

**EU Effort Sharing Decision after 2020:
Project-Based Mechanisms and
Other Flexibility Instruments**

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I. List of Abbreviations

AEAs	Annual Emission Allowances
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CH	Clearing House
EEA	European Environment Agency
EEX	European Energy Exchange
EPM	European Project Mechanism
ERUs	Emission Reduction Units
ESD	Effort Sharing Decision
et al.	et alia
ETS	Emissions Trading System
EU	European Union
FI	Flexibility Instruments
GDP	Gross domestic product
GHG	Greenhouse Gas(es)
GIS	Green Investment Scheme
ICE	ICE Futures Europe
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
MiFID	Markets in Financial Instruments Directive
MS	Member States
MSR	Market Stability Reserve
para.	paragraph
R&D	Research & Development
RED	Renewable Energy Directive
UK	United Kingdom
WAM	with additional measures
WEM	with existing measures

2. Summary

The ultimate goal and rationale of Flexibility Instruments (FI) under a new Effort Sharing Decision (ESD) is to **achieve emission reductions in a more cost-effective way**. FIs must serve this purpose. FIs must also **help reduce GHG emissions**. For the implementation, the effectiveness and the political communication, a simple and transparent system is essential. Overly complicated FIs that cannot be communicated to the public and voters are likely to lack credibility and political support. Decarbonising Europe's economy is a deeply political project that requires structural changes to the economy and society. FIs facilitating specific projects can only complement this political project.

There is a **case for enhanced flexibility after 2020**. With a step-up to 30%, the ESD 2030 target is considerably more ambitious than the 2020 target, where the EU set itself the target to reduce emissions covered by the ESD by 10% (compared to 2005). Unless the EU overachieves its 2020 ESD target by a very large margin, this will require more drastic emissions reductions in the next decade. The EEA projects a cumulative surplus from 2013 to 2020 of 700 Mt CO_{2-eq.} (WEM scenario) to 1.200 Mt CO_{2-eq.} (WAM scenario). This amount could grow even further if Member States use international credits for compliance. Going forward, however, the EU's target of at least 40% reduction below 1990 is to be achieved through domestic greenhouse gas reductions, i.e. without the use of international credits. For achieving these types of emission reductions, both mitigation potentials and mitigation costs differ between Member States – which constitutes the potential for cost-effectiveness that any FI is expected to tap into. However, FIs are only complementary options to address flexibility needs after 2020. Different circumstances between Member States will be largely addressed by differentiated targets that reflect their diverse circumstances and starting points.

While **cost-effectiveness is in principle a simple clear-cut concept, its application is not**. Whether or not a cost-effective outcome can be achieved depends inter alia on the availability of information, particularly information on whether mitigation costs in specific sectors can be reliably estimated. Yet estimates of average mitigation costs per Member State are typically based on a number of assumptions, which do not always recognise the specific barriers and constraints in sectors or countries. In addition, estimates of mitigation costs often focus on short term costs, neglecting long term cost developments. While such developments are inherently more difficult to predict, they are ultimately more relevant for cost-effective strategies up until 2030 and beyond. Since some abatement options may have lead times of years or even decades (particularly where infrastructure investment is concerned, or where the capital stock needs to be decarbonised), there will often be cases where it is more cost-effective in the long run to initiate some of the more costly mitigation options in the near future already. In this sense, cost-effectiveness should be seen as a conceptual yardstick against which good climate policy should be measured, not a state that can or will be achieved in real life.

The discussions on FI reform or enhancement **cannot benefit from experience in the implementation of the existing FI** under the current ESD. There is effectively no experience with these mechanisms because the first annual ESD compliance cycle has only begun in 2015, when Member States report official GHG emission data for the year 2013. Other EU-internal FI, such as cooperation mechanisms under the Renewable Energy Directive, are not fully tested either and thus

equally only offer limited lessons learned. With this important caveat in mind, we offer the following considerations and recommendations:

- **European Project Mechanism under the ESD:** A project-based mechanism is a central option for enhancing flexibility under the ESD. As a working title, we call such a mechanism European Project Mechanism (EPM). The EPM would increasingly engage private investors in EU efforts to reduce emissions cost-effectively. It should be a decentralised and non-bureaucratic institution that enables and facilitates mitigation projects without engaging directly in Annual Emission Allowances (AEA) trading. To avoid a centralised structure, Member States should approve projects, while the EPM serves as an information facilitator and ensures that Member States apply criteria that are in line with the ESD. The EPM would work on the basis of public tendering. Both the buying and/or the selling Member State can issue calls for tender. As a possible design option, project developers would receive monetary payment from the buying Member State. As an alternative, project developers could receive AEA as payment but this option would require a fundamental change in the ESD, which currently only allows Member States to hold AEA. This option is also less attractive for project developers because AEA can only be sold on a small market of 28 Member States.

There are other proposals for a project-based mechanism, notably the idea of a Clearing House. This proposal contains a more centralised mechanism which includes centralised project approval at EU level and a common AEA price. Despite these important differences there are also similarities between the proposals – all proposals aim to engage private companies and include the transfers from AEA from one Member State to another in exchange for the implementation of an abatement project. At this point of the discussion, it will be important to reach agreement on the concrete design elements of a project mechanism, rather than to discuss proposals along broad terminology.

- **Maintain borrowing and banking – in principle:** The ESD includes two FIs that give Member States the possibility to shift their reduction efforts between compliance years – banking and borrowing. Borrowing between years is limited, since unlimited borrowing would jeopardise the achievement of the overall target. For this reason, the 5% threshold should be maintained unless practice of the coming years demonstrates that a higher threshold does not jeopardise achieving the overall target.
- **Maintain trading between Member States:** Member States may transfer up to 5% of their annual emission allocation for a given year to another Member State. This rule provides additional flexibility to Member States in planning their ESD compliance and should be maintained. The 5% threshold for non-surplus reductions ensures that the ESD target remains achievable and should not be changed unless implementation experience suggests otherwise.
- **Auctioning of AEA:** Auctioning of AEA is another option to promote trading between Member States. The current ESD does not include a permanent auctioning mechanism but allows Member States to auction AEA *ad hoc* on the basis of specific agreements. To this point, Member States have not used this possibility. AEA auctioning would have a number of advantages. Notably it could make price discovery more transparent, lower transaction costs and generate a price that is fair for buying and selling Member States. However, there is a risk

that AEA auctions would have insufficient liquidity because only 28 Member States of very different size would be participating in this market. To ensure liquidity, auctioning could operate on the basis of the obligation that Member States must set aside a small amount of AEA for auctioning, possibly in the range of 1-2% of annual allowances, in case they do not want to cancel the surplus.

- **Link between ETS and ESD:** In theory, Article 5.7 ESD introduces an inner-EU project-based mechanism in the ESD. According to this provision, Member States can use credits from Community-level projects issued pursuant to Article 24a of the ETS Directive (2003/87/EC) towards their emission reduction commitments. Article 24a ETS Directive allows Member States to issue credits for national projects that reduce greenhouse gas emissions not covered by the ETS. Article 24a requires an implementing act of the European Commission, which has not been issued. For this reason, the mechanism is not operational. Although not operational, this mechanism is potentially problematic. First, the mechanism would link the traded and non-traded sector, which complicates an already complex system further and makes the system less predictable. Second, from a market perspective, the number of expected credits becomes less clear, and calculations for allowances and price levels of ETS become more difficult. Third, the FI establishes a new source of allowances that may depress the price for ETS allowances (further).
- **One-off transfer from ETS to ESD:** The European Council called for a new FI through a “limited, one-off, reduction of the ETS allowances”.¹ In practical terms, such intervention means that eligible Member States could use ETS emission allowances to meet their ESD targets. Only Member States meeting certain requirements would be eligible to participate in this new mechanism. Because the Council Conclusions give room for different interpretation and scenarios, it is not clear which and how many Member States would qualify for this FI. It is also unclear to what extent the FI would increase the amount of admissible AEAs. Depending on the interpretation, between six and twelve Member States could qualify for the FI and up to 266,2 million AEAs or 10% of the AEAs for 2021 could fall under the FI. However, the overall impact of this FI on total allocated ETS allowances for the period 2021 - 2030 ranges only between a small 0,08% - 1,72 %. Despite its limited scope, this FI raises a number of problems: First, it makes an already complex system even more complicated. Second, it exports parts of the current problems of the ETS – the allowance surplus that has built up since 2009 – to the non-ETS-sector, and thereby reduces the incentives for emission reductions in the non-ETS sectors. To address these problems, the amount of ETS allowances that could be used for compliance should be capped. In addition, the FI should introduce a discount of at least a factor of four, meaning that Member States would have to surrender four ETS allowances for every ton of non-ETS emissions.

¹ European Council (2014): European Council Conclusions, 23/24 October 2014. EUCO 169/14, para. 2.12.

3. Introduction

In October 2014, the **European Council** agreed on the framework for the EU climate and energy policy for the decade after 2020. As a key element of this framework, the European Council adopted a domestic greenhouse gas reduction target of at least 40% compared to 1990 levels. This EU target was divided into two sub-targets: sectors covered by the ETS must reduce their emissions by 43% compared to 2005 levels, other sectors by 30%.² Concerning the non-ETS target, the European Council agreed on an overall target for the EU and on a formula to break down the target to Member State level. The European Council decided that the existing methodology of the 2020 Effort Sharing Decision (ESD) to set the national reduction targets will continue until 2030. As an important change from the current system, no Member State will be allowed to increase emissions; national targets will span from 0% to -40% compared to 2005. It is expected that the concrete national ESD targets will be proposed in the first half of 2016 and subsequently agreed on.

As an additional detail of the ESD design after 2020, the European Council agreed that “the availability and use of *existing flexibility instruments (FI) within the non-ETS sectors will be significantly enhanced*”.³ Flexibility instruments are supposed to “ensure cost-effectiveness of the collective EU effort and convergence of emissions per capita by 2030”.⁴ Importantly, the European Council called for enhancement of existing FI, i.e. the current framework is the starting point of reform. The European Council only called for a new FI for Member States with national reduction targets significantly above EU average and low potential for cost-effective reductions.

This **paper explores** the motivation of FIs and concrete options for FIs under a 2030 ESD. In its first part, it discusses the current framework (section 3 and 4). On this basis, it examines concrete proposals for enhanced flexibility under the ESD after 2020: Section 5 presents basic principles and requirements for enhanced flexibility; section 6 discusses project-based mechanisms, section 7 analyses other flexibility instruments.

² As another important decision, the European Council also agreed on a target of at least 27% for renewable energy and energy savings by 2030. The Council also agreed on an EU ETS reform, which includes a linear reduction path (LRP) of annually 2.2%.

³ European Council (2014): European Council Conclusions, 23/24 October 2014. EUCO 169/14, para. 2.12.

⁴ European Council (2014): European Council Conclusions, 23/24 October 2014. EUCO 169/14, para. 2.12. It is noteworthy that cost-effectiveness and convergence of per capita emissions are potentially conflicting objectives. Cost-effectiveness builds on the assumption that emission reductions in some Member States are cheaper than in others, i.e. some Member States reduce more than others if mitigation efforts are largely based on cost-effectiveness.

4. Implementation of the ESD: status quo and emission trends

The current Effort Sharing Decision establishes **binding annual targets** for GHG emissions not covered by the EU ETS for all Member States for the period 2013–2020. The ESD requires overall reductions of non-ETS emissions by approximately 10%, compared with 2005 levels.⁵ Member States must contribute to these overall reductions in line with their specific national targets, which were set according to their respective GDP per capita. Accordingly, richer Member States have more stringent targets than poorer Member States: richer Member States must reduce their emissions by up to 20%; while poorer MS are allowed to increase their emissions, up to 20%. The ESD is not automatically set to continue after 2020; **emission reductions targets are only valid for the years 2013-2020** and will not continue after 2020.

The EU as a whole is on track to meet the ESD target. Based on approximated GHG inventories submitted in 2014 by Member States, 2013 ESD emissions in the EU were equal to 2.646 Mt CO_{2-eq}.⁶ This level was 5% lower than the sum of the national 2013 ESD targets for all Member States. In 2012, emissions falling under the ESD were already 10% below 2005 levels. **This overall result at EU level conceals different performances at Member State level. In 2013**, Germany, Luxembourg and Poland could miss their 2020 target under the ESD.⁷

For 2020, **the EEA projects that the cumulative surplus under the ESD at EU level** for the whole period from 2013 to 2020 could range approximately from 700 Mt CO_{2-eq} (WEM scenario) to 1.200 Mt CO_{2-eq} (WAM scenario).⁸ This surplus could grow even further if Member States decide to use international credits to meet national targets. According to the EEA, the ESD entitles Member States to use a maximum of 750 million tonnes CO_{2-eq} between 2013 and 2020.⁹ As most Member States are expected to reach their ESD targets, it is very unlikely that Member States will actually use this maximum amount.

Projected GHG emissions for 2020 indicate that half of the Member States are on track towards their ESD targets. In these countries, ESD emissions were below the respective 2013 ESD targets, and the 2020 ESD targets are expected to be met under the policies and measures already in place.¹⁰ The projections for 2020 imply that **there will be a market for AEA trading until 2020** when *de facto* the

⁵ In contrast to the ETS, the ESD only sets a frame. Within this frame, Member States adopt implementing measures. Although Member States have considerable discretion within the ESD, there are a number of measures taken at EU level that Member States have to apply when reducing non-ETS emissions. Examples include CO₂ emission standards for new cars and vans; measures to improve the energy performance of buildings, eco-design requirements for energy-related products, and energy labelling systems or restrictions on fluorinated industrial gases (F-gases).

⁶ European Environment Agency (2014): Trends and projections in Europe 2014. Tracking progress towards Europe's climate and energy targets for 2020, EEA Report, No. 6/2014, p. 48.

⁷ European Environment Agency (2014): Trends and projections in Europe 2014. Tracking progress towards Europe's climate and energy targets for 2020, EEA Report, No. 6/2014, p. 51/52. Newer data, however, show that Germany is complying with its 2013 target, contrary to data provided earlier.

⁸ European Environment Agency (2014): Trends and projections in Europe 2014. Tracking progress towards Europe's climate and energy targets for 2020, EEA Report, No. 6/2014, p. 49.

⁹ European Environment Agency (2014): Trends and projections in Europe 2014. Tracking progress towards Europe's climate and energy targets for 2020, EEA Report, No. 6/2014, p. 118

¹⁰ European Environment Agency (2014): Trends and projections in Europe 2014. Tracking progress towards Europe's climate and energy targets for 2020, EEA Report, No. 6/2014, p. 51/52.

ESD ends: some Member States could be interested in buying AEs, while others might be willing to sell AEs. There is only a small possibility that all Member States will meet their targets with domestic action; at the same time it is also unlikely that all Member States will fail to achieve their targets.

In contrast to the period 2013 - 2020, **it is a possible scenario that all Member States will be short of allowances after 2020** (before trading). Climate Strategies calculated three scenarios for the decade of 2020 - 2030. In all three scenarios, demand is larger than the supply before abatement efforts. Even in the Low Emissions Scenario the demand surplus would amount to around 110 MtCO_{2eq}, and demand could be relatively high in the Medium and High Emissions Scenarios (between 360-600MtCO_{2eq}).¹¹ These projections are founded in the more ambitious 2030 emissions target for the EU and the decision that Member State targets will still be differentiated largely based on GDP/capita (as agreed by the European Council), possibly making reaching the target more challenging for high GDP/capita Member States. Against this backdrop, AEA trading could become more difficult after 2020.¹²

5. 2020 ESD: Current System of Flexibility – Status and Experiences

The ESD contains several **flexibility mechanisms**:

Banking	Article 3.5	Member States may carry over unused AEs of a specific year to any future year until 2020 - without limitations.
Borrowing	Article 3.3.	Member States may borrow from the following year a quantity of up to 5% of their AEs.
Trading between Member States	Article. 3.4.	Member States may transfer up to 5% of their AEs of a future year to other Member States. The receiving Member State may use this emission allocation any time until 2020.
Project-based mechanism with link to ETS Directive	Article 5.7	Member States may use credits from projects under Article 24a of Directive 2003/87/EC, “without any quantitative limit whatsoever”. This option is not operational and not used.

¹¹ Sartor, Oliver (IDDRI), Istvan Bart (MEHI), Ian Cochran (CDC Climat), Andreas Tuerk (Joanneum) (2015): Enhanced flexibility in the EU’s 2030 Effort Sharing Agreement: issues and options, Discussion paper, March 2015.

¹² Sartor, Oliver (IDDRI), Istvan Bart (MEHI), Ian Cochran (CDC Climat), Andreas Tuerk (Joanneum) (2015): Enhanced flexibility in the EU’s 2030 Effort Sharing Agreement: issues and options, Discussion paper, March 2015.

Surplus	Article 5.6	Member States may transfer the unused AEA to another Member State without quantitative limitations.
Use of JI/CDM	Article 5	Member States may use JI/CDM credits to meet their respective targets. When using credits, project-based emission credits are capped on a yearly basis up to 3% of 2005 non-ETS emissions in Member States.

There is only **very limited experience with the implementation** of these mechanisms because the first annual ESD compliance cycle has only begun in 2015. On a preliminary basis, a number of Member States indicated whether they intend to buy or sell AEAs; other Member States are still in the decision making process. Furthermore, there are no public data on the volume of AEAs borrowed, banked or traded per Member State. However, it is very likely that the volume of AEAs for sale will exceed the amount of AEAs that Member States intend to buy because, according to current projections, the EU as a whole will overachieve its ESD target of reducing emissions by 10% below 2005 levels. The amount of AEAs currently available for sale is well below the surplus of AEAs over the ESD compliance period calculated on the basis of the current Member State and Commission projections.

These estimates imply that there will be a market for AEAs for the period until 2020; they also imply that the demand for AEAs is considerably lower than the quantity for sale. As a consequence, **the price for AEA will presumably be low until 2020**. Furthermore, it is possible although unlikely that up to 750 Mt JI/CDM credits could be used during the period from 2013 to 2020¹³, which could weaken the price further.¹⁴ In light of these weaknesses, around 40% of Member States are not actively engaged in implementing the ESD, according to a recent study.¹⁵ The ESD has failed to create strong incentives for substantial additional domestic reduction efforts.¹⁶

6. Enhanced Flexibility for 2030: Reform Options and Basic Requirements

With the European Council's Conclusions of October 2014, the political discussion on reforming FIs has begun. Next to (small) reforms of the current system, ideas for FI reform include auctioning of

¹³ Carbon Market Watch (2014a): Tackling 60% of the EU's climate problem. The Effort Sharing Decision post-2020, Carbon Market Watch Policy Briefing, May 2014, http://carbonmarketwatch.org/wp-content/uploads/2014/05/ESD-Policy-Brief-Carbon-Market-Watch_final_WEB.pdf, p. 4.

¹⁴ European Environment Agency (2014): Trends and projections in Europe 2014. Tracking progress towards Europe's climate and energy targets for 2020, EEA Report, No. 6/2014, p. 118.

¹⁵ AEA, Ecofys, Fraunhofer ISI, and Alterra (2012): Next Phase of the European Climate Change Programme: Analysis of Member States Actions to Implement the Effort Sharing Decision and Options for Further Communitywide Measures. DG ENV C.5/SER/2009/0037. AEA, Ecofys, Fraunhofer ISI, Alterra, http://ec.europa.eu/clima/policies/effort/docs/esd_final_report_en.pdf.

¹⁶ Meyer-Ohlendorf, Nils, Matthias Duwe, Katharina Umpfenbach et al. (2014): The Next EU Climate and Energy Package – EU Climate Policies after 2020, Study, Ecologic Institute.

AEAs or project-based mechanisms. There are various overlaps between these proposals. At this stage of the reform discussion, there are only few detailed reform proposals, including:

- project-based mechanisms,
- reform of the current borrowing and banking system,
- inclusions of a one-off ETS transfer
- enhanced trading of AEAs between Member States
- establishment of permanent AEA auctioning.

In principle, there are various possibilities of reforming the FIs of the ESD. However, the European Council decided that the **existing** instruments should be enhanced. For this reason, the current system is the starting point of the reform discussion.

There are additional considerations that have to frame the reform discussion:

- **Environmental integrity:** FIs must help reduce GHG emissions and ensure the environmental integrity of the mitigation policies. FIs that create loopholes and undermine the reduction efforts are not an option. Established principles of environmental integrity include transparent accounting rules that ensure permanent, measurable, verifiable and additional reductions. In particular, accounting rules must help avoid double counting of emission reductions. Furthermore, relevant baselines must be established in a “transparent and conservative manner” – as set out by the CDM Executive Board.¹⁷
- **Use of international credits:** The European Council adopted a **domestic** reduction target of at least 40%. For this reason, Member States may use international offsets only if they increase this domestic target (= 40% domestic plus x % int. offsets). This is an important improvement because the current ESD allows Member States to use around 750 million offsets until 2020, equivalent to more than half of the overall reduction effort. In line with the rationale, the ESD states that the “use of credits from project activities should be limited so that it is supplemental to domestic action”.¹⁸ This principle applies only to international credits that are generated outside the EU; it is not relevant for FIs under the ESD that apply only to mitigation action within the EU.
- **Simple and transparent:** For the implementation, the effectiveness and the political communication, a simple and transparent system is essential. Overly complicated FIs that cannot be communicated to a broader public and voters are likely to lack credibility and political support. However, the process of finding a compromise between Member States is very likely to reduce the simplicity of the new system.
- **Effective compliance:** Related to the previous principle, FIs must include an effective compliance system. An overly complex FI system would affect compliance.

¹⁷ The Executive Board clarified the meaning of 'transparent and conservative' in the context of baseline methodologies. Accordingly, "transparent" means that assumptions are explicitly explained and choices are substantiated (EB 41, Annex 12, Part III, paragraph 4). 'Conservative' means that in case of uncertainty regarding values of variables and parameters ... the resulting projection of the baseline does not lead to an overestimation of emission reductions attributable to the CDM project activity (that is, in the case of doubt, values that generate a lower baseline projection shall be used) (EB 41, Annex 12, Part III, paragraph 4).", Baker & McKenzie (2015): CDM Rulebook. Clean Development Mechanism Rules, Practice & Procedures, <http://www.cdmrulebook.org/526.html>.

¹⁸ 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, Recital 11.

- **Maximise involvement of private investors:** In times of shrinking public budgets, investments necessary for successful climate change policy must also come from private investors.
- **Co-benefits:** An FI should contribute to innovation, modernisation of infrastructure, employment and growth.
- **Cost-effective effort:** The ultimate goal and rationale of FIs is cost-effectiveness. FIs must serve this purpose. If FIs do not help reduce emissions cost-effectively, they are meaningless and potentially harmful as they complicate further an already complicated system.

Cost-effectiveness – an ambivalent concept?

In light of shrinking public budgets in most Member States and a protracted economic crisis in some Member States, **cost-effectiveness is central to successful climate policy** – and should indeed be inherent to any sensible climate policy. For this reason there is a case to argue that emissions reductions should take place where they cost the least. The impact assessment by the European Commission on the 2030 framework, for example, has estimated the cost-effective abatement potential across the EU, often finding particularly cost-effective abatement potential in Central and Eastern European Member States.¹⁹

However, while the basic notion of cost-effectiveness is a simple concept (achieving a given amount of emission reductions at least cost), **its practical implementation is not always as clear-cut.**

- An important conceptual differentiation is that between **static and dynamic cost-effectiveness**. Static cost-effectiveness describes a distribution of efforts that is cost-minimising *at a particular point in time*, given the available technologies, infrastructure, and economic framework conditions. However, cost relations change over time: through R&D, but also through learning costs and economies of scale, cost of technologies will fall as they are deployed at an increasing scale.²⁰ The lead times involved may run into several years or even decades. That means that from a dynamic efficiency perspective it can make sense to invest into more costly options first, in the expectation of bringing down the costs of these options. By contrast, there can be situations where a too narrow focus on static cost-effectiveness leads to a lock-in, once the readily available, cheap options are exhausted. Since a cost-effective decarbonisation strategy will necessarily need to cover several decades, dynamic cost-effectiveness is the more relevant yardstick in this context.
- As with any such concept, **the usefulness of the cost-effectiveness criterion is limited by the quality of the underlying data.** Data on mitigation options and their costs is

¹⁹ Sartor, Oliver (IDDRI), Istvan Bart (MEHI), Ian Cochran (CDC Climat), Andreas Tuerk (Joanneum) (2015): Enhanced flexibility in the EU's 2030 Effort Sharing Agreement: issues and options, Discussion paper, March 2015, p. 13/14.

²⁰ Solar PV is a typical example: as deployment has multiplied, the costs per kWh have fallen from 40 cent in 2005 to 9 cent in 2014, and are expected to fall as low as 4-6 cent in 2025, Agora Energiewende (2015): Solar Energy emerging as cheapest power source in many parts of the world, February 2015 – Study: Optimisation, <http://www.agora-energiewende.org/topics/optimisation-of-the-overall-system/detail-view/article/solar-energy-emerging-as-cheapest-power-source-in-many-parts-of-the-world/>.

improving over time as experience with climate policy grows. And still, great uncertainties remain, and data quality will differ between countries, sectors and mitigation options. This applies both to static and dynamic cost-effectiveness, but for dynamic cost-effectiveness the uncertainty is compounded, because of the need to anticipate technological development in order to project costs and effectiveness into the future. Such uncertainties are not only related to technological development: the cost of abatement investments is also heavily influenced by national regulations (permitting and licensing) as well as taxes.

- Furthermore, **there are conflicting considerations – cost-effectiveness is not the only guiding principle**. Regulatory framework conditions, political choices, and social preferences matter, and may be in conflict with cost-effectiveness; the most cost-effective solutions may not always be legally or politically feasible. National tax laws or permitting rules can have a strong impact on investment costs; these parameters vary (significantly) between Member States, making exact cost assumptions more difficult.

In sum, cost-effectiveness and cost minimisation should be seen as theoretical ideals, not necessarily a state that will be achieved in real life. These considerations do not detract from the fact that moving towards a more cost-effective distribution of efforts will create real and substantial economic savings. Deviations from the concept of cost-effectiveness are possible, but need to be justified, and come with a clear price tag.

7. Project-based mechanisms

The **ESD has no specific project-based mechanism** that allows Member States to receive AEs through financing mitigation projects in other Member States. The ESD only allows Member States to use credits from Union-level projects issued pursuant to Article 24a of Directive 2003/87/EC towards their emission reduction commitments (Article 5.7 ESD). Next to this mechanism, the current ESD permits the use of international credits generated through projects. However, international offsets from CDM cannot be used in the new regime because the European Council agreed on a domestic reduction target that does not allow for the use of international offsets from reductions in developing countries. JI offsets from projects within Member States with emission reductions before 2013 or that are registered before 2013 (see 5.1 lit a, b ESD) may be usable as this may be counted as domestic action.

Against the backdrop of the current ESD, the inclusion of project-based FI in a new ESD would be a major reform. A project-based FI can be designed in various forms – as a decentralised FI (what we call a European Project Mechanism (EPM)), as a more centralised version (what is discussed under the term “Clearing House”) or a reform of Article 24a of the ETS Directive.

7.1. Rationale: (Why) do we want this?

There are a number of considerations **why a project-based mechanism should be included** in the ESD after 2020:

- **Involve private investors and create a market:** Involvement of private investors is essential for reducing emissions cost-effectively, largely because private investors are much better in identifying business opportunities than governments and are better in reducing GHG emissions cost-effectively. In other words, a project-based mechanism would help create a market as a discovery and selection mechanism for new abatement options, also using economies of scale. It would help ensure that least-cost reduction efforts are tackled first (irrespective of their location). In times of austerity in many Member States, involvement of private investors is indispensable to fund projects necessary to reduce emissions in line with the EU target.
- **Needed to meet more ambitious targets?** In light of the more stringent 2030 ESD reduction target and a market that is potentially short of AEAs, there is a case that the new ESD will require more than just allow Member States to trade AEAs between themselves.²¹ Climate Strategies estimates the mechanism must be capable of generating new low-carbon projects and tradable emissions reduction units of about 110-510MtCO_{2eq}.²² This argument is strengthened by the fact that international offsets cannot be used after 2020.²³
- **Create planning security:** Because required reduction after 2020 could be steeper than in the previous decade, there is a need for Member States to have an “insurance policy”, in case their potential to meet their target cost-effectively is limited.²⁴
- **Win-win-situation for Member States:** It could help richer Member States to reduce emissions where reductions are cheaper. It could also support the mitigation efforts of poorer Member States through providing additional funding and stimulate investments in these Member States, for instance in the building sector.

At the same time, there are a number of **concerns pertaining to project-based mechanisms:**

- **Mixed experiences with existing project mechanisms:** Past experience with other project mechanisms, notably CDM and JI, are mixed.²⁵ Public perception of these mechanisms is that they do not deliver real emission reductions and are a tool to put off domestic action through buying indulgences. Furthermore, prices for CDM and JI credits have collapsed in recent years, leading to a rapid and drastic decline in projects.²⁶ However, CDM has undergone significant reform. It is not the purpose of this paper to discuss CDM reform.

²¹ Sartor, Oliver (IDDRI), Istvan Bart (MEHI), Ian Cochran (CDC Climat), Andreas Tuerk (Joanneum) (2015): Enhanced flexibility in the EU's 2030 Effort Sharing Agreement: issues and options, Discussion paper, March 2015, p. 2.

²² Sartor, Oliver (IDDRI), Istvan Bart (MEHI), Ian Cochran (CDC Climat), Andreas Tuerk (Joanneum) (2015): Enhanced flexibility in the EU's 2030 Effort Sharing Agreement: issues and options, Discussion paper, March 2015, p. 2.

²³ See above.

²⁴ Sartor, Oliver (IDDRI), Istvan Bart (MEHI), Ian Cochran (CDC Climat), Andreas Tuerk (Joanneum) (2015): Enhanced flexibility in the EU's 2030 Effort Sharing Agreement: issues and options, Discussion paper, March 2015, p. 2.

²⁵ Additionality has been a challenge. There are estimates by Carbon Market Watch that 20-70% of all CDM projects are non-additional. <http://carbonmarketwatch.org/category/additionality-and-baselines/>.

²⁶ UNEP DTU Partnership (2015): CDM/JI Pipeline Overview Page, <http://www.cdmpipeline.org/overview.htm>.

- **Additionality:** Additionality is an important issue for (non-EU) JI and CDM. These additionality issues would not be equally important for an ESD project mechanism because it would operate in countries that are all bound by the strict EU reduction target. The EPM, however, would not abandon the additionality requirement altogether. Economic efficiency and trust in the EPM make additionality an important criterion, notwithstanding the fact that it operates in countries that have capped emissions. It might therefore be useful to elaborate EU-wide baselines to ensure additionality of projects.
- **Projects – solution to structural challenges?** Decarbonising Europe’s economy is a deeply political project that requires structural changes. Given the limited scope and volume of any project, FIs facilitating projects can only complement this political project. For this reason, project-based mechanisms must incentivise structural changes through, for example, complementing Member State action that delivers long-term climate benefits, as opposed to short term rent seeking for private investors.²⁷ There is also the risk that project mechanisms deviates political attention from climate action that addresses structural issues and that is politically controversial. Projects may not serve as a fig leaf for required action that addresses structural issues.²⁸
- **No cherry-picking:** There is the argument that project-based mechanism may not lead to cherry-picking, where private investors can invest in cheap mitigation projects while governments are left with expensive mitigation programmes.²⁹ There is a risk that only buyer countries would benefit from a project mechanism if this mechanism sold cheap mitigation projects to (rich) buyer countries, but left (poorer) seller country with the more expensive projects. JI and, in particular, CDM have been criticised for cherry-picking. However, project selection through governments could impede private sector involvement, innovation and creativity. It is the basic assumption of the EPM that markets are better in identifying cost-effective mitigation potential than governments. If this assumption is correct, companies should have wide discretion in deciding where to invest.
- **Domestic action still preferable?** Member States will continue to have strong incentives after 2020 to implement mitigation projects at home. Domestic projects generate employment at home, reduce local air pollution or produce health benefits. Domestic projects clearly reduce emissions at home and have no accounting uncertainties. Confirming these considerations, cooperation instruments under the Renewable Energy Directive, a mechanism similar to FIs, have barely been used to date. According to a recent study by the Ecologic Institute³⁰, the limited use may reflect:
 - Member States’ preference to achieve the 2020 renewable energy targets through domestic action which allows to retain any economic benefits in the country;
 - Uncertainty about quantifiable costs and benefits, and design options;

²⁷ Sartor, Oliver (IDDRI), Istvan Bart (MEHI), Ian Cochran (CDC Climat), Andreas Tuerk (Joanneum) (2015): Enhanced flexibility in the EU’s 2030 Effort Sharing Agreement: issues and options, Discussion paper, March 2015, p. 21.

²⁸ For example, reducing transport emissions in line with the respective targets will require changes in transport modes and behavior; required emission reductions in the transport sector go beyond what projects can achieve. The decarbonising the building sector is not possible without policies that include changes in tax laws or permitting requirements, for example.

²⁹ Karcher, Silke (2015): BMUB Solidarität und Effizienz. Die Chance von Flexibilität und Marktmechanismen innerhalb des EU Effort Sharing in Carbon Mechanisms Review (CMR), 01/2015.

³⁰ Umpfenbach, Katharina, Andreas Graf and Camilla Bausch (2015): Regional cooperation in the context of the new 2030 energy governance. Berlin: Ecologic Institute.

- Uncertainty about the policy framework post 2020 which is particularly relevant for joint projects with long lead times.

Articles 6-12 RED: Cooperation mechanisms

The RED contains a number of mechanisms with a similar logic to potential project-based mechanisms under the ESD. Article 6 allows statistical transfer, where an amount of renewable energy is deducted from one Member State and added to another – against payment. According to Articles 7 and 8 RED, two or more EU Member States can co-fund a renewable energy project, and share the renewable energy to meet their targets. These projects can but do not have to involve the physical transfer of energy from one country to another. Projects with third countries are also possible (Articles 9 and 10).

These mechanisms have hardly been used to date. There is no joint project between Member States; only one project between a Member State and a third country has been realised – a project between Sweden and Norway. Estonia started negotiations with Luxembourg on statistical transfers to sell its expected RES surplus.

7.2. European Project Mechanism (EPM)

The establishment of a **project-based mechanism** is a major reform proposal. It recently gained more attention. As a working title, we will refer to such a mechanism as the European Project Mechanism (EPM) in the following.

For the design of such a mechanism, some **key design parameters** are:

- Who should decide on the (types of) projects to be carried out and who should initiate projects?
- Where private project developers are involved in projects – do they receive payment in the form of AEAs (and therefore also participate in the associated price risk), or do they receive a monetary compensation?
- Whose task is it to identify a buyer for the AEAs, and arrange the sale? If the freed-up AEAs go to a private project developer, it would be his/her task (and liberty) to sell them. If they remain with the host country government, and the project developer receives a financial payment, there may still be a case for a private party (project developer or others) to act as a broker.

Depending on how these (and other) parameters are decided, the **EPM can take different forms**. It could range from a market driven by project developers (not unlike the CDM market), where

developers share a significant part of the risks, to a model on the basis of public tendering, to the lightest form where an EPM would simply act as an information platform, providing information on opportunities for mitigation projects in a hosting Member State.

While different designs are possible, there are also a number of **common design elements** that an EPM could have, such as the participation of private investors, institutional set-up, the approval of projects or a discounting system.

7.2.1. Common Design Elements

To ensure transparency, predictability and credibility, the EPM should work on the basis of **common rules and design elements**. These common rules and design elements should encompass the following:

- **Participation of private investors:** Participation of private investors is key to the success of any project-based mechanism as it will mobilise additional funds and could thus enlarge the volume and scale of mitigation projects considerably. Also, involvement of private investors promises to inject more innovation and creativity in Europe's mitigation efforts. For these reasons, the EPM should involve private investors and should not be limited to state action. There are various ways how to involve private investors (see below). In either case, to involve private investors there needs to be a business case: in particular, this means that there needs to be a balance between the risks involved (project risk, financial risk, price risk, and political risk), and the expected return received. The higher the risks imposed on the investor, the higher the expected return will need to be.
- **Bodies and legal basis:** Based on the ESD, the EPM could include the following bodies: a Board that provides general guidance, and designated national authorities. This institutional setting would resemble CDM and JI. Common EU baselines for determining additional emission reductions could help create reliability and trust in the system.
- **General oversight:** To ensure coherence, the EPM mandate should be limited to checking whether projects approved by Member States meet the overall eligibility criteria. More specifically, the EPM should conduct the following tasks, in some respects similar to the CDM Supervisory Board:
 - develop guidelines for project approval,
 - approve (new) methodologies,
 - provide information on proposed projects in need of funding and investors seeking opportunities,
 - maintain a public project database.
- **Verification:** The EPM would work with independent third-party verification to ensure compliance and credibility of the system.³¹

³¹ Hoozgaard, Jelmer and Moritz von Unger (2010): Climate Focus Background Paper - Article 24a EU ETS, Offsetting under Article 24a EU ETS and European Country Approaches: a Roundtable, http://www.climat.be/files/6413/8184/2550/Article_24a_EU_ETS_Roundtable_Background_Paper.pdf.

- **Discounting:** To ensure high levels of environmental integrity, France only issues emission reduction units (ERUs) corresponding to 90% of the calculated reduction achieved by a JI project. The EPM could adopt a similar approach, i.e. the host country would keep 10% of the generated AEAs. Another option to achieve discounting is to set ambitious baselines, i.e. baselines that are lower than a scenario which reflects all policies and other factors reducing emissions.

In parts, **Joint Implementation (JI) and the Clean Development Mechanism (CDM)** under the Kyoto Protocol can provide inspiration for an EPM under a new ESD. Under JI, countries with Kyoto commitments can transfer and/or acquire ERUs and use them to meet their reduction target. The Joint Implementation Guidelines specify a number of eligibility requirements.³² If a host Party meets these eligibility requirements, “it may verify emission reductions or enhancements of removals from a JI project as being additional to any that would otherwise occur.”³³ This “simplified” procedure is also referred to as “Track 1”.³⁴ In contrast, the verification procedure has to be done under the Joint Implementation Supervisory Committee (JISC)³⁵ if a host Party does not meet all eligibility requirements.³⁶ This latter procedure, also called “Track 2” procedure, resembles the CDM procedure.³⁷ The CDM allows emission-reduction projects in developing countries to earn certified emission reduction (CER) credits. Verification and approval of CDM emission reduction projects involve a number of entities, including the CDM Executive Board, Designated National Authorities and third party verifiers.

However, while JI and CDM can inform the establishment of an EPM, there are a number of **important differences:**

- Under the ESD, only Member States can hold AEAs. Consequently, investors have no incentive to hold AEAs. They would only be attractive as a type of currency if project developers were able to sell them to Member States. This would not only require a major reform of the current system – i.e. private companies would be entitled to hold AEAs – but it would also require a liquid market, where AEAs can easily be traded.
- Concerning JI and CDM, most demand for CERs and ERUs comes from the installations covered by the ETS. The ETS Directive allows the use of these certificates for compliance purposes. Because private companies have no quantified target under the ESD, there is no similar possibility for companies in the non-traded sectors. For this reason, AEAs cannot support

³² See UNFCCC (2006): Decision 9/CMP.1, Guidelines for the implementation of Article 6 of the Kyoto Protocol, Decisions adopted by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol for further details.

³³ UNFCCC (2014): Joint Implementation, http://unfccc.int/kyoto_protocol/mechanisms/joint_implementation/items/1674.php.

³⁴ UNFCCC (2015): Eligibility Requirements, <http://ji.unfccc.int/Eligibility/index.html>.

³⁵ UNFCCC (2015a): JI Supervisory Committee (JISC), http://ji.unfccc.int/Sup_Committee/index.html.

³⁶ UNFCCC (2014): Joint Implementation, http://unfccc.int/kyoto_protocol/mechanisms/joint_implementation/items/1674.php.

³⁷ Deutsche Emissionshandelsstelle (DEHSt) (2015): Joint Implementation (JI), Teilnahmekriterien zur Durchführung von JI-Projekten, <https://www.dehst.de/DE/Klimaschutzprojekte/Projektmechanismen/JI/ji.html>.

companies in compliance.

Because of these differences between the EPM and existing JI³⁸, a **JI-like project mechanism is not a possible design option for an EPM.**

7.2.2. EPM: Based on public tendering and monetary payment

As a first option, an EPM could work on the basis of public tendering. The EPM would provide the framework for the tendering process, while the project approval remains in the domain of the Member States. In principle, Member States interested in buying AEs as well as Member States interested in selling AEs and hosting reduction projects could issue a call for tender.

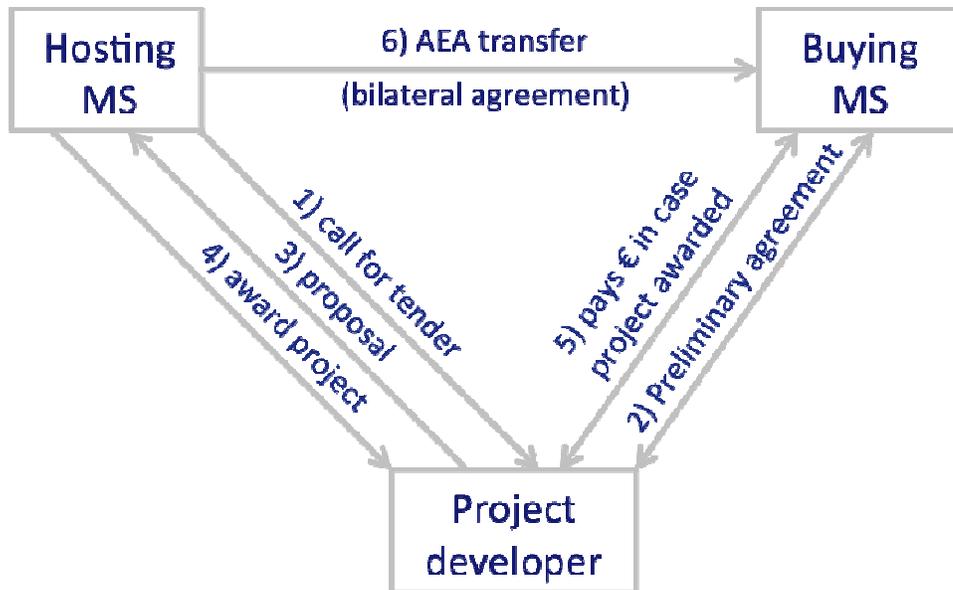
In case the Member State interested in selling AEs and hosting the project issues the call for tender, the tendering process could be organised along these steps:

- Step 1): A selling Member State identifies reduction opportunities and calls for projects through a public tender. In the call, the Member State could simply tender an amount of AEs or list specific mitigation opportunities (projects or programmes). It would be the Member State's choice to determine the number of projects to be implemented as well as the respective sectors. To provide space for innovation, calls for tender could be broad, whereby project developers are largely free to initiate projects or where host countries only indicate in which sectors they would host projects.
- Step 2): Project developers interested in the call approach Member States that have an interest in buying AEs. A preliminary agreement between the project developer and the would-be buyer (i.e. the Member State interested in buying AEs) sets out the transaction details – including the price. To ensure that the cost of the mitigation project is below the cost of comparable domestic action, the pre-agreement could set a maximum price. The project developer would only submit a bid within the margins of the pre-agreement. It is also possible that the buying Member States approaches potential project developers.
- Step 3): Project developers respond to these calls and submit bids (in line with the pre-agreement with the potential buyer Member State).
- Step 4): The hosting Member State decides to which investor it wants to award the project. Typically the cheapest proposal would win the tendering process – inclusion of other award criteria is conceivable, but entails risks reducing the transparency of the procedure, and of course affecting the cost-effectiveness of the resulting distribution of efforts (see above).

³⁸ It should be noted, however, that participation of private companies is not a defining element of JI/CDM. Art. 6 para. 3 of the Kyoto Protocol provides for JI/CDM without private participation or demand.

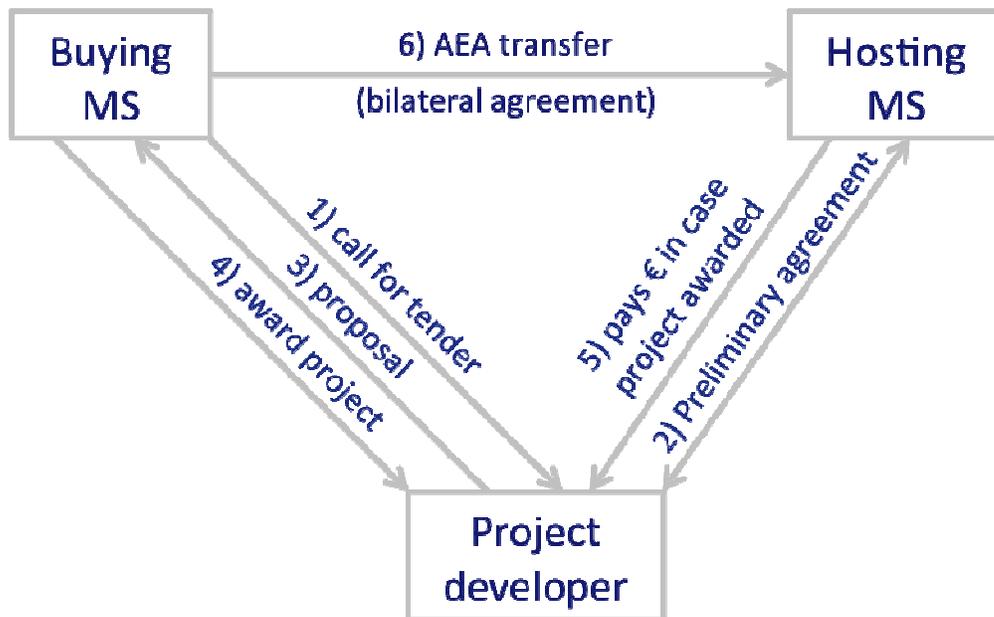
- Step 5): The buying Member State would pay the project developer according to the proposal, which was developed in line with the pre-agreement between the project developer and buying Member State.
- Step 6): The buying Member State would receive AEAs from the host country corresponding to the amount of emissions reduced through the project. AEAs would be transferred at an agreed point in time, such as the completion of the project or verification. The AEA transfer would be based on a bilateral agreement that regulates transaction details.

The **following graphic** illustrates this proposal:



The tendering process would be similar in **case a Member State interested in buying AEAs issues the call for tender**. There are, however, a number of differences. No preliminary agreement between buying country and project developer would be needed. The call for tender and the corresponding bid would be the basis of the transaction. Instead, a preliminary agreement between the selling Member State and project developer would be necessary to ensure that the selling country is willing to host the abatement project. There is equally a need for an agreement between the hosting and buying country on the transaction of AEAs.

The **following graphic** illustrates this proposal:



In either version – calls for tender by the buying or selling Member State, such a system would have **the advantage** that – in contrast to the existing system of AEA transfers between Member States – the AEA price would be set through public tendering and would involve private project developers. The system would also give the host Member States wide discretion in determining domestic action – Member States reserve the right to decide which sectors or projects are up to private investors.

However, a number of **challenges** remain:

- **Transaction costs:** The tendering model requires at least three different contracts – the contract between the project developer and the buying Member State, the contract between the project developer and the hosting Member State and the agreement between buying and selling Member State. This is a potentially time-consuming process. At least initially, this also entails considerable transaction costs. Over time, as standardised contracts and procedures are established, transaction costs would become smaller or even negligible.
- **Supply:** Depending on the distribution of risks and returns, it is unclear whether there will be supply of AEAs and projects. Demand could also be low because co-benefits of domestic action might cause the buying country not to invest in mitigation projects abroad, despite the lower costs of these projects.
- **Controls private involvement:** Because governments design the call for tender and determine which sectors would benefit from projects, they determine the scope and design of private involvement, possibly undermining entrepreneurial creativity and innovation, and possibly excluding some low-cost abatement options through their choice of sectors, programmes or projects.
- **Uncertainty about the actual reduction:** Any project-based mechanism will need to rely on baselines, calculating the achieved emission reductions as the difference between actual emissions and the hypothetical baseline. Choosing an incorrect baseline would lead to an under- or overestimation of the actual emission reductions. This would not pose a problem for

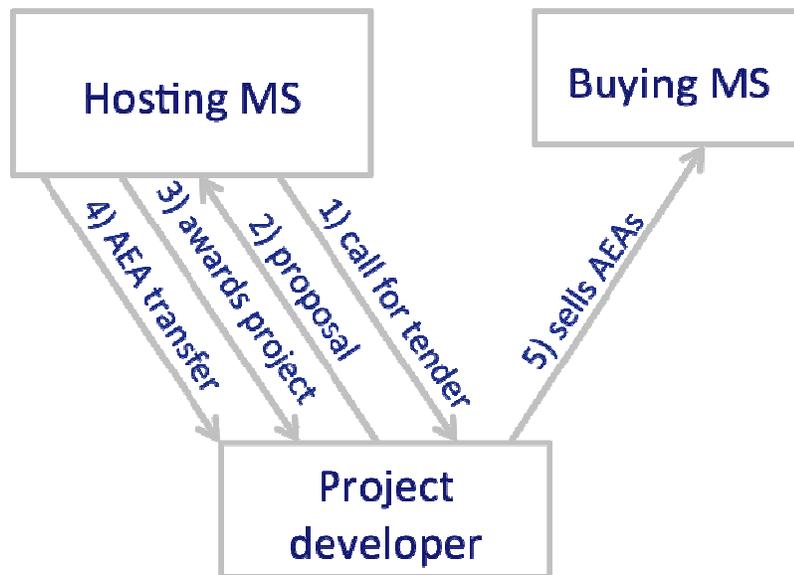
the environmental integrity – since the host country would need to compensate any overestimate of the reduction achieved by putting more effort in other sectors in order to ensure that overall emissions are covered by the available AEs. However, such a mistake would reduce the economic efficiency of the system (i.e. increase costs) and could create (significant) windfall profits for projects.

7.2.3. EPM: Based on public tendering and transfer of AEs

Similar to the previous proposal, an EPM could also function on the basis of public tendering. In contrast to the previous proposal, the project developer would not implement projects on the basis of contracts with the buying and selling Member States but only on the basis of a contract with the hosting Member State. Upon project completion or another agreed point in time, the project developer would receive the amount of AEs as agreed with the hosting Member State. In more detail, this process could work along these steps:

- Step 1): A Member State interested in hosting an emission reduction project issues a call for projects through public tendering.
- Step 2): Project developers respond to this call.
- Steps 3): The hosting Member State decides to which developer it awards the project (typically the proposal with the best cost-performance ratio would win).
- Step 4): The hosting Member State transfers AEs to the project developer, based on the measured and verified emission reductions achieved by the project.
- Step 5): The project developer sells AEs to Member State(s) interested in buying AEs. Economically, it could make sense for the project developer to agree with the buying Member State on the transaction beforehand or to ensure other forms of hedging.

The **following graphic** illustrates this system:



This system would probably decrease transaction costs. However, it is not clear whether this system would give investors **reasonable certainty** whether they can cover their costs and make a profit. In particular, in comparison to the previous option, the project developer would also be exposed to the price risk (of selling the AEA's), and would need to be compensated for this risk (or the cost of hedging it). Compared to the previous option, this option creates a higher risk for the private project developers: they are not paid in Euro, but rather in AEA's, and therefore have to find a buyer for the AEA's, and have to insure against the price risk, e.g. by hedging (selling AEA's up front). This is not necessarily a deal breaker, but it means that the business model is somewhat riskier, and therefore (all other things equal) investors will expect a higher return, i.e. focus on a smaller set of more attractive projects.

In addition, it is unclear whether Member States are prepared to **change the current system fundamentally**, entitling project developers or other investors to receive AEA's for projects. In its current form, the ESD regulates only the interaction between Member States, and contains no rules for private entities.³⁹ This marks an important difference to the EU ETS, where most demand for CERs and ERUs (used to) come from the installations covered by the ETS, who could use these certificates for compliance purposes.⁴⁰ As the ESD only commits Member States and not private entities, investors have no incentive to hold AEA's: these are only attractive as a type of currency that project developers can sell to Member States. Furthermore, restricting AEA's to Member States keeps the system simple, while allowing private companies to hold and trade AEA's would create a secondary market that would be considerably more complex.

³⁹ Hoozgaard, Jelmer and Moritz von Unger (2010): Climate Focus Background Paper - Article 24a EU ETS, Offsetting under Article 24a EU ETS and European Country Approaches: a Roundtable, http://www.climat.be/files/6413/8184/2550/Article_24a_EU_ETS_Roundtable_Background_Paper.pdf.

⁴⁰ Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (2015): The Market for CDM/JI-Generated Carbon Credits, http://www.jiko-bmub.de/english/background_information/introduction_cdm_ji/market_for_carbon_credits/doc/449.php.

If such a change in the ESD is not an option for Member States, it is also possible that the project developer receives a monetary payment from the host country, which is tied to the value of the AEA when they are generated. The implication for risk sharing would be the same.

7.3. Clearing House

The establishment of a so-called **Clearing House (CH)** is another reform proposal, suggested by Oliver Sartor et al. in a paper for Climate Strategies.⁴¹ The CH would also be a project-based mechanism, containing a number of similarities with the EPM proposal but would differ in essential design elements. In summary, this proposal suggests a clearing house with the following components. First, the CH would call for Member States who are interested in buying AEA to submit their AEA demand schedules. Second, the CH would make a call for emissions reduction projects in the ESD sectors. Third, private developers would propose projects, verified by Member States and or third party auditors. Fourth, the CH would select projects. Fifth, the CH would publish the tender results, including the purchased amount of AEA, the clearing price for AEA, and the number of AEA reductions offered by project developers. AEA would be allocated pro-rata to buyer Member States.⁴² The proposal contains a number of further elements.

However, the CH must also address a number of concerns. The most important concern is that the CH effectively resembles an agency with considerable powers in designing and approving abatement projects and that it would entail a large and **centralised bureaucracy**.⁴³ Addressing this concern, the authors argue that a centralised approach could exploit economies of scale and apply standardised rules, thereby creating a more efficient solution than a decentralised structure.⁴⁴

However, **it is quite possible that the CH will lead to a bureaucratic structure for the following reasons:**

- **Large volume of projects:** If the projections above are right, there will be considerable demand for AEA generated through projects after 2020. This would probably lead to a large amount of projects, provided the demand and offered AEA match. This high project volume automatically requires administration by a large bureaucracy, in particular if this body takes decisions and verifies individual projects.
- **Project selection criteria:** There is a range of possible selection criteria. Emissions reductions/price ratio, i.e. favouring projects that reduce the most emissions per Euro, is an option, which is simple and transparent – at least at first sight. The authors of the Climate

⁴¹ Sartor, Oliver (IDDRI), Istvan Bart (MEHI), Ian Cochran (CDC Climat), Andreas Tuerk (Joanneum) (2015): Enhanced flexibility in the EU's 2030 Effort Sharing Agreement: issues and options, Discussion paper, March 2015.

⁴² Sartor, Oliver (IDDRI), Istvan Bart (MEHI), Ian Cochran (CDC Climat), Andreas Tuerk (Joanneum) (2015): Enhanced flexibility in the EU's 2030 Effort Sharing Agreement: issues and options, Discussion paper, March 2015, p. 22 - 34.

⁴³ This is a practically very relevant issue – Japan, the largest buyer of CERs, for example, decided to abandon CDM projects because implementation of CDM projects was considered too bureaucratic.

⁴⁴ Sartor, Oliver (IDDRI), Istvan Bart (MEHI), Ian Cochran (CDC Climat), Andreas Tuerk (Joanneum) (2015): Enhanced flexibility in the EU's 2030 Effort Sharing Agreement: issues and options, Discussion paper, March 2015, p. 28.

Strategies paper, however, identified a number of shortcomings of this approach.⁴⁵ First, projects with the lowest reduction costs/unit of emissions are unlikely to have a transformative effect in the long run. Second, a pure emissions reductions/price ratio approach creates the impression that Member States shy away from their responsibility to take action at home. To address these concerns, the authors suggested a number of additional selection criteria that would take account of the transformative effect of a project. While these additional criteria would address these concerns to some extent, they would make project selection considerably more bureaucratic and subjective, which the authors recognise. Non-price criteria could also blur the price signal of the CH. For these reasons, non-price project selection criteria address a number of concerns but create new problems themselves.

- **Relationship to existing FIs:** Another thorny question is whether CH should replace or complement the current FIs, in particular state-to-state trading. On the one hand, AEAs trading not linked to specific project could continue with no apparent impact on the CH. These projects should only be notified to the CH. On the other hand, bilateral project agreements linked to trading of AEAs could undermine the efficacy of the CH. For this reason, there could be an obligation that AEAs trading must occur through the CH. Such centralisation could add to bureaucracy.
- **Relationship with other funding schemes:** It is clear that the CH is supplementary and does not replace various funding schemes, such as the EU structural funds. The authors of the Climate Strategies paper estimate that “even with a large amount of AEA trading under a future flexibility mechanism, over $\frac{3}{4}$ of the funds available to many Member States would still come from other sources”.⁴⁶ In this respect, the CH could serve as an additional initiator. It is clear that co-funding of abatement projects eligible under the CH is possible. However, the mechanism must avoid that a project receives double funding or duplicates funding. To ensure compliance with this requirement, additional checking will be required, leading to additional bureaucracy.

7.4. Transfer of Article 24a credits

In theory, Article 5(7) ESD introduces an inner-EU project-based mechanism in the ESD. According to this provision, Member States can use credits from **Community-level projects** issued pursuant to Article 24a of the ETS Directive (2003/87/EC) towards their emission reduction commitments. Article 24a ETS Directive allows Member States to issue credits for national projects that reduce greenhouse gas emissions not covered by the ETS. Article 24a ETS Directive requires an implementing act to be proposed by the European Commission, which has not been issued. For this reason, the mechanism is not operational.

⁴⁵ Sartor, Oliver (IDDRI), Istvan Bart (MEHI), Ian Cochran (CDC Climat), Andreas Tuerk (Joanneum) (2015): Enhanced flexibility in the EU's 2030 Effort Sharing Agreement: issues and options, Discussion paper, March 2015, p. 28.

⁴⁶ Sartor, Oliver (IDDRI), Istvan Bart (MEHI), Ian Cochran (CDC Climat), Andreas Tuerk (Joanneum) (2015): Enhanced flexibility in the EU's 2030 Effort Sharing Agreement: issues and options, Discussion paper, March 2015, p. 33.

The ESD and ETS contain a **number of requirements** that would apply once this mechanism becomes operational.

- The ESD sets no quantitative limit for the use of these project credits. Member States can use these allowances “without any quantitative limit whatsoever”.
- According to the ETS Directive, the mechanism is the subsidiary provision to Article 24 ETS Directive, which authorises the unilateral inclusion of additional activities and gases (beyond what is already covered by the EU ETS) in the European trading scheme. Accordingly, measures shall only be adopted where inclusion is not possible in accordance with Article 24.
- According to Article 24a (3) ETS Directive a Member State can unilaterally refuse certain project types for its territory.
- Any such measures shall not result in the double-counting of emission reductions nor impede the undertaking of other policy measures to reduce emissions not covered by the Community scheme (Article 24a (1) ETS Directive).
- Projects will be executed on the basis of the agreement of the Member State in which the project takes place (Article 24a (3) ETS Directive).

Although there are no practical experiences with the mechanism, it is **potentially problematic**. It is not clear whether an implementing decision by the European Commission could address these issues.

- **Complexity:** The mechanism would link the traded and non-traded sector, which complicates an already complex system further and makes the system more uncertain and unpredictable. From a market perspective, the expected number of credits becomes less clear, and calculations for allowances and price levels of the EU ETS become more difficult. A transparent and simple system that allows for proper accounting should clearly attribute AEAs to the ESD sector, not EUAs.⁴⁷
- **Price:** The FI establishes a new source of allowances that may decrease the price for ETS allowances (further). If the ETS allowance price remains higher than the AEAs’ price, as assumed, the practical use of this FI is not clear – why would an operator invest in ESD sectors when ETS allowance prices are lower than AEA prices?
- **Double-counting:** Projects under Article 24a ETS Directive also bear the risk of rewarding emission reductions both under JI and/or the ETS.⁴⁸

Addressing these challenges, the current Article 24a ETS Directive should be transferred into the new ESD and/or the newly established project mechanism, and form the basis for a stand-alone ESD project mechanism which has no link to the ETS.

⁴⁷ Hoozgaard, Jelmer and Moritz von Unger (2010): Climate Focus Background Paper - Article 24a EU ETS, Offsetting under Article 24a EU ETS and European Country Approaches: a Roundtable, http://www.climat.be/files/6413/8184/2550/Article_24a_EU_ETS_Roundtable_Background_Paper.pdf.

⁴⁸ Hoozgaard, Jelmer and Moritz von Unger (2010): Climate Focus Background Paper - Article 24a EU ETS, Offsetting under Article 24a EU ETS and European Country Approaches: a Roundtable, http://www.climat.be/files/6413/8184/2550/Article_24a_EU_ETS_Roundtable_Background_Paper.pdf.

8. Other Options to Enhance Flexibility

Next to the project-based mechanisms, there are a number of **other options** to enhance flexibility. These options include:

- reform of the current borrowing and banking system,
- inclusions of a one-off ETS transfer,
- enhanced trading of AEAs between Member States,
- establishment of permanent AEA auctioning.

8.1. Borrowing and banking

The ESD includes two FIs that give Member States the possibility to shift their reduction effort between compliance years – **banking and borrowing**. A Member State may borrow up to 5% of its AEA entitlements from its future compliance years. A Member State may also transfer the part of its annual emission allocation that exceeds its greenhouse gas emissions to the next year without any limitation. In the event of extreme meteorological events, a Member State may request an increased carry forward (borrowing) rate in excess of 5% in 2013 and 2014 conditions.

These intertemporal flexibilities can help to increase the cost-effectiveness of the policy. With Member State registries in place, they are also easy to administer and transparent. This system should be maintained, provided experience with the implementation of these mechanisms does not reveal significant shortcomings. There seems to be wide consensus among Member States that borrowing and banking should be maintained after 2020.

While maintained in principle, the **following considerations should guide reform efforts**:

- Borrowing between years may not be unlimited. Unlimited borrowing does not ensure that achieving of the overall target remains realistic. The ESD assumes a linear reduction path because steep reductions within a short period of time are unlikely to occur. For this reason, the 5% threshold should be maintained unless practice of the coming years demonstrates that a higher threshold does not jeopardise achieving the target. At this point, there is no relevant experience or modelling to what extent a higher threshold could undermine achieving the target. There is a proposal to allow higher borrowing at the beginning of the next ESD “commitment period”, while the 5% threshold would be maintained for the end of the commitment period.⁴⁹ This proposal addresses the compliance problem to some extent but complicates the system.
- Similar to the current rules, the extreme weather exception should be maintained for 2021 and 2022, the first two years of the new ESD. It seems fair and economically sensible to provide

⁴⁹ Graichen, Jakob, Hannes Böttcher and Verena Graichen (2015): Enhanced flexibilities for the EU’s 2030 Effort Sharing Decision, Report prepared for Carbon Market Watch, Öko-Institut e.V., June 2015, p. 16.

Member States with a certain degree of flexibility in case of extreme weather conditions, which are beyond their control.

- The ESD does not include a carry-over of an AEA surplus after 2020. The European Council did not take a decision on carrying over a surplus. Accordingly, a surplus may not be carried forward to the period after 2020. In addition, carry-over could weaken the environmental integrity of the EU's 2030 climate target and – in particular - its long-term targets.

8.2. One-off ETS transfer

The European Council called for a new FI through a **“limited, one-off, reduction of the ETS allowances”**.⁵⁰ In practical terms, such intervention means that eligible Member States could use ETS allowances to meet their ESD targets. An obvious attraction of this model is that it would contribute to reducing the current surplus of emission allowances in the EU ETS. Only Member States meeting certain requirements will be eligible. To benefit from this FI, national reduction targets of a Member State and their cost-effective reduction potential have to be significantly above the EU average. In addition, Member States may also use this FI if they “did not have free allocation for industrial installations in 2013”.⁵¹ The European Council decided that this FI should be established before 2020. It should preserve predictability and environmental integrity. In short, the Conclusions provide a frame for the new FI but leave important design questions unanswered. It is clear that the FI will be a single intervention, but the meaning of “limited”, “predictable” or “safeguarding the environmental integrity of the EU's climate policy” is less clear. The eligibility criteria for Member States also require further refinement.

Given the ambiguity of the European Council's Conclusions, it is not clear which Member States would qualify for this FI. It is also unclear to what extent the FI would increase the amount of admissible AEAs. Depending on the quantification of the terms “limited” and “significantly above the EU average”, the number of eligible Member States and the amount of AEAs admissible under the new ESD would vary considerable. It will be subject of the coming negotiations to determine the meaning of these terms. The Öko-Institut calculated the effects of a one-off ETS transfer, using two scenarios – a narrow and a broad scenario:⁵²

⁵⁰ European Council (2014): European Council Conclusions, 23/24 October 2014. EUCO 169/14, para. 2.12.

⁵¹ European Council (2014): European Council Conclusions, 23/24 October 2014. EUCO 169/14, para. 2.12.

⁵² Graichen, Jakob, Hannes Böttcher, and Verena Graichen (2015): Enhanced flexibilities for the EU's 2030 Effort Sharing Decision, Öko-Institut e.V., June 2015.

	2030 target [%]	cost-eff.	cost-eff.	Eligible Member States		Level of flexibility				estimated EUA auctioning volumes per year 2021-30 [Million EUA]
		potential (min)	potential (max)	Narrow above 33% and cost-eff (max)	Broad above 30% and cost-eff (min)	5% of 2021 AEA [Million AEA]	20% of 2021 AEA [Million AEA]	5% of cumulative deficit vs constant 2020 [Million AEA]	20% of cumulative deficit vs constant 2020 [Million AEA]	
		[%]	[%]							
Austria	33.3%	27.0%	32.0%	X	X	2.6	10.3	3.3	13.1	11.6
Belgium	31.3%	24.0%	32.0%		X	3.8	15.1	5.3	21.1	19.2
Denmark	36.8%	31.0%	33.0%	X	X	1.5	5.8	1.0	4.0	10.4
Finland	34.5%	30.0%	33.0%	X	X	1.5	5.8	1.6	6.3	13.9
France	35.6%	34.0%	38.0%		X	17.1	68.5	17.8	71.0	45.5
Germany	39.5%	41.0%	47.0%			21.0	84.1	27.8	111.2	166.6
Ireland	30.0%	21.0%	25.0%		(X)	2.3	9.0	3.6	14.2	7.8
Italy	33.5%	31.0%	35.0%		X	15.0	59.9	22.2	88.7	78.6
Luxembourg	32.5%	20.0%	27.0%		X	0.5	2.1	1.0	3.8	0.9
Malta	19.5%	27.0%	29.0%	Ind. clause	Ind. clause	0.1	0.2	0.1	0.3	0.9
Netherlands	33.6%	28.0%	32.0%	X	X	5.3	21.1	5.9	23.7	27.9
Sweden	35.6%	29.0%	33.0%	X	X	1.8	7.1	1.5	6.1	6.7
United Kingdom	35.8%	35.0%	39.0%		X	15.3	61.3	12.9	51.7	86.8
Total (Narrow interpretation)						12.6	50.4	13.3	53.3	71.4
Total (Broad interpretation)						66.6	266.2	76.0	303.8	310.2

Notes: - For an explanation on the cumulative deficit see section 1.2.2.
- Calculations are based on 50%/50% cost-effectiveness (min) and GDP/cap split. The 2021 starting point is based on the with existing measures projections by Member States for the years 2016-18 in line with the starting point rule as applied for ESD I.
- Cyprus, Slovenia and Spain have targets above their cost-effective potential but below the EU average of 30% and are therefore not included. The Irish target is 29.99% below 2005 emission levels according to our calculations. Due to the uncertainty in these figures Ireland is included in the broad application to show the potential upper end of the flexibility.
- The estimated EUA auctioning volume is based on various assumptions concerning emissions development, share of EUAs available for auctioning and the interpretation of the council conclusions. It includes the effect of the Market Stability Reserve and is given as the average of the period 2021-30. The values are of an indicative nature to show the size of the new flexibility in relation to the EUAs available for auctioning in the potentially eligible Member States.

Source: Öko-Institut based on European Commission 2014b, EEA 2014band Eurostat.

Accordingly, six Member States would be eligible for the FI in a narrow scenario, while 12 would meet the requirements in the broad scenario. Under the broad scenario, the FI would increase the admissible AEA amount under the ESD by 266.2 million, provided up to 20% of the AEA for 2021 fall within the scope of this FI, and by 66.6 million if only up to 5 % of the AEA for 2021 fall under the FI, Under the narrow scenario, on the other hand, the FI would increase by 50.4 million and 12.6 million, respectively. In short, about 10% of the AEAs for 2021 could fall under the FI in the broad scenario. It is noteworthy that this FI is a single event that will occur only once in the coming commitment period. For this reason, the overall impact of this FI on total allocated ETS allowances for the period 2021-2030 ranges only between a small 0,31% - 1,72% for the broad scenario and 0,08% - 0,43% for the narrow scenario.⁵³

Regardless of its limited scope, **this FI is potentially problematic.**

- This FI allows the inflow of credits that were generated in the traded sectors into the non-traded sector. This makes a complex system even more complicated.
- Corresponding to the volume of eligible ETS allowances, this flexibility will reduce the incentives for emission reductions in the non-ETS sectors. In general terms, the current price of ETS allowances is lower than the carbon price required to reduce emissions in the transport and agriculture sectors. It is of course the rationale of any FI to allow reductions where they are cheapest, but this should not impede reductions in sectors that are in equal need to decarbonise and should not contribute to locking in carbon-intensive infrastructure.⁵⁴
- The interaction between this FI and ETS Market Stability Reserve (MSR) needs to be clarified.

⁵³ Own calculation on the basis of two scenarios: 1) the reduction factor remains at 1,74%, in which case a total of 15,503,616,880 EAU would be available between 2021 and 2030; 2) the reduction factor is scaled up to 2,2%, in which case 16,059,987,810 EAU would be allocated.

⁵⁴ Refer also to text box "Cost-effectiveness – an ambivalent concept?", page 12 above.

- Whereas the ETS has an instrument to deal with oversupply in the market, the ESD is not equipped with a comparable mechanism.

To address these concerns, this **FI should be as limited in scope and volume as possible**. To limit its scope, eligibility criteria for Member States should be restricted and the amount of ETS allowances that could be used for compliance should be small, as calculated by the Öko-Institut in the restrictive scenario. As an additional criterion, the FI should introduce a discount, meaning that Member States would have to surrender more than one ETS allowance to cover one ton of non-ETS emissions. Öko-Institut proposed a discounting factor of at least a factor of four.⁵⁵ A discounting factor would facilitate reducing the ETS surplus and help ensure the environmental integrity of the FI. The discount factor would also be consistent with the EU position on international mechanisms where the EU calls for net atmospheric benefits of international offsets.

8.3. AEA Trading between Member States

Member States **may transfer up to 5% of their annual emission** allocation for a given year to another Member State. A receiving Member State may use this quantity for the implementation of its obligation (under Article 3 ESD) for the given year or any subsequent years until 2020. A Member State cannot transfer any part of its annual emission allocation if, at the time of transfer, it is not in compliance with the requirements of the ESD.⁵⁶

This rule 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 AEAs can initiate trade and does not need to wait until a specific year's compliance figure has been calculated.

In principle, the current system should be maintained. The 5% threshold for non-surplus reductions helps ensure that the ESD target remains achievable. The ESD assumes that Member States reduce emissions along a linear path, taking account of empirical evidence that emissions fall steeply in short periods of time only in exceptional circumstances. A higher threshold that would provide for more flexibility should only be considered if experience with the implementation of the ESD shows that a higher threshold does not impede compliance.

Importantly, the ESD legislative framework specifies only the transfers between various ESD accounts, but contains no rules on the **transaction modalities**.⁵⁷ Recital 10 of the ESD only states that “transfers may be carried out in a manner that is mutually convenient, including by means of auctioning, the use of market intermediaries acting on an agency basis, or by way of bilateral arrangements”. The ESD also states that the transparency of such transfers should be ensured by way of a notification to the

⁵⁵ Graichen, Jakob, Hannes Böttcher and Verena Graichen (2015): Enhanced flexibilities for the EU's 2030 Effort Sharing Decision, Report prepared for Carbon Market Watch, Öko-Institut e.V., June 2015.

⁵⁶ Article 3(4) 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.

⁵⁷ Carbon Market Watch (2014b): Tackling 60% of the EU's Climate Problem, The Legislative Framework of the Effort Sharing Decision, http://carbonmarketwatch.org/wp-content/uploads/2014/06/Report-Legislative-Framework-of-the-ESD-Carbon-Market-Watch_WEB.pdf.

Commission and the registration of each transfer in the registries of both Member States involved. Against this backdrop, Member States can transfer against payment or in exchange for technology. Other agreements are possible, including AEA transfers in return for private investments in specific emission reduction projects or a Green Investment Scheme (GIS) that would require the selling Member State to invest the revenues of the sales into mitigation actions.⁵⁸ To ensure that revenues or other forms of compensation help reduce greenhouse gas emissions, the future ESD could include more details on the transaction modalities. Selling Member States could, for example, be required to reinvest revenue in mitigation action. However, such conditionality has its downsides. If revenues must be earmarked to mitigation efforts, there is a need for ex-post verification. This would automatically lead to additional bureaucracy. Conditionality would also limit incentives for Member States to engage in AEA trading and could restrict the budgetary rights of parliaments.

Use of ETS revenues in 2013

Article 10.3 ETS Directive determines that at least 50% of auctioning revenues should be used by Member States for climate and energy related purposes. In 2013, the total revenues for the EU reached € 3.6 billion.⁵⁹ Out of these € 3.6 billion, around € 3 billion were used for climate and energy related purposes, which is significantly more than the 50% set forth in the EU ETS Directive.

8.4. Auctioning of AEAs

To promote trading between Member States, auctioning of AEAs is another option. The current ESD **does not include a permanent auctioning mechanism**. Recital 10 of the ESD only states that “transfers may be carried out in a manner that is mutually convenient, including by means of auctioning [...]”. Accordingly, even in the current framework, Member States could agree among themselves to promote trading on the basis of a specific auctioning agreement. Member States have not used this option until today.

A permanent AEA auctioning mechanism could follow the **model of the auctioning of EUAs under the ETS** – with the crucial exception that only Member States would be entitled to participate in the auctioning. Important design elements of the ETS that should be used for a new auctioning system for AEAs include:

- **Auctioning platform:** Today, there are two auction platforms for ETS allowances, the European Energy Exchange (EEX) in Leipzig and the ICE Futures Europe (ICE) in London. The

⁵⁸ Carbon Market Watch (2014b): Tackling 60% of the EU's Climate Problem, The Legislative Framework of the Effort Sharing Decision, http://carbonmarketwatch.org/wp-content/uploads/2014/06/Report-Legislative-Framework-of-the-ESD-Carbon-Market-Watch_WEB.pdf.

⁵⁹ European Commission (2015): Auctioning, http://ec.europa.eu/clima/policies/ets/cap/auctioning/index_en.htm.

EEX also acts as Germany's platform, the ICE as the UK's platform. The transitional common auction platform will be succeeded by a common auction platform, to be appointed by tender procedure.⁶⁰ In principle, these platforms should be used for AEA auctioning.

- **Auctioning procedure:** According to the Auctioning Regulation, ETS auctions are implemented as uniform, single round, closed bid auctions. That means all bidders submit their bids at once, without knowledge of their competitor's bids, and all successful bidders pay the same price (the market clearing price). Because only a small number of players would participate, auctioning would not take place weekly⁶¹ but significantly less frequently. AEA auctioning could take place only annually⁶², which would reflect the current compliance cycle of the ESD. However, annual auctioning means that price information would only occur once a year, which could defeat the function of auctioning for price discovery. This argues for more frequent auctioning, possibly monthly or bimonthly (although more frequent auctioning potentially increases the administrative burden and might face the challenge of an illiquid market).
- **Cancellation of auctioning:** To ensure predictability of the auctioning system, auctioning should only be cancelled in specific and clearly defined circumstances. According to Article 7.6 of the Auctioning Regulation, auctioning can be cancelled if the "clearing price is significantly under the price on the secondary market".⁶³ Auctioning can also be cancelled "where the proper conduct of that auction is disrupted or is likely to be disrupted" (Article 9.1.). These exceptions would not necessarily apply to the auctioning of AEAs since there no secondary market would be established. However, auctioning of AEAs could be cancelled if supply and demand do not (nearly) match or if the AEA price falls below a specific threshold.⁶⁴

Auctioning of ETS allowances

According to Article 10 ETS Directive, auctioning of allowances is the **standard allocation method** in power generation, unless the derogation of Article 10c applies. At this point, auctioning is the exception in industrial installations that received 80% of their allowances free of charge in 2013.⁶⁵ In principle, this amount should decrease to 30% in 2020; however the vast majority of industrial emitters benefit from an exemption in Article 10b(12) ETS Directive as they are deemed to be exposed to the risk of carbon leakage.

The EU ETS Auctioning Regulation regulates the details of auctioning, including, for example, eligibility and admission of bidders, modification of auctioning, or administration of auctions:

- **Eligibility of bidders:** Article 18 EU ETS Auctioning Regulation determines eligibility requirements for bidders. For example, buyers must be an operator holding an operator

⁶⁰ European Commission (2015): Auctioning, http://ec.europa.eu/clima/policies/ets/cap/auctioning/index_en.htm.

⁶¹ European Commission (2013): 2014 auction calendars published, http://ec.europa.eu/clima/news/articles/news_2013111801_en.htm

⁶² Duijnhouwer, Frans (2015): Enhancing existing flexibility instruments to ensure cost-effectiveness, presentation, 21 May 2015, Brussels.

⁶³ The auction clearing price is significantly under the price on the secondary market prevailing during and immediately before the bidding window when taking into account the short term volatility of the price of allowances over a defined period preceding the auction.

⁶⁴ Duijnhouwer, Frans (2015): Enhancing existing flexibility instruments to ensure cost-effectiveness, presentation, 21 May 2015, Brussels.

⁶⁵ http://ec.europa.eu/clima/policies/ets/cap/auctioning/index_en.htm.

account. Public bodies or state-owned entities of the Member States are covered. Investment firms and credit institutions, bidding on own account or on behalf of clients, must be authorised under the Markets in Financial Instruments Directive (MiFID) (Directive 2004/39/EC) or under the Credit Institutions Directive (Directive 2006/48/EC), respectively.⁶⁶

- **Admission of bidders:** Potential bidders must comply with the admission requirements set out in Article 19 EU ETS Auctioning Regulation, including establishment in the EU (except for compliance buyers).
- **Modification of auctioning:** For transparent and predictable auctioning, the Auctioning Regulation allows modification of the annual auction volumes and the bidding windows only in specific circumstances, such as the cancellation of an auction, the cessation of operation of an installation, adaptation of the level of free allocation or allowances remaining in the reserve for new entrants.⁶⁷
- **Monitoring of auctioning:** The Auctioning Regulation provides for third party monitoring. The auction monitor monitors each auction and reports on the implementation to the Commission on behalf of the Member States and to the Member States concerned. Monitoring should give in particular respect to (a) fair and open access; (b) transparency; (c) price formation; and (d) technical and operational aspects (Article 25 EU ETS Auctioning Regulation).

There are a number of **advantages of auctioning:**

- **Price discovery:** An auction is good for establishing a common price in a situation where no market price is known, for instance because there are only bilateral deals done that will not necessarily disclose the price.
- **Transparency:** Auctioning creates greater transparency about who buys, from whom, at what price. This information is not easily available if there are only bilateral trades that are possibly not public.
- **Lower transaction costs:** Transaction costs of auctioning are probably below costs that occur during bilateral trading. AEA transaction requires the negotiation of a bilateral agreement. This could be cumbersome in particular if AEA price is contested. Only if Member States have gained more experience in transferring AEAs, transaction cost could be reduced. Experience shows that such contracts are standardised – once the terms have been agreed, they can be applied also to other transactions.
- **Fair price:** In general terms, there are considerable differences across the EU in the unit costs of measures to reduce emissions. The auction price would be expected to lie somewhere in the middle of the abatement cost range. Member States that face high abatement costs can avoid

⁶⁶ European Energy Exchange (EEX) (2012): Auctioning of Emission Allowances in EU ETS Phase III, guidance for Bidders, Integrating Carbon and Energy Markets, 2012, <http://www.eex.com/blob/20696/78ddf2f22caedb117be6338a38356c75/eex-piiauctions-guidance-pdf-data.pdf>.

⁶⁷ Article 14.2.: "Where the manner in which a modification is to be implemented is not provided for in this Regulation, the auction platform concerned shall not implement that modification until it has previously consulted the Commission and obtained its opinion thereon. The auction platform concerned shall take the utmost account of the Commission's opinion."

these by buying cheaper AEA at auction. For Member States in which the costs of abatement are relatively low, the auction revenues outweigh the costs of national measures.

However, **AEA auctioning is different from auctioning under the ETS Directive and it is possible that a market of this type would run into problems of insufficient liquidity:**

- **Limited number of market participants:** Under the ESD, only Member States are entitled to hold AEA, no other entity (including private traders) has the right to hold AEA. This is different from the ETS, where any (registered) account holder can participate in the auctioning of EUA. This increases the number of market participants to several hundred, and thereby leads to a more liquid market, which is less prone to manipulation or strategic behaviour by any particular market player. In contrast, auctioning of AEA would take place in a market with only 28 Member States, i.e. a very small number of market participants. Several countries would not be buyers, since they are in compliance with their targets, which would reduce the number of buyers even more.
- **Market participants with different market powers:** ESD market participants would be of very different size and would have considerably different market power. A number of Member States account only for a tiny share of emissions, while others account for 20% and more. In the ETS market, purchasing power of market participants does not vary as significantly. The considerable difference in size between the Member States may give rise to concerns that their market power creates an advantage for larger Member States.
- **Member States different from ETS market participants:** ETS market participants are profit-maximising entities that regularly engage in trading of other types of commodities – not only carbon, but also inputs (fuels) or outputs (e.g. electricity). In the case of AEA auctions, in contrast, the market participants are countries that have to meet specific reductions targets and that operate in a political context, but otherwise have little exposure to trading. Furthermore, public administrations are not necessarily geared to participate in auctions, given that their only experience is as auctioneer, not as bidders.

To address these concerns and to help ensure liquidity, there is a strong case to **make auctioning of AEA mandatory**. Under a mandatory system, Member States could be required to set aside a small part of their AEA. For example, AEA for auctioning could amount to 1 or 2% of the total EU budget. As an alternative, a compulsory system could require Member States to auction AEA in case their AEA surplus exceeds a specific threshold, i.e. AEA exceeding this threshold would automatically be auctioned.⁶⁸ A voluntary system, in contrast, would not automatically provide such liquidity. These are indeed advantages over purely bilateral trade (bilateral trade would still need to happen, because the proposed 1% of auctioning would seem far too limited to balance the divergences between Member States).

Because the auctioning would only involve Member States, it **would not engage the private sector**. This has its disadvantages because it would not set incentives for private engagement; the private sector would not be involved in searching for emission reduction opportunities or bringing them to

⁶⁸ In this case, it should remain possible for Member States to cancel their surplus in case it derives from higher domestic target.

the market. It would, however, be advantageous insofar as it would keep the system considerably simpler than a system that would allow private companies to auction.

9. References

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