**Politics and Governance (ISSN: 2183–2463)**
**2022, Volume 10, Issue 1, Pages 230–234**
**https://doi.org/10.17645/pag.v10i1.5437**

Editorial

# Carbon Pricing Under Pressure: Withering Markets?

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Submitted: 14 February 2022 | Published: 17 March 2022

**Abstract**
Emissions trading systems (ETSs) are operating and developing in many regions and countries. Doubts have been raised about their effectiveness, but the global picture has many nuances, as the contributions to this thematic issue on carbon markets show. In this editorial, we briefly review some of the achievements and limitations of key ETSs, and provide an overview of the assembled articles. The cases examined in this issue include carbon markets rules under the Paris Agreement, the reform of the EU ETS and the proposed expansion of its sectoral coverage to shipping, and emissions trading initiatives in China, the USA, and New Zealand. The evidence indicates that, despite uncertainties related to future developments, carbon markets are continuing to evolve and expand around the world.

**Keywords**
carbon markets; carbon pricing; climate policy; emissions trading; Paris Agreement; policy design; policy diffusion

**Issue**
This editorial is part of the issue "Carbon Pricing Under Pressure: Withering Markets?" edited by Jørgen Wettestad (Fridtjof Nansen Institute) and Lars H. Gulbrandsen (Fridtjof Nansen Institute).



## 1. Introduction

As of 2008 the EU Emissions Trading System (EU ETS) was by far the biggest cap-and-trade carbon market in the world. Then, in late 2008, the financial crisis hit the EU. In the following years, that led to lowered industrial production and economic activities—and indirectly to reduced demand for allowances and a much lower carbon price development than anticipated. However, after some difficult years with an accumulating surplus of allowances and a low carbon price, the EU ETS managed to deal with the crisis. Important reforms were adopted in 2015 and 2018 (see Jordan & Moore, 2020; Wettestad & Jevnaker, 2016, 2019). Moreover, emissions trading had been spreading around the world, with carbon markets established in the Pacific (e.g., New Zealand), Asia (e.g., South Korea), and the USA (e.g., California). Importantly, China began piloting carbon markets from 2013 onwards, to be followed by a full-fledged carbon market (International Carbon Action Partnership, 2021; Wettestad & Gulbrandsen, 2018; World Bank, 2021).

However, several recently published analyses have raised doubts about the effectiveness of carbon pricing, particularly as regards emissions trading as an instrument to induce the low-carbon transition (see Cullenward & Victor, 2020; Green, 2020; Stokes & Mildenberger, 2020). When the Covid-19 pandemic struck in the winter of 2020, that crisis was expected to complicate the position for carbon markets further, possibly leading to "withering markets." However, evidence reported in this thematic issue indicates that the development of carbon markets has taken a different course. Interestingly, according to analysts Refinitiv, the world's carbon markets grew by more than 2.5 times in 2021 to reach a turnover of 760 billion dollars compared to 288 billion in 2020, mainly due to significantly higher prices ("Global carbon market value soars," 2022). The characteristics of the Covid crisis are one key explanatory factor here. In contrast to the financial crisis, which affected economic activities and production levels directly, the Covid pandemic has been a health crisis, influencing economic activities and emissions only indirectly. There

are also indications that increasing public and political concern about a different crisis—accelerating global climate change—has served to counteract Covid-induced economic concerns. Here we sum up some important developments around the globe and key findings in the contributions to this thematic issue, starting with the global negotiations on new flexible mechanisms under the Paris Agreement.

## 2. Article 6 Under the Paris Agreement: Challenges—But Towards Solutions

The article by Ahonen, Kessler, Michaelowa, Espelage, and Hoch explores the evolution of the governance of compliance and voluntary carbon markets, from the Kyoto Protocol to the Paris era (Ahonen et al., 2022). The term "compliance markets" refers to centrally governed and decentralized market mechanisms and forms of cooperation for meeting Kyoto mitigation targets. By "voluntary carbon markets" is meant market mechanisms governed bottom-up and outside the Kyoto Protocol by private institutions and actors. Ahonen and colleagues show how, over time, the distinction between compliance and voluntary markets has become increasingly blurred. They foresee further alignment across baseline-and-credit systems with the international rules for market-based cooperation under Article 6. Further, they discuss several "crunch issues" heavily debated in the Article 6 negotiations—including whether to apply corresponding adjustments to all internationally transferred mitigation outcomes (ITMOs) to avoid double counting, and whether this includes mitigation outcomes used for voluntary offsetting, in addition to those authorized for use towards nationally determined contributions (NDCs) and international mitigation purposes, such as the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). Ahonen and colleagues argue that private actors on the voluntary carbon market should be provided with access to adjusted mitigation outcomes, to enable them to contribute to closing the "ambition gap" by supporting mitigation beyond NDCs.

After failed attempts in 2018 and 2019, the Article 6 rules were finally agreed at COP26 in Glasgow in November 2021. These final rules include the necessary conditions for success highlighted by Ahonen and colleagues, including strong provisions for environmental integrity and robust accounting that can be applied to voluntary carbon markets as well. The price to be paid for such robust rules involved permitting a generous transfer of pre-2021 credits from the Kyoto Protocol for potential use towards the Paris Agreement's first NDCs.

## 3. A Further Ratcheting Up of EU Emissions Trading: Coverage and Mechanisms

The EU ETS has been the frontrunner system globally. After reforms in 2018, the carbon price has risen significantly, hitting nearly 100 euros in early February 2022. However, the Covid-19 pandemic has proven less dramatic for the ETS dynamics than feared, with lowered emissions apparently facilitating increased ambitions rather than hindering ratcheting up. Under the European Green Deal "Fit for 55" package launched by European Commission (hereafter Commission) President Ursula von der Leyen in the autumn of 2019, several further reforms of the ETS have been launched. Two important parts of this process are covered in this thematic issue.

First, as to the coverage of the system, in 2019 the Commission decided to develop a proposal to include emissions from shipping in the EU ETS, as part of the Green Deal initiative. This shipping initiative came only one year after the Commission had heralded the emissions reduction agreement negotiated in the International Maritime Organization (IMO) as a significant step forward—thereby signalling support for the IMO process. In their contribution on the process of including shipping in the EU ETS, Wettestad and Gulbrandsen apply a Multi-Level Reinforcement perspective to explain this apparent policy volte-face which resulted in a Commission Proposal in July 2021, currently moving through the EU institutions (Wettestad & Gulbrandsen, 2022). The Multi-Level Reinforcement perspective notes the "friendly" competition for leadership among central actors at various levels in the EU—particularly the Commission, the European Parliament, and leading member states. We find, first, that the inclusion of shipping is in line with the broadening ambitions of the Commission since the start of the ETS. Second, until 2019, the Parliament carried the regulatory torch. A turning point in the policymaking process came with the inclusion of the shipping issue in von der Leyen's programme for getting accepted by the Parliament and elected as Commission leader in 2019. From then on, the Commission again took the lead. Third, despite the 2018 IMO agreement, the Parliament and Commission deemed further IMO progress in addressing emissions from shipping to be slow, which motivated EU policymakers to act unilaterally.

A second important dimension of ETS reform concerns the ambitiousness and coherence of the system, with the operation of the Market Stability Reserve (MSR)—established in 2015 and in operation since 2019—as a central element. In their contribution, Willner and Perino discuss why the EU's current climate policy mix, consisting of the EU ETS and overlapping policies, is arguably incoherent with respect to emissions abatement and cost-effectiveness (Willner & Perino, 2022). The concept of policy coherence guides their analysis in identifying the EU ETS' current dynamic supply-adjustment mechanism, the MSR, as a central factor in the shortcomings of current market design. They argue that incoherence emerges because of the MSR's quantity-based indicator for scarcity. It works well for current and past demand fluctuations, but not for anticipated changes in demand, like those caused by a member state's fossil-fuel phase-out. As a result,

instead of fostering synergies as intended, the MSR acts to undermine coherence by creating backfiring interactions and making precise predictions of overlapping policies' impacts nearly impossible. Noting the Commission's reform proposal of July 2021, they argue that a change in the MSR's parametrization leaves the fundamental cause of incoherence unaddressed. Based on recent findings in the economics literature, they propose the introduction of a price-based indicator for scarcity, as a way of substantially reducing the current incoherence of the policy mix.

## 4. The National Emissions Trading System in China: Much Shaped by Internal Learning

China is the biggest greenhouse gas emitter in the world: Thus, the development of carbon pricing there is of special interest and potential importance. Heggelund, Stensdal and Maosheng discuss experiences and lessons learned during the development of China's national ETS (Heggelund et al., 2022). When the ETS was launched in late 2017, it was decided to start with the power sector, the largest-emitting sector, and initially cover coal- and gas-fired power plants. The ETS started operation in July 2021 and began with online trading of emissions permits. The past decade has been used for preparing and testing for the ETS, including operating seven pilot markets. However, concerns have been expressed this is taking longer than expected.

The contribution by Heggelund and colleagues offers theory-oriented and empirical contributions to domestic-level learning, and enquires into what happens after a policy has been launched. Their analysis is based on diffusion theory, and identifies internal learning as a key mechanism. The authors argue that having a slow and well-prepared start contributes to the potential success of the carbon market. They also hold that the preparatory period has enabled China to address foreseen and unforeseen obstacles, thereby providing a strong basis for the success of the ETS, on its own and as part of the national mitigation policy mix. As internal learning has been crucial to the development of China's ETS, it is important to let this learning process continue as the national ETS enters operation. Their article also discusses the possibility of linking China's carbon market with other markets. Such linkages, still only at the discussion stage, should draw lessons from China's ETS' experience, they argue, and emphasize learning.

## 5. The USA: Federal Stalemate; Complicated Local Progress

Narassimhan, Koester and Gallagher examine the politics of carbon pricing at the subnational and federal level in the USA from the perspective of policy entrepreneurship and interest-group politics (Narassimhan et al., 2022). The politics of carbon pricing in the USA involves numerous interest groups, and greater public climate-scepticism than in many other parts of the world. The multiplicity of US interest groups and veto actors, combined with the lack of effective policy entrepreneurship, all make a federal carbon pricing policy unlikely. Subnational activities show some continued promise regarding carbon pricing, however. The Regional Greenhouse Gas Initiative (RGGI) is now covering 11 states, and is exploring a cap-and-trade system for the transport sector. California has managed to expand its emissions coverage, increase the percentage of auctioning of allowances, and link with the cap-and-trade system in Quebec, Canada.

On the other hand, the subnational trading regimes have struggled to increase their policy stringency due to political opposition, which has resulted in relatively low carbon prices and, in turn, relatively weak price incentives to reduce emissions. Those weaknesses have led to growing disenchantment with carbon pricing among environmental advocates, even while private sector actors increasingly embrace carbon pricing as a policy measure—perhaps disingenuously supporting carbon pricing policies because firms know that they are politically unlikely to be implemented. US trade unions have remained ambivalent about carbon pricing, but have embraced the idea of a just transition in the context of a Green New Deal. Narassimhan and colleagues conclude that carbon pricing will probably continue as one among several important policy tools in the USA, with fiscal and regulatory policy tools more likely to prevail at the federal level.

## 6. New Zealand: The Zero Carbon Act Anchoring Emissions Trading System Ratcheting Up

In their contribution, Inderberg and Bailey employ a novel framework to examine how anchoring policies are used to define and embed the premises for subordinated policies in New Zealand (Inderberg & Bailey, 2022). This framework is applied to analyse debates on reforms to the New Zealand ETS, originally introduced in 2008, following the introduction of the national Climate Change Act, the Zero Carbon Act, in 2019. Inderberg and Bailey find that the Zero Carbon Act has placed alignment pressure on several key features of the New Zealand ETS, including emission caps, price controls, and rules for international units. More generally, the Act has contributed to a political shift from a cost-effectiveness logic to the pursuit of net-zero emissions as a normative and practical political goal. These findings provide general empirical support for the anchoring perspective. However, the authors note that the government has employed several strategies in negotiating tensions between anchoring and subordinate policies, in particular to protect the integrity of the Zero Carbon Act and secure political and stakeholder support for changes to the New Zealand ETS. More broadly, their anchoring perspective offers a fresh approach to examining the distinctive changes in climate policy and politics created by climate change acts in many jurisdictions.

## 7. Conclusions

Although doubts have been raised about the effectiveness of emissions trading, the global picture has many nuances. On the one hand, as part of an ambitious new Green Deal initiative, the EU ETS is in the midst of ambitious new reform processes that include expanding sectoral coverage to shipping and other transport activities. Record-high allowance prices can also be noted. Regarding the global Paris Agreement, complicated and long negotiation processes on new carbon market rules have been concluded. China, the largest greenhouse gas emitter globally, has launched a nationwide ETS, benefitting from experiences gained from several local pilots. In the USA, state-level systems have increased their membership and emissions coverage.

On the other hand, in the EU ETS the record-high prices have contributed to political turbulence, particularly in Eastern Europe, as have efforts to increase coverage by establishing a new ETS for transport and buildings (Abnett, 2021). Moreover, it is unclear what ETS reform proposals will mean for dealing with the fundamental challenge of achieving a coherent EU climate and energy policy. With regard to the global climate regime, the practical implications and importance of the Article 6 agreements are not clear. Furthermore, the launch of China's ETS has been delayed several times, and its practical impact on businesses and emissions cannot yet be assessed. In the USA, the federal stalemate over carbon pricing continues.

Hence, there is ample room for exciting new research in the years ahead. We hope that this thematic issue will contribute to serious discussion of the merits of carbon pricing, highlighting the weaknesses as well as acknowledging the successes. It is essential to keep in mind that the designs of carbon pricing schemes are always shaped by political and economic interests: They can never be more effective than politicians, economic interests, and electorates or specific groups of voters and veto players allow them to be.

## Acknowledgments

The authors are grateful for funding from the Platon project (Platform for open and nationally accessible climate policy knowledge), financed by the Research Council of Norway (grant number 295789).

## Conflict of Interests

The authors declare no conflict of interests.

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