. Thus there are some GHG reduction measures in the non-ETS sectors, which need to be undertaken by Member States (or private actors in the non-ETS sectors) because they are required through other EU legislation. These measures contribute directly to the effort of a Member State to meet its ESD goals. In following sections we highlight some of the impacts that the Renewable Energy Directive (RED) and the Energy Efficiency Directive (EED) have on GHG emissions of Member States in the non-ETS sectors.

RENEWABLE ENERGY TARGET

The Renewable Energy Directive was enacted as part of the EU's 2020 climate and energy package in 2009. The Directive sets binding target to Member States on the share renewable energy in their final gross energy consumption for 2020. Moreover, 10% of energy consumed in the transport sector has to come from the renewable sources by 2020.

This directive has the most direct impact on the GHG emissions of the transport sector, but also any other sector or sources under the ESD where a switch to a renewable energy source is possible. Also small industries and small power stations not covered by the EU ETS can switch to renewable energies, thus reducing the GHG emissions of the non-ETS sectors/ sources.

ENERGY EFFICIENCY DIRECTIVE

The Energy Efficiency Directive entered into force in December 2012. While the EED does not set binding energy efficiency targets to Member States (as initially proposed by the European Commission), the directive does include a set of specific energy efficiency measures that the Member States and private actors need to undertake. The main ones are the following:

- Member States need to set indicative national energy efficiency targets. (There are no sanctions if a Member State misses its target. The European Commission will analyse progress towards the targets on regular basis and is allowed (by definition) to make further legislative proposals if it deems necessary.)
- Member States need to set energy efficiency obligation schemes for energy distributors and/or retail energy sales companies.
- Member States need to ensure free-of-charge access to data on real-time and historical energy consumption through more accurate individual metering for energy consumers of electricity, natural gas, district heating, district cooling and domestic hot water.
- Member States need to create incentives for small companies and requirements for large companies to carry out energy audits. Member States must renovate 3% of public sector buildings annually starting from 2014, in order to improve their energy efficiency.
- Requirement for central governments to purchase only products, services and buildings with a high energy efficiency performance.
- Member States need to implement various measures to improve efficiency in energy generation.

The EED will reduce CO₂ emissions of the non-ETS sectors especially in the following sectors and sources:

- transportation (although setting energy saving obligation schemes in the transport sector remains voluntary for Member States)
- buildings - to the extent that the power or heat of the buildings is generated by installations not covered by the EU ETS)
- industrial installations and power producers which are so small that they are not covered by the EU ETS.

OTHER EU LEGISLATION

Besides the EED and RES, which are cross-sectoral directives that impact emissions of a large number of sectors and GHG sources, there is a large number of EU legislation which have a direct or indirect impact on ESD emissions. While these pieces of law might have a substantial impact on the GHG emissions in the sector they cover, these are not analysed here in detail as this would go beyond the scope of this study. The following lists some (but by no means all) of these:

- Regulation setting emission performance standards for new light commercial vehicles (510/2011)
- Furthermore, the EU is part of international agreements and has own legislation which effect GHG emissions from agriculture, landfills and F-gas sources.

DISCUSSION ON IMPACTS OF OTHER LEGISLATIONS

Doing a full assessment of how these policies interact with the targets in the non-ETS sectors goes beyond the scope of this paper. A recent OECD paper notes:

When policymakers are developing their domestic policy packages to drive emissions reductions in the energy sector, an important issue to consider is the interaction between energy and climate policies. Poor policy integration can undermine energy policy objectives such as energy security and affordability, as well as making climate objectives more difficult to meet. Conversely, a well-integrated policy package can reduce the trade-offs and advance the synergies between energy and climate objectives. (Hood C. (2013))

Both short term and long term mitigation goals need to be taken into account when policies are implemented. Only a package of policies, including energy efficiency, technology development, and support to overcome underlying infrastructure or financing barriers will be able to deliver the emissions reductions required.

If targets are too weak they can compromise each other. For example, the impact assessment of the EED mentions at various occasions that the different energy efficiency policy options which were considered before the directive was proposed, can strongly contribute to meeting the GHG target in particular in the non-ETS sectors (i.e. mainly the non-ETS sectors) (European Commission 2011a). However, the impact assessment remains quiet about details of the interaction between the energy efficiency policy options and the ESD GHG target – not even listing explicitly which measures proposed in the EED would have an impact on the ESD emissions. The policy interaction analysis of the impact assessment concentrates almost exclusively on the impact that the EED would have on the ETS sectors and the price of the EU Allowance (EUA).

Clearly a careful and detailed assessment of the policy interactions will be necessary to ensure that policies work synergistically and effectively.

INTERACTIONS OF KYOTO PROTOCOL AND EU 2020 CLIMATE TARGETS

The EU has committed to reduce its emissions by 20% compared to 1990 levels under the Kyoto Protocol's second commitment period (2013 to 2020). This commitment differs in several respects from the EU's commitments under the 2020 climate and energy package:

- The Kyoto commitment is measured against base years which can differ between Member States. Most Member States have a base year of 1990. The overall 20% GHG reduction target under the 2020 Climate and Energy package is based on 1990 emissions. However, the Effort Sharing targets are set against 2005 emissions. This is because the data for 2005 is more reliable and available. It includes verified emissions at installation level within the EU ETS, and the overall greenhouse gas emissions of Member States as officially reported to the UNFCCC.
- The Global Warming Potentials (GWP) used to convert non-CO2 GHG gases such as methane to CO₂eq. are different for CP2 and under the 2020 climate and energy package: The first uses updated figures from the 4th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR4), the later uses the figures from the 2nd Assessment report (IPCC AR2). The difference in GWP makes the CP2 target an estimated 0.5% more stringent compared to the 2020 climate and energy package target. (European Commission 2012).
- The Kyoto Protocol differs in scope. LULUCF emissions from land use, land use change and forestry (LULUCF) are not included in the 2020 framework but they are included in the KP (see below). Aviation emissions are not included in the KP but intra-European flights are included in the EU-ETS.
- Nitrogen trifluoride (NF₃) is included in the KP but not the 2020 EU climate and energy package. The impact of NF₃ on aggregate EU emissions is insignificant.

These differences have to be taken into account to ensure that each Member State complies with their ESD and also complies with their Kyoto commitments. The rules on how exactly Member States will have to comply with both their Kyoto Protocol obligations and their obligations under the 2020 climate and energy package is not yet clear. Both the European Commission and Member States are currently discussing the details of the rules that still need to be established. Also not all the rules for the second commitment period of the Kyoto Protocol have been established yet. These will be discussed again by parties in June and December at the upcoming UNFCCC negotiations.

INTERACTIONS WITH LAND USE AND AGRICULTURE SECTORS

The land use, land-use change and forestry (LULUCF) sector is not included in the reduction commitment of the 2020 climate and energy package but it is included in both the first and second Kyoto Protocol commitments. Under the Kyoto Protocol, Parties account for net emissions or removals by issuing Removal Units (RMUs) in the case of net GHG removals from LULUCF activities, or cancelling Kyoto units (Assigned Amount Units – AAUs) in the case of net source of GHG emissions. In other words, LULUCF activities can be used to compensate emissions from other sources (EEA 2013). For example, if a country's emissions in the non-ETS sectors are too high to meet its Kyoto target, it can use RMUs issued for emissions reductions from the LULUCF sector to compensate for the higher emissions in the non-ETS sectors. For countries who report a LULUCF sink, the Kyoto targets are therefore easier to meet than their target under the ESD. On the other hand, countries with emissions in the LULUCF sector face stricter Kyoto targets.

In the first Kyoto commitment period, Ireland and Slovenia could close the gap between their non-ETS sectors emissions and their respective Kyoto targets. In the EU as a whole, the LULUCF sector contributed emissions reductions of almost 64 MT of CO₂e per year, the equivalent of 1.5% of EU-15 base-year emissions (EEA 2013). Given that the total reduction target for the EU in the first commitment period was minus 8%, the LULUCF sector's impact was considerable. If the LULUCF sector had not been included in the Kyoto targets the EU would have had to engage in almost 20% more mitigation activities in other sectors during the first commitment period.

In contrast to the LULUCF emissions the non-CO₂ emissions in the agriculture sector – methane emissions from livestock and N₂O emissions from fertilizer – are currently included in both the ESD and the KP. Many of the management issues that apply to the agricultural sector apply equally to the LULUCF sector. The fact that these two sectors under the 2020 climate and energy package are treated separately raises issues in terms of maximising the effectiveness of mitigation policies and measures in both sectors. Policy makers are aware that it may make more sense to combine these two sectors into one.

In its communication on the 2030 climate and energy package, the European Commission suggested that the LULUCF and agriculture non-CO₂ sector emissions could be merged into one new and independent pillar of the EU's climate policy. This would enable a more dedicated policy approach that takes into account the specificities of the sector, and can build on and use the Common Agriculture Policy to deliver. It would allow for targeted policy measures that would reflect the sector's particularities (e.g. non-permanence issues) (European Commission 2014 a and b).

On the other hand, the European Commission also suggested that the LULUCF sector could be included under the ESD. Given that the LULUCF sector is projected to stay an emissions sink, the inclusion of the LULUCF sector would weaken the ESD target and would likely lead to fewer mitigation activities in the non-ETS sectors than if the sector remained to be treated separately (European Commission 2014 and b).

CONCLUSIONS

This paper includes a comprehensive overview of legislative framework for the ESD under the 2020 climate and energy package. A second paper gives an overview on how well Member States are doing in implementing their ESD targets (reference to second paper). Given the importance of the mitigation targets and contributions from non-ETS sectors in both the current 2020 and the future 2030 climate and energy framework, these papers aim to inform the policy discussion on the role and potential of mitigation actions in the non-ETS sectors.



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