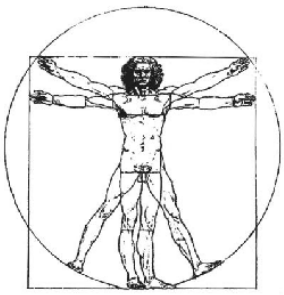

Share of Proceeds

An Innovative Source for Multilateral Climate Finance

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Executive Summary

Levying a Share of Proceeds (SoP) on mitigation units transferred on international carbon markets can be an important instrument to raise finance for adaptation measures in developing countries. An SoP was first introduced for the Clean Development Mechanism (CDM) and under the Doha Amendment expanded to all market mechanisms under the Kyoto Protocol (KP) – both for adaptation as well as for the funding of administrative costs. Now, notwithstanding that SoP is mentioned in Article 6 of the Paris Agreement, how it is applied is a contentious issue in the negotiation in Article 6. This discussion note assesses the current debates surrounding SoP and its potential forms of implementation. Recommendations for Article 6 negotiations are made regarding effective and efficient forms of SoP for adaptation and administrative costs.

Experience under the CDM has demonstrated the problem of emission unit price variation impacting on in-kind SoP revenues accruing to the Adaptation Fund (AF), as well as the importance of guidelines to ensure that monetary and in-kind revenues are balanced properly. Under the CDM, revenues of the SoP for administrative purposes were significantly higher than expected, with the opposite being the case for the in-kind SoP for adaptation funding – an outcome that should not be repeated under the PA.

Though the Doha Amendment's late ratification meant that no SoP was collected between 2013 and 2020, the Amendment set an important precedent by extending SoP to Joint Implementation and International Emissions Trading, and so informing the modalities of how SoP could not only be charged under the Article 6.4 mechanism, as provided for, but also in the context of cooperative approaches under Article 6.2.

The starting point of negotiations is that SoP will be applied to Article 6.4 (as defined in the PA), while the application of SoP to Article 6.2 is highly contentious. Many developing countries favour also applying SoP under Article 6.2, while developed country Parties generally oppose it. Voluntary SoP has been proposed as a compromise by the latter, but it is still debated. Under Article 6.4, the form and level of SoP to be levied is still under negotiation. Many Parties propose a mixed approach to monetary and in-kind SoP, which would strike a balance between stable income and the opportunity to benefit from higher mitigation unit prices, if they occur. Other recommendations for levying SoP under the Paris Agreement include: reassessing administrative expenses on a regular (for example, biannually) basis to adjust allocation of SoP (to prevent accumulation of reserves); applying SoP to linked emissions trading systems (either through a levy on net transfers or by using auctioning proceeds); and allocating a share of SoP to host countries to cover national administrative costs under Article 6.2.

Funding predictability is of utmost importance, particularly for developing countries, but is currently lacking. The final section of this Policy Brief considers ways in which this could be addressed through applying the idea of earmarking an SoP from the sale of mitigation units or carbon taxes at the regional, national, and sub-national level. North American and European examples are discussed, and it is concluded that multi-billion Euro funding could be generated by applying an SoP comparable to that of the Kyoto Protocol mechanisms in this manner.

1 The 'Paris Predictability Problem'

In May 2015, seven months before the Paris climate conference, one of the co-authors of this brief published an OCP/ecbi Think Piece entitled: 'The Paris Predictability Problem: What to do about Climate Finance for the 2020 Climate Agreement?' (Müller 2015). Based on an analysis of the draft negotiating text that eventually led to the Paris Agreement (PA), the Think Piece concluded that "**funding predictability** is of paramount importance, particularly to developing countries, and that the current multilateral funding regime fails to provide it". It argued that this failure is due to multilateral funding being dependent, almost exclusively, on (national) budgetary processes which are not only notoriously complex and highly political, but which also face what has been dubbed the 'domestic revenue problem', with domestic requirements as a rule prevailing over foreign needs. To address this, the Think Piece looked at ways in which this situation could be remedied, namely through **international innovative finance** or **earmarking domestic revenue**.

By far the best way to avoid the domestic revenue problem, the Think Piece argued, would be to follow the example of the Clean Development Mechanism (CDM)'s 'share of proceeds' (SoP) for contributions to the Adaptation Fund, not just by extending the concept to cover all the Kyoto Protocol (KP) market mechanisms – as happened five years later in December 2020 with the entry into force of the KP's Doha Amendment (see Art. 1.J, Doha Amendment) – but also by introducing new innovative international sources for multilateral climate finance, such as the International Air Passenger Adaptation Levy (IAPAL) proposed in December 2008 at COP 14 in Poznan by the Least Developed Countries Group.[1] An Oxfam Briefing Paper published simultaneously likewise proposed that "new financing mechanisms linked to emissions reduction regimes could be the way forward in the post-2012 climate negotiations and yield the minimum of USD50 billion per year necessary for adaptation needs in developing countries," (Coleman and Waskow 2008) but sadly, like the IAPAL proposal, this was to no avail.

The issue of predictable finance is once again on the negotiation table – at the 26th Conference of the Parties (COP26) in Glasgow in November 2021. Relevant – and highly contentious – in this context is the issue of the applicability of SoP to the operationaliastion of the different forms of market-based cooperation under the PA.

2 SoP under the KP

Generally speaking, SoP is a **charge on mitigation activities and/or mitigation outcomes** (such as emissions allowances and credits) generated by international market mechanisms for climate change mitigation. Under the KP, SoP was initially only levied on the CDM, and later also on Joint Implementation (JI), and International Emissions Trading (IET), for two distinct purposes. The first was to cover the administrative costs of international oversight by the stakeholders engaged in, and benefitting from, market-based cooperation. The second purpose was to raise funds for adaptation, given that countries with low emission levels, and thus limited opportunities to generate revenues from mitigation activities that could generate carbon credits (Small Island Developing States (SIDS) and Least Developed Countries (LDCs)), are often disproportionately affected by climate change impacts.

We retrace the history and lessons learned with SoP under the KP, before discussing the status quo of the negotiations to mobilise finance for adaptation in the mitigation market mechanisms under the PA. We then turn to discuss how finance for adaptation can be mobilised – not only at the international level, but

[1] Under the IAPAL proposal, a small passenger charge would have been collected supra-nationally on international air travel and had been expected in the first five years of operation to raise between USD8 and 10 billion annually for adaptation, and considerably more in the longer term. "Since the levy was to be internationally collected and dependent only on the evolution of air travel demand, the funds raised would be truly new and additional, as well as significantly more predictable than traditional funding mechanisms."

in national, regional, and sub-regional policy instruments for mitigation through the earmarking of revenues.

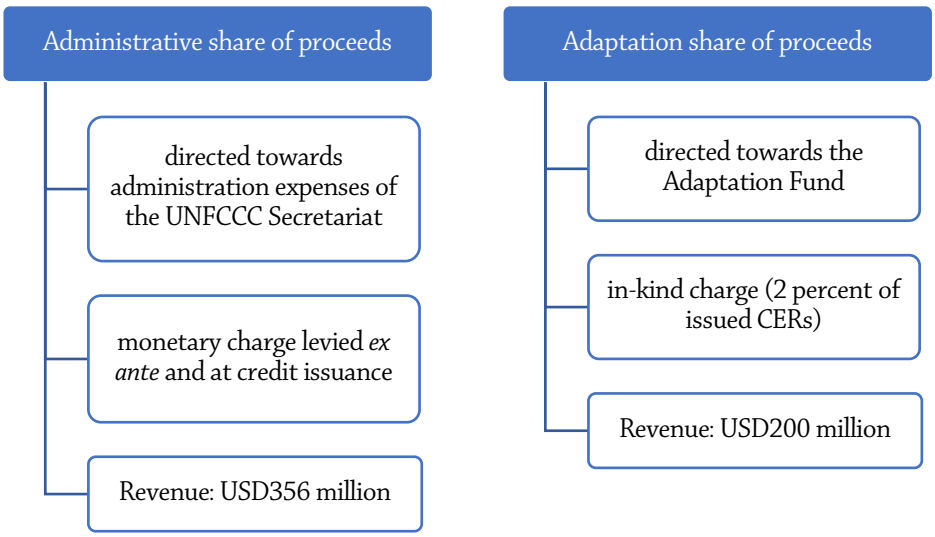
SoP was initially created as an alternative to an international tax under the KP, since the idea of a tax was not popular with negotiators and faced legal challenges (Michaelowa et al. 2019). Article 12.8 of the KP specifies that "a 'share of the proceeds' from project activities under the CDM is to be used to 'cover **administrative expenses** as well as to assist developing country Parties that are particularly vulnerable to the adverse impacts of climate change to meet the **costs of adaptation**'" (UNFCCC 2006). Under this provision, two types of SoP evolved: a monetary administration charge (levied on the issuance of Certified Emissions Reductions, CERs), and an in-kind SoP (2 percent of issued CERs) which was allocated to the Adaptation Fund (AF). The World Bank was appointed trustee of the AF and it also has the task of selling the CERs collected under the adaptation SoP.

The reasons for denominating the administrative SoP in the form of cash payments are spelled out by UNFCCC (2006): "continued operation of the CDM needed immediate funds and a predictable cash flow. Collection and sale of CERs as the share of proceeds to cover administrative expenses might yield more, or less, revenue. But the time needed to implement a system to sell the CERs collected would certainly have delayed receipt of urgently needed funds".

While linked to the volume of CERs issued (USD0.1 for all CERs up to a volume of 15,000 CERs per calendar year, and USD0.2 per CER beyond that level), the cash payments for administration SoP were levied at two points in time: one *ex ante* and one at the time of issuance. An initial fee was due at registration, with an amount equivalent to the estimated CER volume for the first year of operation of the activity. This 'registration fee' functioned as an advance payment on SoP and enabled funding of the UNFCCC Secretariat's CDM-related operation when projects filed for registration, even though no CERs had yet been issued. The maximum registration fee was USD350,000 and no registration fee was collected for projects with an expected average annual reduction of less than 15,000 tCO_2e. The registration fee paid was then deducted from the SoP due at issuance of CERs.

Figure 1 below summarises the differences between the SoP for adaptation and that for administration.

Figure 1: Types of share of proceeds created under the CDM



Note: SoP revenues calculated from UNFCCC reports on budgets for the CDM support structure and reports from the trustee of the AF; for exact sources see Michaelowa et al. (2019).

Source: Authors

3 Major debates regarding SoP

In initial negotiations under the Kyoto Protocol, the SoP idea did prompt certain controversies. The first major issue was which actor would pay the SoP: the seller or the buyer of the CER. It was determined that SoP would be paid at both registration of activities and issuance of CERs by the activity developer. The incidence of the SoP now depends on the market balance. When there is a demand overhang and the CER price is high, the activity developer has the option to price the incurred costs to the buyer. When there is a supply overhang and low CER prices persist, the costs are de facto incurred by the seller.

To lower the barriers for CDM engagement in LDCs, project activities in these countries were exempted from SoP. Small-scale projects benefitted from the 50 percent reduction of administrative SoP for the first 15,000 CERs issued in a given calendar year. Together with further reforms (such as simplified methodologies and programmatic activities), these rules did increase the share of small-scale and programmatic activities, as well as activities in LDCs, in the CDM, although large-scale projects in emerging economies or middle-income developing countries still dominate.

3.1 Lessons learned from the CDM

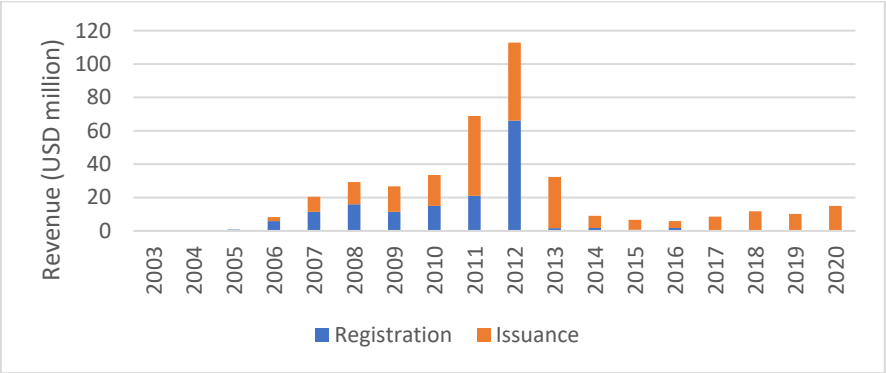
Valuable lessons have been learned from the deployment of SoP under the CDM; these are summarised in Box 1 below.

Box 1: Lessons learned from the CDM

1. Funding generated by the SoP for administration and adaptation developed in an unexpected manner; the former being higher than the latter, leading to insufficient funding for adaptation and accumulation of a surplus of collected administration funding.
2. Sales revenues of CERs collected under in-kind SoP are highly dependent on market price, and accumulating CER reserves can be risky. The Adaptation Fund's trustee accumulated a significant CER reserve during the period of high CER prices that was only sold after prices had collapsed.
3. Monetisation guidelines for the sale of CERs by the trustee of the Adaptation Fund were too inflexible to prevent losses

Under the KP, the **administration SoP** raised an amount exceeding the actual administrative costs by **about three times**. This was due to a much larger inflow of activities and CER issuance than originally envisaged, together with a rapid learning process as well as scale effects due to the large number of activities. As the UNFCCC Secretariat was not allowed to utilise the surplus that was generated to cross finance other expenses, and no attempt was made by the Parties to reduce the administrative SoP to a level commensurate with the administration costs, a significant surplus accumulated. This surplus not only led to a bloated CDM support structure, but it even generated increasing influence by the UNFCCC Secretariat's support structure on CDM rule-setting (Michaelowa and Michaelowa 2017).

Figure 2: Revenues from administrative SOP in million USD, 2003–2020



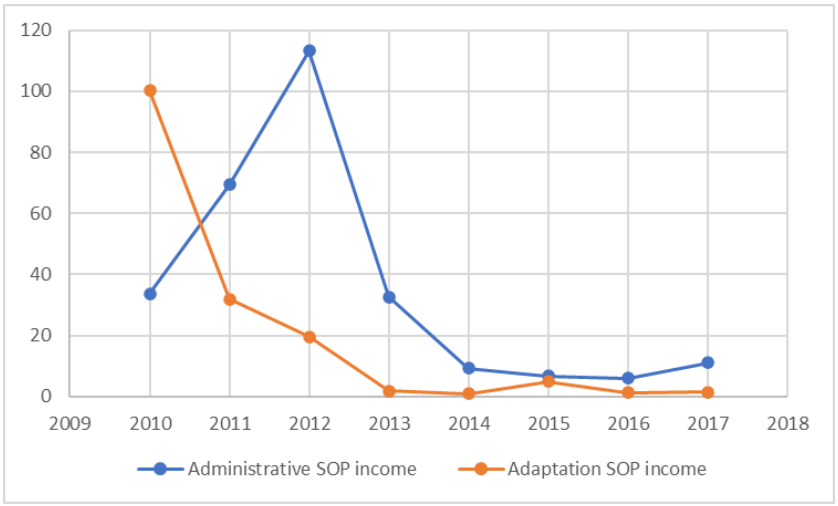
Source: Michaelowa et al. (2019), p. 10, data for 2020 : CDM EB (2021)

It should also be noted that the payment of the registration fee was a burden for those activity developers who never managed to get any CERs issued. When the CER price crashed, many activity developers stopped requesting CER issuance in order to avoid the obligation of paying the issuance fee.

The key lesson is to ensure both upwards and downwards flexibility of an administrative SoP, given the experienced 'stickiness' of a fixed value chosen at a point in time when the level and possible development of administrative costs are not yet known. The significant remaining reserve of over USD100 million has now generated a wide range of desires for possible uses. Examples of these are: adaptation activities, capacity building programmes, coverage of initial administrative expenses of the Article 6.4 mechanism, or compensation to activity developers that have unsold CER credits which will not be accepted under Article 6 (SBSTA 2021). The CMA may task the Article 6.4 Supervisory Body to allocate the reserve.

Initially expected to be much higher than the administration SoP, the revenue from the **adaptation SoP** only reached a little over half the level of the former.

Figure 3: Administrative and adapation SoP income in comparison (USD million), 2010–2017

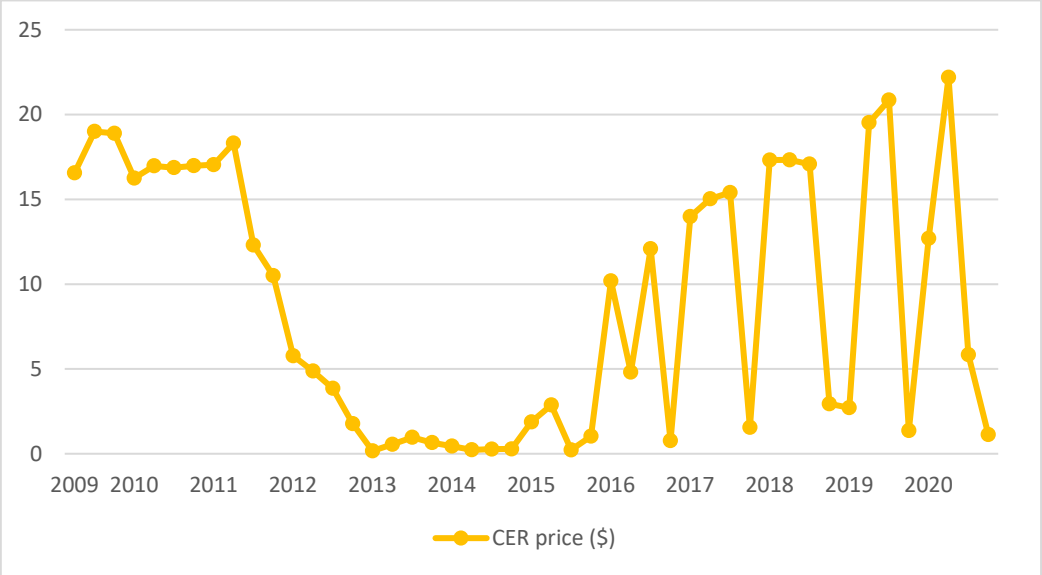


Source: Authors

This is due to a combination of unexpected events. For a long time, most market players expected a steady rise of CER prices. Reality proved different, with CER prices being high in the early years and falling to almost zero from 2013 onwards. Due to the above-mentioned assumption, instead of selling CERs as they flowed in while prices were high, the World Bank (as trustee of the AF) built up reserves reaching 4 million CERs on the eve of the CER price crash and thus was doubly hit, as shown in figure 3. Had the CERs been sold immediately, an additional USD40 million could have been raised for adaptation (Michaelowa et al. 2019). A part of this faux pas is due to an unfortunate guideline that required the World Bank to always hold a minimum stock of one million CERs. By the time this was no longer a requirement in 2012, it was

already too late. It needs to be noted that in recent years the World Bank has been able to achieve surprisingly high prices for CERs (see figure 4) from attractive activity types, albeit for very small volumes. This experience demonstrates that revenue from in-kind SoP is highly dependent on the market price of emission credits, which can be very volatile, and accumulation of reserves can present a risk when prices fall.

Figure 4: Average quarterly CER prices (USD) obtained by the World Bank for the Adaptation Fund, 2009–2020



Source: Michaelowa et al. (2019), data for 2020: Adaptation Fund Trust Fund (2020)

Eventually, the adaptation SoP only contributed 19 percent of AF resources, with the majority still stemming from donor contributions (Adaptation Fund Trust Fund 2020).

3.2 Extending the scope of the SoP to Joint Implementation and International Emissions Trading

Under the Doha Amendment negotiated in 2012, the adaptation SoP was extended to JI and IET in the second commitment period of the KP. The Amendment was ratified on October 1, 2020 and entered into force on December 31, 2020, providing an important precedent for the use of SoP under the Paris Agreement (IISD 2020).

When the Doha Amendment was adopted, discussions on the extension of SoP to JI and IET had been going on for several years, as shown by submissions by Parties on this issue made in 2008 for the second review of the KP (see UNFCCC 2008b–c). Argentina, China, Colombia, and Costa Rica proposed the extension of the adaptation SoP to JI and IET (UNFCCC 2008 a–c), with Argentina and Colombia calling for a broader discussion on new and innovative financing mechanisms (see Section 5.1.1). Saudi Arabia stressed that by restricting SoP to the CDM, finance for adaptation would come from projects in developing countries, which would be inconsistent with common but differentiated responsibilities, and an understanding that Annex I Parties must have a major role in adaptation financing (UNFCCC 2008b). Costa Rica stated that it was "financially insufficient and morally unacceptable to impose the share of proceeds that is destined for adaptation only on the CDM" (UNFCCC 2008c). The EU did not express a direct opinion, merely reiterating interest in a forthcoming technical paper exploring the options (UNFCCC 2008c). In June 2008, New Zealand stressed the need to have a broader view on funding for adaptation, cautioning against the expectation that the extension of SoP would lead to a predictable and sustainable source of funds (see Section 5.1), given the supply/demand and price uncertainty beyond 2012 (UNFCCC 2008b). In December 2008, New Zealand reiterated its critical stance regarding the extension of SoP, pointing out that any levy on international emissions trading would present a risk to the efficiency

of the carbon market, and result in other perverse outcomes. Norway agreed (UNFCCC 2008c). In an earlier submission in June 2008, Norway had instead proposed to explore the option of auctioning of allowances (under ETS) to generate finance for adaptation (UNFCCC 2008b). Ukraine's submission was most critical of an extension of SoP to JI and IET, stressing that neither JI nor green investment schemes under emissions trading rules had generated significant revenues or investments for Ukraine, in contrast to the CDM's success in developing countries. Therefore, further financial barriers affecting the attractiveness of JI and IET should be avoided. Ukraine suggested exploring alternative options to extend the funding base of the AF, while recognising the needs of countries in transition (UNFCCC 2008b). The October 2008 technical paper written for the negotiations explored the impact of various options for funding adaptation. During the first commitment period, the extension of SoP to JI and IET would have generated an estimated USD25–130 million for the AF each year (UNFCCC 2008a). After 2012, it was estimated that the extra revenue would increase to between USD30 million and USD2.25 billion annually. The paper also highlighted the potential of contributions from domestic auctioning revenues, based on an EU proposal that member states use 20 percent of revenues from auctioning for 'green uses', including support for adaptation measures (UNFCCC 2008a). It was estimated that this option would generate USD10–16 billion per year, though the UNFCCC acknowledged that the level of revenue generated would be dependent on many variables. This aspect was not discussed further in the negotiations on SoP under the KP. In December 2008, at the Poznan Conference, Parties were unable to reach an agreement on the SoP issue, with many developing countries expressing disappointment. The review of the KP concluded without a substantive outcome (IISD 2008).

At the Doha Conference in 2012, the issue of extending the SoP resurfaced. In the context of matters related to the AF, the AF Board noted that the drop in CER prices was jeopardising the Fund's existence and urged Annex I Parties to make financial contributions. India noted that the record of Annex I countries would leave 'no reason for optimism' to assume that such voluntary contributions would materialise, and pushed for an extension of SoP to JI and IET. New Zealand, on the other hand, suggested exploring how to generate more demand for the CDM instead (IISD 2012a). In the negotiations, the question of extending the SoP was discussed in ministerial talks. Here, it was AOSIS, supported by India, that stressed the importance of ensuring that SoP is levied from all Kyoto mechanisms (IISD 2012b). In addition, developing countries had proposed to raise the SoP for the CDM to 5 percent of issued CERs after 2014 (IISD 2012b). In the Doha Amendment, the extension of the SoP was formalised, mandating that the following paragraph be added to Article 3 of the Kyoto Protocol:

> "The Conference of the Parties serving as the meeting of the Parties to this Protocol shall ensure that, where units from approved activities under market-based mechanisms... are used by Parties included in Annex I to assist them in achieving compliance with their quantified emission limitation and reduction commitments under Article 3, a **share of these units is used to cover administrative expenses, as well as to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation if these units are acquired under Article 17 [international emissions trading]."** (UNFCCC 2012)

Decision 1/CMP.8 (the Doha Amendment) includes three important provisions:

1. "The share of proceeds to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation... **shall be maintained at 2 percent** of the CERs issued for project activities;"
2. "For the second commitment period, the Adaptation Fund shall be further augmented through a 2 percent share of the proceeds levied on the first international transfers of AAUs and the issuance of ERUs for Article 6 [JI] projects immediately upon the conversion to ERUs of AAUs or RMUs previously held by Parties;" and

3. "Clean development mechanism project activities in least developed country Parties shall **continue to be exempt** from the share of proceeds to assist with the costs of adaptation." (UNFCCC 2013)

However, the decision does not reference the amount levied for administrative purposes.

The fact that the Doha Amendment was ratified only at the last minute means that no SoP under its provisions has been collected on either JI or IET, given that no transactions under these mechanisms have happened (UNFCCC 2021). Norway's submission on SoP under the PA refers to this and expects that no substantial revenue will be generated from this amendment, though the true-up period for the 2nd Commitment Period (2022–2023) has not been affected by the late entry into force of the Doha Amendment (Norway 2021).

4 The Paris Agreement: Article 6

For two COPs in a row, no agreement on the rules for international collaboration under Article 6 could be found. As a result, the SoP has become a 'crunch issue' in these negotiations.

The starting point of the negotiations is that SoP will be applied to Article 6.4 (as defined in the PA), while the application of SoP on Article 6.2 is highly contentious. Though activities in LDCs were exempt from SoP payments under CDM, there has been no indication that this will continue under the PA (Michaelowa et al. 2019). Recommendations for the implementation of SoP under the Paris Agreement are summarised in Box 2 below.

4.1 Levying SoP in cooperative approaches under Article 6.2

There is no mention of SoP under Article 6.2 in the PA text, and industrialised countries have interpreted this to mean that no SoP will be levied on Article 6.2 activities. However, the precedent of the Doha Amendment – levying SoP on all Kyoto mechanisms – led many developing country Parties to push for SoP to be extended to Article 6.2 at COP24 in Katowice in 2018. Industrialised countries generally oppose this – in particular, those countries that had not been part of the KP's second commitment period. These opponents argue that the bottom–up nature of Article 6.2, and the diverse approaches that could be applied, make collection of SoP very difficult – for example in the context of emission trading systems where an allowance changes hands very frequently. In opponents' view, a 'one-size-fits all' rule in the Article 6.2 guidance that can mechanically be applied to all approaches pursued would thus be impossible. Arguments for the extension include creating a balance between the various mechanisms and avoiding perverse incentives to prioritise one mechanism over another. Parties demanding an extension of SoP to Article 6.2 cooperation fear that leaving an SoP clause out of Article 6.2 would result in Parties setting up crediting schemes under Article 6.2, rather than registering activities under the Article 6.4 mechanism, in order to avoid the additional costs due to the SoP. This would mean that activities in countries with no capacity to set up their own system to manage transactions under Article 6.2 would be taxed, while activities in wealthier countries would not. The proponents of an SoP on Article 6.2 stated that emission trading systems could be covered easily by collecting the SoP only for the net balance of international transactions at the end of each calendar year, which would mean that not every transaction under the ETS would be subject to the SoP. This SoP should be monetary and could be paid by governments, using revenues from allowance auctions (SBSTA 2021).

A voluntary SoP was proposed as a compromise, but no solution was reached at COP24 nor at COP25 in Madrid. In the Article 6.2 negotiation text of December 15, 2019, Parties are 'strongly encouraged' to commit to contribute resources to adaptation and to "contribute commensurate with the rate delivered under the mechanism established by Article 6, paragraph 4" to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation (CMA

2019a). The draft text goes on to specify that Parties "shall report as part of their biennial transparency reporting … on any contributions made pursuant to paragraph 37 above" (CMA 2019a).

This compromise, proposed by the EU, hinges on robust information to understand the relationship between market-based cooperation and adaptation finance mobilised. Here, reporting requirements and templates, together with guidance for technical expert reviewers, will be key.

If the SoP were a monetary contribution with flexibility on how to levy it, how should it be levied? Parties could decide whether they:

- Monetise a share of credits for adaptation purposes if they are pursuing cooperation through private sector trading of credits under a baseline and credit approach. The level of this share should remain the same across all options.
- Earmark a share of the revenue from government-to-government ITMO transfers for adaptation purposes.
- Set aside a share of the national auction revenues in the context of linked ETS (this option will be explored further in Section 5.1.2).

Parties could either be given flexibility in the approach to the delivery of adaptation finance or a menu of options agreed by the CMA. Reporting requirements would have to be adapted to the options agreed, to ensure transparency and lay the ground for a comparability of efforts. A regular review of the guidance could examine whether the SoP mobilised by Article 6.2 approaches is indeed commensurate to the level mobilised by the Article 6.4 mechanism (A6.4M). However, experience shows that it can be as challenging to review existing rules as to adopt new ones.

As any transfers of emission reductions issued by the A6.4M will be subject to the Article 6.2 guidance, a double levying of SoP should be avoided. In addition, Parties will have to decide whether mitigation outcomes that are authorised by the host country for 'other international mitigation purposes' (e.g., CORSIA) and 'other purposes' (most often associated with voluntary carbon market transactions) will also be subject to a voluntary and/or mandatory provision of SoP. As these market segments relate to the trading of credits, both in-kind and monetary SoP could be levied, potentially even directly by operators of crediting standards, and host countries can report on these provisions.

Some Parties suggest that an SoP under Article 6.2 should only be levied at the point in time when ITMOs are used towards an NDC (SBSTA 2021). This would restrict SoP to one segment of international carbon markets (and would not include SoP for mitigation outcomes used under CORSIA but associated with a corresponding adjustment by the host country). It would also ensure that the 'buyer' pays for the SoP (but the resolution of who incurs the costs would still depend on the balance between ITMO supply and demand).

In the context of Article 6.2, Parties generally only focus on adaptation, perhaps without consideration of the administrative costs in cooperative approaches.Article 6.2 will generate costs through its 'Centralised Accounting and Recording Platform', which includes an Article 6 database. It also requires the UNFCCC Secretariat to establish and maintain a registry for Parties that do not have access to a national registry. The technical expert review process, and the support from the Secretariat in maintaining the registries and in supporting the reporting and review process, must also be financed. Costs of these functions can be estimated from similar elements under the KP and will be substantial, reaching at least a double digit USD million level per year. There is a precedent from the KP to also levy fees in the context of a Party-governed market-based approach to cover the costs of international oversight. Under JI, fees were levied under both Track 1 (host country-led approach) and Track 2 (approach led under supervision of the JI Supervisory Committee (JISC)) procedures. Under Track 1, fees were levied for the registration of projects or programmes. Under Track 2, fees were levied for accreditation and for the processing of verification reports (JISC 2012). Fees are also levied for the administration of the international transaction log (SBI

2018). It would only be fair to collect fees from Parties using market mechanisms to cover the costs, rather than supporting these functions from the general UNFCCC budget.

Even in the absence of an international decision on voluntary or mandatory SoP for either adaptation or administration purposes under Article 6.2, host countries could make the provision of adaptation and/or adaptation SoP a precondition for their authorisation of first transfer on compliance and voluntary carbon markets.

4.2 Levying SoP from the Article 6.4 mechanism

4.2.1 Finding a balance between stable and rising income

In SBSTA technical meetings in early 2021, many parties (including the LDC Group, African Group, Arab Group, EIG, and Canada) stressed that the SoP under the Article 6.4 mechanism should not lead to a repetition of history, with an imbalance of funds for administration and adaptation. Thus, Parties including the Arab Group, AGN, and the USA proposed a mixed approach to monetary and in-kind SoP. Such a combination may strike a balance between **stable income** and the **opportunity to benefit from higher credit prices**. This model also limits the burden on project developers and reduces transaction costs. Many other Parties (such as Canada, the EU, New Zealand, Australia, and Brazil) were open to discussing the proposal further. However, the level of both in-kind and monetary SoP is still undecided.

The level of in-kind SoP must also be considered in the context of cancellations of ITMOs to generate overall mitigation of global emissions (OMGE). Both SoP and OMGE 'levies' may discourage the use of the market. The effect depends on the price elasticity of demand for different levels of OMGE ITMO cancellation rates, as discussed by Fearnehough et al. (2021). They estimate that a 2 percent cancellation rate for OMGE increases ITMO prices by about 2 percent, while a 10 percent OMGE cancellation rate raises ITMO prices by 13 percent, and an OMGE cancellation rate of 30 percent increases ITMO prices by 47 percent (as seen in Table 1). The cancellation rate for OMGE must be considered when determining an appropriate rate of SoP.

Table 1: Effect of OMGE rate on credit prices

Overall Mitigation in Global Emissions			
OMGE rate (%)	***Additional abatement of global GHG emissions (Mt)***	**Change in credit price from reference scenario (%)**	***Credit prices***
0	*0*	0%	*€20.80*
2	*50*	2%	*€21.30*
5	*130*	6%	*€22.10*
10	*260*	13%	*€23.60*
20	*530*	29%	*€26.80*
30	*800*	47%	*€30.60*

Source: Fearnehough et al. (2021)

Building on the lessons of SoP under the KP, administrative expenses should be reassessed on a regular basis. The AGN and LMDC have proposed that an appropriate amount of SoP revenues can be allocated to administration, while the remainder would be directed to the AF. The USA, Singapore, EIG, and Japan all supported the proposal in technical dialogue sessions.

4.2.2 The levying of SoP and the link to corresponding adjustments

One technical issue that Parties were only starting to debate as of June 2021 is the question of how to reconcile SoP provisions with usage patterns of Article 6.4 emission reductions (A6.4ERs). For instance, Parties are discussing the options that (part of) A6.4ERs could be used in host country domestic carbon markets and towards the host country's NDC, thereby not requiring a corresponding adjustment (CA). Similarly, Parties are discussing temporary exemptions from CAs for credits stemming from 'outside' the NDC of the host country, or that are used on the voluntary carbon market as proof of delivered climate finance.

At the 2021 SBSTA dialogues, several Parties proposed that there is a need to develop further procedures to distinguish different A6.4ERs, for instance through 'labels'. The 15 December draft Art 6.4 text already requires the mechanism registry to "identify issued A6.4ERs that are authorized by the host Party for international transfer for use towards NDCs or for other international mitigation purposes or for other purposes", in accordance with the host Party's approval (CMA 2019b). According to paragraph 67 of the 15 December draft Article 6.4 text, at the issuance of A6.4ERs, the host Party makes a CA for the total number of issued A6.4ERs and then the mechanism registry administrator transfers a percentage of the issued A6.4ERs to the cancellation account for OMGE and collects the SoP for the AF. This means that SoP and OMGE would be applicable for *all* A6.4ERs at issuance as is stated in the Article 6.4 draft text, regardless of the purpose of authorisation. This would include A6.4ERs issued for all purposes, including 'other international mitigation purposes' and 'other purposes'.

The provision of applying CA for all issued A6.4ERs is, however, in contradiction of paragraph 70 of the 15 December Article 6.4 text: Here it states that the host Party shall apply a CA for all A6.4ERs *first transferred*. There is a significant difference, as the first transfer can occur a long time after issuance, or a host Party can use the A6.4ER for its own purposes without transferring it. It would lead to a time lag between issuance (into a pending account) and first transfer into a holding account. This inconsistency will have to be resolved by Parties.

If Parties decide to levy an in-kind SoP of A6.4ERs, such a provision would require these units to be correspondingly adjusted so they can be sold by the AF Trustee. Parties generally agree that a CA renders units fungible on different markets, a precondition for successful sale by the trustee (the World Bank, in this case). If some A6.4ERs are exempt from CAs – such as for domestic purposes, voluntary cancellations, or result-based finance as put forth by Parties at the 2021 SBSTA dialogues – then there is no mechanism in place to ensure that the A6.4ERs channelled towards SoP or cancelled for OMGE have undergone a CA. Two options have been under discussion: Option 1 is to have the host country apply the CA twice. This entails a CA with an addition to the NDC emission balance for all A6.4ERs issued at the time of first transfer (including credits levied for SoP and OMGE). A second CA with a subtraction for all the A6.4ERs used domestically is done at the time of use/accounting for NDC (excluding the credits levied for SoP and OMGE). Option 2 would be to apply a CA only for the share of ITMOs collected as SoP and cancelled for OMGE. Option 1 would be complex and generate transaction costs, while Option 2 would make It difficult to understand for which units a CA has actually been performed.

Box 2 below sums up the recommendations from this section.

Box 2: Recommendations for implementation of SoP under the Paris Agreement

1. Utilise a combination of monetary and in-kind SoP to create a balance between stable income and profit from increasing ITMO prices.
2. Reassess administrative expenses on a regular basis (e.g., biannually) to adjust allocation of SoP to prevent accumulation of reserves.
3. Under Article 6.2, a share of SoP should be allocated to host countries to cover administrative costs at the national level.
4. Exemptions for LDCs should continue, to avoid disproportionate burden.
5. Apply SoP to linked emissions trading systems, either through a levy on net transfers or by using auctioning proceeds.
6. Any in-kind levy of Article 6.4 credits for sale by the World Bank for the AF should ensure that the credits have a corresponding adjustment, to facilitate monetisation.

4.3 Topics for further negotiation

In general, issues such as the ratio of monetary versus in-kind SoP, the level of in-kind SoP, and the point of taxation, are still open to negotiation. As compared to Article 6.2, Article 6.4 reduces the administrative and capacity burden on government agencies related to participation in international carbon markets, it is more likely to be used by developing countries. As a result, a high SoP would have a disproportionate impact on activity developers in developing countries, which should be avoided. Very few Parties (most notably Brazil) supported the continuation of a 2 percent in-kind levy for the AF. Other Parties, such as AOSIS, LMDC, and the Philippines lobbied for a higher percentage, such as 5 percent. Some Parties also suggest a progressive rate (SBSTA 2021).

In terms of whether the transferring or acquiring Party should be taxed, the most relevant considerations are the ability to pay and where economic benefit accrues. Based on these criteria, it makes the most sense that the acquiring Party be charged the SoP, similar to a value-added tax on a consumer.

As for the optimal rate of SoP, this depends on whether it will be applied to both Article 6.2 and 6.4. If this is to be the case, the rate can be lower and will still generate the same revenue. Thinking pragmatically, it may be most beneficial to focus on potential compromises between the complete acceptance, or the rejection, of an Article 6.2 SoP. One compromise could be for Parties to be given the flexibility to establish ways to generate a source of finance for adaptation in their different cooperative approaches and to channel these funds to the AF or the host country. While mechanisms and levels of finance for adaptation could then vary, Parties could be mandated to report information to the CMA and thus undergom pressure by NGOs and media to actually provide such funding. For the next NDC period (post-2030), the provisions for adaptation finance contributions could be revisited.

One way of embedding predictable sources of climate finance for adaptation in market-based instruments will be discussed further in the next chapter: earmarking a share of the auctioning revenue for international climate finance purposes (including, or solely, for adaptation purposes).

5 SoP beyond CDM and Art. 6

Following this account of SoP in the international climate change negotiations, this chapter now turns to discuss how the idea of SoP as an innovative funding source for multilateral climate finance could be extended beyond multilateral market-based cooperation to market mechanisms at the trans-national (regional), national, and sub-national level to help overcome the 'Paris Predictability Problem'.

5.1 North American Initiatives

5.1.1 National Level: The US International Climate Change Adaptation and National Security Fund proposal

Title XIII (Sec. 1331) of the Boxer Amendment to the Lieberman-Warner Climate Security Act of 2008 proposed an International Climate Change Adaptation and National Security Fund ('the Fund') to be established in the US Treasury, with the aim of financing an International Climate Change Adaptation and National Security Program (Sec. 1332) from 2012 to 2050. This Program was, inter alia, intended to support investments, capacity-building activities, and other assistance, in order to reduce vulnerability and promote community-level resilience relating to climate change and its impacts on the most vulnerable developing countries that, inter alia, affect economic livelihoods, result in increases in refugees and internally displaced persons, or otherwise increase social, economic, political, cultural, or environmental vulnerability (Sec. 1332.b).

To raise revenue for the Fund, the US Environmental Protection Agency was to auction a percentage of the annual emission allowances associated with the proposed US emission trading scheme, starting with 1 percent in 2012, and rising gradually to 7 percent in 2050 (Sec. 1331). This was estimated at the time to amount to about USD1 billion in 2012, increasing to around 2 billion by 2020, and 6 billion by 2030 (Müller 2008a). Up to 60 percent of the funding was permitted to go to international funds created under the UNFCCC or to an agreement negotiated under it. Unfortunately, the Lieberman-Warner Climate Security Act failed to muster enough votes in the US Senate to move forward and was withdrawn in June 2008.

5.1.2 Sub-/Trans-national Level: WCI-based Initiatives

On 5 December 2015, Premier Couillard of Quebec announced a (one-off) contribution of CAD6 million from the auction revenue of Quebec's emission trading scheme to the Least Developed Countries Fund (LDCF), one of the funds serving the multilateral climate change regime. Quebec's emission trading scheme is part of the Western Climate Initiative (WCI) which links three sub-national schemes: California (initiated in 2012), Quebec (2013), and Nova Scotia (2019) that have, to date raised USD34 billion in auction revenue, most of which is earmarked for domestic climate purposes.

In 2018, a group of people led by one of the co-authors of this Policy Brief put together a Concept Note for a Western Climate Fund (WCF) as an innovative mechanism for North American sub-national jurisdictions to contribute to multilateral climate finance under the PA. Following Quebec's lead in using part of its emission trading auction revenue to fund its Paris contribution to the LDCF, the idea was to focus the mechanism around the WCI, with the WCF collecting contributions from the participating sub-nationals for the multilateral funds of the PA. The trans-national character of this 'catchment area' was seen to be important as it would ensure that the WCF would not be perceived as competing with national support, but as genuinely complementary ('new and additional') to it. To assure predictability, the primary income was meant come through three innovative 'Source Options' (SO), namely:

[SO.1]: an earmarked share of cap-and-trade auction revenue (as in the case of Germany's Energy and Climate Fund, see section 5.2.2. below);

[SO.2]: an earmarked share of emission allowances to be monetised by an intermediary (as in the case of the share of CDM proceeds monetised by the Adaptation Fund, or the Allowance Allocation to Electrical Distribution Utilities on Behalf of Ratepayers under the California Cap-and-Trade Scheme);

[SO.3]: an earmarked share of a carbon tax.

With regard to institutional arrangements, it was recognised that the type of revenue source chosen is likely to have implications on the management of the collection of the resources and their distribution to the multilateral funds. Auction proceeds [SO.1] or tax revenue [SO.3] could be collected by each participating jurisdiction in **dedicated treasury accounts**, following the model of the proposed Massachusetts Least Developed Countries Fund. Or, they could be collected in a single '**joint account**', managed by a dedicated **joint financial intermediary**. If a participating government decides to allocate emission allowances [SO.2], then these allowances need to be 'monetised' before they can be collected by the WCF for transfer to the multilateral climate funds. This could be done by the sub-national government through auctions, or by a **trading intermediary** (an organisation eligible to trade in the relevant WCI scheme).

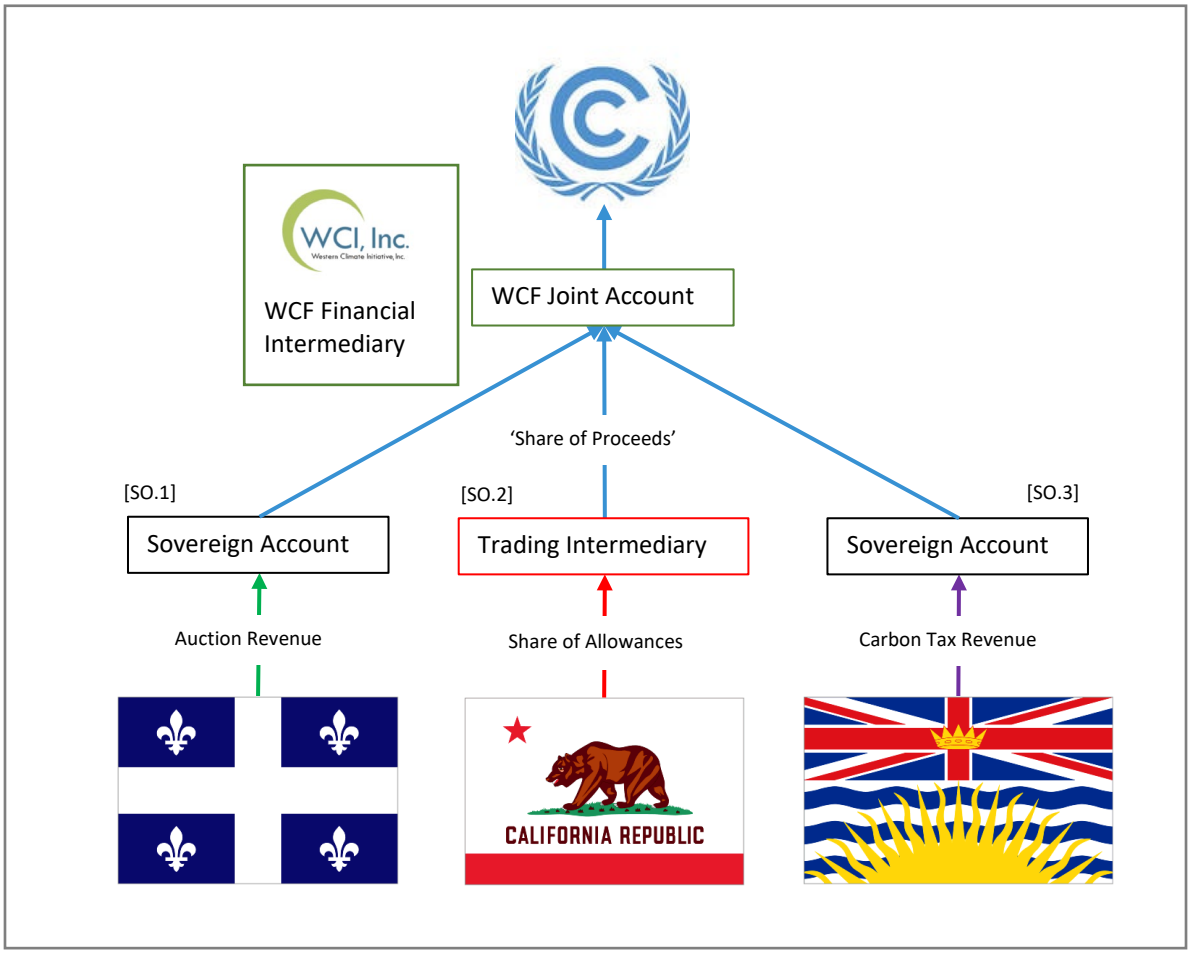


Figure 5: ***Sample WCF governance***

The collection of revenue from the monetisation of these allowances can again be made through individual sovereign (treasury) accounts, or through a joint account managed by an intermediary. Figure 5 illustrates a hypothetical example in which Quebec chooses to use an earmarked share of cap-and-trade auction revenue [SO.1], California to have a share of earmarked allowances monetised by a trading intermediary

[SO.2], while British Columbia joins in with an earmarked share of its carbon tax [SO.3], with the WCI administrator WCI Inc. serving as WCF joint financial intermediary.

Following the publication of the WCF Concept Note, work focused on implementing the concept in California, as part of a broader 'Global Climate Solidarity' (GCS) initiative to assist (sub-national) governments in providing predictable innovative funding for the poorest and most vulnerable across the globe, in support of the PA.

Müller (2021) proposes a California Pilot Scheme along the lines suggested in figure 5 in the context of California's Cap-and-Trade Program, managed by the California Air Resources Board. A small share of allowances would be earmarked as 'Global Solidarity Allowances' (GSAs), to be monetised by a third party on behalf of the multilateral climate funds of the Paris Agreement and designated CSO programmes, for the benefit of vulnerable communities in California. As concerns the size and origin of the proposed GSA set-aside, the Paper suggests setting aside allowances from the (not state-owned) Price Containment Reserve allowances, equivalent to 2 percent of the state-owned ones, for the benefit of the multilateral funds, with an additional 1 percent for local beneficiaries. It estimates an annual revenue of USD48 million and USD24 million respectively.

5.2 European Initiatives

5.2.1 Trans-national Level

In 2008, three years after the launch of the EU Emission Trading System (ETS), the question of whether revenue from auctioning EU ETS allowances should be earmarked for funding climate change activities, particularly in developing countries, occupied EU decision makers considerably. The EU Commission and Parliament were in favour, but they faced strong opposition from some Member States. The Commission proposed that 20 percent of the auction revenue should be used for climate change, while a parliamentary amendment would have mandated all the revenue to be used for climate change, half of which earmarked for developing countries.

As discussed in some detail in Müller (2008b), there were three main Member State objections to the Commission and Parliament proposals:

i. Some new members objected particularly to earmarking revenue for developing countries on the grounds of being 'economies in transition' and as such not expected under the KP to provide funding for developing countries in Annex II.
ii. The proposals were seen to contravene the principle of subsidiarity, by transferring tax competence from the member states to the EU.
iii. Last but not least, earmarking was said to be contrary to 'sound fiscal management', and hence not permissible.

Müller (2008b) concluded that while (i) and (ii) "seem to be justifiable, but can easily be addressed", (iii) is not tenable and suggests, with reference to the UK Renewables Obligation,[2] establishing an EU ETS regulator "charged with carrying out the auctioning on behalf of the Member States, with the revenue flowing into domestic off-budget ETS Trust Funds."

In the end, earmarking of auctioning revenue for developing countries at EU level was rejected, but it was introduced for EU-internal funding purposes. An EU-wide New Entrants' Reserve (NER) of 780 million allowances – equivalent to 5 percent of the EU ETS phase 3 (2013-20) total – was established, with 300 million earmarked for a new NER 300 programme, and the rest for free allocation to new industrial installations, and installations that significantly increase capacity. In the EU ETS Directive for phase 4

[2] See, for example, Mitchell et al. (2006).

(2021-30), two new 'low-carbon funds' were established: an Innovation Fund (as successor to the NER 300 programme), and a Modernisation Fund to fund climate-related activities in EU member states. These initiatives are described below.

The NER 300 was a large-scale funding programme for demonstrating environmentally safe carbon capture and storage (CCS) and innovative renewable energy (RES) technologies on a commercial scale within the EU. It was funded from the monetisation of 300 million emission allowances from the NER. Projects were selected through two rounds of calls for proposals (in December 2012 and July 2014); as a result 38 RES projects and one CCS project were awarded in 20 EU Member States, amounting to EUR2.1 billion.

The Innovation Fund continued this approach, using undisbursed revenue from the second call of the NER 300 programme as well as proceeds from the auctioning of 450 million allowances, widening the scope to energy storage. The first call for proposals, open for projects from EU Member States, Norway, and Iceland, was launched in July 2020. It will provide grant funding of EUR1 billion in total to large-scale clean technology projects with capital costs of above EUR7.5 million.

The Modernisation Fund (MF) supports investments in modernising the power sector and wider energy systems in ten lower-income member states, as part of the European Green Deal investment plan. The MF receives revenue from the auctioning of 2 percent of the total allowances for 2021-30 under the EU ETS, together with additional allowances transferred by beneficiary Member States, presently amounting to almost 650 million earmarked allowances worth around EUR40 billion at the current allowance price (Sandbag 2021). The European Investment Bank (EIB) will monetise the allowances. According to the implementing act, the beneficiary member states are responsible for the selection, financing, and reporting of investments, while the Commission is responsible for the disbursement decisions, following an EIB assessment.

5.2.2 National Level

At the national level, there are (at least) two European examples of SoP-based innovative finance for developing countries, one in Germany, and one in Portugal.

Germany separates its EU ETS auction revenue entirely from budgetary appropriations and allocates them to the off-budget ('Sondervermögen') Energy and Climate Fund (EKF). The EKF was established in 2010 to receive 80 percent of its resources from ETS auction revenues, and 20 percent from the nuclear power sector. However, the funding plan was revised following the German Energiewende (energy transition): from 2012 onwards, almost all the auction revenues were allocated to EKF. In 2012 the EKF had EUR780 million at its disposal, in 2013 EUR3.3 billion, and in 2019 EUR4.5 billion. Today, the EKF is only used to fund activities in Germany, which does help to address the 'predictability problem' of climate finance for developing countries. However, between 2010 and 2014, it was also used as an (interim) funding mechanism for Germany's International Climate Initiative (IKI), and the contribution was considerable: in 2013, for example IKI received EUR281 million – almost 20 percent of the EKF funding. A 2013 evaluation highlighted IKI as "the only instrument worldwide earmarking revenue due to international climate policy (emission trading) for international climate policy" which was seen as a unique selling point (BMU 2013, p.37). Yet, "due to earmarking programming commitments in absolute figures as opposed to a percentage share and the collapse of the carbon price, the international finance component was moved in 2014 from the EKF to the Ministries of Economic Cooperation and Development (BMZ) and German Environment Ministry (BMUB)"[Müller et al. 2016, p.7].

In 2013 Portugal passed a national law (Decree Law 38/ 2013), earmarking all its auction revenues for the Portuguese Carbon Fund (FPC), established in 2006, to support domestic climate policies and cooperation with developing countries. The total Portuguese auction revenue in 2013 was EUR72.8 million, with EUR2.4 million (3.3 percent) used in support of climate change activities in Mozambique and Cabo Verde (Müller et al. 2016). In its second Biennial Report, Portugal (2015) rightly emphasises that "the financial

flows provided by this Fund are additional to previous sources, meaning that previously existing flows were not redirected. The financial contribution of the FPC counts as ODA but is an independent and new source that relies entirely on the Fund's independent and autonomous income/revenues."[p.39]. In 2017, the FPC, together with three other environment-related funds, was terminated and merged into a new national Environmental Fund.

5.3 The Way Forward

Regardless of whether an SoP will become mandatory for all market-based approaches under Art. 6, this section highlights other ways of generating an SoP, to ensure that mitigation cost-savings contribute to raising multilateral climate finance, particularly for adaptation. It also shows that allocating an SoP from auctioning under emission trading schemes at the trans- or sub-national level could generate significant financing volumes.

For example, the EU could establish a 'Global Solidarity Fund' – along the lines of its Modernisation Fund (5.2.1) – earmarking 2 percent of allowances for the benefit of the multilateral climate funds. This would raise EUR2-3 billion annually, which would be genuinely 'new and additional' funding (in other words not from national budgets), which has been, and is, of key importance to developing countries, as witnessed in Art. 4.3 of the UNFCCC and mandated in the PA.

Setting up such a fund would likely prove to be politically complex and benefit from encouragement by a global trendsetter. This is where California could step into the breach by setting a 'Gold Development Standard' for emission trading schemes, working together with Quebec and Nova Scotia (5.1.2). Indeed, this could have a positive impact much closer to home – say to prepare the way for a revival of the US International Climate Change Adaptation and National Security Fund proposal (5.1.1) under a new American Climate Security Act.

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