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POLICY BRIEF

The International Dimension of the EU Emissions Trading System

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Highlights

- The international dimension of an emissions trading system (ETS) pertains to the capacity of its regulation to produce economic and environmental effects overseas, whether through the linkage with other systems or by leading by example.
- A result that the Paris Agreement has already achieved is the revival of positive prospects for the international carbon market. International cooperation, including through carbon market integration, is expected to be a means for achieving the goal of climate stabilisation.
- The EU ETS is likely to have a pivotal role in the prospective processes of carbon market integration.
- Integrating ETSs is generally a lengthy process. Deep carbon market cooperation is necessary to prepare and implement the linkage of ETSs and subsequently to manage the new system.
- There is likely to be a growing demand for more streamlined procedures for preparing and managing carbon market integration processes. Shared knowledge, mutual trust and transparency among the institutions involved are preconditions to achieve, but further learning is needed to facilitate the subsequent steps of those processes.

Life Side

1. Introduction

While remaining today the world's largest Emissions Trading System (ETS) in operation, the EU ETS covers 5% of global greenhouse (GHG) emissions. Thus, the success of the EU ETS – in a broad sense – also depends on its contribution to fostering stronger climate mitigation action outside Europe. However, how this contribution may materialise is not independent of the wider relevant context. The Paris Agreement (PA) has established a new international climate change regime that clearly promotes international climate cooperation. In many cases, this will take the form of carbon market cooperation. A result that the PA has already produced is indeed the revival of positive prospects for the international carbon market. Expectations are that carbon pricing (i.e. carbon taxation and emissions trading) will spread further across the world and that carbon markets, including the EU ETS, will move towards greater integration.

Against this backdrop, the international dimension of the EU ETS has regained relevance. International cooperation with jurisdictions that already run an ETS or intend to set up one is high on the EU's climate agenda. The Florence Process, which the European Commission started in 2017 in collaboration with the Florence School of Regulation (FSR) Climate, is an important initiative strengthening cooperation among regulators and stakeholders of the EU ETS and of other major operating and prospective ETSs.

The policy brief is organised as follows. Section 2 provides information explaining the significance of "international dimension of the EU ETS", today. Section 3 outlines the theory of clubs as a framework for understanding carbon market cooperation. Section 4 reports on the Florence Process so far. Section 5 concludes.

2. Contours of a topical subject

References to "international climate cooperation", to "carbon markets" and their "international dimension", are increasingly frequent within and beyond the climate policy domain. We try and connect the dots to explain the essence and the rise of the subject as well as the role of the EU ETS.

What does international dimension of an ETS mean?

Though a domestic ETS on its own can function perfectly, its integration with other systems is always an option. This is the case because of the aggregate economic gains, and the possible ensuing environmental gains, that can be achieved by creating a larger ETS. Accordingly, any jurisdiction with an ETS will normally ponder the benefits and the risks of linking with other systems. Even an autarkic ETS, however, can produce effects beyond its borders. This occurs, for instance, if an ETS becomes a model to follow, which means that its implementation encourages the creation of new ETSs or inspires regulatory changes in already existing ones (Wettestad and Gulbrandsen, 2018). Whether through the linkage with other systems or by leading by example, the regulation of an ETS can produce economic and environmental effects overseas. The international dimension of an ETS pertains to this capacity.

Why do we increasingly hear about climate cooperation?

Two factors explain why international climate cooperation is, today more than ever, an issue of public debate: the nature of the PA regime and the need to raise the ambition of climate mitigation efforts. The PA reflects a hybrid approach blending bottom-up and top-down features (Chan *et al.*, 2018). The first relate to the freedom of the Parties (nations) in setting their "Nationally Determined Contributions" (NDCs) to climate mitigation and in choosing the policies for meeting their commitments. The second refer to the obligations that the Parties have, such

as monitoring and reporting duties among others. Article 6 of the PA promotes cooperation between Parties in order to achieve the respective NDCs. The linkage of ETSs is one possible form of cooperation, in the specific sense of the PA (i.e., in relation to the NDCs), which several countries, and also subnational jurisdictions, might want to use in the future[1].

By reducing the cost of meeting the NDCs, cooperation has the potential to induce greater mitigation efforts[2]. Raising ambition is imperative because the sum of the initial NDCs falls short of what is required to keep the global temperature rise within 2°C above pre-industrial levels (UNEP, 2017). A defining feature of the PA is indeed a "ratchet mechanism" whereby, every five years, collective progress is assessed and individual NDCs can be revised only in the direction of more aggressive mitigation. International cooperation is thus expected to be a means for achieving the ultimate goal of climate stabilisation.

What is the value of carbon market cooperation?

After multi-decade long experience with carbon taxes and ETSs in advanced economies, the cost-effectiveness of carbon pricing, relative to command-and-control approaches for climate mitigation, seems to be widely recognised. Over 80 national governments have declared that they intend to use carbon pricing for meeting their NDCs (Marcu and Sugathan, 2018). Consistent with this revelation of policy preferences, the count of operating ETSs around the world has increased, reaching 21 (at different levels of government) in early 2018 (ICAP, 2018)[3]. The prospect of seeing several ETSs in the future, some of which would be linked to each other, has quickly become real. Integrating ETSs is generally a lengthy process, however. Deep carbon market cooperation undertaken by the relevant authorities is necessary to prepare and implement the linkage of ETSs and subsequently to manage the new system (Santikarn *et al.*, 2018). Moreover, carbon market cooperation not aimed at, or not resulting in, the establishment of a larger integrated ETS can still be valuable and convenient for the parties leading the process if it eventually induces stronger mitigation action.

What is the role of the EU ETS?

The EU ETS is likely to have a pivotal role in the prospective processes of carbon market integration. Four factors underpin this expectation: a) the size of the EU ETS, making it a major player in the international carbon market; b) the number of countries participating in the EU ETS, which implies a strong track record in negotiating different interests; c) the experience accumulated by the EU in managing the system through various regulatory challenges; and d) the will of the EU to keep a leading role in global climate action. In fact, the EU has always looked after the international dimension of the EU ETS. Relevant experiences are the incorporation of Norway, Iceland and Liechtenstein (EFTA countries) in the EU ETS, the linkages with Australia (failed) and with Switzerland (now pending ratification), the recognition for compliance purposes of international emission credits generated by the Kyoto Protocol's Clean Development Mechanism and Joint Implementation, but also the capacity building programmes for the creation or development of ETSs abroad (e.g., China, Korea[4]). For the reasons explained, the new

1. Mehling *et al.* (2018) illustrate how also climate policies other than ETSs could be linked for the purpose of minimising the cost of meeting the NDCs.

2. It has been estimated that, by the middle of this century, an international carbon market has the potential to reduce global mitigation costs by over 50% (WB, Ecofys and Vivid Economics, 2016).

3. When China's national ETS will enter in operation, about 15% of global GHG emissions will be covered by domestic ETSs (ICAP, 2018).

4. https://ec.europa.eu/clima/policies/ets/markets_en

PA context and the need to increase climate mitigation efforts have relaunched the international dimension of the EU ETS.

3. The theory of clubs applied to carbon market cooperation

Climate mitigation is a perfect example of global public good: the resulting avoided damages of climate change are a non-rivalrous and non-excludable good throughout the world[5]. The problem with public goods is the connected incentive to free-ride on the efforts of the others; that is, not to contribute to the joint effort, or to contribute less than the social optimum requires (Ostrom, 2015). The classic approach for addressing this problem stems from the theory of clubs. A club is "a voluntary group whose members share a set of benefits from which non-members are excluded" (Buchanan, 1965). In the climate policy context, the formation of climate clubs is a way for overcoming free riding in international climate agreements. The club strategy involves limited-membership regimes that produce or secure economic or other non-climate benefits accruing to participants in return for their stronger mitigation action. Examples of such benefits are, among others, access to R&D or financial programs (Carraro, 2016) or access to preferential trade arrangements (Nordhaus, 2015).

An extended concept of climate clubs allows classifying different observed forms of climate cooperation. Stewart *et al.* (2017) distinguish between "classic clubs", "pseudo clubs", and "coalitions". The classification is based on the relevance of the club benefits and the degree to which non-club members can be excluded from their fruition. While classic clubs provide clear and readily excludable benefits, pseudo clubs provide benefits that are more diffuse, less readily excludable, and potentially less easily quantifiable. An example are the reputational benefits of companies participating in carbon measurement and disclosure programmes[6]. Importantly, pseudo clubs without government regulation will not move from monitoring emissions to enforcing emission reductions (Green, 2017). Climate coalitions are effectively further-diluted arrangements. They generally offer information- or publicity-related benefits, while requiring limited or no real environmental commitments (Weischar *et al.*, 2012).

Carbon market clubs are a type of classic climate club. Their specificity is in emission trading being the mandated approach for cooperatively pursuing the mitigation objective. Writing before the PA regime could be imagined, Ellerman (2010) suggested that the formation or extension of international carbon markets necessitate the provision of club benefits beyond those connected to market participation. On the same question, Keohane *et al.* (2017) present a more optimistic view which is consonant with the new context and the related expectations. The authors envision the formation of a club of linked carbon markets that countries would want to join without additional incentives. The club, as an autonomous institution, would need to: *a)* create the conditions for mutual recognition of emission units among members; *b)* maintain the market infrastructure necessary for trading; *c)* establish clear criteria for membership; and *d)* inform assessments of mitigation effort and ambition among current and prospective members. An historical example of how such a club could be initiated and operated is, from the realm of international trade, the General Agreement on Tariffs and Trade.

4. The Florence Process

In September 2017, the FSR Climate, in collaboration with the European Commission's Directorate-

5. A good is non-rivalrous if its consumption by one consumer does not prevent its consumption by others. A good is non-excludable if non-paying consumers cannot be prevented from accessing it.

6. E.g., the Carbon Disclosure Project (www.cdp.net).

General for Climate Action (DG CLIMA), organised a workshop on the international carbon market. The workshop, which took place at the European University Institute, gathered the regulators of the EU ETS (DG CLIMA) and other major ETSs, those of California-Quebec, China and New Zealand, as well as researchers, officials from international organisations, representatives of the business sector and NGOs[7]. In effect, the event was the start of a policy dialogue which saw its second round, also in the form of a workshop, in May 2018[8]. The first two rounds of the dialogue, which has been named Florence Process, have laid the foundation for future deeper cooperation among the regulators.

The early stage of any carbon market cooperation process cannot but involve, for the participating regulators, building trust in the relationships with the counterparts and learning about the functioning as well as the past and perspective challenges of the other ETSs. Accordingly, part of the first two workshops of the Florence Process was dedicated to information sharing about a) the features of the ETSs represented, b) the issues recently faced and the corresponding regulatory responses, and c) relevant aspects of the national public debates. Importantly, however, the dialogue also focused on some fundamental areas of ETS regulation, with analyses and view exchanges of both regulators and stakeholders. Among the topics that received attention were the rules for the free allocation of emission allowances (concerning, e.g., benchmarking, free allocation aligned with production trends, tiered carbon leakage status), the use of auction revenues, and the admissibility of emission offsets for regulatory compliance.

The landscape of the ETSs participating in the Florence Process was and remains characterised by heterogeneity in several aspects of ETS design, such as sectoral coverage, allocation method, market stability mechanisms and regulation of emission offsets, among others[9]. Not only is the landscape heterogeneous, in the sense explained, but it is also dynamic. For example, a major reform of the EU ETS for its Phase IV (2021-2030) became law in March 2018, right in between the first two workshops of the Florence Process; again in the EU ETS, the Market Stability Reserve – a novel approach for dealing with allowance supply-demand imbalances – will start operating in January 2019; in Canada, all 13 provinces and territories are required to have carbon pricing schemes in place by the start of 2019[10], though the plan of the federal government has encountered some strong political opposition at the local level; in 2017, the Canadian province of Ontario linked its ETS with that of California-Quebec, only to leave this year by will of the new government; finally, in December 2017, China announced the launch of its forthcoming national ETS.

Discussions in the Florence Process are foreseen to continue in 2019. ETS regulators and stakeholders will have the opportunity to inform and be informed on the latest developments from the respective jurisdictions, to learn from each other and, ultimately, to take a step forward in the cooperation process.

5. Concluding remarks

Cooperation for climate mitigation, as regulated under Article 6 of the PA, is not only a key component of the international climate change regime. More important, it is an enabler, and perhaps a condition, for the achievement of the PA's climate mitigation objective. Cooperation is intended to reduce the cost of achieving the NDCs and, thereby, allow stronger mitigation efforts. Considering the strength

7. http://lifesideproject.eu/event/carbon-market-workshop/
8. http://fsr.eui.eu/event/second-carbon-market-workshop/
9. For details, see ICAP (2018).
10. https://www.canada.ca/en/environment-climate-change/news/2016/10/canadian-approach-pricing-carbon-pollution.html

of emissions trading, that is, cost-effectiveness in reducing emissions to a targeted level, and the predisposition of an ETS to integrate with similar systems, there is little doubt that carbon market cooperation will be central in the coming years.

Nevertheless, uncertainty remains as to how, in concrete terms, carbon market integration will be carried out in efficient ways. Relatively extended experience with integration of carbon markets has been accumulated, primarily in Europe and North America, but new challenges are ahead. Past ETS linkages mainly involved two jurisdictions at a time, they concerned jurisdictions with similar economic structures, and tended to be lengthy processes. In the future, there is likely to be a demand for more streamlined procedures for preparing and managing carbon market integration processes. So far, researchers have devoted little attention to how these processes should be informed and whether there are forms of cooperation that could provide synergies and mutual benefits for existing ETSs in the short to medium term. Shared knowledge, mutual trust and transparency among the institutions involved are preconditions to achieve, but further learning is needed to facilitate the subsequent steps of carbon market integration processes.

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