Automatic revenue raising for international climate finance through the European Emissions Trading System

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Introduction

According to IPCC estimates, the average investment in key mitigation sectors needs to be scaled up considerably in order to keep carbon dioxide concentration in the atmosphere within the 430-530 ppm range until 2100, which would be consistent with a 2 degree Celsius pathway. In addition to mitigation efforts, the United Nations Environment Programme (UNEP) has calculated that financial needs for adaptation to the adverse effects of climate change could amount to US$50 billion per year by 2025-30 for the least developed countries alone, and potentially US$150 billion for all developing countries.[1]

Through the 2009 Copenhagen Accord, developed countries jointly committed to a goal of mobilizing US$100 billion annually by 2020 from public, private and alternative sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation. Despite recent progress with filling the Green Climate Fund, progress in meeting this US$100 billion goal has been slow.

Furthermore, the current negotiating text for that agreement shows a wide range of views on post-2020 climate finance. It is possible that long-term climate finance becomes an important element towards reaching an adequate climate agreement in Paris at the end of this year.

Against this backdrop, it could be interesting for the EU to assess the options it has to provide predictable, long-term (post-2020), international climate finance. One such opportunity presents itself in the upcoming revision of the EU's Emission Trading System (ETS). The ETS generates revenues from the auctioning of emission allowances, and depending on the carbon price constitutes a substantial source of finance within the EU.

This paper explores how the EU ETS could be deployed as an innovative tool to automatically generate revenues for international climate finance, in addition to helping the EU meet its mitigation target.

The first section of this paper briefly outlines the state of play on international climate finance and the EU's contribution so far. The second section provides an overview of 2013 ETS auctioning revenues and how these revenues have been used by Member States. The third section explores precedents of automatic revenue raising (through auctioning of allowances) at the EU level. Such precedents could give us better insight on how similar instruments could be set up for international climate finance. The fourth chapter lists possible options for automatic revenue raising (post-2020) for international climate finance. The final section summarises these findings.

[1] http://www.unep.org/climatechange/adaptation/gapreport2014/portals/50270/pdf/AGR_FULL_REPORT.pdf

1. Pre and Post-2020 climate finance and the Paris agreement

1.1. International climate finance state of play

In 2009, at the fifteenth conference of the parties (COP) to the UNFCCC in Copenhagen, developed countries promised to mobilise US$100 billion annually for climate finance by 2020, from a wide variety of sources as needed, and in the context of meaningful mitigation action and transparency on implementation. At the sixteenth session of the COP, held in Cancun, Mexico, the Parties decided to establish the Green Climate Fund (GCF).

In 2015, the GCF is in the process of being made fully operational. Since its first meeting in August 2012, the GCF board has in a phased manner taken important decisions on the governance of the GCF, the mobilization of resources for the fund, and the allocation of those resources. On the issue of financial input, the GCF board decided that contributions to the fund will initially be possible in the form of grants from public and private sources, paid-in capital contributions and concessional loans from public sources. The board can take decisions on additional types of inputs at a later stage.[2]

To date, 33 governments have altogether pledged[3] approximately US$10.2 billion[4] to the GCF. The objective is for all pledges to be converted into contribution agreements within one year from the time at which they are made.[5]

While pre-2020 funding thus remains unclear, negotiations on how the GCF will be further funded in the post-2020 framework, as well as how broader climate finance flows will be mobilised, are central to the negotiations at the COP21 in Paris. In the eighty-six page negotiation text following the Geneva meeting in February 2015, a separate section on climate finance (paragraphs 34-53)[6] was included. This discussed a wide range of options concerning the sources of finance (private vs public), the institutions in charge of its disbursement and thresholds for contribution, and reflected the wide range of views that exist on differentiation - from quantitative commitments for developed country parties to financial contributions.[7] [8]

It is too early to draw robust conclusions on the outcomes of the COP21 in Paris. Possible decisions as expressed in the negotiation text are; that the GCF shall be the main financial entity under the new agreement; that climate finance would come from diverse sources, but primarily public finance; climate finance will increase substantially and mainly come from developed countries; contributions to climate finance will be additional to overseas development assistance (ODA); emphasis will be given to the monitoring of climate finance in cycles and that GCF resources will be allocated equally

[2] http://gcfund.net/fileadmin/00_customer/documents/pdf/GCF_B05_23_Decisions_5th_Meeting_of_the_Board_20131108.pdf

[3] A pledge represents a contributor's expression of intent to make a contribution. Pledges are converted to contributions by way of a Contribution Agreement/Arrangement signed by the contributor, the GCF, and the interim trustee (IBRD – World Bank).

[4] See http://news.gcfund.org/wp-content/uploads/2015/04/GCF_contributions_03apr15.pdf for a detailed overview of the pledges per country

[5] http://news.gcfund.org/wp-content/uploads/2015/04/GCF_contributions_17apr15.pdf

[6] It contains two alternative section options. Option 1 is divided into eight subsections on: guiding principles; anchoring institutions under the legal agreement; proposals for decisions related to anchoring institutions under the agreement; addressing the scale of resources; contributions under the legal agreement; sources of finance; a new subsection on reporting; and a placeholder for a proposal to include a subsection on MRV of climate finance that should also include a specific reference to a regular cycle of climate finance. Option 2 for section G is a three-paragraph version containing alternatives for paragraphs 34-36.

[7] http://www.iisd.ca/download/pdf/enb12626e.pdf

[8] http://www.iisd.ca/vol12/enb12626e.html

between adaptation and mitigation. But with currently all options and views reflected in the draft negotiation text[9], it is difficult to draw any robust conclusions on the expected outcome of the negotiations in Paris with regards to GCF funding at this point in time. This will only become clear in the months before COP21, as more negotiation meetings are planned in order to find agreement and reduce the number of options and pages in the negotiation text.

1.2. EU contributions to international climate finance

On 25 February 2015 the European Commission released a paper with its official position on the forthcoming agreement at COP21. In the paper, the European Commission is relatively cautious on making any concrete commitments with regards to the scale and sources of financial contributions to the GCF. It points out that "*the amount of climate finance to be mobilised will also depend on the ambition and quality of the proposed INDCs (intended nationally determined contributions), subsequent investment plans and national adaptation planning processes. At this stage, as INDCs and national adaptation planning processes are not fully known, it is too early to elaborate on the scale and type of climate-related finance needed post-2020. Public sector climate finance will continue to play an important role in mobilising resources after 2020. The Protocol should also recognise the importance of the private sector as a key source to scaling up climate finance.*" (p. 9-10)[10]

On 19 March 2015, the recommendations of the European Commission were endorsed by the European Council[11], without further elaborating viewpoints or taking decisions regarding the predictability or stability of financial support to developing countries. Nor do the INDCs offer any guidance on the matter. The EU INDC[12] only mentions goals regarding mitigation efforts, and doesn't cover financial flows to other countries. The closer we get to COP21 in Paris (December 2015), the clearer the EU's stance on the scale and sources of climate finance will have to become.

Data on ODA and climate finance does show that - so far - the EU and its member states have been the largest contributor to both mitigation and adaptation-related ODA for the period 2010-2012. As part of the fast-start finance (2010-2012) commitment by developed countries of US$30 billion, the EU and its Member States altogether allocated € 7.34 billion to fast-start finance over that period.[13]

Each year, Member States submit to the European Commission complete information on financial and technological support provided to developing countries. In 2013, Member States submitted to the European Commission their first annual reports on the financial and technological support provided to developing countries in agreement with Article 16 of the Monitoring Mechanism Regulation (MMR), with information for 2011 and 2012. EU Member States also had the deadline of 1 January 2014 to submit their biennial reports (BR) to the UNFCCC, in which the data on climate finance for the years 2011-2012 was included.[14]

In 2014, Member States submitted to the European Commission their second annual MMR reports with information for the year 2013.[15] The reports suffer from methodological weaknesses

[9] http://unfccc.int/resource/docs/2015/adp2/eng/01.pdf
[10] http://ec.europa.eu/clima/policies/international/paris_protocol/docs/com_2015_81_en.pdf
[11] http://www.consilium.europa.eu/en/press/press-releases/2015/03/conclusions-energy-european-council-march-2015/
[12] http://ec.europa.eu/clima/news/docs/2015030601_eu_indc_en.pdf
[13] A brief overview of fast-start finance by the EU can be found here: http://ec.europa.eu/clima/policies/finance/faststart/docs/fast_start_2012_en.pdf
[14] The EU and Member States biennial report submissions can be consulted at https://unfccc.int/national_reports/biennial_reports_and_iar/submitted_biennial_reports/items/7550.php. The total climate finance support provided to developing countries (2011-2012) by the EU and its Member States and per type of instrument is available on page 30-33 of the following document: http://ec.europa.eu/clima/policies/g-gas/docs/kyoto_progress_2014_en.pdf . The information in tables 14,15 and 16 provides an overview of the financial support provided to developing countries in 2011 and 2012, based on MMR and BR submissions.
[15] In its 2014 report on climate finance, the Standing Committee on Climate Finance does provide a global overview of international climate finance flows - public and private. The report can be found here:

(differences in how EU Member States report climate finance, no conversion to the Euro etc.), making aggregation difficult - especially with consolidated data by the European Commission for 2013 not yet publicly available.

However, in its communication on the Energy Union Package, the European Commission stated that the EU delivered more than €9.5 billion of climate finance in 2013. The Commission also stated an agreement has been made that at least 20% of the EU development assistance for the period 2014-2020 will have to be climate change related. This should amount to approximately €14 billion over 7 years and does not include development assistance provided by the EU Member States.[16]

2. The EU ETS and climate finance

2.1. EU ETS and domestic and international climate finance at Member State level

The principle goal[17] of the EU ETS is to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner. The EU ETS' scope is large industrial installations and fossil fuel based power producers. These represent around 45%-50% of the EU's total greenhouse gas emissions. The EU ETS is a classical "cap and trade" system in which an ex-ante, fixed and system-wide cap or emissions ceiling is set. Essential to the design of each emissions trading system is the way in which allowances or emission rights (under the established cap) enter the system. There are broadly speaking two ways in which this can be done - by handing out allowances for free, or through auctioning (or a combination of the two). Once an absolute cap is set and allowances are distributed (for free and through auctioning), operators under the system have to submit every year a number of EU allowances equivalent to the emissions of the preceding year.

Greenhouse gas emissions trading started in the EU on 1 January 2005. The first trading period lasted until 31 December 2007. This was followed by a second trading period, matching the Kyoto protocol commitment period (2008-2012). We currently are in the third phase of the EU ETS (2013-2020).

In this third phase, the cap is set at 21% below 2005 emissions levels in 2020. A gradual reduction of the cap of 1.74% is applied between 2013 and 2020. The general rule is that the allowances for the power sector will not be handed out for free, but distributed through auctions within that period. However there are exceptions to this general rule. Some Member States (i.e. the ones with a high level of coal-based power generation, a power price set by the government and a lower GDP per capita compared to the EU average) feared that auctioning would force them to dramatically increase national power prices, generating a negative social impact. These, mostly Central and Eastern European Member States are allowed to transition into an auctioning-based allocation for the power sector between 2013 and 2020 - receiving no free allocation by 2020. For industrial installations there is a difference in the level of free allocation, based on whether sectors are deemed exposed to a significant risk of carbon leakage. For installations within sectors or sub-sectors where there is no risk of carbon leakage, the amount of allowances allocated free of charge in 2013 shall be 80% of the quantity allocated using benchmarks. Thereafter, the free allocation shall decrease each year by equal amounts resulting in 30% free allocation in 2020, with a view to

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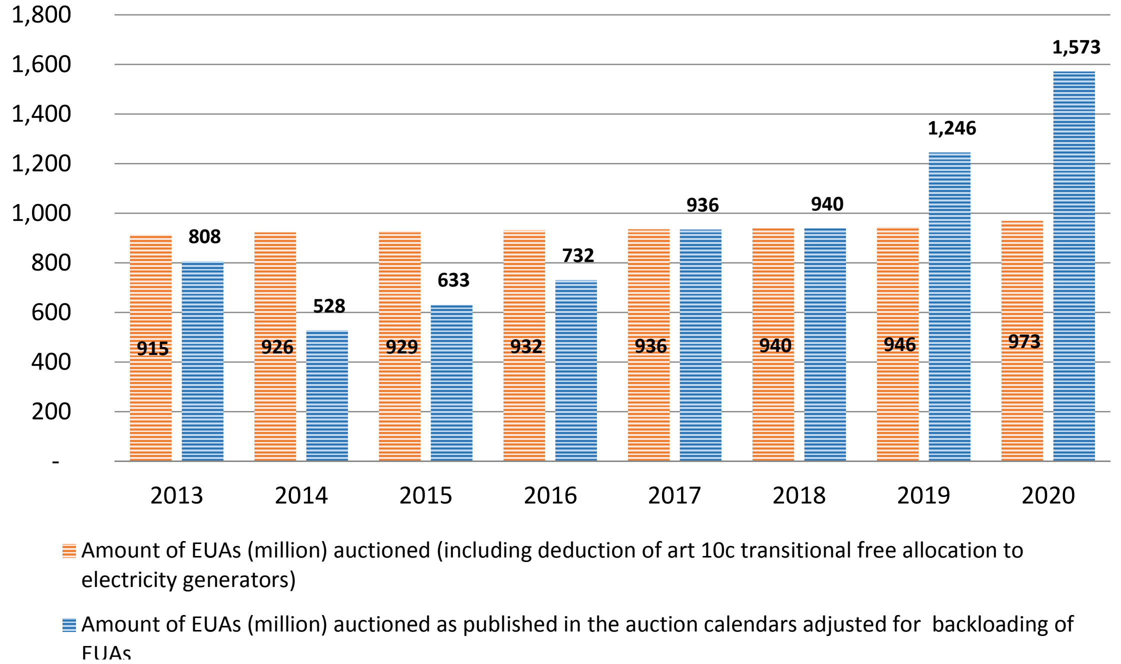
http://unfccc.int/files/cooperation_and_support/financial_mechanism/standing_committee/application/pdf/2014_biennial_assessment_and_overview_of_climate_finance_flows_report_web.pdf
For a brief overview: http://germanwatch.org/en/download/10463.pdf

[16] http://eur-lex.europa.eu/resource.html?uri=cellar:e27fdb4d-bdce-11e4-bbe1-01aa75ed71a1.0003.03/DOC_1&format=PDF

[17] Directive 2003/87/EC, Article 1

reaching no free allocation in 2027. For installations in sectors or sub-sectors which are exposed to a significant risk of carbon leakage, the amount of allowances allocated free of charge shall be 100% of the quantity allocated using benchmarks - in 2013 and in each subsequent year up to 2020.

The table below shows the annual auctioning volumes under the EU ETS in the period 2013-2020. The blue bars show the different auctioning profile following the introduction of so-called “back-loading”. This change had the goal to limit surplus EU allowances (EUAs) entering the market in the beginning of the period. However, these allowances (as shown below) are planned to return to the market at the end of the period. To prevent the latter from creating a new EUA price depression, the European Parliament and the Council have agreed on a new proposal proposed by the European Commission, the so-called Market Stability Reserve (MSR). This new reserve aims to structurally siphon off large EUA surpluses.



Source: European Commission[18]

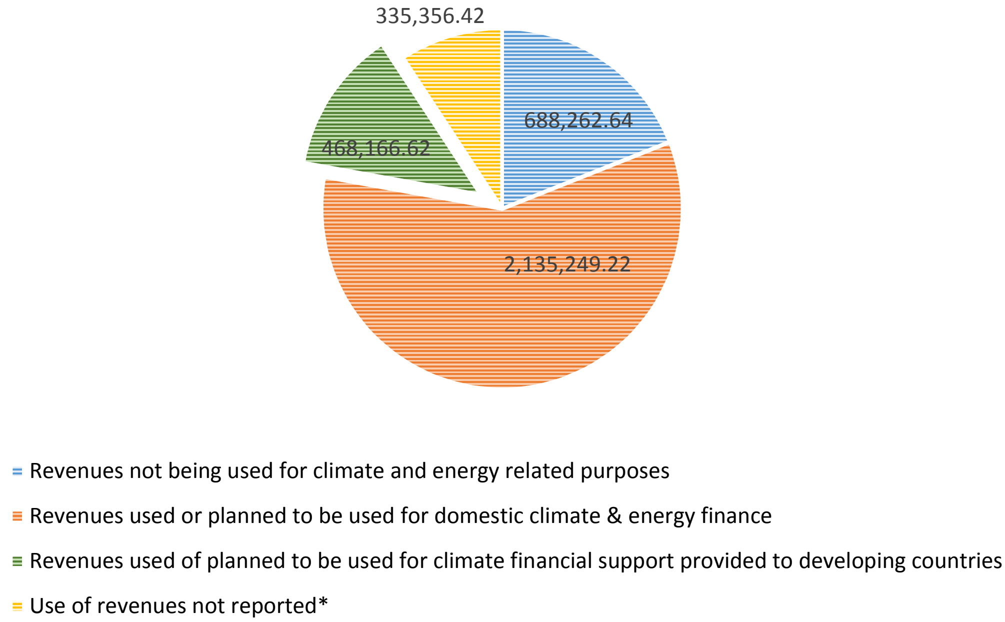
Under the current ETS Directive, the allowances for auctioning are being distributed to the Member States proportional to their historical EU ETS emissions. The Member States can, in principle autonomously decide on how the revenues from these auctions are used. However, the ETS Directive *recommends* that at least 50% of auctioning revenues or the equivalent in financial value of these revenues should be used by Member States for climate and energy related purposes.[19] The Directive does not specify how much of the auctioning revenues should be used for domestic or international climate finance respectively. Member states can freely choose to spend the share for climate and energy purposes on either domestic or international climate finance. Further flexibility is offered to Member States in the directive by stating that they shall be deemed to have fulfilled the provisions of non-binding earmarking if they have in place and have implemented fiscal or financial

[18] http://ec.europa.eu/clima/policies/ets/cap/auctioning/faq_en.htm

[19] Reduce emissions; Adaptation Administration of the ETS; Global Energy Efficiency and Renewable Energy Fund; Avoiding deforestation in DC; Research and development (mitigation and adaptation in aeronautics and air transport); Low emission transport

support policies domestically or in developing countries, which leverage financial support with a value equivalent to at least 50% of the revenues generated from the auctioning of allowances.

While the earmarking of revenues is not binding, Member States do have to inform the Commission about the use of revenues. Under the MMR, Member States were requested to report for the first time by 31 July 2014 on the amounts and use of the revenues generated by the auctioning of ETS allowances in the year 2013.[20] Analysis of the MMR reporting shows that the total revenues[21] in 2013 amount to €3.6 billion.



Use of revenues for EU-28 (:Not indicated whether domestic or international)*

All Member States have reported that they have used or plan to use 50% or more of these revenues or the equivalent in financial value of these revenues for climate and energy related purposes (81% on average representing approximately €2.9 billion). Revenues raised will mainly be used to support domestic investments in climate and energy (approximately €2.1 billion).

It is not always straightforward to indicate what domestic policies or measures the revenues are used for. Only a few Member States reported information on the split of the use of revenues per type of action[22] [23]. For instance, France, the Czech Republic and Lithuania use all their auctioning revenues in projects to improve the energy efficiency of buildings. Bulgaria and Spain use most of their revenues to develop renewable energy. Poland uses most of its revenues dedicated to climate change in support of energy efficiency and renewable energy.[24]

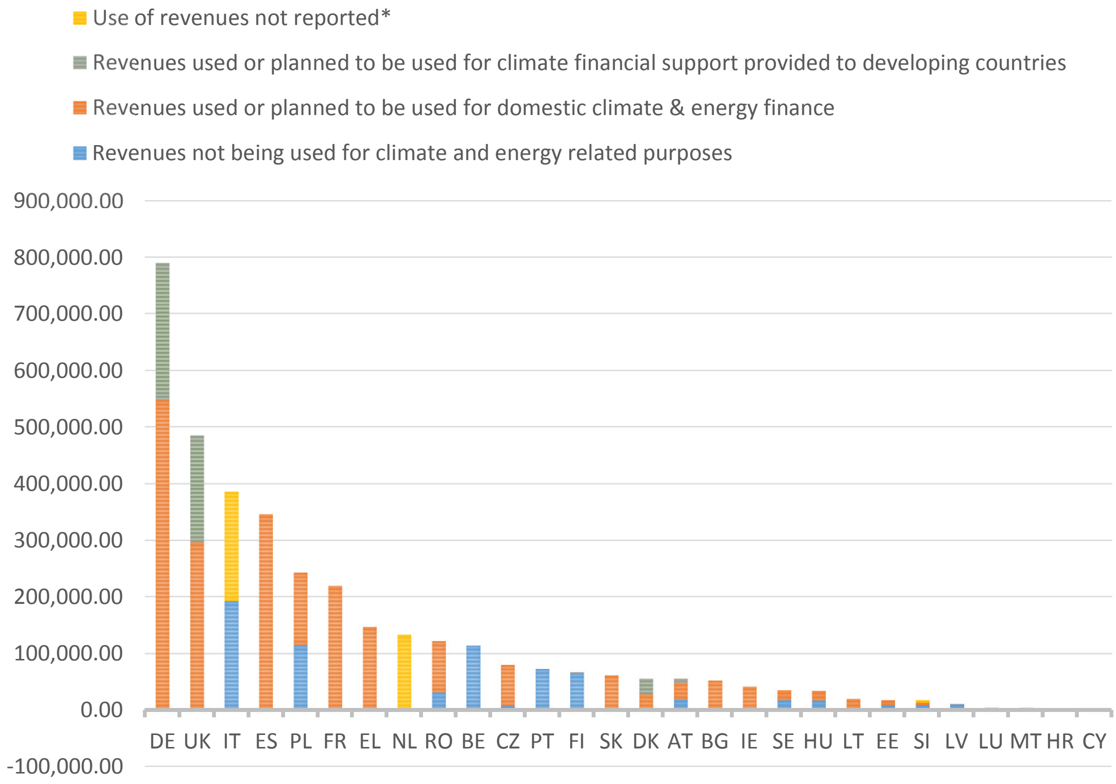
[20] http://eur-lex.europa.eu/resource.html?uri=cellar:eb290b32-5e8e-11e4-9cbe-01aa75ed71a1.0019.03/DOC_1&format=PDF

[21] The EC reports that the total revenues for the EU were € 3.6 billion. The data-set here does not include the revenues made in Italy, as these have not been uploaded in the MMR.

[22] See Staff Working Document SWD(2014) 336 final http://eur-lex.europa.eu/resource.html?uri=cellar:eb290b32-5e8e-11e4-9cbe-01aa75ed71a1.0019.03/DOC_1&format=PDF

[23] http://ec.europa.eu/clima/policies/g-gas/docs/kyoto_progress_2014_en.pdf

[24] http://eur-lex.europa.eu/resource.html?uri=cellar:eb290b32-5e8e-11e4-9cbe-01aa75ed71a1.0019.03/DOC_1&format=PDF



Use of revenues per Member State according to MMR reporting (: Not indicated whether domestic or international)*

Only five Member States (Denmark, the UK, Finland, Germany and Austria) reported to have used or plan to use part of the revenues for international investments in climate and energy, adding up to an amount of only €470 million for the five Member States taken together.[25] Reported support to developing countries thus represents only a fraction of the revenues used for investments in climate and energy, and an even smaller fraction of the total EU ETS revenues.

Germany is also the only country within the European Union that has set-up a full budgetary earmarking of its ETS revenues for national and international climate financing. The overview of the auctioning revenue reporting above also shows that: (1) Germany is the Member State with the highest revenues in 2013; (2) all of these revenues were used for climate and energy policy; (3) 30.7% of these revenues were reported as used for financial and technical support to developing countries, with the rest being used for domestic climate and energy policy. In this way, Germany presents an interesting example of how EU ETS revenues could be earmarked for financial support to developing countries, despite the fact that Member States have different legal provisions with regards to budgetary earmarking. We explore the case of budgetary earmarking in Germany more in detail in Box 1.

Other Member States (Austria, Denmark, Ireland, the Netherlands and the UK) state that auctioning revenues are not earmarked in their national budget and therefore no direct attribution to specific purposes is possible, be it for domestic or international climate finance. Therefore, the amounts reported by these countries relate to examples of other climate-related spending through their national budgets.

Some Member States – particularly Finland, Lithuania and Slovakia – note that the revenues collected in 2013 had not yet been allocated and will be communicated in subsequent yearly

[25] Germany and the UK together represent 92% of the revenues used for international climate finance.

reports.[26] Concerning these countries, the European Commission - in its sixth communication to the UNFCCC[27] - does note that Finland currently channels all auctioning revenues to Official Development Assistance activities, including 50% to climate finance. Latvia and Slovakia also plan to use the ETS revenues for climate-related purposes (it is not specified whether domestic or international) through a new financial instrument which will be funded directly from auctioning revenues.

Box 1. Change to Earmarking of EU ETS revenues for international climate finance in Germany

Because appropriation of revenues in Germany is only permitted within the framework of a separate budget structure - a "special fund" (Esch 2012; 2013) - an Energy and Climate Fund ('Sondervermögen Energie und Klimafonds' (EKF)) was established in 2010 with a separate budget structure, outside the regular government budget. Since 2011, all ETS revenues have gone into this Energy and Climate Fund (EKF) and have been used for domestic and international climate policy (2011-2013).

Each of the EKF's sub-titles are allocated to specific ministries to implement them, in addition to that ministry's regular budget. The budget title for financial support to developing countries was implemented by the Environment Ministry (that got a 45% share and used it mainly to enhance its International Climate Initiative (ICI)) and the Development Ministry (that got a 55% share and used it mainly to enhance its bilateral, climate-related development aid). In addition, both ENV and DEVE ministries jointly used some of the revenues to fund a new instrument called Deutsche Klimatechnologie-Initiative (DKTI), which is meant to fund technology-related actions.

The establishment of the EKF has facilitated not only the earmarking of EU ETS revenues, but also the bundling of climate-related expenditures and therefore transparency of EU ETS revenue use (Esch, 2013). Due to the lower than expected revenues from the ETS allowance auctioning, however, the ETS revenues are now no longer being used for international climate finance, although the bilateral commitments that were made 2011-2013 via the EKF are still being implemented (most of them are multi-year projects). The cash-outflows as a result of these commitments are no longer served from the EKF but now via the ENV and DEVE ministry budgets.

2.2. The EU ETS and climate finance at EU level

The previous section looked at how (non-binding) earmarking of EU ETS auctioning revenues is happening at *Member State level*. This section will show three examples of automatic earmarking of EU ETS (auctioning) revenues at the *EU level*:

- The EU ETS New Entrants Reserve (NER) 300 and future NER400
- The post-2020 Modernisation Fund
- The failed attempt of EU level earmarking of auctioning revenues from the aviation sector for international climate finance

[26] http://ec.europa.eu/clima/policies/g-gas/docs/kyoto_progress_2014_en.pdf
[27] http://ec.europa.eu/clima/policies/g-gas/monitoring/docs/ec_6nc_en.pdf

NER300 / NER400

As part of the post-2012 reform of the EU ETS, policy makers introduced a new type of emissions allowance reserve. This New Entrants Reserve[28], consisting of 300 million allowances (NER300 in short), aims to make revenues from these allowances available for support to demonstration projects that provide for the development - in geographically balanced locations - of a wide range of Carbon Capture and Storage (CCS) technologies. It also covers innovative, renewable energy demonstration technologies that are not yet commercially viable. Their award shall be dependent upon the verified avoidance of CO2 emissions. The NER300 also seeks to leverage a considerable amount of private investment and/or national co-funding across the EU, boost the deployment of innovative low-carbon technologies and stimulate the creation of jobs in those technologies within the EU.[29] [30]

The European Commission is responsible for the overall management and implementation of the NER300. In this, the Commission draws on the unique expertise of the European Investment Bank (EIB) to evaluate proposals submitted by Member States, to auction NER allowances on its behalf, and to manage the revenues and the payment of funds to Member States during project implementation[31]. In other words, the allowances are monetised by the EIB, but the revenues flow back to the respective Member States who then allocate the resources to the winning projects in their country.

As part of this process, the EIB sold 300 million allowances. This ‘monetisation’ of EUAs was completed in April 2014,[32]and raised €2.1 billion for innovative renewable energy projects and one CCS project.

In October 2014, as part of a political agreement on the EU’s Framework for Climate and Energy 2020-2030, European leaders endorsed the creation of a successor programme to the NER300, ‘NER400’, which would be “initially endowed with 400 million carbon allowances”. More precisely, the Council Conclusions state that “*the existing NER300 facility will be renewed, including for carbon capture and storage and renewables, with the scope extended to low carbon innovation in industrial sectors and the initial endowment increased to 400 million allowances (NER400). Investment projects in all Member States, including small-scale projects, will be eligible.*”[33]

The EU ETS Modernisation Fund 2021-2030

The October 2014 European leaders’ agreement on the outline of the EU 2030 Climate and Energy Policy Framework also included the establishment of a new reserve (2% of the EU ETS allowances) to address high additional investment needs in low income Member States (GDP per capita below 60% of the EU average)[34]. The proceeds from the reserve will be used to improve energy efficiency and to modernise the energy systems of these Member States, so as to provide their citizens with cleaner, secure and affordable energy. The allowances from the reserve will be auctioned according to the

[28] This reserve represents a number of allowances that will be not be directly allocated to EU ETS companies but auctioned in the period 2013-2020

[29] http://ec.europa.eu/clima/policies/lowcarbon/ner300/docs/assessment_compliance_en.pdf or http://ec.europa.eu/clima/publications/docs/factsheet_ets_en.pdf

[30] Legal basis: Article 10a(8) of ETS Directive 2003/87/EC: Mechanism for financing of CCS and innovative RES projects, with the sale of 300 million allowances from the ETS New Entrants Reserve

[31] http://ec.europa.eu/clima/policies/lowcarbon/ner300/docs/state-of-play_en.pdf

[32] The monetisation process for the entire 300 million EUAs was divided into two tranches: the first tranche of 200 million allowances– sold in the period between the 05 December 2011 and 28 September 2012 – and the second tranche of 100 million allowances – sold between 14 November 2013 and 11 April 2014.
http://ec.europa.eu/clima/policies/lowcarbon/ner300/docs/summary_report_ner300_monetisation_en.pdf

[33] http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/145397.pdf

[34] The allowances from this new reserve will be auctioned according to the same principles and modalities as for other allowances

same principles and modalities as for other allowances. Consequently, this approach is similar to the NER 300/400 mentioned above.

The same October 2014 Council Conclusions further note that "*the reserve will serve to establish a fund which will be managed by the beneficiary Member States, with the involvement of the EIB in the selection of projects. Simplified arrangements for small-scale projects will be ensured. Until 31 December 2030 the distribution of funds will be based on the combination of a 50% share of verified emissions and a 50% share of GDP criteria, but the basis on which projects are selected will be reviewed by the end of 2024*."[35]

Revenues raised through aviation sector EU ETS

Since 2012 the aviation sector has been included in the ETS. Of the allowances for emissions from flights within the EU, 82% are distributed as free allowances, 15% for auctioning and 3% as a reserve. The allowances for auctioning are distributed among the Member States, with the highest number of allowances going to the Members States with the highest frequency of flights coming in and out (the UK, Germany, France and the Netherlands). In line with the general provisions of the ETS Directive with regards to the use of auctioning revenues, the revenues from auctioning aviation allowances should be spent on tackling climate change in the EU and third countries. Earmarking is hence not obligatory.

Whereas international flights to and from the EU had been included in the ETS Directive amendments, the EU ETS requirements were suspended for flights to and from non-European countries to allow time for International Civil Aviation Organization negotiations on a global market-based measure applying to aviation emissions. For the period 2013-2016 the legislation has also been amended so that only emissions from flights within the EEA fall under the EU ETS. Exemptions for operators with low emissions have also been introduced.[36] In the event that no agreement is reached, the Directive would once again apply automatically to all international flights in accordance with the provisions that were initially specified.[37] [38] During this review process, the European Parliament did consider the deployment of auctioning revenues from aviation to fund climate aid to developing countries[39], including through the Green Climate Fund. Draft conclusions for an ECOFIN finance ministers meeting in May 2012 also suggested that finances from auctions of aviation allowances in the EU ETS could help to support climate action in developing countries. The proposal was blocked by some Members States, including Poland and Lithuania.[40]

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[35] http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/145356.pdf#page=3

[36] http://ec.europa.eu/clima/policies/transport/aviation/index_en.htm

[37] http://www.cdcclimat.com/IMG/pdf/13-01-24_climate_brief_no25_-_auction_revenues_in_eu_ets_phase_3.pdf

[38] The EU ETS Directive (2003/87/EC) was amended accordingly by inserting Article 28a. Paragraph 8 of this article introduces the following: "*… Following the 2016 ICAO Assembly, the Commission shall report to the European Parliament and to the Council on actions to implement an international agreement on a global market-based measure from 2020 … In its report, the Commission shall consider, and, if appropriate, include proposals in reaction to, those developments on the appropriate scope for coverage of emissions from activity to and from aerodromes located in countries outside the EEA from 1 January 2017 onwards. In its report, the Commission shall also consider solutions to other issues that may arise in the application of paragraphs 1 to 4 of this Article, while preserving the equal treatment of all aircraft operators on the same route.*" http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L:2014:129:FULL&from=EN

[39] Report of 13 March 2013 on the proposal for a decision of the European Parliament and of the Council derogating temporarily from Directive 2003/87/EC of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowance trading within the Community (COM(2012)0697 – C7-0385/2012 – 2012/0328(COD)) *"Member States shall use revenues generated from the auctioning of allowances for efforts to tackle climate change, in particular at international level, to reduce greenhouse gas emissions and to adapt to the impacts of climate change in developing countries as well as to fund research and development for mitigation and adaptation including in particular in the field of aeronautics and air transport. Revenues generated from auctioning shall also be used on low-emission-transport. The proceeds of auctioning shall also be used to fund contributions to the Global Energy Efficiency and Renewable Energy Fund and the Green Climate Fund under UNFCCC as well as measures to avoid deforestation."* http://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&reference=A7-2013-0060&format=XML&language=EN

[40] http://www.euractiv.com/climate-environment/eu-aviation-carbon-funds-aid-dev-news-512568

3. ETS REVENUE RAISING FOR INTERNATIONAL CLIMATE FINANCE POST-2020

3.1. Introduction

This section identifies, building upon the precedents mentioned in the previous sections, possible options for the EU ETS to raise revenues for international climate finance after 2020. The forthcoming review of the EU ETS directive could be an opportunity to introduce such mechanisms. The section starts by identifying the benefits of automatic revenue-raising, both for a new global climate agreement under the UNFCCC, and for the EU and its Member States.

After this, three options on raising revenues for international climate finance using the EU ETS are presented. For each of the options, the possible revenues together with their predictability, the political feasibility, enabling conditions and the environmental integrity are analysed.

3.2. The benefits of automatic revenue raising (at EU level)

Post-2020 international climate finance will be an important issue to be addressed in a possible forthcoming global climate agreement, and more importantly its implementation. It can be expected that developing countries will make part of their post-2020 INDCs conditional to financial and technological support for mitigation and adaptation from developed countries. Raising the global ambition of climate action will therefore depend on how international climate finance materialises after 2020. So far, this issue has been partially sidestepped by most developed countries. The main focus of these countries over the past year was the development of the mitigation element of their INDCs. The EU INDC in particular does not mention post-2020 international climate finance for mitigation and adaptation. That could change in the run-up to the COP21 in Paris later this year because transparency over long-term climate finance contribution commitments by developed countries can prove to be a stumbling block for the climate negotiations.

The EU has the opportunity to inject enhanced transparency into this process by indicating how, or how much, it plans to commit to post-2020 climate finance. Embedding all or part of these financial commitments in an EU wide legal instrument, such as the EU ETS, can bring about long-term (up to 2030) visibility and predictability of climate finance to developing country's negotiating partners, under the UNFCCC and to the Green Climate Fund. In turn, this can increase the trust between these parties and hence facilitate the overall negotiation process.

Next to the UNFCCC process, EU Member States can also benefit from a structural, centralised, revenue raising tool. Member States often struggle to report how their committed climate finance would be additional to ODA. Because the revenues generated under an EU-wide system would be 100% directed to international climate finance, these can be considered as additional ODA. Secondly, such a long-term revenue raising tool would not directly impact Member State budgets. It would lead to lower EU ETS auctioning revenues for Member States, but the impact would be known years in advance and therefore is preferable to short-term, ad hoc financial commitments made after 2020 which each Member State would have to make in the absence of such a tool. Member States would be able to account part of the EU-wide revenue raising tool as their own post-2020 contribution to long-term climate finance (on top of other existing contributions). The latter will require a kind of effort sharing system between EU Member States. An example on how this can be done is shown during the discussion of one of the revenue raising options below.

3.3. Policy options

Three options that secure revenue raising for climate finance through a reformed EU ETS are highlighted here. The first policy option proposes to introduce binding earmarking of auctioning revenues at Member State level. The second proposal is to pick-up aviation EU ETS revenue, raising ideas in case of failure at the International Civil Aviation Organization (ICAO) to come up with a meaningful, global aviation carbon market which would prompt the reintroduction of the original, global scope of the EU aviation ETS. The final idea is to use the NER300/400 and EU ETS modernisation fund as legal precedents, to introduce a new EU ETS reserve or fund for international climate finance.

Binding earmarking at national level

The first option would be to enhance the current language on the use of EU ETS auctioning revenues, by making the earmarking of part of revenues for international climate finance at Member State level binding. In practice this can be done by making part of the provision in article 10, paragraph 3 of the current directive binding, or by stating specifically that *[X]*% of the revenues generated from the auctioning of allowances by Member States (in the period 2021-2030) shall be used to finance mitigation and adaptation activities in developing countries. Note that here the revenues are earmarked, and not the allowances as such. While this option would not be a consolidated climate finance mechanism at EU level and hence not have all the benefits mentioned above, it would still be a way in which the EU can organise visible long-term climate finance.

Better earmarking of revenues would bring advantages for environmental integrity and predictability of funds[41]. First of all such earmarking would be an implementation of the polluter-pays-principle. It sets an incentive to reduce harming the climate ("the polluter pays") and those harmed - the climate and affected people - benefit from the revenues. Furthermore, the bundling of expenditures for climate action makes the national and international allocation of EU ETS revenues easy to track. The yearly reporting under the MMR suffers from methodological weaknesses such as a lack of transparency, which could be solved by improved earmarking. Finally, regarding the context of the international climate negotiations, the transparency of the use of the EU ETS revenues for international climate financing actually provides additional value. It can serve as a trust building element between industrialized and developing countries; therefore this approach could create a positive signal effect for the on-going climate negotiations.

On the other hand, the political feasibility of binding rules for budgetary earmarking at the national level is very low. Regulations at the national level in several Member States simply do not permit earmarking of public revenues. Several countries (Ireland, Austria, the Netherlands and Denmark) explicitly indicated in the MMR reporting that they are legally not allowed to earmark the revenues from auctioning for climate and energy purposes, or any public revenues for that matter. Only one Member State (Germany) has earmarked the auctioning revenues in line with the legal provisions regarding public finance at the national level. This was only after it set up a new, separate fund through which the auctioning revenues can be channelled to investments in energy efficiency, renewables, eco-innovation and international climate finance, to name a few.

A further, more technical and much smaller disadvantage of earmarking a percentage of the revenues at Member State level is the higher level of unpredictability compared to ring-fencing a specific amount of allowances (to be monetised). While the monetising of allowances comes with uncertainty due to variation in the carbon price, the binding earmarking of the revenues introduces an additional layer of uncertainty. The main reason for this additional uncertainty, especially after 2020, would be the introduction of the MSR. The MSR will avoid high price fluctuations of EUAs, but achieves this through changing the supply of allowances through auctioning. This implies that the exact amount of allowances that will be auctioned by Member States each year is not known

[41] https://germanwatch.org/de/download/7749.pdf

upfront; therefore neither are the generated revenues. A revenue raising system based on a fixed volume of allowances to be auctioned would generate a more predictable amount.

As part of the full reactivation of the aviation EU ETS

The second option would be to include stronger provisions on international climate finance as part of the reactivation of the EU ETS directive for flights from and to the EEA.

As outlined in the previous section, flights from and to the EEA have been temporarily (1 January 2013 to 31 December 2016) exempted from the requirements set out in Directive 2003/87/EC, in order to facilitate progress towards an agreement at ICAO on a Global Market Based Mechanism (MBM) for international flights.[42]

In case the global MBM is deemed to be insufficient for the EU, it is possible that the EU aviation ETS scope is extended to international flights to and from the EEA once again. Depending on the outcome of the negotiations at the ICAO, two different scenarios thus seem possible:

- *ICAO agrees a for the EU acceptable or sufficient post-2020 global MBM for aviation*: In this case it is likely the EU ETS would not be reactivated post-2016 for international flights from and to the EEA, and continue to only be applied to flights within the EEA.
- *ICAO does not find agreement on a post-2020 global ETS for aviation or one that is not acceptable or sufficient for the EU*: In this case the EU ETS would be reactivated for international flights from and to the EEA post-2016 and continue beyond 2020.

The latter scenario may offer a window of opportunity for the EU to include stronger provisions on international climate finance, such as the language proposed by the European Parliament in 2013 and mentioned in the previous section. It can however, be expected that countries outside the EU will not respond positively to the EU reintroducing the full scope of its aviation ETS. But as the Parliament argued in 2013, "[binding earmarking for international climate finance] *would facilitate the acceptance of the EU scheme if member states accepted a much clearer commitment".*

Stronger provisions for international climate finance as part of the aviation ETS reactivation for flights from and to the EEA have the potential to raise substantial finance while reducing emissions from aviation at the same time. However, it is not straightforward to estimate potential revenues from a reinstated aviation ETS post-2020. A rough estimate can be obtained under the following assumptions:

- The aviation ETS cap is frozen to 95% of the historical (2004-2006) emissions. This would result in an annual cap of 208 million allowances between 2021 and 2030 [43].
- Again, following the original directive 15% of this annual amount would be auctioned[44].
- An average carbon price of €22.50 per EUA is applied.

[42] The EU ETS Directive (2003/87/EC) was amended accordingly by inserting Article 28a. Paragraph 8 of this article introduces the following: "*… Following the 2016 ICAO Assembly, the Commission shall report to the European Parliament and to the Council on actions to implement an international agreement on a global market-based measure from 2020 … In its report, the Commission shall consider, and, if appropriate, include proposals in reaction to, those developments on the appropriate scope for coverage of emissions from activity to and from aerodromes located in countries outside the EEA from 1 January 2017 onwards. In its report, the Commission shall also consider solutions to other issues that may arise in the application of paragraphs 1 to 4 of this Article, while preserving the equal treatment of all aircraft operators on the same route."* http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L:2014:129:FULL&from=EN

[43] See the European Commission's FAQ http://ec.europa.eu/clima/policies/transport/aviation/faq_en.htm

[44] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0101

If 50% of the auctioning revenues would be earmarked (at EU or national level) towards international climate finance this would result in around €3.5 billion revenues for this purpose over the period 2021-2030 (or on average €350 million per year).

A Modernisation or NER300 Fund-type mechanism for international climate finance

The last option presented here is the possibility to set aside a share of the total amount of allowances in the period 2021-2030, with the aim of providing financial support for mitigation and adaptation efforts in developing countries outside of the EU. This is a similar monetising mechanism as the already agreed, in principle, EU ETS NER400 or modernisation fund.

Practically speaking, as from 2021, [X]% of the allowances would be placed in a reserve to be auctioned, following an as yet undefined timetable. The revenues of these auctions would remain at the EU level, with the goal to use them for international climate finance, such as supporting mitigation and adaptation in developing countries.

These auctioning revenues aimed at international climate finance can be put to use in different ways. Three examples are:

- The EU to channel the revenues directly to bilateral or multilateral partners (e.g. the Green Climate Fund) as an EU contribution in the form of a grant or loan.
- The creation of a new EU wide fund managed by the EIB using the auctioning revenues to capitalise its funding programmes on international climate finance post-2020.
- Not auctioning the allowances through EU institutions but handing over these allowances to the GCF and leave the monetisation in the hands of the GCF.

The last example (i.e. foregoing the auctioning and channelling allowances directly to the Green Climate Fund and leaving the monetisation up to the Secretariat of that fund) would currently not conform to the resource mobilisation modalities of the GCF. These modalities, decided by the Board of the Green Climate Fund at its fifth meeting, state that financial inputs into the Fund would only be accepted in the form of grants, concessional loans and paid-in capital contributions, although other forms and sources of finance may be explored in the future.[45] Arguably, these latter sources could include accepting a form of emissions trading allowances.

Regardless of the disbursement process, a new international climate finance reserve would generate considerable volumes of climate finance from the EU and enhance its long-term visibility and predictability significantly. The introduction of a MSR will avoid extreme price volatility of EUAs and therefore should increase the likelihood of a more predictable revenue stream.

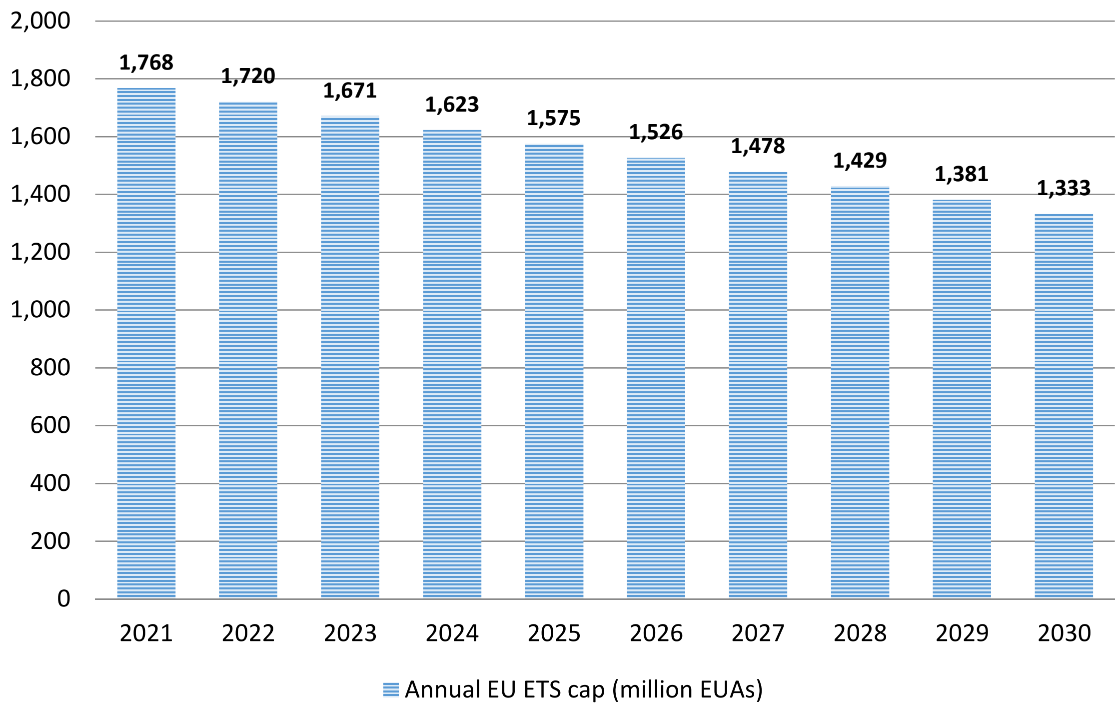
To calculate the possible revenues, it is first required to calculate the total amount of allowances to be allocated in the period 2021-2030. This is done by using the agreed increased linear reduction factor of 2.2% that will be applied as from 2021[46]. Using this, the graphic below shows the annual EU ETS caps for the period 2021-2030. The total amount of allowances will go from €1.768 billion EUAs in 2021 to €1.333 billion EUAs in 2020. The average EUA price in that period is based on an estimate by Thompson-Reuters and includes the introduction of a MSR. This gives an averages price of €22.5 per EUA in the period 2021-2030.

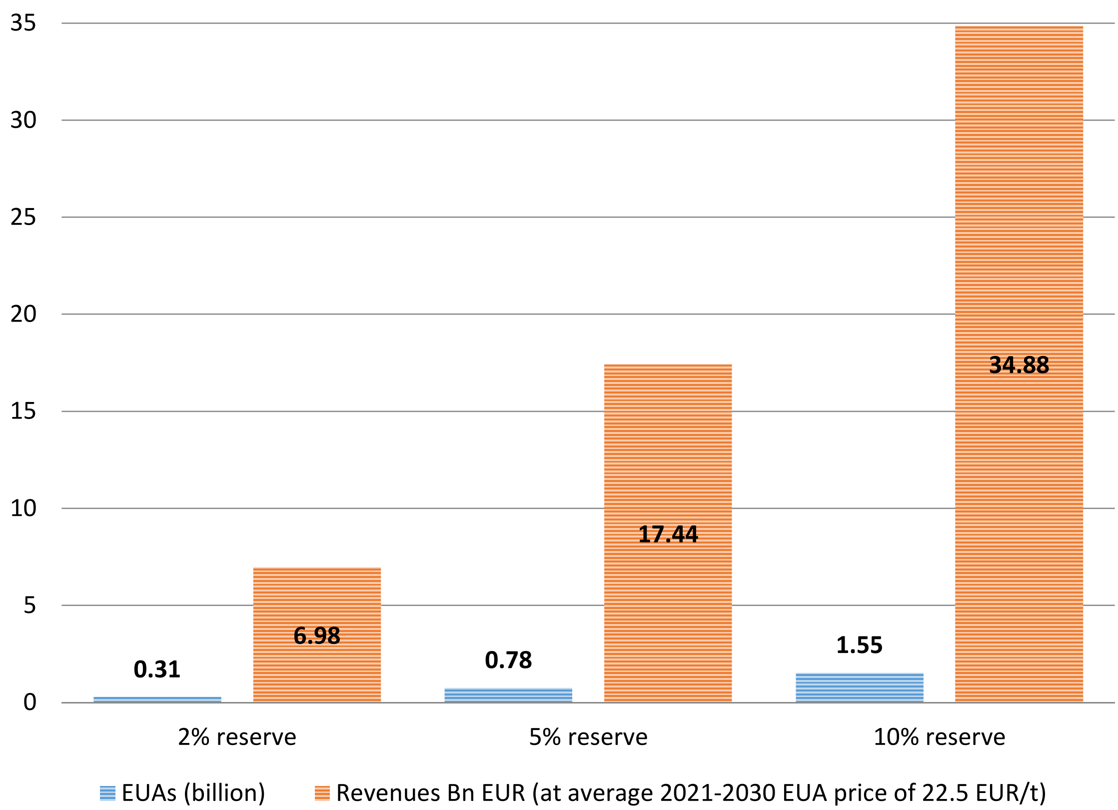
The second graphic calculates the possible revenues using the above-mentioned assumptions in case of an introduction of a 2%, 5% or 10% reserve (from the total amount of allowances for the period

[45] http://gcfund.net/fileadmin/00_customer/documents/MOB201406-7th/GCF_B07_08_Initial_Modalities_fin_20140512.pdf

[46] The following sources offer a good overview of the envisaged 2020-2030 framework and the 4th EU ETS phase
http://ec.europa.eu/clima/policies/ets/cap/auctioning/faq_en.htm
http://ec.europa.eu/clima/policies/2030/docs/2030_euco_conclusions_en.pdf

2021-2030) for international climate finance. This gives respectively €6.98 billion, €17.44 billion and €34.88 billion revenues over the period 2021-2030.





While the theoretical potential of this significant and relatively stable revenue stream is clear, there are important political hurdles to overcome to make this option a reality in terms of policy. First of all, this reserve would be a new element that could upset the delicate and balanced agreement reached at the European Council in October 2014.

Revisiting this political agreement will not be straightforward, especially because a new EU level earmarked reserve would have direct implications on expected EU ETS revenues by Member States in the period 2021-2030. However, as argued earlier, such early upfront earmarking at EU level for international climate finance can be an easier mechanism for EU Member States compared to ad-hoc commitments from their own budgets in the period 2021-2030.

A related political problem is if such a reserve, when introduced, would reduce the auctioning volumes of Member States uniformly or be applied following effort-sharing rules. The political agreement of October 2014 showed that how and where efforts are taken on by different Member States is a critical element for success. Consequently, it can be argued that Member States with a low(er) GDP per capita compared to the EU average should contribute less to this reserve. In practice this principle could be applied as follows:

- First the contribution to the reserve from each Member State will follow the same proportional rule as how the overall allowances will be distributed to Member States (according to the October 2014 Council Conclusions), that is using the proportion of historical verified emissions.
- This distribution is next corrected using a GDP/capita rebalancing mechanism similar to how the non-EU ETS Member States targets will be set post-2020. The latter implies a low or even zero contribution by EU Member States with a low GDP/capita and a proportional higher contribution by richer EU Member States.

A final political issue relates to the state of the UNFCCC climate negotiations and in particular the possible Paris climate agreement. While the 2009 Copenhagen Accord was seen as being inadequate to avoid dangerous anthropogenic climate change, it did contain specific commitments on pre-2020 climate finance[47] - in particular the commitment by developed countries to jointly mobilise US$100 billion by 2020 to address the needs of developing countries. It can be argued that this commitment triggered significant (but not sufficient) amounts of climate finance, in particular from some EU Member States. Similar commitments on post-2020 climate finance have not yet been agreed upon in the ongoing negotiation process toward the conference in Paris at the end of this year. It is possible that developing countries make the ambition level of their INDCs conditional to post-2020 climate finance, or make the acceptance of an agreement in Paris conditional to specific post-2020 financing commitments on mitigation and adaptation by developed countries.

If the above-mentioned UNFCCC negotiation dynamics materialise, the proposed EU ETS reserve for international climate finance could be an elegant contribution by the EU to advance the UNFCCC process. As mentioned before, this reserve would offer a long-term, predictable source of climate finance and would show developing countries the EU's commitment to finance up to 2030. In that context it would be a uniquely powerful mechanism.

[47] Financing commitments in the Copenhagen Accord p. 6-7 http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf

4. Overview and Conclusion

The table below gives a summary of this paper's view on the above mentioned policy options:

- predictability of revenue raising (including an estimate where possible),
- the political feasibility of the option at this moment in time,
- the reference to policy precedents under the EU ETS
- what external enabling conditions are needed to increase political feasibility

EU ETS revenue raising options	Predictability of revenue raising (in period 2021-2030)	Impact on EU international climate finance (in period 2021-2030)	Political feasibility	Policy Precedents	Enabling conditions that can increase political feasibility
New ETS Reserve for international climate finance	**High** (especially in case of MSR).	**High** but depending on % of allowances in reserve between €7bn and €35bn could be raised (2% and 10% reserve respectively).	**Mediocre** at this moment in time since it can distort the Oct 2014 council agreement on EU 2030 climate & energy	NER 300/400 and post-2020 EU ETS Modernisation Fund	The dynamics in the run up to and during COP21 in Paris can exert more pressure on developed country parties (incl. EU) to offer more specific commitment on post-2020 finance. In that case, this option can be quite advantageous for the EU's negotiating position.
Part of ETS revenues (bindingly) earmarked at national level for international climate finance	**Mediocre** since auctioning volumes will depend on transfers to MSR	**High** (**but unsure** due to introduction of MSR and its impact on Member State auctioning volumes). Can be in same range as option above.	**Low** due to fundamental legal and political barriers at Member State level	None	Same as above but less likely given fundamental barriers at Member State level
As part of Aviation ETS reactivation to international flights	**Unsure** since it is uncertain if and how scope of aviation ETS will be widened again.	**Mediocre** A guesstimate in this paper lands at €3.5bn over period 2021-2030	**Unsure** - will depend on ICAO MBM being acceptable to EU	Option has been previously proposed by European Parliament (but rejected by Council)	If ICAO fails to deliver a meaningful MBM in 2016 and the EU reactivates full scope of aviation ETS, this option should be considered as a way to mitigate concerns or resistance from some non-EU countries.

The table shows that an NER300/400 or modernisation fund approach for international climate finance can become an interesting option. This *EU ETS International Climate Fund* would (thanks to the introduction of the MSR) bring relatively stable and predictable revenues. At this moment in time the introduction of such a fund is not featured in the political debate on post-2020 EU climate policy. However, that can change if post-2020 climate finance gains political importance in the run-up to the Paris climate conference at the end of the year. In that case, the EU ETS International Climate Fund can (due to its long-term visibility and predictability and its limited burden on Member States[48]) become a powerful negotiating or leveraging tool for the EU.

Binding earmarking of revenues at the national level, most likely, will remain extremely difficult due to fundamental legal and political barriers at the Member State level, regardless of external factors.

Raising revenues through the aviation ETS (e.g. a similar ETS International Climate Finance Fund) could become an option if the ICAO does not deliver a meaningful market based mechanism in time. However, this will only become clear after 2016. That fund could be important to reduce resistance from non-EU countries if the EU reactivates the original scope of the aviation ETS.

[48] compared to ad-hoc financing from their budgets in the period 2021-2030

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The Institute for European Studies (IES) at the *Vrije Universiteit Brussel* (VUB) is an academic Jean Monnet Centre of Excellence and a policy think tank that focuses on the European Union in an international setting. The Institute advances academic education and research in various disciplines, and provides services to policy-makers, scholars, stakeholders and the general public.

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