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Grant Research Project "Enhanced Flexibility in European Effort Sharing by Application of a European Project Mechanism – EPM"

The Merits of an EPM

Discussion paper

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Acronyms

AEA	Allocated Emissions Allowance
CDM	Clean Development Mechanism
CEE	Central and Eastern Europe
CO₂e	Carbon dioxide equivalent
COP	Conference of the Parties (under UNFCCC)
ESD	Effort Sharing Decision
EU	European Union
EPM	European Project Mechanism
ESD	Effort Sharing Decision
ETS	Emissions trading system
JI	Joint Implementation
GDP	Gross Domestic Product
GIS	Green Investment Scheme
MS	Member State (of EU)
PA	Paris Agreement (under the UNFCCC)
UN	United Nations
UNFCCC	UN Framework Convention on Climate Change

1 Introduction

Background to an EPM

The EU Commission announced a regulatory proposal on the Effort Sharing Decision after 2020 (ESD II) for the first half of 2016. It will likely also contain proposals with view to enhance flexibility in the ESD II by application of a project based mechanism. Based on good design, such a “European Project Mechanism” (EPM)¹ could become an important additional building block for meeting the medium and long term emission reduction targets of the EU in a cost-effective manner.

Relevance of an EPM

What make the discussion on an EPM further relevant are new developments under the international climate regime through the Paris Agreement (PA). The PA contains two parallel frameworks on markets and flexibility mechanisms: one for cooperative approaches that allows the use of internationally transferred mitigation outcomes, and the other for a new “mechanism to contribute to the mitigation of greenhouse gas emissions and support sustainable development”, likely to replace the Kyoto Protocol’s flexible mechanisms Clean Development Mechanism (CDM) and Joint Implementation (JI). The UN level guidance and provisions regarding these frameworks shall be worked out over the coming years. An EPM might also deliver valuable input for new flexibility instruments defined under the PA, thus function as a kind of laboratory.

Objectives of this paper

In this context, this paper aims to inform the research and discussion on the design of an EPM by looking at the merits this instrument may bring about.

The paper is based on literature research and analysis and interviews with stakeholders.

2 New conditions for an EPM post-2020

Dual-use mechanism for enhancing flexibility and mitigation alike

An EPM is discussed here as a flexibility instrument to be established under the ESD II for the period 2021 to 2030. Arguments for its establishment are brought forward in the context of an expansion of flexibility to the Member States’ (MS) commitments under the post-2020 ESD. The European Council defined that the current practice of sharing out of targets by GDP shall be continued, with some adjustments for MS with above average GDP “to reflect cost-effectiveness in a fair and balanced manner”. To the same end “the availability and use of existing flexibility instruments within the non-ETS sectors will be significantly enhanced.”²

In a paper published in early 2015 Climate Strategies discussed the general rationale in this for an EPM, concluding amongst other things that the instrument would be needed for

¹ This term is taken from a report by Ecologic, published in mid-2015: Nils Mayer-Ohlendorf et al (2015), EU Effort Sharing Decision after 2020: Project-Based-Mechanisms and Other Flexibility Instruments.

² European Council (2014), Conclusions of the European Council, 24 Oct 2014, EUCO 169/14, 2.10-2.12.

- making MS compliance more flexible while also
- catalysing mitigation in the face of a significant rise in ambition level/general AEA (Allocated Emission Allowances) shortage in the market (mostly as a learning lab/demonstration tool).³

Built on both specific and broad experience from JI/GIS

As an instrument that facilitates both enhanced trading and mitigation the EPM may recur to existing experience and concepts in a modified form. The instrument as we understand it thus carries characteristics from existing and past flexibility instruments. We regard the use of JI and Green Investment Scheme (GIS) as important reference for the EPM. Two distinct papers on JI and GIS under the same research project have condensed some of the main experience from implementation in European MS. They highlight large parts of the broad range of design features and arrangements we deem worthy for consideration when designing the future EPM. Discussion and assessment of the elements is presented in a dedicated paper on design elements.

Changed circumstances for discussing domestic projects after 2020

More ambitious reduction targets for non-ETS sectors by 2030 and the fact that we are discussing a mere European Union mechanism change certain fundamentals for the design and perception of this flexibility instrument:

- "Hot air" is by and large no issue anymore.
- Safeguards to ensure environmental integrity, which had in the past been demanded due to problematic experience with JI projects especially in Eastern Europe (outside of the EU), are becoming less crucial in a scheme which does only apply to EU MS and where the overall system is short (provided that accounting methods fulfil current standards and double counting is ruled out).
- In consequence, while the concept of additionality remains important especially from a host country's perspective (that has own incentives to guarantee proper additionality to secure its GHG inventory) it is far less of an issue when looked at from a general perspective.

These changed basics could allow for streamlined methodical approaches and therefore reduced transaction costs.

3 Driving mitigation by distinct features

Tighter budgets make further emission reductions necessary

An environment of significantly tighter emission budgets, as supposed for the period until 2030 with the -30% target for non-ETS sectors, does ease the need for specific safeguards assuring environmental integrity of traded units on the one side. Even more importantly it also increases the pressure to reduce emissions. Under certain assumptions, it is estimated that more than 870 MtCO_{2e} of further

³ Climate Strategies (2015), Enhanced flexibility in the EU's 2030 Effort Sharing Agreement: issues and options.

Cost-effective reduction potential is unevenly distributed

emission reductions are needed for the EU to achieve its ESD II target for the period 2021 to 2030.⁴

Furthermore, recent analysis suggests that significant potential for cost-effective abatement lies particularly in Central and Eastern Europe (CEE), while the higher income states would have to go far beyond what is deemed cost-effective if they had to achieve their targets domestically. In its special report on flexibility instruments Climate Strategies has shown that under the assumption that high income MS reduce emissions in line with their cost-effective potentials these MS would still need to make up for 56 to 77 MtCO₂e in missing abatement in 2030 alone. It further shows there is enormous amount of cost-effective abatement potential across particularly CEE countries (with a total surplus of 77 MtCO₂e for the year 2030 as difference between cost effective potentials and targets).⁵

Öko-Institute has further confirmed such estimation: There are cost-effective potential in some MS especial in CEE region. Countries such as Spain, Italy and the Netherlands will need to take actions at costs above 40 EUR/t CO₂ while for others like Greece, Hungary, and Romania costs are below the EU average.⁶

More detailed country analysis confirms that cheap reduction potentials – often even with net economic benefit – can be found in the building and transport sectors – sectors which are covered by the ESD.⁷

Given significant differences in cost-effectiveness of emission reduction potentials between EU countries, only an effective flexibility mechanism can help achieve additional abatement where it is the cheapest and thus ensure that also “short” MS with limited or little own (domestic) cost-effective mitigation potential reach their targets. With its distinct features and advantages, an EPM can help making the cost-effective abatement potentials particularly in CEE accessible for those MS which are on the “short” end of the budget distribution.

3.1 Cost effectiveness

A very fundamental and original claim of the flexibility instruments is that they can help mitigate climate change in a more cost-effective manner by leading financial flows into emission reduction measures where it is the cheapest. This perception is also confirmed by information from interviews the authors of this paper conducted with MS representatives and other stakeholders.

The issue of cost-effectiveness is even more important when we think about given restrictions in public budgets in many MS.

⁴ Climate Strategies (2015), Enhanced flexibility in the EU’s 2030 Effort Sharing Agreement: issues and options, p.10.

⁵ Climate Strategies (2015), Enhanced flexibility in the EU’s 2030 Effort Sharing Agreement: issues and options, p. 13.

⁶ Öko-Institut (2015): Enhanced flexibilities for the EU’s 2030 Effort Sharing Decision.

⁷ McKinsey (2008), Costs and potentials of greenhouse gas abatement in the Czech Republic – Key findings; McKinsey (2009), Assessment of Greenhouse Gas Abatement Potential in Poland by 2030.

3.2 Private sector involvement

While the European Union's main flexibility instrument, the European Emissions Trading Scheme (ETS), completely relies on the private sector to identify and implement cost-effective mitigation measures, the initiative to reduce emissions in sectors outside the ETS is mainly with the regulator. Setting a framework for the non-ETS sectors in a way that private sector projects can be rewarded for additional emission reductions could bring in the private sector's distinct capabilities in this context:

Search function

The search function is a specific quality of a bottom-up project-based approach. The private sector knows best the technologies which are available and under development, their potential to reduce emissions and the accordant investment opportunities.

By use of this search function, the instrument has also the potential to indicate where policy loopholes are, thus preparing the ground for changes in regulations and/or other instruments and supporting their implementation.

Leverage finance

Involving the private sector means making use of its expertise in financing investment projects. Since the overall investment into an emission reduction measure in most cases (and most probably particularly in the ESD sectors) significantly exceeds the mere market value of achieved emission reductions, it makes sense to have the private sector involved, with its experience in structuring investments and access to financing sources. According to data from interviews with stakeholders the benefit of the mechanisms in leveraging private finance is deemed very important.

Technical competence, professionalism

Mitigation opportunities will be identified by private sector actors with the accordant technical know-how and organisational experience. Involving such players in mitigation activities automatically means making use of this know-how as well as the private sector's access to local stakeholders and decision makers.

3.3 Transfer technology, accelerate innovation and generate co-benefits

If well designed, the EPM has also great potential to support technology transfer and accelerate innovation. The outcome from interviews with stakeholders by the authors confirms this expectation.

Technology transfer under JI

According to our JI discussion paper⁸, Germany and some of its Federal States used PoA as a laboratory. Based on JI track 1 flexibility it supported the development of new approaches and methodologies, e.g. through innovative projects for example in the transportation sector. Some project types actually came by real surprise. This is especially the case with nitric acid mitigation technology and its large implementation success under JI – something not foreseen at all when the project mechanism was established. JI thus helped disclose this potential.

⁸ Geres et al (2016), EPM discussion paper: Use of Project Mechanisms in Europe - insights from Joint Implementation (JI).



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Innovation under GIS

Our GIS discussion paper⁹ also demonstrates that GIS was capable of bringing new technologies and greening activities to CEE host countries for some sectors that were not much suitable for CDM/JI projects such as building energy efficiency, transport and small scale renewables. It also contained cases involving so-called technology exports or swap, such as between Japan and Estonia (e-mobility) or Austria and the Czech Republic (building).

Various co-benefits

The EPM could produce other co-benefits such as the generation of business and investment opportunities, providing warmer homes, secure jobs and strengthen regional economies.¹⁰

3.4 Assist host country in achieving targets

Projects' interaction with host country emission budget

Historic hesitation of potential seller countries to allow JI projects partly stemmed from the perception that in emission accounting terms the project is at best neutral for the host country's emission budget. It even might harm cost-efficient achievement of own targets by transferring units abroad. But examples from JI show how domestic projects may under certain condition actually help host countries achieve their own emission targets.

The EU submission to the Subsidiary Body on Implementation in March 2015 on how JI projects could assist host countries in achieving their targets uses the motto "going beyond offsetting" and refers to examples from JI:¹¹

- Benchmarks for baseline setting can help to cut the amount of credits distributed to the project owner to a level that takes state of the art technologies into account, while the remainder of the actually achieved emission reductions is to the benefit of the host country's budget (successfully applied for N₂O abatement from nitric acid plants in Germany).
- Discounted ERU issuance can be applied independent from technologies and project types, as has been done by France, where ten percent of the achieved emission reductions were not distributed as credits to project owners. Still by differentiation the incentive level may be adjusted to the financial characteristics of a project type.
- The crediting period of projects also limits the amount of credits possibly handed in to the project owner. In most cases though, the emission level within the project boundaries remains at a low level also after termination of crediting, thus reducing long-term pressure on a host country's emissions budget.

⁹ Li et al (2016), EPM discussion paper: Use of Project Mechanisms in Europe - insights from Green Investment Scheme (GIS).

¹⁰ Karcher (2015) Solidarity and Efficiency- EU Effort Sharing a door to flexibility and market mechanisms, Carbon Mechanisms Review Issue 1 2015 <http://www.carbon-mechanisms.de/fileadmin/media/dokumente/publikationen/cmr-2015-1-deutsch-web.pdf>

¹¹ See EU submission to SBI 42, Examples of voluntary technical approaches, designed by host Parties for their joint implementation projects that could assist the host Parties in achieving their quantified emission limitation or reduction commitments, March 2015.



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Host country's share – a design option

Similar arguments have been put forward by Switzerland, referring to own experience with a domestic offset scheme which is expected to trigger some 450,000 tCO₂e of emission reductions by 2020.¹²

Such approaches are not a necessary but a helpful feature of an EPM. They may be institutionalized via according design of the EPM and/or provisions for its implementation in a MS. Eventually it could play an important role in overcoming a country's reluctance to host EPM mitigation projects.

3.5 Compensate for ESD imbalances

Combining solidarity and economic efficiency

Introducing market based mechanisms in non-ETS sectors is an essential rationale for the establishment of an EPM. The market functionality may be quite important as the sharing out of ESD targets along the established GDP per capita formula (for solidarity reasons) tends to allocate mitigation pressure away from mitigation potential: The distribution defines mitigation targets irrespective or even in contradiction to existing national potentials for cost-efficient emission reductions.

Bringing mitigation action where it is most needed

For cost-efficiency the EPM may help tapping the cheap mitigation potentials where they are – e.g. in European MS or in sectors where energy and carbon efficiency is comparatively low. At the same time it helps shifting the mitigation pressure away from already highly efficient economies and sectors. By doing this the EPM may help reduce or even overcome distinct downside effects from the current distribution of targets.

Closing efficiency gap and fostering economic growth

Firstly it may generally help closing the efficiency gap between European countries as it helps countries that face budgetary restrictions to finance emission reductions. Secondly by incentivizing private sector investments for emission reductions it may also have a broader economic promotion effect – something urgently needed in countries that suffer from years of continued economic crisis.

3.6 Encourage the seller

Without a project based mechanism, the sole possibility for AEA transfers between countries is the existing possibility of trading. A buyer may approach potential seller countries. In the end though, he will completely depend on their willingness and ability to tap their own cost-effective emission reduction potential in order to create free amounts of AEAs for sale.

Host country focus on additionality

In fact a likely scenario is that potential seller countries – which are not necessarily countries with surplus AEAs, but rather those with relatively cheap emission reduction potential in ESD sectors – may still be hesitant to offer AEAs on the market as long as they are not sure that they will be able to achieve or even go beyond fulfilling their targets. Part of this hesitation could be overcome once they can be sure that transfers of AEAs are reflected by and depending on additional verified emission reductions.

¹² See Swiss submission to SBI 42, Joint implementation and approaches to assist host Parties in achieving their commitments under the Kyoto Protocol, March 2015.



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Broader role of the buyer

Interested buyers can actively approach potential seller countries not only with the request to buy certificates, but with a concept showing where and how a corresponding amount of emissions might be reduced and the promise to take care of its implementation and financing.

An EPM therefore helps to give the buyer a much better starting position when seeking AEAs for compliance, by encouraging potential seller countries to be open for selling in general. It may even encourage them to develop own initiatives and programmes dedicated to that purpose – as was the case under JI and GIS. In case a buyer country also points to specific potentials, the situation for the seller country may be even more comfortable: the identification, planning, financing and implementation of mitigation projects are taken over by the buyer, who finally even monitors and reports achieved emission reductions. Of course this may happen only when the host country (i.e. the seller) approves the project and typically supports such processes with own institutions.

3.7 Improve accounting

Benefit of bottom-up accounting

Data, information and methods used by the project developers to quantify both baseline and emission reductions can be used to update inventory data and improve estimation methods.

One example where a country's GHG inventory has significantly benefited from improved data is Germany: From the inventory report 2007 (published in April 2009) to the following year's report for 2008 (published in June 2010) the reporting method for N₂O emissions from nitric acid production was raised to a plant specific reporting of activity rates and emission factors, achieving the IPCC guideline's highest tier-3 reporting level. This was only possible as in 2009 for almost all nitric acid plants JI project data was available.

Agriculture could be ESD-sectors to profit from bottom-up-driven improvements in the reliable determination of emissions in the future.

4 Conclusions

Meeting the demand for more flexibility

Flexibility is the often cited buzz word whenever ways to reduce emissions in a cost-effective manner are discussed. Flexibility can be allowed in terms of time (e.g. banking, borrowing) or in terms of location. The latter is the purpose of several existing flexibility mechanisms like emissions trading, JI and CDM. Learning from the existing mechanisms and designing a European mechanism in a way that brings the merits of flexibility to the ESD sectors seems to be a necessity, given the

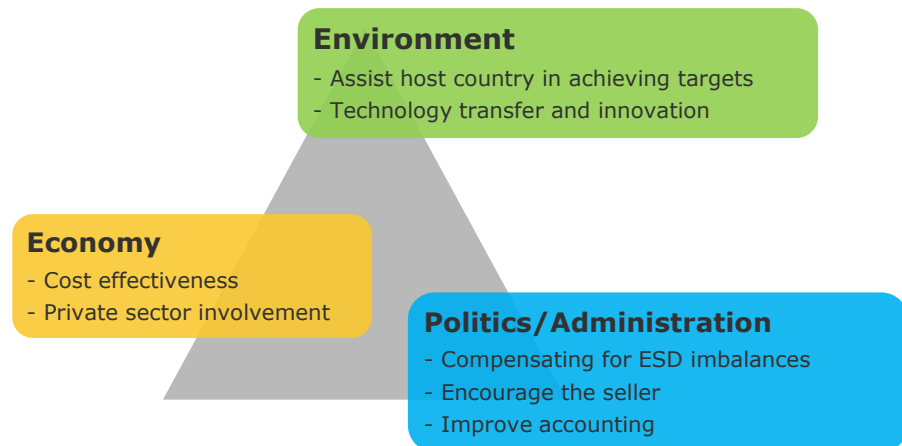
- More stringent reduction targets beyond 2020 and therefore the need to reduce emissions in the European Union as a whole, and the
- Unequal distribution of cost-effective reduction potential across European MS.

While a mere transfer of units (AEAs) between countries provides for a certain level of flexibility to reduce emissions where it is the

cheapest, a project based mechanism as discussed in this paper brings distinct advantages and characteristics – it could lead to the “enhanced flexibility” as requested by the European Council.

EPM features/merits on all three dimensions

EPM features cover environmental, economic and political dimensions. The following figure illustrates this:



An EPM broadens the number of players who search for and tap emission reduction potentials, especially by directly involving the private sector. In a situation where states are short in domestic cost-effective emission reduction potential or face limits for tackling it with the help of common instruments (esp. command and control or subsidies), such a feature can be decisive.

Building on and supporting the Paris Agreement

Given the Paris Agreement’s emphasis on a new market mechanism under UNFCCC-oversight (detailed provisions to be further developed) to “deliver an overall mitigation in global emissions”¹³, “net mitigation” is likely to become a trend for a new generation of offsets¹⁴. A well designed EPM may demonstrate how a mechanism that contributes to the mitigation of greenhouse gas emissions can look like and put the European Union into a leading role when it comes to help building respective capacities around the world.

¹³ Paris Agreement, article 6.4.

¹⁴ Paris Agreement, article 4.1.