Tackling 60% of the EU's climate problem
The Effort Sharing Decision post-2020

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EXECUTIVE SUMMARY

The Effort Sharing Decision (ESD) covers 60% of EU's total greenhouse gas emissions and is therefore a centrepiece of Europe's climate legislation. In contrast to the EU's Emissions Trading Scheme (ETS) which started in 2005, the implementation of the ESD only began in 2013. Therefore, little is known about how successful it has been tackling the sectors not covered by the ETS.

The Effort Sharing Decision establishes linear trajectory of binding emission limits for each Member State for the 2013-2020 period and its governance structure is based on annual compliance. According to the first progress reports from the European Environmental Agency (EEA) (2013), the ESD targets will be overachieved by up to 50% of the effort required. The majority of Member States have therefore not planned significant additional measures to reduce emissions beyond those that already exist.

Similar to the ETS, the ESD also offers flexibilities and trading options to make it cheaper to comply with the targets. For example, more than 50% of reduction efforts can be achieved by using international offsets. Member States have to submit reports on the amount of offsets and other trading options used in 2013 by January 2016.

The current targets, combined with the overgenerous flexibilities, are clearly too weak to drive emission reductions and delay the implementation of necessary policies for a decade. It is hence no surprise that a surplus is expected to accumulate in the ESD equal to almost 600 million tons of CO2-eq by 2020.

Given the importance of reducing emissions in the non-ETS sectors, such as transport, agriculture and buildings, the lessons learnt with the implementation of the ESD can provide valuable information for European policymakers for their deliberations regarding the 2030 policy framework for climate and energy.

Recommendations for the 2030 Effort Sharing Decision:

- **Strengthen the current governance structure keeping binding emission limits and the binding annual compliance for each Member State.**
- **Significantly increase the target to at least 45% emission reductions below 2005 levels by 2030 to fully exploit the cost-effective potential and drive actual emission reductions.**
- **Do not allow the carry-over of any surplus into the post-2020 period.**
- **Keep the land use, land-use change and forestry (LULUCF) sector separate from the Effort Sharing Decision and the ETS, without any flexibility options between the different pillars.**
- **Maintain policies at Union level that contribute to achieving reductions in the non-ETS sectors inter alia as regards transport and buildings, e.g. ensure the continuation of the Fuel Quality Directive and establish binding energy efficiency targets.**
- **Exclude international offsets to meet the 2030 climate obligations.**
- **Improve the intra-EU flexibilities by establishing harmonized modalities for transactions between Member States to unlock mitigation potential in poorer Member States, e.g. via domestic offsetting within the ESD.**

INTRODUCTION

EU's 2020 Climate Package includes two main pieces of legislation to reduce greenhouse gas (GHG) emissions:

1. The EU Emissions Trading System Directive (EU ETS) that covers emissions from large installations in the power and industrial sectors.
2. The Effort Sharing Decision (ESD) that sets emissions reductions targets for sectors not covered under the EU ETS.

The non-ETS sectors account for nearly 60% of the EU's emissions and therefore the Effort Sharing Decision, governing these non-ETS greenhouse gas (GHG) emissions, is one of EU's central pieces of climate legislation. The current experience with the Effort Sharing Decision, which ends in 2020, can provide valuable input for the debate on EU's 2030 climate and energy framework.

This policy brief takes stock of the lessons learned with the ESD so far and provides recommendations for the policy design for the post-2020 Effort Sharing Decision. It is based on two Carbon Market Watch reports on how mitigation targets in non-ETS sector are regulated and implemented.

THE EFFORT SHARING DECISION

The Effort Sharing Decision sets individual GHG emission reductions targets for each Member State based on its wealth as measured by 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. These Member State targets add up to an overall EU ESD reduction target of 10% below 2005 emissions levels by 2020. The EU's ESD target, together with the EU ETS target add up to the overall EU climate target of 20% less emissions by 2020 compared to 1990 levels.

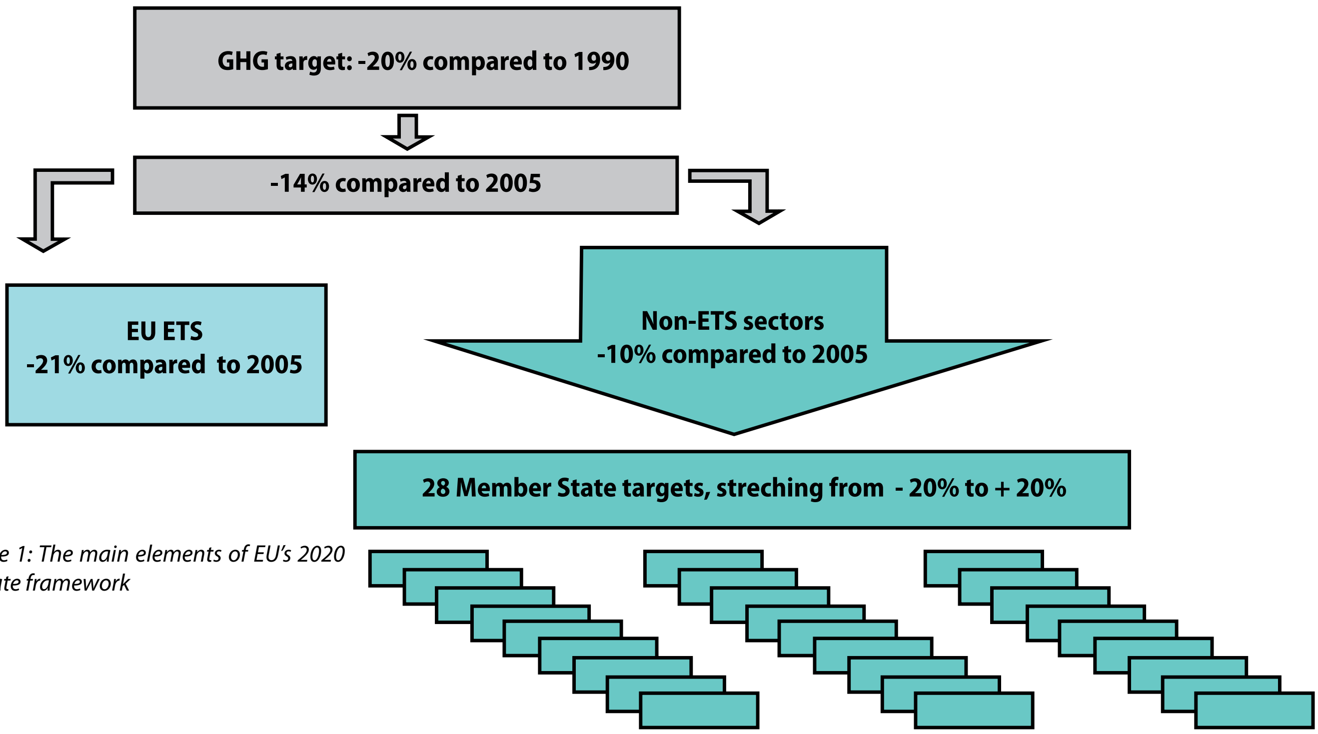


Figure 1: The main elements of EU's 2020 climate framework

TARGETS AND PENALTIES

The ESD establishes binding annual greenhouse gas emission targets for each Member State for the period 2013-2020. In case of non-compliance, Member States are faced by an automatic penalty which takes into account the environmental cost of delaying emission reductions: the excess emissions multiplied by a factor of 1,08 are added to the emissions of the following year so that the target becomes more stringent. Until the Member State is in compliance again it cannot trade its allowances or surplus with another Member State.

FLEXIBILITIES

To make it easier to comply with their emission targets, Member States are allowed to use flexibilities. These include inter alia:

> **"Up to 750 million international credits can be used during the 2013-2020 period, equal to more than half of the overall reduction effort"**

- Any overachievement of the target in a certain year can be banked to a future year or transferred to other Member States.
- Member States can borrow from the following year or transfer to another Member State up to 5% of their annual target.
- Each year, a Member State is entitled to use offsets up to the equivalent of 3% of its 2005 non-ETS emissions. Unused entitlements can be transferred to other Member States or banked for future use. This means that up to 750 Mton CDM/JI credits can be used during the period from 2013 to 2020 equal to more than 50% of the overall reduction effort[ii] .

The ESD legislative framework specifies only what flexibility options are allowed, but it remains silent about the transaction modalities. This allows Member States to structure their transactions as they wish, but at the same time does not provide any guidance on how the trade between Member States could take place. Currently, there is no mechanism for using domestic offsetting credits to comply with the ESD although such project offsets could act as a modality for transfers between Member States under the ESD. A domestic offsetting mechanism could be coupled to a Green Investment Scheme which requires the seller country to invest the revenues of the sales into other mitigation actions.

COMPLIANCE

The Effort Sharing Decision establishes a binding trajectory up to 2020. To show compliance with their binding annual ESD targets, Member States need to follow an annual reporting cycle from 2013 onwards, as also depicted in figure 2 below. This is a distinctive feature of the ESD instrument, as other elements of the 2020 climate and energy package do not ensure annual compliance up to 2020. The Renewable Energy Directive for example only has an indicative trajectory leading up to the binding 2020 targets for the share of renewable energy in each Member State.

A panel of experts review the national inventory reports that the Member States submit to the Commission by 15 March each year. The first report is due in 2015. Once this review is completed, the emission data for each Member State is finalised after which that country has four months before its compliance (taking into account the use of flexibilities) is determined. In case of non-compliance, the Member State is faced with the aforementioned penalties.

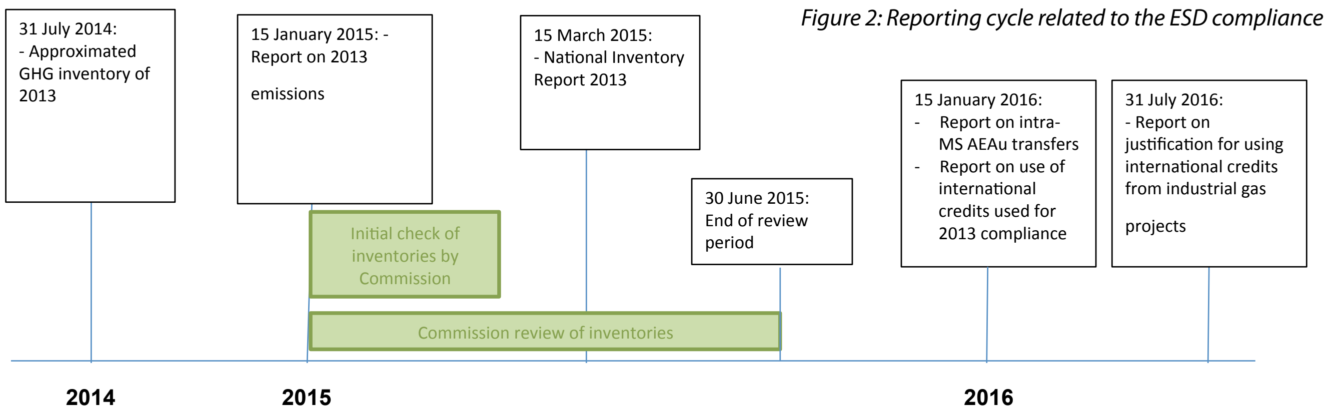


Figure 2: Reporting cycle related to the ESD compliance

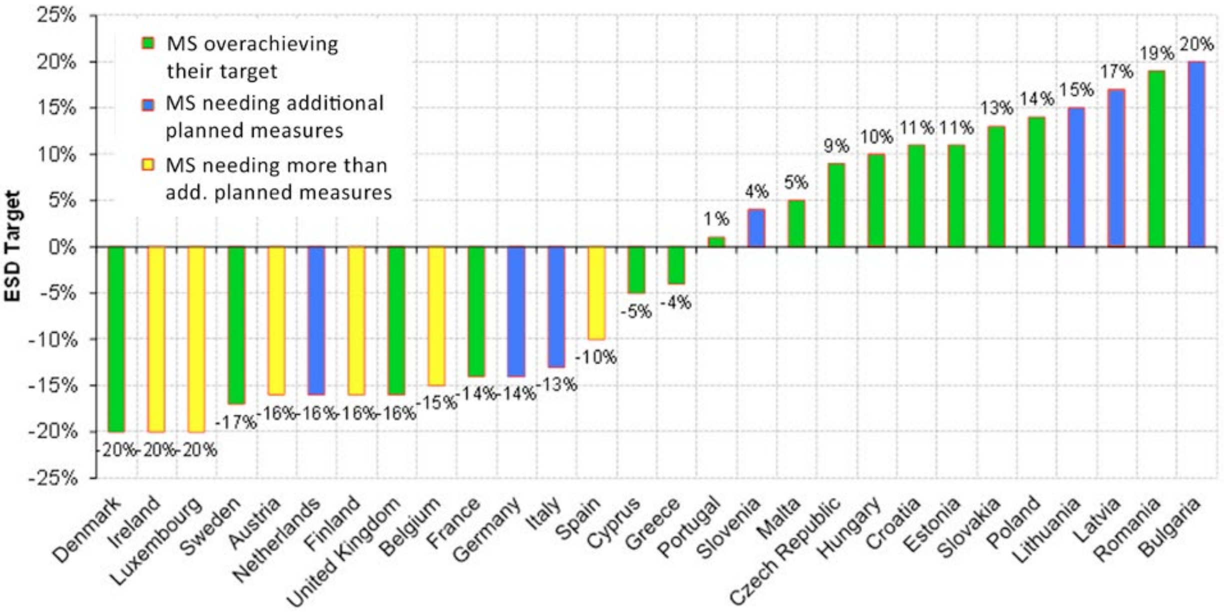
HOW MEMBER STATES ARE DOING

The current ESD target, 10% reduction below 2005 emission levels by 2020, can be easily met at no net cost to the European economy and even delivers net benefits to the economy through efficiency savings. At EU level, an overachievement of this target of up to 5% by 2020 is already expected[iii].

Overall, the majority of Member States are expected to reach their 2020 target under the Effort Sharing Decision. See figure 3 below.

A thin majority of Member States is expected to overachieve their target by between 2% and 44% with already implemented measures. The difference between already implemented and additional planned measures is relatively small for most of them. This indicates that most Member States would already achieve their targets as a result of a business-as-usual trajectory and they therefore did not need to plan any additional measures.
Also, most of the overachievers are countries that are allowed to increase their emissions. The ESD targets are therefore insufficient as they lock in a business-as-usual scenario.

Figure 3: Member States, their ESD target and trends in meeting their 2020 targets



the EU's projected greenhouse gas emissions are well below the Effort Sharing targets in each year during the 2013-2020 period. This leads to a build-up of over-achievement in the ESD equal to around 600 million tons of CO_2-eq. (with existing measures only)[iv]. The use of international offsets will not be necessary to achieve the ESD targets and it would increase the surplus even further.

"By 2020, there will be a surplus of around 600 million tons of CO_2-eq in the ESD"

The build-up of surplus is the outcome of weak targets and the overgenerous flexibilities and will not be the result of additional reduction efforts. In order to avoid future inaction and carbon lock-in, any over-achievement of Member States ESD targets should not be allowed to dilute future climate efforts. Currently the ESD compliance ends in 2020 and there are no provisions for carrying over the surplus to a post-2020 period.

SECTORS AND POLICIES

The ESD covers 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 three non-ETS sectors with the largest emissions are: energy use in road transport (34%), energy use in households (19%) and emissions from agriculture (17%) see figure 4.

The Effort Sharing Decision sets a GHG target for these sectors, but does not specify where, how and with what policies a Member State should reduce its GHG emissions. The choice of measures is therefore the responsibility of each Member State although existing EU policies help Member States achieve their targets. These policies are necessary to overcome the specific barriers to implement reduction efforts. For example, measures to reduce transport emissions are in general relatively expensive, while energy efficiency measures are faced with non-financial barriers such as lack of information or split incentives between building owners and tenants. This shows that despite capturing the overall greenhouse gas reductions by the Effort Sharing Decision targets, there is a need for more action in these specific sectors.

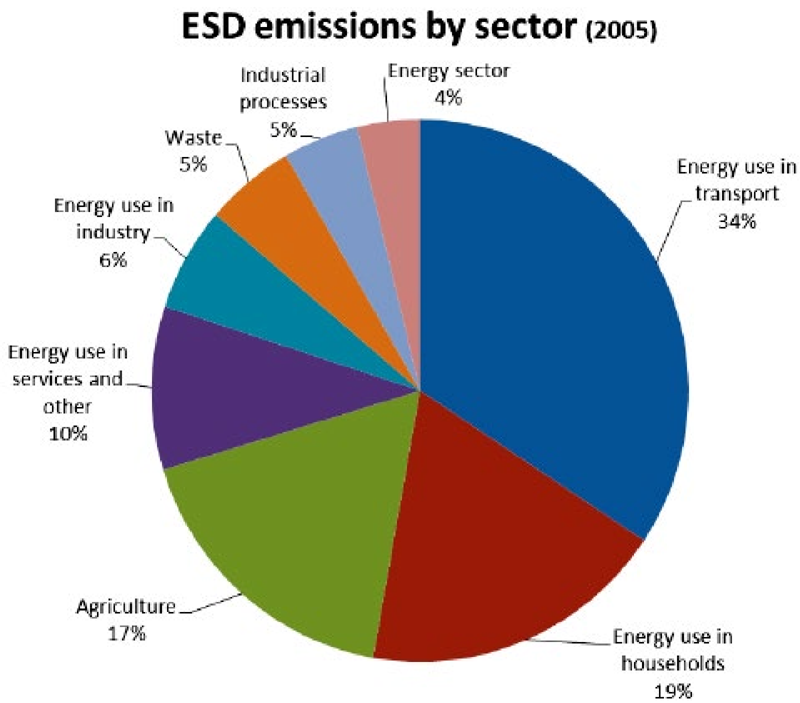


Figure 4: ESD emissions by sector

TRANSPORT

Transport emissions have increased by over one third since 1990 and are the second largest source of EU greenhouse gas emissions after the power sector. Emissions are projected to decrease by less than 1% by 2020 from 2005 emissions levels. The EU's objective is to reduce transport emissions by 20% in 2030 compared to 2008 levels [v] but this will not happen without further measures.

Existing EU policies that help Member States achieve their ESD targets include inter alia:

The **Cars & CO2 Regulation** establishes mandatory emission reduction targets for new cars. The fleet average to be achieved by all new cars is 130 grams of CO2 per kilometre by 2015 and 95g/km by 2021. Currently, cars are responsible for around 12% of EU's total carbon dioxide emissions.

The **Fuel Quality Directive** requires a reduction of the GHG intensity of fuels used in vehicles, calculated on a life-cycle basis, by a minimum 6% by 2020. The policy promotes cleaner fuels over more carbon-intensive ones and aims to reduce emissions that result from the extraction, production, processing and distribution of fuels.

BUILDINGS

Emissions from the building sector have been slowly declining over the last years, mostly due to energy retrofits in existing buildings. The building sector's emissions are expected to decline by 9% from 2005 to 2020. Around 75% of the projected reductions under the Effort Sharing Decision are expected to come from energy efficiency measures in the building sector,[vi] but the sector could deliver much higher cost-effective reductions.

Existing EU policies that impact building emissions include inter alia:

The **Energy Efficiency Directive** includes a set of specific efficiency measures that Member States and private actors need to implement to bring the EU closer to achieving its 2020 20% headline target on energy efficiency. Since there are no binding national energy efficiency targets, the EEA predicts that the EU will not achieve its headline target.[vii]

The **Energy Performance of Buildings Directive** establishes minimum energy performance requirements for new and existing buildings and mandatory energy certification for all properties that are constructed, sold or rented out.

AGRICULTURE AND FORESTS

The main sources for greenhouse gas emissions from agriculture are livestock (methane emissions) and fertilizer use (N2O emissions). Emissions reductions can be achieved by lowering N2O emissions through improving efficiency of nitrogen fertilizer use and lower nitrogen input, lowering methane emissions through improved feed in cattle and through prevention of emissions from manure storage and application. In contrast, the LULUCF sector is a net carbon sink and is expected to remain a net sink until at least 2050.

Currently, the emissions from agriculture are treated in the Effort Sharing Decision while the emissions and removals related to land use, land use change and forestry (LULUCF) are excluded from the EU's 2020 reduction target. LULUCF should also contribute to the mitigation efforts necessary to reach the EU's climate objectives outside the scope of the Effort Sharing Decision. LULUCF emissions and removals are characterised by potentially large annual fluctuations and long-time horizons, while there are uncertainties relating to data reliabilities. These characteristics make the sector unfit for inclusion in the Effort Sharing Decision that has an annual compliance cycle.

A separate LULUCF pillar with adequate national targets gives an opportunity for a policy approach that reflects the sector's particularities like permanence, long time cycles and natural variability. All LULUCF activities should be included in this pillar; besides forestry also cropland and grazing land management and

wetland drainage and rewetting. This is necessary to incentivise mitigation in the whole sector, including addressing emissions from peat lands. In some Member States the emissions from other LULUCF activities may even exceed the removals achieved by the forest activities by 2030.

"The LULUCF sector should also contribute but outside the scope of the Effort Sharing Decision"

A separate mitigation target for the LULUCF sector at least maintaining the current carbon sink could also help to address the missing link between the energy and land use sector. Currently, the emissions associated with the removal of biomass from the ecosystem -including the change in carbon sink over a certain time frame- are not accounted for, as in EU's climate legislation the combustion of this biomass is wrongly assumed to be "carbon neutral" (i.e. zero emissions). A mitigation target for the LULUCF sector could increase the likelihood that bioenergy emissions are not hidden, but at least until then there should be default emission values for the combustion of biomass under the ETS and the ESD. Imports of bio-energy should also not to be counted as carbon neutral.

RECOMMENDATIONS FOR THE FUTURE 2030 ESD

KEEP BINDING ANNUAL COMPLIANCE

A new Effort Sharing Decision will be necessary for the 2021-2030 period to ensure that non-ETS emissions continue to decrease beyond 2020. The current ESD approach combining binding annual emission limits with automatic penalties if a target is not met helps to ensure that Member States meet their 2020 objective. The current ESD governance system including annual compliance with the targets should therefore be maintained.

SIGNIFICANTLY HIGHER EFFORT SHARING TARGETS

The Effort Sharing Decision currently covers around 60% of the EU's greenhouse gas emissions, yet these sectors are only expected to deliver one third of the emissions reductions up to 2020. The 2020 ESD target is expected to be overachieved by up to 50% and is hence too low to drive low-carbon innovation and efficiency.

The 2030 targets need to reflect the full mitigation potential in the non-ETS sectors. Ambitious 2030 targets for the non-ETS sectors come with clear benefits for citizens, for example, building retrofits help shield consumers from rising energy bills and cleaner transport will reduce illness and premature deaths associated with air pollution. Cleaner transport also has the potential to create 350,000 to 450,000 net additional jobs in the EU by 2030[viii]. The 2030 reduction target for the non-ETS sectors should be at least 45% below 2005 levels to be in line with a climate target of at least 55% by 2030. [ix]

NO CARRY-OVER OF SURPLUS TO THE 2030 FRAMEWORK

By 2020, the combined cumulated overachievement of ESD targets of Member States will correspond to around 600 million ton CO2-eq[x]. This surplus should not be carried forward to the period after 2020 as it is the result of weak targets and overgenerous flexibilities and would seriously undermine the environmental integrity of EU's 2030 climate target.

LULUCF IN SEPARATE PILLAR

The land use, land-use change and forestry (LULUCF) sector should be included in EU's climate policies but not under the Effort Sharing Decision. The sector's characteristics (annual fluctuations, long-time horizons, uncertain data reliability) make it unfit for inclusion in the Effort Sharing Decision that requires annual compliance. LULUCF is best placed in a separate legal framework, with a separate emission reduction target (at least at the level of maintaining the current carbon sink), because otherwise it risks undermining efforts from the other sectors.

The LULUCF pillar should be separate from the Effort Sharing Decision without any possibility of offsetting or credit exchange between the two pillars. This ensures that any credits earned from large forest sinks do not result in a reduced effort in those sectors where major emission reductions are needed. Instead, a separate LULUCF pillar and target ensures that any emission reductions or enhancement of carbon sinks in the LULUCF sector are additional to the economy-wide GHG target and hence, offer an opportunity for enhancing overall ambition.

KEEP THE ETS AND THE ESD AS SEPARATE INSTRUMENTS

The reduction efforts of ETS sectors should remain separate from those of the non-ETS sectors. When introducing linkages between the ETS and the ESD, there is a risk that problems with one instrument will spill-over to the other making both instruments less effective in driving down emissions. The transport, buildings and agriculture sectors have particularities that do not make them fit for inclusion in the carbon market.

NEED FOR MORE EUROPEAN POLICIES IN THE NON-ETS SECTORS

Additional European policies could help Member States achieve their ESD targets, especially in the transport and buildings sectors. Without further measures, transport emissions are expected to grow by 74% by 2050 from 1990 levels. It is therefore important to establish new post-2020 targets for the greenhouse gas intensity of transport fuels (under the Fuel Quality Directive) for example. With the right policies the building sector could deliver much higher cost-effective reductions. The lack of binding national energy efficiency targets currently hampers the EU from achieving its headline efficiency target and the Energy Efficiency Directive should therefore be revised to include binding targets. Binding energy efficiency targets for the year 2030, as called for by the European Parliament[xi], would also enable the EU to reduce its import dependency of countries like Russia.

NO ROLE FOR INTERNATIONAL OFFSETS

International offsets should not be allowed for compliance under the future Effort Sharing Decision. The current ESD allows Member States to use around 750 million offsets until 2020, equivalent to more than half of the overall reduction effort. This generous offset allowance will further weaken the 2020 effort sharing targets. Allowing cheap offsets stifles and delays necessary domestic investments and funds a large share of international offset projects that have limited environmental integrity, potentially even leading to an increase in global emissions[xii]. Member states should instead spend their scarce resources on domestic mitigation policies and measures like improving building efficiency or better public transport. The future EU climate targets and commitments to finance emissions reductions in developing countries should be kept separate.

BETTER FLEXIBILITIES

Better financing mechanisms are needed to help unlock additional emission reductions in the Effort Sharing sectors in the future. Currently, the Effort Sharing Decision includes inter-temporal flexibilities (the possibility for Member States to shift their reduction effort between compliance years) that may help to increase the cost-effectiveness of the policy. There is however a lack of harmonized modalities for transactions between Member States to unlock mitigation potential in poorer Member States without inflicting a high cost burden on them. Enactment of a domestic offset mechanism under the Effort Sharing Decision can help foster cost-effective transfers between Member States. All future flexibilities have to be designed in such a way so that they do not undermine overall mitigation targets.

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i. European Environment Agency (2013). Trends and projections in Europe 2013

ii. Overall effort required calculated as the cumulated difference between 2005 emission levels and yearly AEA caps.

iii. European Environment Agency (2013). Trends and projections in Europe 2013

iv. European Commission (April 2014), Technical Annex to Kyoto Ambition Mechanism Report

v. European Commission (2011). White Paper on transport

vi. Barkman A. (2013). The non-ETS (NETS) sectors. PPT presentation at the Joint Climate Policy Workshop, Dublin 12-13 Sept. European Environment Agency.

vii. European Environment Agency (2013). Trends and projections in Europe 2013

viii. http://www.ricardo-aea.com/cms/assets/MediaRelease/Economic-Assessment-Vehicles-FINAL2.pdf

ix. Oeko-institut (2011). The Vision Scenario for the European Union: 2011 Update for the EU-27 (ESD-target deducted from Table A-9)

x. http://carbonmarketwatch.org/wp-content/uploads/2013/10/Hermann_Where-are-we-now-Progress-towards-2020-targets.pdf

xi. European Parliament resolution (5 February 2014) on a 2030 framework for climate and energy policies.

xii. Offsets from the Clean Development Mechanism may have delivered no more than 40% of the emissions reductions it sold. Here