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The Legal and Economic Case for an Auction Reserve Price in the EU Emissions Trading System

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Abstract

When it was launched in 2005, the European Union emissions trading system (EU ETS) was projected to have prices of around €30/ton CO2 and to be a cornerstone of the EU's climate policy. The reality was a cascade of falling prices, a ballooning privately held emissions bank, and a decade of low prices providing inadequate incentive to drive investment in the technologies and innovation necessary to achieve long-term climate goals. The European Commission responded with administrative measures, including postponing the introduction of allowances (backloading) and using a quantity-based criterion for regulating future allowance sales (the market stability reserve); although prices are beginning to recover, it is far from clear whether these measures will adequately support the price into the future. In the meantime, governments have been turning away from carbon pricing and adopting overlapping regulatory measures that reinforce low prices and further undermine the confidence in market-based approaches to addressing climate change. The solution in other carbon markets has been the introduction of a reserve price that would set a minimum price in allowance auctions. Opponents of an auction reserve price in the EU ETS have expressed concern that a minimum auction price would interfere with economic operations in the market or would be tantamount to a tax, which would trigger a decision rule requiring unanimity among EU Member States. This Article reviews the economic and legal arguments for and against an auction reserve price. Our economic analysis concludes that an auction reserve price is necessary to accommodate overlapping policies and for the allowance market to operate efficiently. Our legal analysis concludes that an auction reserve price is not a "provision primarily of a fiscal nature," nor would it "significantly affect a Member State's choice between different energy sources." We describe pathways through which a reserve price could be introduced.

JEL-Codes: Q540, Q580, K320, K340.

Keywords: emissions trading, auction reserve price, carbon tax, price floor, EU law.

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1 Introduction

The European Union emissions trading system (EU ETS) is, by the European Commission's own description, "a cornerstone of the EU's policy to combat climate change and its key tool for reducing greenhouse gas emissions cost-effectively."[1] When the EU ETS was launched in 2005, the Commission was projecting average prices for European Union Allowances (EUAs) to be €30/ton CO_2.[2] However, once trading began in earnest in 2008, allowance prices quickly fell, and they spent the better part of the last decade hovering below €10. Economic modeling indicates these price levels are insufficient to promote the necessary innovation and abatement activities to meet Europe's decarbonization goals cost-effectively, calling into question the centrality of the ETS to EU climate policy.[3] The EU Renewable Energy Directive provides direct support for the expansion of renewable energy sources,[4] but at current—and expected—allowance price levels, emitting entities covered by the ETS have little incentive to change their carbon usage. At such low carbon prices, it is difficult to see the ETS living up to its purpose as the cornerstone of an effective climate policy.

The persistence of low allowance prices—along with the accumulation of a substantial privately held bank of allowances well in excess of a one-year emissions budget—led the Commission to review the performance of the ETS and consider options "to tackle the growing structural supply-demand imbalance."[5] The first chosen measure was "backloading," by which allowances were withheld from auction, with the commitment to reintroduce them later when prices were higher and the market was more stable. Focus then turned to the market stability reserve (MSR), a system to manage the issuance of allowances in response to the quantity of unused allowances that remain in circulation and have not yet been surrendered for compliance. The implementation of backloading of Phase 3 allowances from 2014 to 2016 and the proposal

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[1] European Commission, *EU Emissions Trading System (EU ETS)*, https://ec.europa.eu/clima/policies/ets_en.

[2] European Commission, Draft Commission Staff Working Document Impact Assessment Accompanying Document to the Commission Decision Determining a List of Sectors and Subsectors Which Are Deemed to Be Exposed to a Significant Risk of Carbon Leakage Pursuant to Article 10a (13) of Directive 2003/87/EC, 24.12.2009, SEC(2009) 10251 final.

[3] NICHOLAS STERN & JOSEPH E. STIGLITZ, REPORT OF THE HIGH-LEVEL COMMISSION ON CARBON PRICES (2017); O. Edenhofer, C. Flachsland, C. Wolff, L.K. Schmid, A. Leipprand, N. Koch, U. Kornek, & M. Pahle, *Decarbonization and EU ETS Reform: Introducing a Price Floor to Drive Low-Carbon Investments* (Mercator Research Institute on Global Commons and Climate Change, MCC Policy Paper 24.11.2017, 2017).

[4] Directive 2009/28/EC of 23 April 2009 on the Promotion of the Use of Energy from Renewable Sources and Amending and Subsequently Repealing Directives 2001/77/EC and 2003/30/EC, [2009] OJ L 140/16 ("Renewable Energy Directive").

[5] European Commission, Report from the Commission to the European Parliament and the Council: The State of the European Carbon Market in 2012, 14.11.2012 COM(2012) 652 final.

and adoption of the MSR scheme in 2014–15,[6] along with a significant tightening of the proposed cap for Phase 4, did not result in significantly higher market prices. The tepid market response to these quantity-based approaches to managing the trading program appears to reflect a crisis of confidence in the ETS as a central mechanism for decarbonization.[7] Only with the announcement at the end of 2017 of a mechanism to cancel excess allowances from the MSR starting in 2023 did price expectations begin to recover. However, given the MSR's complexity and the multiplicity of factors influencing EUA price formation—including macroeconomic developments and overlapping regulations in energy markets—it is far from clear that investor expectations will remain strong and low prices will not return.

The European Commission reviewed options for "discretionary price instruments" as part of the structural reform review of the EU ETS in 2012.[8] However, a simple and common approach—setting an auction reserve (minimum) price in the auction of emissions allowances, below which new allowances would not be released into the market—was not given serious consideration. In conversations and presentations, Commission economists from DG CLIMA expressed concerns that the price-based character of an auction reserve price could qualify as being "primarily of a fiscal nature" (within the meaning of Article 192(2) TFEU, as we explain in Section 3), thus requiring unanimity voting in the European Council. This was considered an insurmountable political hurdle, informed by the Commission's unsuccessful attempt to introduce a carbon and energy tax in the 1990's.[9] However, no formal analysis of this legal question was ever commissioned. This article constitutes one of the first known attempts to conduct this analysis,[10] and the balance of the evidence indicates that unanimity in the Council for the inclusion of an EU ETS auction reserve price in the existing system is not needed.

At the same time, since Europe was a leader with the ETS, subsequent trading systems have learned from the EU's experience. The Regional Greenhouse Gas Initiative (RGGI), a cooperative effort among ten northeastern states in the United States, held its first auction with a

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[6] EP Legislative Observatory, Procedure File of Decision on Establishment and Operation of a Market Stability Reserve, 2014/0011(COD), Decision (EU) 2015/1814 of the European Parliament and of the Council of 6 October 2015 Concerning the Establishment and Operation of a Market Stability Reserve for the Union Greenhouse Gas Emission Trading Scheme and Amending Directive 2003/87/EC.

[7] B. Knopf, N.T. Koch, G. Grosjean, S. Fuss, C. Flachsland, M. Pahle, M. Jakob, & O. Edenhofer (PIK), *The European Emissions Trading System (EU ETS): Ex-Post Analysis, the Market Stability Reserve and Options for a Comprehensive Reform* (Fondazione Eni Enrico Mattei, Nota di Lavoro 79.2014, 2014).

[8] European Commission, The State of the European Carbon Market in 2012, COM(2012) 652 at 9f.

[9] J.B. SKJÆRSETH & J. WETTESTAD, J., EU EMISSIONS TRADING: INITIATION, DECISION-MAKING AND IMPLEMENTATION 4-5 (2008).

[10] *See* S.E. WEISHAAR, CARBON PRICING: DESIGN, EXPERIENCE AND ISSUES 37 (L. Kreiser et al. eds., 2015).

reserve price in 2008, designed in part in response to events observed in the EU ETS. Subsequently, the Waxman-Markey proposal for a national cap-and-trade program in the United States, which passed the House of Representatives in 2009,[11] included an auction with a reserve price. Built on the observed success in RGGI, sequentially the California, Québec, and Ontario trading programs all have incorporated reserve prices into their auctions. Hence, it was surprising that in preparing for the fourth phase, the EU considered several mechanisms to promote market stability but did not give serious attention to an auction reserve price. Meanwhile, the United Kingdom had already introduced a domestic carbon floor price of £18/ton (around €20/ton) for electricity generation, and several other European countries have been contemplating a floor price for carbon emissions.[12]

This Article considers the legal and economic case for incorporating an auction reserve price in the EU ETS. Section 2 lays out the economic case for incorporating a reserve price to improve auction efficiency, stabilize and support allowance price expectations, and increase social welfare. Section 3 develops the legal background for subsequently considering legal options for incorporating an auction reserve price in the EU ETS, discussed in Section 4. Section 5 considers additional practical policy issues, and Section 6 concludes.

2 The Economic Case for an Auction Reserve Price

In this section, we take an economics perspective on implementing an auction reserve price within the EU ETS. We discuss why it may be desirable to combine price with quantity mechanisms, why an auction reserve price is not considered a tax from an economics perspective, and the merits of an auction reserve price.

2.1 Combining price with quantity mechanisms

Emissions markets are created to put a price on carbon that signals to society that carbon is costly and scarce, by setting quantity limits to emissions and allowing those emissions rights to be traded. One of the most challenging issues in the design and implementation of market-based approaches to regulation is managing uncertainty, regarding both the benefits and costs of

[11] H.R. 2452, 111th Cong. (2009).

[12] In 2016, France proposed a domestic €30/ton carbon price floor for power plants but ultimately dropped it. Germany considered lobbying for a "Europe-wide minimum price" for carbon (http://www.reuters.com/article/europe-carbon-germany-idUSL5N181906). The Netherlands is also exploring the introduction of a floor price mechanism for the electricity sector similar to that in the UK (https://www.kabinetsformatie2017.nl/binaries/kabinetsformatie/documenten/publicaties/2017/10/10/regeerakkoord-vertrouwen-in-de-toekomst/Regeerakkoord+2017-2021.pdf).

emissions reductions, which may evolve over time and about which it may take years to reach scientific consensus. Policymakers may have expectations about what is an appropriate price range to bring forth clean technologies, induce innovation, or reflect the social cost of carbon, but they cannot know the true costs of abating emissions ex ante or what technological or macroeconomic shocks will occur.

In theory, the emissions market should be a cost-effective mechanism that equates the marginal cost for meeting the carbon target across regulated entities, ensuring that emissions sources that can reduce emissions at least cost within a given compliance period will do so. Further, the ability to bank allowances is supposed to ensure that cost-effectiveness is achieved over time. Another attractive aspect of a cap-and-trade policy is that the regulator has instantaneous information about marginal cost, summarized in the allowance price. However, in practice, the value of price discovery is limited: overlapping policies and other factors interfere with the market and drive a wedge between the apparent and actual costs. For example, the EU Renewable Energy Directive forces more clean electricity generation to be implemented than would be cost-effective with carbon pricing under the ETS alone. By directing the market to reduce more emissions via relatively expensive renewables, less abatement will be done via other, less costly methods, leading allowance prices to fall. As a result, the actual costs of meeting the emissions target are higher while the allowance price is lower.[13]

A related problem is the "*waterbed effect*": if any EU Member State chooses to implement additional measures to further reduce emissions among their installations covered by the cap, those actions simply increase the amount of allowances available in other Member States and sectors. As a result, complementary policies are close to futile in reducing CO_2 emissions, and they drive down the carbon price even further. Taken to the extreme, collective unilateral actions could ultimately render the EU ETS irrelevant, replacing it with a patchwork of national policies.

In other words, with many overlapping policies, despite apparently low allowance prices, implicit carbon prices can be quite high and heterogeneous, meaning more cost-effective opportunities for reducing emissions can be missed. Low allowance prices can also entail higher costs in the long run because of weak incentives for technological innovation and adoption of cleaner technologies not otherwise supported by the additional policy measures. This lack of reliance on the market to help bring forth new and unforeseen technologies ultimately increases the cost of the transition to a low-carbon economy.

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[13] C. Fischer & L. Preonas, *Combining Policies for Renewable Energy: Is the Whole Less Than the Sum of Its Parts?* 4 INT'L REV. ENERGY & RESOURCE ECON. 51 (2010), https://doi.org/10.1561/101.00000030.

Furthermore, uncertainty and price volatility have their own costs and can dampen investment incentives.[14] For all these and other reasons, it may be desirable to combine price with quantity mechanisms to promote stability and better align allowance prices with the costs they are intended to reflect.

In the early literature on emissions trading, the idea of a minimum price in an emissions market was characterized as requiring the government purchase of emissions allowances that had previously been distributed for free. Baumol and Oates describe the adverse dynamic properties this type of subsidy for emissions reductions would have.[15] Their assumption was that firms have a property right to emissions and the government is buying back those rights. However, the advent of the polluter pays principle and the introduction of auctions include the ability to influence the minimum price in the market by associating an auction reserve price with the sale of new allowances. If the auction equilibrium price falls to the reserve price level, some or all of the allowances will not sell, and the constrained supply will support the market price.

The European Commission states that an explicit carbon price objective "would alter the very nature of the current EU ETS being a quantity-based market instrument."[16] However, if the program is well designed, the reserve price should bind rarely if at all. In fact, if an auction reserve price prevails consistently, leaving allowances frequently unsold, it may be taken as a signal of structural problems in the program that should trigger a program review. Furthermore, not all operators have to pay the reserve price when it does prevail at auction. Some portion of the market, including industry, may receive allowances for free, as is currently the case. The value of that allocation is reinforced by the auction reserve price. Finally, it is important to note that a reserve price in the auction does not constitute a minimum price in the market. If the existing supply of allowances in secondary markets is sufficient relative to demand, the market price for allowances could fall below the reserve price; in this case, no new allowances would enter the market.[17] For

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[14] A. Lofgren, K. Millock & C. Nauges, *The Effect of Uncertainty on Pollution Abatement Investments: Measuring Hurdle Rates for Swedish Industry*, 30(4) RESOURCE & ENERGY ECON. 475 (2008) https://doi.org/10.1016/j.reseneeco.2008.09.002

[15] W.J. BAUMOL & W.E. OATES, THE THEORY OF ENVIRONMENTAL POLICY (2nd ed. 1988).

[16] *See* European Commission, *supra* note 5, at 10.

[17] S. Salant & M. Hasegawa, *The Dynamics of Pollution Permits*, 7 ANN. REV. RESOURCE ECON. 61 (2015). This condition was observed in the California trading program in 2016. RGGI's emissions containment reserve applies only to a subset of allowances that are available to sell in the auction, so naturally, if supply and demand conditions merit, those allowances might not sell and the price could fall below the reserve price trigger. Analogously, when additional allowances have entered the program under RGGI's cost containment reserve, once all those allowances were sold, the price temporarily rose above the reserve's trigger price.

all these reasons, an auction reserve price is very different from a tax from an economics perspective, and we will show that it is also quite different from a legal perspective.

2.2 Merits of a reserve price

The merits of an auction reserve price are well documented in the academic literature.[18] The arguments for having price (or cost) management mechanisms (also referred to as cost and emissions containment) have to do primarily with uncertainty regarding the marginal costs of reducing emissions but also with other uncertainties associated with external shocks to the system. The possibility of introducing a price ceiling to safeguard against (very) high allowance prices has been discussed and debated in the EU since the start of the scheme. A control mechanism to guard against unacceptably high prices and price volatility currently appears in the Directive,[19] under the heading "Measures in the Event of Excessive Price Fluctuations," but the merits and benefits of an auction reserve price have been much less discussed, and no explicit mechanism exists to guard against a fall in price.

In fact, this focus on higher-than-expected costs (and hence high allowance prices) is in sharp contrast to what has been observed in practice. *In almost all previous cap-and-trade programs, the costs to firms have been overestimated ex ante rather than underestimated.*[20] The typical scenario witnessed repeatedly in market-based regulation of air pollution is an initial high price as compliance entities build a modest allowance reserve, identify abatement options, and learn to trust the market, followed by a precipitous decline in price.[21] The EU experience with low allowance prices has been shared by earlier trading schemes such as the sulfur dioxide and nitrogen dioxide trading programs in the United States and the subnational programs for CO_2.[22]

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[18] *See, e.g.*, D. Burtraw, K. Palmer, & D. Kahn, *A Symmetric Safety Valve*, 38 ENERGY POL'Y 4921 (2010); P.J. Wood & F. Jotzo, Price Floors for Emissions Trading, 39 ENERGY POL'Y 1746 (2011).

[19] Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community, 2003 O.J. (L 140) 63, Art. 29a (1): "If, for more than six consecutive months, the allowance price is more than three times the average price of allowances during the two preceding years on the European carbon market, the Commission shall immediately convene a meeting of the Committee established by Article 9 of Decision No 280/2004/EC."

[20] *See* W. Harrington, R.D. Morgenstern, & P. Nelson, *On the Accuracy of Regulatory Cost Estimates*, 19 J. POL'Y ANALYSIS & MGMT. 297 (2000); Burtraw et al., *supra* note 18.

[21] D. Burtraw & A. Keyes, *Recognizing Gravity as a Strong Force in Atmosphere Emissions Markets*, 47 AGRIC. & RESOURCE ECON. REV. 201 (2018), https://doi.org/10.1017/age.2018.12.

[22] The exception is the RECLAIM program in Southern California, the only important program that did not allow emissions banking. Unfortunately, the ramp up of stringency of that program coincided with a disruption in the California electricity market, leading to a price spike and suspension of trading. The lesson from this is that any poorly designed program can fail. Cost management is a design element that, although one hopes it would not be invoked, would provide a safeguard against such a failure.

The obvious way to implement a minimum price is with an auction reserve price, as long as a sufficient portion of the total allowance allocation is sold through an auction.[23] Just as in many online auctions, the reserve price represents a minimum acceptable bid. The academic literature and notorious examples of failed auctions point to a credible and efficient reserve price as an important feature of good auction design.[24] If the market clearing price were to fall below the reserve price, some portion of allowances automatically would not be sold in the auction, thereby restricting the supply of allowances and supporting the market price.[25]

Given an unpredictable price path, Burtraw and colleagues find that a minimum price—independently or in combination with a price cap above which additional allowances are released into the market—significantly improves welfare and the performance of a trading program.[26] If the allowance price is lower than expected when the cap is set, this would indicate emissions reductions are less expensive than anticipated. Assuming policymakers initially designed the program with a rough balancing of the incremental benefits and costs in mind, the realization of a low allowance price should trigger the desire to purchase greater emissions reductions. An auction reserve price is a rule that allows policymakers to embed such instructions in the program.

Another important aspect of the reserve price is its potential to reduce uncertainty for investors regarding expectations of future allowance prices. By reducing or eliminating the low end of the distribution of possible allowance prices, a reserve price both lowers the variance in allowance prices and raises their expected value. Each of these aspects has a positive influence on the decision to invest in low-emitting technologies. Furthermore, an auction reserve price might reinforce auction revenues that could be used and invested in low-carbon innovation. Greater confidence about higher prices in the future can also support current prices because of the opportunity for banking current allowances for future compliance. If implemented in Phase 4 of the EU ETS, starting in 2020, an auction reserve price would be likely to influence allowance

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[23] C. Hepburn, M. Grubb, K. Neuhoff, F. Matthes, & M. Tse, *Auctioning of EU ETS Phase II Allowances: How and Why?* 6 CLIMATE POLICY 135 (2006); Å. Löfgren, D. Burtraw, M. Wråke, and A. Malinovskaya, *Distribution of Allowance Asset Values and the Use of Auction Revenues in the EU Emissions Trading System*, REVIEW OF ENVIRONMENTAL ECONOMICS AND POLICY, 12 (2) 284–303.

[24] K. Binmore & P. Klemperer, *The Biggest Auction Ever: The Sale of the British 3G Telecom Licenses*, 112 ECON. J. C74 (2002); L. Ausubel & P. Cramton, *Vickrey Auctions with Reserve Pricing*, 23 ECON. THEORY 493 (2004); S.E. WEISHAAR, EMISSIONS TRADING DESIGN: A CRITICAL OVERVIEW (2014), S.E. WEISHAAR, F.G. TICHE, ECONOMICS AND REGULATION IN CHINA (M. Faure, G. Xu, eds., 2014).

[25] The degree of support depends in part on the disposition of unsold allowances. *See* Section 5 for an in-depth discussion about how to design an auction within the EU ETS with a reserve price, also in concert with the existing MSR.

[26] *See* Burtraw et al., *supra* note 18.

prices in the later years of Phase 3.[27] If Phase 4 allowances are expected to be more valuable, firms will want to save Phase 3 allowances for later use, driving up current demand.

By discouraging excess downward price adjustments, a reserve price would help address the repercussions of the aforementioned waterbed effect—that is, the risk that Member States by introducing complementary policies will undermine the functions of the ETS. When the cap remains unchanged, overlapping policies to reduce emissions in some jurisdiction will push prices downward and emissions up elsewhere within the EU. A reserve price that leads to cancellation of allowances thus helps make these policies truly additional.

Finally, a rule-based approach such as an auction reserve price can automatically adjust the stringency of the cap-and-trade program in response to new information about costs without waiting for administrative action. In other words, cap stringency is set in anticipation of likely costs; low allowance prices reveal that the cap could have been more ambitious to balance the societal benefits of emissions reductions. An auction reserve price provides an adjustment to improve this balance that is automatic and transparent.

The Commission states: "A stable carbon price signal is one of the elements that can improve the investment climate for low-carbon investments."[28] We argue that the introduction of an auction reserve price in the EU ETS would provide a nondiscretionary, rule-based approach that can be anticipated by market participants and thereby stabilize the market, and thus it would have a positive effect on investments in nonemitting technologies.

In sum, an auction reserve price has the following merits: it mitigates problems with overlapping policies; it increases cost-effectiveness, allowing a more efficient distribution of abatement measures over sectors and over time; and it provides transparency and predictability. It also increases value to allowance holders (discussed further in Section 5).

3 Legal Foundations for an Auction Reserve Price in the EU

In this section, we review the core principles for the derivation and circumscription of EU legislative powers, particularly as related to environmental, energy, and fiscal policies. The preconditions for the exercise of EU powers, as well as the implications of EU decision-making for the Member States' ability to pursue their own policies, differ among policy areas. In particular,

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[27] K. Neuhoff, A. Schopp, R. Boyd, K. Stelmakh, & A. Vasa, *Banking of Surplus Emissions Allowances* (DIW Berlin, Discussion Paper 1196, 2012), http://www.diw.de/discussionpapers.

[28] European Commission, Staff Working Document, Impact Assessment Accompanying the Document Proposal for a Directive of the European Parliament and of the Council Amending Directive 2003/87/EC to Enhance Cost-Effective Emission Reductions and Low-Carbon Investments, 15.7.2015 SWD(2015) 135 final.

under EU law, legal acts pertaining to specific policy areas require unanimous consent of the Council members (i.e., the Member States) to be adopted. To understand whether an auction reserve price would trigger or escape this unanimity rule, or encounter other challenges relating to the precondition for exercise of EU legislative power, one must first understand the legal foundations.

3.1 Preconditions for EU legislative action

The European Union does not have its own autonomous source of legislative authority. Instead, the Union derives its competence to adopt legal acts through conferral of powers from the Member States. According to the "principle of conferral," the EU may act only within the limits of the competences conferred upon it by the Member States in the Treaty on European Union (TEU) and the Treaty on the Functioning of the European Union (TFEU) (Article 5(2) TFEU). The TFEU defines the Union's competence in several policy areas, including environmental and energy policy, as well as the functioning of the internal market.[29] A provision in the TFEU that establishes the Union´s competence to adopt binding measures, such as directives and regulations, within a certain policy area and also defines how such measures are to be decided is referred to as a "legal basis:" it provides the basis for legal action by the Union. As discussed below, the preconditions for adopting legal acts—including the voting rules—differ among policy areas, as reflected in legal bases; preconditions may also differ among specific measures within an area, such as environmental policy.

In addition to the principle of conferral, the EU's ability to legislate is also defined by certain other principles, primarily those of *subsidiarity* and *proportionality*. The function of the subsidiarity principle is to ensure that decisions are taken as closely to the citizen as possible; the EU does not take action unless it is more efficient than action at the national, regional or local level. The subsidiarity principle therefor sets limits as to when the Union may use its competence in areas, such as environmental and energy policy, where it shares legislative power with the Member States (see further Section 3.2). Two conditions must be met for the Union to legislate in such areas: that the objectives of a proposed action cannot be sufficiently achieved by the Member States, and that these objectives can, because of their scale and effects, be better achieved at Union level (Article 5.3 TEU). Subsidiarity is seldom an obstacle to EU action in the field of environment: the scope for benefits from concerted EU action is clear, either because of the transboundary nature of the problem or because of the negative effects for the internal market of measures taken

[29] For an in-depth discussion, *see* K. LENAERTS & P. VAN NUFFEL, EUROPEAN UNION LAW 112–13 (2013).

unilaterally by individual Member States.[30] This reasoning is particularly pertinent with respect to emissions abatement measures, such as those associated with the EU ETS, due to both the genuinely global nature of the climate problem and the likely negative effects on relative competitiveness associated with taking unilateral measures in this area.

Under the principle of proportionality, the content and form of EU measures may not exceed what is necessary to achieve the objectives of the treaties, including environmental protection (Article 5.4 TEU). That the introduction of an auction reserve price would violate the proportionality principle is highly unlikely, since the purpose would merely be to render an already existing—and proportional—EU mechanism effective and more consistent with the intentions behind its adoption (i.e., to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner).

3.2 EU legislation, procedures, and leeway for Member State action

As mentioned above, all EU legislative power has been conferred from the Member States. The extent of conferral varies among policy areas. In a few areas, the EU has *exclusive competence*, meaning that only the Union may adopt legally binding acts, unless the Member States have been empowered by the Union to adopt such acts for the implementation of EU law (Article 2 (1) TFEU).[31] Environmental and energy policies, however, fall into an area of *shared competence*, in which both the Union and the Member States may adopt legally binding acts. However, the Member States may exercise their competence only as long as and to the extent that the Union has not exercised its competence (Article 2 (2) TFEU). As soon as the Union has legislated in an area subject to shared competence, the extent to which individual Member States may still act in that area is determined by the legal basis used for the EU legislation, as well as by the more precise contents of the pertinent EU acts.

The legal basis determines not only the competence but also the decision-making procedure for EU legislation. The *ordinary legislative procedure* requires a qualified majority in the Council, which means 55% (currently 16 of 28) of Member States must vote in favor, and the supporting Member States must represent at least 65% of the total EU population. Previously known as *codecision*, ordinary legislative procedure gives the same weight to the European Parliament and the Council of the European Union in offering amendments and approval. The codecision

[30] D. LANGLET & S. MAHMOUDI, EU ENVIRONMENTAL POLICY AND LAW (2016) 47.

[31] Exclusive competence applies inter alia with respect to the common commercial policy (CCP) — that is, the regulation of trade with third countries — and the conservation of marine biological resources under the common fisheries policy (Article 3 TFEU), neither of which have any direct link to the EU ETS.

procedure was introduced by the Maastricht Treaty (1992), and with the Lisbon Treaty (2009), the renamed ordinary legislative procedure became the standard procedure for EU decision making.

However, in certain matters deemed to be sensitive, a *special legislative procedure* applies, in which the Council acts unanimously after merely consulting the European Parliament (which is a colegislator under the ordinary legislative procedure), the Economic and Social Committee, and the Committee of the Regions. After consulting these other bodies, the Council may make the ordinary legislative procedure applicable also to measures that would otherwise require unanimity. However, such a decision itself requires unanimity.

The trigger for the special procedure, and whether it might apply to an auction reserve price, is the heart of our analysis. The next sections explain the legal bases for the relevant areas of environmental and energy policy, particularly with respect to implications for voting rules and the division of competence between the Union and the individual Member States.

3.3 Environmental and energy policy bases

Article 191 TFEU sets out the objectives to the pursuit of which EU environmental policy is to "contribute"—in other words, for what aims the EU can legislate under its environmental policy. These objectives include "preserving, protecting and improving the quality of the environment" and "promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change."

The ordinary legislative procedure is generally applicable for actions aimed at achieving the Union's environmental policy objectives (Article 192 (1) TFEU). However, the special legislative procedure must be used in certain cases. These cases include, as far as is relevant here, the adoption of "*provisions primarily of a fiscal nature*" (Article 192 (2) (a) TFEU) and "*measures significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply*" (Article 192 (2) (c) TFEU). The meanings of these conditions—and their implications for the introduction of an auction reserve price—are examined in Section 4.

In EU climate policy, choice of the decision-making procedure has played an important role in the past. In the 1990s, the Commission proposed an EU-wide carbon and energy tax, pursuing the special procedure and unanimity requirement that applies to taxes.[32] After the Council failed to reach unanimity for adopting the proposal, the Commission turned to the ETS as a market-

[32] Referring to the earlier EEC Treaty of the time (Maastricht consolidated version), the proposal cites as a basis not only Article 130(S), the precursor of the current Article 192, but also Article 99, which lays out the special procedure for provisions regarding the harmonization of indirect taxes. European Commission, Directive Introducing a Tax on Carbon Dioxide Emissions and Energy, COM(92) 226.

based regulatory measure capable of being adopted through the ordinary legislative procedure. As such, the legal act setting up the EU ETS ("EU ETS Directive") was adopted in 2003,[33] using the legal basis for environmental policy (then Article 175(1) EC, now Article 192 TFEU).

The current legal situation differs somewhat from that in 2003 because of the introduction in 2009, of a distinct legal basis for energy policy in Article 194 TFEU. Energy now has a separate title with the aim to "(a) ensure the functioning of the energy market; (b) ensure security of energy supply in the Union; (c) promote energy efficiency and energy saving and the development of new and renewable forms of energy; and (d) promote the interconnection of energy networks" (Article 194 (1)). The preamble to this section states that this aim is to be met "with regard for the need to preserve and improve the environment." This qualification reflects the *integration principle*, according to which "environmental protection requirements must be integrated into the definition and implementation of the Union policies and activities, in particular with a view to promoting sustainable development" (Art 11 TFEU).

Regarding the legislative procedure, Article 194 TFEU largely echoes the language of Article 192: while the ordinary legislative procedure is the standard procedure for adopting legal acts within this policy area, the special legislative procedure applies to measures "primarily of a fiscal nature" (Article 194 (3)). Article 194 further establishes that measures adopted on this legal basis "shall not affect a Member State's right to determine the conditions for exploiting its energy resources, its choice between different energy sources and the general structure of its energy supply"—by any procedure (Article 194 (2)). This provision, which shall be "without prejudice to Article 192(2)(c)"—which allows "measures significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply" to proceed as part of EU environmental policy under the special procedure with unanimity in the Council—has generated considerable uncertainty as to the actual scope of the Union's competence in this area.[34]

Although there are great overlaps between energy and climate policy,[35] the EU ETS Directive stipulates that the overall aim is "to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner," and the Directive "provides for the reductions of greenhouse gas emissions to be increased so as to contribute to the levels of reductions that are

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[33] Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 Establishing a Scheme for Greenhouse Gas Emissions Allowance Trading Within the Community and Amending Council Directive 96/61/EC, 2003 O.J. (L 275) 32.

[34] On this issue, *see further* A. Johnston & E. van der Marel, *Ad Lucem? Interpreting the New EU Energy Provision, and in Particular the Meaning of Article 194(2) TFEU* 22 EUR. ENERGY & ENVTL. L. REV. 181 (2013).

[35] *See* W. Frenz & A.M. Kane, *Die neue europäische Energiepolitik*, 32 NATUR UND RECHT 464, 469 (2010).

considered scientifically necessary to avoid dangerous climate change" (Article 1). Hence the EU ETS Directive was based on the environmental basis, and on 192(1), not 192(2).[36] This supports that view that the EU ETS directive is essentially about environmental protection. It is also noteworthy that the EU ETS covers significant volumes of CO_2 that are production related, including from the iron, steel and cement industries, rather than being the result of energy generating activities, thus indicating that it is not primarily an energy-related measure. Further strengthening this conclusion is the fact that the EU ETS Directive has been amended several times after the introduction of a separate legal basis for energy policy in 2009, inter alia to introduce a market stability reserve, without exception using the original environmental policy basis that is now found in Article 192 (1).[37] Because an auction reserve price, irrespective of its exact legal format, would functionally be a fully integrated part of the EU ETS, there is no reason to believe that such a decision should have a different legal basis.

4 The Legal Scope for Introducing an Auction Reserve Price

Regarding the potential introduction of an auction reserve price in the EU ETS, the key questions for the decision-making procedure are whether such a measure would be deemed as "primarily of a fiscal nature" (Articles 192 (2) (a) and 194 TFEU) or "significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply" (Article 192 (2) (c) TFEU). We address each of these in turn.

4.1 Interpreting "Primarily of a fiscal nature"

To determine whether an auction reserve price mechanism would qualify as a measure that is *primarily of a fiscal nature*, we have to examine the meaning of "fiscal nature" and "primarily" in this context.

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[36] *See also* R. Ismer & M. Haussner, *Inclusion of Consumption into the EU ETS: The Legal Basis Under European Union Law*, 25 REV. EUR. COMP. & INT'L ENVTL. L. 69, 73 (2016); F. Kirchhof & I. Kemmer, *Einstimmigkeitserfordernis im Rat bei der Beschlussfassung über eine europäische Richtlinie zum Handel mit Treibhausgasemissionsberechtigungen* 11 EUROPÄISCHES WIRTSCHAFTS- UND STEUERRECHT 217 (2003); C. Seiler, *Kompetenz- und verfahrensrechtliche Maßstäbe europäischer Umweltabgaben* 45 EUROPARECHT 67 (2010).

[37] These amendments include Regulation (EU) No 421/2014 of the European Parliament and of the Council of 16 April 2014 Amending Directive 2003/87/EC Establishing a Scheme for Greenhouse Gas Emission Allowance Trading Within the Community, in View of the Implementation by 2020 of an International Agreement Applying a Single Global Market-Based Measure to International Aviation Emissions [2014] OJ L 129/1; and Decision (EU) 2015/1814 of the European Parliament and of the Council of 6 October 2015 Concerning the Establishment and Operation of a Market Stability Reserve for the Union Greenhouse Gas Emission Trading Scheme and Amending Directive 2003/87/EC [2015] OJ L 264/1.

Cases clarifying the meaning of the "primarily of a fiscal nature" provision contained in Articles 192(2)(a) and 194(3) TFEU are rare. To our knowledge, no legislative acts have been passed under these legal bases requiring unanimity voting. Environmental tax measures are believed to require unanimity in the Council;[38] one example is the current harmonized energy taxation framework (Directive 2003/96/EC), which uses another legal basis that also requires unanimity (Article 113 TFEU on harmonization of taxes to ensure functioning of the internal market). In the event of a challenge referring to the legal basis of a measure, the Court will consider the content and the aim of the proposed measure to discern whether to use treaty provisions requiring the ordinary or the special legislative procedure.[39]

All language versions of the EU treaties are equally authentic. This complicates the interpretation of the meaning of "fiscal measure," because the legal traditions and tax laws in the respective Member States differ, including relevant terminology. Approaching the term "fiscal measure" from the perspective of national tax law is therefore often futile. In EU law, there is no common definition of the term "tax"; rather, it is used as a functional concept.[40] The lowest common denominator among scholars is that taxes are "*compulsory and unrequited payments to the general government*" with the general aim to raise revenues.[41] Taxes can be contrasted with charges or "fees," which may be compulsory but are *requited* payments for services rendered or values received in proportion with the costs incurred.[42] Marketable emissions permits, meanwhile, have been consistently viewed as non-tax measures in EU legal doctrine and case law, as elaborated further below.

Under a narrow interpretation of the wording "of a fiscal nature," only taxes would be included in this category, not fees.[43] For example, indirect taxes like value-added taxes and excise duties are unquestionably used for raising revenue and their harmonization explicitly requires the special procedure (Article 113 TFEU). Environmental charges, like roadway tolls, however, are

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[38] Advocate General Léger on C-36/98 Spain v. Council.

[39] C-36/98 Spain v. Council.

[40] *See* WEISHAAR, *supra* note 10, at 37.

[41] ORG. ECON. CO-OPERATION & DEV., REVENUE STATISTICS 1965–2017 INTERPRETATIVE GUIDE (2018), Annex A: The OECD Classification of Taxes and Interpretative Guide, A.2.1, https://www.oecd.org/tax/tax-policy/oecd-classification-taxes-interpretative-guide.pdf.

[42] *See* WEISHAAR, *supra* note 10, at 37

[43] *Id.* at 40.

not generally considered to trigger the higher procedural threshold; EU transport law on the internalization of the external costs of road transport was adopted under standard procedure.[44]

Proponents of a narrow interpretation refer to the role of Articles 192(2) and 194(3) TFEU, which constitute a derogation to the ordinary legislative procedure,[45] and argue that this narrow interpretation safeguards the *effet utile* (Article 19 TEU) of EU law.[46] This interpretation matters because an auction reserve price mechanism could be considered a fee rather than a tax under the foregoing definitions, given that EU ETS market participants obtain tradable allowances in return for their payments, making it a "requited" payment. If the wording "of a fiscal nature" in Articles 192(2) and 194(3) TFEU is interpreted to include only taxes, allowances may thus be excluded by virtue of being considered more akin to fees than taxes.

And indeed, as some authors have pointed out, an expansive interpretation that includes fees would result in inconsistencies between the legal treatment of environmental fees and fees in other policy areas: environmental fees would then require unanimity, whereas fees in other areas are commonly adopted on the basis of qualified majority voting.[47] Others have drawn attention to the fact that fees are less intrusive on Member State sovereignty than tax measures, again justifying excluding fees from the stricter voting requirements under Articles 192(2)(a) and 194(3) TFEU.[48] As long as an auction reserve price mechanism is considered a fee, the interpretation favored by these authors would have it fall outside the scope of measures "of a fiscal nature."

Still, there are voices in the literature that have supported a broader interpretation of Articles 192(2) and 194(3) TFEU to include both taxes and fees within the notion of measures "of a fiscal nature." For Freytag, the object and purpose of the provision is to safeguard the financial autonomy of Member States, and as a consequence, the budgetary impact of the measure has to be the decisive yardstick; a differentiation between different types of fiscal measures is therefore not helpful, according to Freytag.[49] This line of reasoning links to the second conceptual element of Articles 192(2)(a) and 194(3) TFEU, discussed in the next paragraph.

Even if an auction reserve price mechanism were considered a tax (or, alternatively, a fee but subject to a broad interpretation of the wording "of a fiscal nature" that includes requited fees),

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[44] Directive 2011/76/EU of 27 September 2011 on the charging of heavy goods vehicles for the use of certain infrastructures.

[45] Calliess & Ruffert (2011), EGV/EUV Rn 28-32.

[46] *Id.*

[47] C. Mueller, 1994, p. 83.

[48] A. Epiney, 1997, p. 57.

[49] GEORG FREYTAG, EUROPARECHTLICHE ANFORDERUNGEN AN UMWELTABGABEN (2001).

it would additionally have to satisfy the further qualification of being "primarily" of a fiscal nature. This wording suggests that the fiscal aspect of the measure has to be its central element.[50] In the literature, it is therefore sometimes argued that the analysis should center on the question of what revenue implications a measure has and whether Member State sovereignty over budgets and raising revenues is safeguarded.[51] The objective of an auction reserve price mechanism is not to increase or reduce revenue, but to create a more predictable price signal and therefore strengthen achievement of an environmental objective; moreover, it would have no predictable bearing on the revenue volumes generated through allowance auctions, as higher prices at auction could also result in more unsold allowances, and it would not influence how Member States use auction revenue. Based on those arguments, one could argue that an auction reserve price mechanism, even if it were considered to be of a fiscal nature, is not "primarily" so.

Still, some uncertainty remains, as the "primarily" threshold is not clearly defined. Setting a high bar for the "primarily" requirement could undermine the effectiveness of Articles 192(2) and 194(3) TFEU, allowing a legislator to circumvent the provision by reducing the importance of the fiscal element (such as by making it revenue neutral). On the other hand, a low bar for "primarily" coupled with a broad interpretation of "fiscal nature" could lead to an equally nonsensical outcome that any mechanism that incidentally raises revenues would require a special procedure. Such a broad interpretation of Articles 192(2)(a) and 194(3) TFEU then runs counter to their function as a derogation to the ordinary legislative procedure—that is, being the exception, not the rule.[52]

Overall, considerable uncertainty remains about the exact definition of "primarily of a fiscal nature." However, both the passage of the ETS Directive under Article 192(1) legal basis and subsequent jurisprudence indicate that auctioned emissions allowances do not fall into this territory. The alleged "fiscal nature" of the EU ETS itself has been subject to analysis by the CJEU in the context of an EU measure including international aviation in the trading scheme.[53] Initially, Advocate General Kokott, in her nonbinding opinion, reasoned that "it would be unusual, to put it mildly, to describe as a charge or tax the purchase price paid for an emission allowance, which is based on supply and demand according to free market forces, notwithstanding the fact that the Member States do have a certain discretion regarding the use to be made of revenues generated

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[50] *See* WEISHAAR, *supra* note 10, at 39.

[51] *See* P. KREIBOHM, DER BEGRIFF DER STEUER IM EUROPAEISCHEN GEMEINSCHAFTSRECHT (2003).

[52] Following FREYTAG, *supra* note 49, at 80ff.

[53] Directive 2008/101.

(Article 3d(4) of Directive 2003/87)"[54] and that "the EU emissions trading scheme cannot be considered a tax for the same reasons as it is not to be classed as a charge."[55] The Court confirmed this in its judgment, stating that "the scheme introduced by the ETS Directive is unlike a duty, tax, fee or charge on fuel consumption"[56] and, further, that it "cannot be asserted that Directive 2008/101 involves a form of obligatory levy in favour of the public authorities that might be regarded as constituting a customs duty, tax, fee or charge."[57] It went on to conclude that the trading scheme "by reason of its particular features, constitutes a market-based measure and not a duty, tax, fee or charge on the fuel load."[58]

In addition, it is worth recalling that EU ETS allowances are classified as financial instruments under the amended Markets in Financial Instruments Directive (MiFID II, Annex I, section C (11)) as of 2018.[59] Emissions allowances are hence subject to financial market legislation, and consequently buyers pay a certain price and obtain title, which can be transferred afterwards to other market participants.[60] Emissions allowances are marketable and tradable, further supporting the view that the EU ETS system cannot be classified as a tax or a fee.

The decisive question, then, is whether the establishment of a reserve price for auctioned allowances could conceivably pull this nonfiscal measure into "fiscal" territory. Reasonable interpretations of EU law make such an outcome far-fetched.

The inclusion of an auction reserve price would form an intrinsic part of the EU ETS and hence cannot be viewed as a separate measure, but as one inseparably linked—and thus akin in nature—to the underlying nonfiscal instrument.[61] Its clear aim would be to stabilize the EU ETS and render it more effective toward its purpose of cost-effectively reducing greenhouse gas emissions and combating climate change. One cannot argue that the primary aim is to raise revenues—also because that effect is not assured. If fewer allowances are sold, albeit at a higher price, it is not clear whether the auction proceeds will rise or fall. Indeed, the price and revenue

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[54] C-366/10, Air Transport Association of America and Others, ECLI:EU:C:2011:637 at 216.

[55] *Id.* at 227.

[56] *Id.* at 143.

[57] *Id.* at 145.

[58] *Id.* at 147.

[59] Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on Markets in Financial Instruments and Amending Directive 2002/92/EC and Directive 2011/61/EU, OJ L 173, 12.6.2014, 349–496.

[60] M. WEMAËRE & P. BERNHEIM, LEGAL AND PROCEDURAL ASPECTS OF IMPLEMENTING A "CARBON PRICE CORRIDOR" WITHIN THE EU ETS (2016).

[61] *See* WEISHAAR, *supra* note 10, at 32-45. A similar line of argumentation is by Ismer & Haussner, discussing the inclusion of consumption into the EU ETS. *See* Ismer & Haussner, *supra* note 36.

effects of an auction reserve price would be functionally similar to those that the MSR is intended to produce. In any case, over 80% of auction revenues have been earmarked toward climate and energy purposes,[62] further limiting the impact on Member State fiscal policy budgets, and the auction reserve price would not necessarily alter or influence that revenue allocation. The larger revenue consequences for Member States from allowance auctioning come from the transition to full auctioning over time, which was provided for in the EU ETS Directive under standard procedure.

Most importantly, an auction reserve price in the EU ETS cannot be considered tantamount to a tax, since it does not lead to a mandatory levy.[63] Market participants are not required to purchase allowances at auction and have robust secondary markets as a source of supply. Nor does an auction reserve price fix the price, unlike a tax or fee; the price will still be determined by supply and demand forces in the market. That price may be higher than the reserve price if expectations of future allowance value are strong, and the market price may also fall below the reserve price if supplies in secondary markets are sufficient relative to demand. To the extent that market participants go to the auction, they purchase a financial asset with a value proportionate to the cost. These payments cannot be considered unrequited.

4.2 Interpreting "Measures significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply"

Article 192(2)(c) TFEU also requires the special legislative procedure and unanimity for "measures significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply." The scope of this provision and what exactly can be considered to have a "significant effect" has been subject to discussion.

Considering the language in the legal basis for energy regulation, Rusche argues that a narrow interpretation of "affecting a Member State's choice" is necessary to preserve the *effet utile* of Article 194(1) TFEU. Following this argument, "the result would be that the choice of the Member State is only affected where secondary legislation outlaws the use of a certain energy source."[64] As the language in Article 192(2)(c) is even stronger—"*significantly* affecting a

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[62] XAVIER LE DEN, EDMUND BEAVOR, SAMY PORTERON, & ADRIANA ILISESCU, ANALYSIS OF THE USE OF AUCTION REVENUES BY THE MEMBER STATES: FINAL REPORT (2017), https://ec.europa.eu/clima/sites/clima/files/ets/auctioning/docs/auction_revenues_report_2017_en.pdf.

[63] *See* WEMAËRE & BERNHEIM, *supra* note 60, at 3.

[64] TIM MAXIAN RUSCHE, EU RENEWABLE ELECTRICITY LAW AND POLICY: FROM NATIONAL TARGETS TO A COMMON MARKET 213 (2015).

Member State's choice—the application should arguably be at least as narrow in the case of environmental regulation.

This interpretation is also supported by a recent judgment by the CJEU regarding the MSR. Poland argued that the reform infringed on Article 192(2)(c).[65] With 83% of its electricity from coal and lignite, Poland asserted that the price of allowances, by influencing the choice of production technology for future investments, has an impact on the development of the national electricity production structure and therefore interferes with its energy security. The Court dismissed the action, stressing among other things that

> a broad interpretation of point (c) of the first subparagraph of Article 192(2) TFEU would risk having the effect of making recourse to the special legislative procedure, which the Treaty FEU intended as an exception, into the general rule. That conclusion is irreconcilable with the Court's case-law, according to which provisions that are exceptions to principles must be interpreted strictly.[66]

As another example, the Renewable Energy Directive established mandatory national targets for the overall share of renewable energy in a Member State's energy mix (e.g., for Belgium, from a 2.2% level in 2005 to 13% in 2020) and requires the establishment of national action plans to reach these targets. One would thus reasonably expect this Directive to have a significant impact on the Member States' energy choices;[67] however, it was passed without question as an environmental regulation based on Article 192(1), not based on Article 192(2) TFEU—nor as an energy regulation based on Article 194, for that matter.[68]

A similar argumentation can be observed regarding the ETS Directive. Economically, one might argue that the EU ETS could have had a significant impact on the Member States' energy supply structure, but the environmental legal basis was not questioned. Consequently, it seems unlikely that amendments to the EU ETS (including the introduction of an auction reserve price) would require a different legal basis than the ETS itself. However, this argumentation is not

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[65] C-5/16 - Poland v. Parliament and Council, ECLI:EU:C:2018:483 at 24.

[66] *Id.* at 44–45 and, by analogy, judgment of 10 June 2010, Bruno and Others, C‑395/08 and C‑396/08, EU:C:2010:329, paragraph 35 and the case law cited.

[67] *See*, for a more detailed discussion, M. Peeters, *Governing Towards Renewable Energy in the EU: Competences, Instruments and Procedures*, 24 MAASTRICHT J. EUR. & COMP. L. 39 (2014); K. Verhaegen, L. Meeus, B. Delvaux, & R. Belmans, *Electricity Produced from Renewable Energy Sources: What Target Are We Aiming For?* 35 ENERGY POL'Y 5576 (2007).

[68] One might also wonder why the Renewable Energy Directive is based on environmental competence at all, given the fact that Article 194 is supposed to promote the development of renewable energy. *See also* K. TALUS, EU ENERGY LAW AND POLICY: A CRITICAL ACCOUNT 180 (2013); R. Leal-Arcas & A. Filis, *Conceptualizing Energy Security Through an EU Constitutional Perspective* 36 FORDHAM INT'L L. J. 1225, 1246 (2013).

completely convincing, as it would arguably open the way for the European Commission to first introduce some kind of "light" regulation without any "significant" impacts and then introduce stronger impacts through the back door by amending the said legislation afterward. This idea is also confirmed in the MSR judgment, which states that "the legal basis for a measure must be determined having regard to its own aim and content and not to the legal basis used for the adoption of other EU measures that might, in certain cases, display similar characteristics."[69]

One might consider the potential impact of the EU ETS Reserve Price Mechanism on the Member State's choice between different energy sources, in particular to see if it could be perceived as tantamount to a ban on a particular source. In this regard, as pointed out in Wemaëre and Bernheim's legal analysis of a floor price, a Member State could argue that "if the floor price is higher than the marginal abatement costs in its energy sector, or in several energy intensive industry sectors," such an effect could clearly be reached. To circumvent such an effect, the authors suggest that

> it seems reasonable to use the « switch price » from coal to gas (estimated at 30€/ton of CO_2 eq.) as a relevant indicator for identifying the possible impacts of the floor price on Member States' choices. With a floor price set at 25€/EUAs as one of the option proposed by the French Government, one Member State could hardly argue that it could be affected.[70]

This strategy notwithstanding, we can hardly expect the legal trigger for the Commission to exercise its powers to depend on market circumstances, which in turn depend on a variety of factors (in the above example, including not only allowance prices but also fuel prices for coal and natural gas). The argument that the effect on the general structure of Member States' energy supply will depend on the allowance price level used is an economic one, but such an economic benchmark cannot be used as a legal reasoning for or against unanimity.[71] This finding is also supported by the Courts MSR judgment, stating:

> Given that, in order to know the real and specific effects of a legislative measure, it is necessary to analyse those effects after its entry into force, the legislature's choice would have to be based on assumptions as to the likely impact of that measure, which, by their nature, are speculative and are in no way objective factors amenable to judicial review. . . . Consequently, it must be found that the assessment

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[69] ECLI:EU:C:2018:483 at 49.

[70] *See* WEMAËRE & BERNHEIM, *supra* note 60, at 4.

[71] As used in *id.* at 4.

> of the effect of an EU measure on a Member State's energy policy is not a factor that must be assessed in addition to the aim and content of that act, or by derogation therefrom.[72]

The Court further stressed that "not only the aim, but also the content of the adopted measure are essential factors when reviewing the merits of the legal basis of that act."[73]

In addition, the effect would need to be "significant" in order to trigger Article 192(2)(c) TFEU. Even though the word "significant" seems to be a rather important qualifier in determining the environmental and energy competences, the notion has received little attention to date. The introduction of the environmental title in the Single European Act did not yet refer to the "significant" effect, as unanimity was required for all actions related to the environment. The 1992 Maastricht Treaty[74] introduced qualified majority voting in environmental matters in Article 130r of the Treaty Establishing the European Community (EC Treaty)[75] as a general rule, even though several issues remained subject to unanimity under EC Treaty Article 130s. The term "significance" was introduced in the Maastricht Treaty, although subsequently, it has not been discussed in greater detail in the 2004 and 2007 Intergovernmental Conferences nor in the Draft Constitution.[76]

To date, the different wording in the titles has not received much attention, neither from legal scholarship nor from the Court.[77] Calliess suggests that this wording narrows the application of Article 192(2)(c) TFEU to measures that "substantially and intentionally alter the very foundations of the energy system."[78]

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[72] ECLI:EU:C:2018:483 at 41f.

[73] *Id.* at 47.

[74] Treaty on European Union, [1992] OJ C191/1.

[75] EC Treaty, [1992], OJ C224/1.

[76] Treaty Establishing a Constitution for Europe, [2004] OJ C169/1, art. III-234.2(c).

[77] The few instances where the Court has dealt with "significance" in the area of European environmental law are listed in N. DE SADELEER, EU ENVIRONMENTAL LAW AND THE INTERNAL MARKET 51 (2014). Accordingly, they relate to "*a significant deterioration in the environment over a protracted period without any action being taken by the competent authorities*" (ECJ, Case C-365/97 Commission v. Italy [1999] ECR I-7773 at 68; Case C-420/02 Commission v. Greece [2004] ECR I-11175 at 22; Case C-297/08 Commission v. Italy [2010] EHR I-1749 at 101. Case C-37/09 Commission v. Portugal [2010] ECR I-76 at 38); to "*the significant environmental effects caused by the incorrect implementation of the Urban Waste water Directive must be substantiated by a certain amount of evidence*" (Case C-508/03 Commission v. UK [2006] ECR I-4475 at 36; Case C-300/07 Commission v. UK [2009] ECR I-214 at 46); and to the Urban Waste Water Directive and "s*ignificant adverse effects on flora or fauna*" (Case C-280/02 Commission v. France [2004] ECR I-8573 at 22 & 23; Case C-390/07 Commission v. UK [2009] ECR I-214 at 36).

[78] Christian Calliess, *Art. 192 AEUV*, *in* EUV/AEUV: DAS VERFASSUNGSRECHT DER EUROPÄISCHEN UNION MIT EUROPÄISCHER GRUNDRECHTECHARTA. KOMMENTAR (Christian Calliess & Matthias Ruffert eds., 5th ed. 2016), Margin No. 32, with further references.

Regarding the setting of an auction reserve price, such an interpretation means that a price would need to be set in such a way that it would not have a "significant" effect on the Member States' general supply structure. The fact that the ETS Directive itself did not trigger this threshold as it was adopted under Article 192(1)—with expected allowance prices of €30/ton of CO_2—is thus again an indicator that amendments to the Directive do not lead to a significant effect on the Member States' general supply structure. Further, the Court specifies that "[i]t follows that point (c) of the first subparagraph of Article 192(2) TFEU can form the legal basis of an EU measure only if it follows from the aim and content of that measure that the primary outcome sought by that measure is significantly to affect a Member State's choice between different energy sources and the general structure of the energy supply of that Member State."[79]

In the case at hand, the Court further reasoned that the MSR

> was designed as a tool seeking, in the first place, to remedy existing imbalances and, in the second place, to render the ETS more resistant to any future event on a sufficiently large scale as to disturb seriously the balance between the supply and demand of allowances. In essence, it is a one-off intervention on the part of the legislature for the purpose of correcting a structural weakness of the ETS that could prevent the scheme from fulfilling its function of encouraging investment with a view to reducing carbon dioxide emissions in a cost-effective manner and being a driver of low-carbon innovation contributing to the fight against climate change,[80]

thereby following the Advocate General observing that "the MSR is designed merely as a supplement or a correction of the ETS."[81]

The Court further pointed out that the MSR "does not intervene directly to set the price of allowances, the latter being determined exclusively by market forces,"[82] and explicitly recognized that the MSR "logically involves an increase in the price of allowances in the future."[83] Since an auction reserve price would have much the same proposed effect on the ETS as intended by the MSR—supporting but not forming prices and complementing the existing system—one can expect a similar rebuttal to a potential legal challenge.

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[79] ECLI:EU:C:2018:483 at 46.

[80] *Id.* at 61.

[81] *Id.* at 69.

[82] *Id.* at 63.

[83] *Id.* at 67.

4.3 Experience with provisions already in the EU ETS Directive and Auctioning Regulation

Some forms of price controls are already included in the EU ETS Directive, even if the system overall follows a quantity-based approach.[84] The provisions focus on the possibility of excessively high prices. In 2009, a new Article 29(a) on "Measures in the event of excessive price fluctuations" was introduced into the ETS Directive (Directive 2009/29/EC). It provides for the possibility of convening a meeting of the Climate Change Committee, in which all Member States are represented, in the event that for "more than six consecutive months, the allowance price is more than three times the average price of allowances during the two preceding years on the European carbon market."[85] Further, if "the price evolution . . . does not correspond to changing market fundamentals," the Commission may permit Member States to auction some additional allowances that might otherwise be reserved, either by bringing forward part of the quantity to be auctioned in the future or by including up to 25% of the remaining allowances in the new entrants reserve.

The Directive thus foresees interventions in the case of a price spike that lasts more than half a year. The response to bring forward the auctioning of allowances (a) or auctioning even more allowances (b) serves to expand supply and reduce the price of allowances. Notably, these are quantity-based mechanisms that arguably may have paved the way for the changes to incorporate the MSR as a means to adjust supply for both unusually low and high price outcomes.

The explanatory memorandum for the proposal of the original ETS Directive underscores the greater attention paid to price-spike concerns: "once Member States have taken their decisions on initial allocation for the initial three-year or subsequent five-year periods, *unforeseen circumstances might arise that would lead to sudden increases in the price of allowances*."[86] The European Commission counters the concern by referring to other ETS systems and by stating that "such price spikes have not proven to be problematic . . . elsewhere in the world"[87] and that it is key that a liquid market is established with a variety of market players. Low-price outcomes were not mentioned in the Commission's memorandum.

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[84] *See* WEMAËRE & BERNHEIM, *supra* note 60, at 3.

[85] Art. 29a (1).

[86] Proposal for a Directive Establishing a Scheme for Greenhouse Gas Emission Allowance Trading Within the Community and Amending Council Directive 96/61/EC, COM(2001) 581- COD 2001/0245, OJ C 75E , 26.3.2002, 33–44, Explanatory memorandum. https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52001PC0581:EN:HTML.

[87] *Id.*

The Auctioning Regulation itself provides for a kind of reserve price to prohibit sudden and excessive price drops in the event of a deficient auction, resulting in the cancellation of the auction. It is a secret minimum clearing price of an auction, set on the basis of the going market price for emissions allowances before the auction:[88] in case the "auction clearing price is significantly under the price on the secondary market prevailing during and immediately before the bidding window when taking into account the short term volatility of the price of allowances over a defined period preceding the auction."[89] However, this volatility break is not designed to function as a standard reserve price, as the rule does not foresee any measures in case of an extreme, persistent decrease in prices. Still, its presence signals a certain tolerance on the part of Member States of a minimum price in the auction process.

Finally, the recent experience with the establishment of the MSR holds relevant lessons for an auction reserve price. First of all, the motivation of the MSR has been to support the allowance price. Although an auction reserve price would do this directly, the MSR uses quantity measures to adjust allowances in circulation. It withholds allowances from auction when the number of allowances in circulation exceed an upper threshold, 833 megatons (Mt), and it reintroduces allowances when that number falls below a minimum value, 400 Mt.

A new Directive reforms the EU ETS for Phase 4, covering the years 2021–2030.[90] The reform has three provisions for increasing stringency:

- a strengthening of the annual cap reduction factor (called the linear reduction factor, LRF) from 1.74% to 2.2% per year;
- increasing the feed-in rate of allowances to the MSR during the period 2019–2024;
- introduction of an option for Member States to voluntarily cancel allowances as a result of plant or utility closures.

The expectations for the proposed reform by the Commission is to stabilize and increase the EUA price to an average of €25/ton CO_2 in Phase 4.[91] These official projections offer an indication of allowance price levels that both are acceptable politically and legally do not raise issues requiring a special procedure.

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[88] *See* European Commission, *supra* note 5.

[89] *See also* WEMAËRE & BERNHEIM, *supra* note 60, at 3.

[90] Directive 2018/410 of 14 March 2018 amending Directive 2003/87/EC to enhance cost-effective emission reductions and low-carbon investments, and Decision (EU) 2015/1814.

[91] *See* European Commission, *supra* note 28, at 27, which states, "The total amount of allowances available to be handed out for free to industry for the period under assessment (2021 to 2030) is in the order of 6.3 billion allowances. The value of these allowances depends on the market price at the time and could be in the order of €160 billion."

4.4 Legal options for introducing an auction reserve price in the EU ETS

According to our preceding analysis, an auction reserve price within reasonable bounds should not require the special procedure for the same reason the ETS Directive and recent amendments did not require special procedure. Certainly, an auction reserve price in the range of official projections of allowance prices (e.g., €30/ton, used as an average projection when the Directive was adopted) could not be deemed to "significantly affect a Member State's choice between energy sources." And certainly, an auction reserve price in the range of the prices hoped to be induced by the quantitative intervention mechanisms of the Market Stability Reserve (e.g., €25/ton on average between 2021 and 2030)[92] could not be deemed to be "primarily of a fiscal nature," since it would have no greater revenue implications than those projected for that amendment, which was promulgated under the ordinary procedure. Thus, we find no reason for a reasonable auction reserve price to require unanimity or have any legal basis other than Article 192(1), given its aim of incrementally strengthening the EU ETS to better meet its environmental objectives of reducing greenhouse gas emissions cost-effectively.

The inclusion of an auction reserve price mechanism can therefore be adopted through one of three procedures: (1) an amendment of the EU ETS Directive directly; (2) an amendment of the Auctioning Regulation, which is based on the EU ETS Directive; or (3) a Decision akin to the Decision implementing the MSR.

The first option, amending the ETS Directive, could be done through Article 192(1) TFEU, usually through passage of a new directive that replaces, expands, or modifies the existing legal framework. This would occur through the ordinary legislative procedure (Articles 289, 294 TFEU) and would involve joint adoption by the European Parliament and the Council based on a proposal from the Commission. An established process, the ordinary legislative procedure offers transparency and a high level of legal robustness, but it can also be circuitous and protracted.

The second option would rely on Article 10(4) of the ETS Directive, which provides the legal basis for the adoption of a Commission Regulation "on timing, administration and other aspects of auctioning to ensure that it is conducted in an open, transparent, harmonized and non-discriminatory manner," a legal basis that resulted in the adoption of the Auctioning Regulation. A reserve price could hence be introduced through an amendment of the Auctioning Regulation under the legal basis for its adoption, namely Article 10(4) of the ETS Directive, although this possibility may require arguing the reserve price is more a technical aspect of auctioning than a significant change in the structure of the ETS.

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[92] *Id.*

Legally, it might be possible to introduce a reserve price mechanism by amending the Auctioning Regulation through the examination procedure established by Regulation 182/2011 ("the Comitology Regulation").[93] Under this procedure, the decision could be taken by a qualified majority within the Climate Change Committee according to Article 192(1) TFEU (unless the amendment relates to instances that require unanimity under Article 192(2)).[94] This could facilitate a more efficient process than the ordinary legislative procedure, provided that the proposed amendment is not contentious. Member States retain the possibility of objecting or even litigating the scope for this under the Comitology Regulation 182/2011. In practice, and also politically, it may therefore be preferable to have the discussion more visibly and to introduce such a reserve price via an amendment of the ETS Directive itself.

A third option would be to introduce an auction reserve price through the same mechanism used to create the Market Stability Reserve, a formal and binding Decision of the Council and the Parliament. Formerly more limited in scope, decisions can nowadays command general application under the current wording of Article 288 TFEU. Procedurally, their adoption will not differ significantly from the process of elaborating a directive to amend the EU ETS Directive, but they may be considered more suited for a relatively specific and focused measure such as the introduction of an auction reserve price. In the end all three options will require political support and thus a carefully crafted legislative campaign.

5 Designing an Auction Reserve Price Policy

In this section, we address several of the key issues in designing a reserve price: (1) how to set the price, (2) how to manage unsold allowances and work with the MSR, (3) how to deal with free allocation and (4) windfall profits, and (5) what to do about linking with other systems.

5.1 How to set the price

When the European Commission examined options for the EU ETS structural reform, it briefly evaluated "discretionary pricing mechanisms." How to set the price level was a concern expressed by the Commission about minimum prices: "They require governance arrangements,

[93] Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers, OJ L 55, 28.2.2011, 13–18. The Regulation is currently under review. There are generally two types of procedures: the examination and the advisory procedure. The aim is to give an opinion on implementing Acts proposed by the Commission.

[94] *See also*, in more detail, WEMAËRE & BERNHEIM, *supra* note 60, at 3.

including a process to decide on the level of the price floor or the levels that would activate the reserve. This carries a downside in that the carbon price may become primarily a product of administrative and political decisions (or expectations about them), rather than a result of the interplay of market supply and demand."[95] The European Commission's analysis rather naïvely assumes that the emissions cap (market supply) has been set efficiently and is not itself "a product of administrative and political decisions."[96] The European Commission also raised concerns about problems with a "too-high" reserve price producing excessive costs; in particular, if a "breakthrough technology" arrives, the price will be needlessly too high.[97] The analysis ignores the fact that targets are updated in each phase, and if new breakthrough technologies were to arrive, the previously set quantity target would be inefficient, being underambitious. In fact, the current target is arguably underambitious, because the Renewable Energy Directive has pushed more clean technologies into the market, crowding out cost-effective abatement opportunities and widening the disparity in marginal abatement costs between the mandated technologies and other options. One can address these concerns by recalling the similarities in the intended (though uncertain) effects of the MSR intervention and the expected effects of an auction reserve price.

Who decides and how can an agreement be reached? The mechanisms and responsible parties for agreeing on an emissions target should also be sufficient for agreeing on an auction reserve price as part and parcel of the emissions target package.

What should the price be? A fundamental difference in viewpoints has been a debilitating factor in policy dialogue around this issue. One view holds that the reserve price should be set such that it provides a safety net but is not expected to bind, but critics of this view ask, why bother going through so much trouble to introduce a mechanism that is not expected to be influential? This critical perspective was heard in 2008–2009 in response to the suggestion of an auction reserve price equivalent to the US Waxman-Markey proposal of $10, because that price was deemed too low and not relevant. *Ex post*, that price rising at 5% plus the rate of inflation, as was subsequently adopted in California, would have had an important influence on the program.

The other viewpoint envisages the introduction of an auction reserve price as a way to put the ETS on an entirely different price trajectory. A useful point of reference for this price level might be the social cost of carbon (SCC), an economic measure of the value of the global damages incurred from emitting an additional ton of carbon dioxide into the atmosphere. A recent update

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[95] *See* European Commission, *supra* note 5.

[96] *Id.*

[97] *Id.*

of the *Handbook on External Costs of Transport* put a central value of the SCC at €90/ton CO_2.[98] However, this price is not necessarily an efficient minimum price (because with the SCC as a starting point, the market can drive prices higher, but they cannot go lower), and it may not be a feasible political outcome. Other points of reference are the Commission's expectations of what the market price should be, as well as other price floors (€20 in the UK; $17 in California in 2020).[99] The European Commission expects that "the EU ETS will deliver a meaningful carbon price and stimulate cost-efficient emission reductions" and calculates an average price in Phase 4 of €25.[100] If these prices are viewed as acceptable by the parties, it should be difficult to argue that an auction reserve price at similar levels is excessive.

From an economic perspective, a "too-high" carbon price would be one that exceeds most reasonable values of the SCC. Given the floor price levels being discussed in most jurisdictions, unless one believes the SCC would fall dramatically or policy-makers would be overexuberant in setting the reserve price, the emergence of a "too-high" reserve price seems highly unlikely and easily remedied.

Price determination also raises a question regarding governance: if the reserve price (or price path) should be updated, how will that authority be delegated? These complications can be avoided by determining the reserve price path (an initial price and rate of increase) at the outset. For example, California set an allowance reserve price of $10 in 2012 that would increase annually by 5% plus the rate of inflation.[101] Now that Phase 4 has already largely been determined, incorporating an auction reserve price would require a onetime intervention, but this could still occur before the beginning of the phase, which is 2021–2030.

5.2 Disposition of unsold allowances and compatibility with the MSR

In general, allowances that do not sell when the reserve price is triggered can either be retired or saved for future auctions. In a standard cap-and-trade system with banking (but no MSR),

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[98] Ricardo-AEA, *Update of the Handbook on External Costs of Transport: Final Report* (Ricardo-AEA/R/ED57769, 2014). In the 2008 Handbook on External Costs of Transport, the value of €25 was used.

[99] A 2015 analysis by Point Carbon projects EUA prices of €19 in 2020, rising slowly to €31 by 2030 (http://carbon-pulse.com/3650/). However, market analyses have revised downward price expectations since then (http://carbon-pulse.com/14954/).

[100] *See* European Commission, *supra* note 28. Interestingly, the Impact Assessment does not enunciate carbon price projections, but this figure can be calculated from *id.* at 28: "The total amount of allowances available to be handed out for free to industry for the period under assessment (2021 to 2030) is in the order of 6.3 billion allowances. The value of these allowances depends on the market price at the time and could be in the order of €160 billion."

[101] The price floor in the California cap-and-trade program was set at $10 in 2012, and increases 5% annually plus inflation. In 2019 the price floor has risen to $15.62. https://arb.ca.gov/cc/capandtrade/auction/2019_annual_reserve_price_notice_joint_auction.pdf.

the strongest influence on the allowance market is achieved if allowances that are not sold are directly cancelled, since the cumulative supply of allowances is reduced; by contrast, the time-shifting of selling allowances (backloading) can perpetuate the depression of allowance prices.[102] The MSR adds some complexity to this process, since the mechanism implies that some allowances saved into the reserve may ultimately be retired, and some retired allowances may allow other backloaded allowances ultimately to be reintroduced, as we explain below.

In RGGI, the determination of what should be done with allowances that are withheld at the price floor is not clearly specified, but an operating practice has been that they are permanently cancelled. RGGI's emissions containment reserve, which was adopted in 2017, specifically indicates that allowances that are not sold because prices fall below the reserve price trigger are permanently cancelled.[103] In California, allowances that are not sold at the reserve price are withheld from the market until the price in the quarterly auction has risen above the price floor for two consecutive auctions, and thereafter the withheld allowances can slowly be reintroduced in subsequent auctions.[104] A primary motivation for this provision was to provide revenue stability for programs funded by the auction. In 2017, legislation that extended the cap-and-trade program through 2030 directs that some of the unsold allowances should be moved to the allowance price containment reserve and would enter the market only at high prices, as a form of cost containment. Those price levels are to be revised, but in 2019 they range in three steps from $58.34 to $72.93.[105]

In the EU ETS, the rules of the MSR will influence the number of saved allowances available for future auctions. The key new feature of the MSR, effective from 2023, is that allowances held in the reserve above the total number of allowances auctioned during the previous year (a declining target that is about 57% of the cap) will no longer be valid. With this design, backloading is no longer assured, and allowances may be cancelled instead. When excess allowances are cancelled, the waterbed effect is put out of play. For instance, if the MSR is at full capacity, extra mitigation efforts that reduce emissions that year will temporarily increase the surplus but result in automatic cancellation of allowances the next year. If the bank of allowances in circulation falls below its lower threshold (400 million), the MSR begins to empty, and the full waterbed effect remains. In between, allowances transferred to the MSR are held and may with

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[102] *See* Knopf et al., *supra* note 7; WEISHAAR, *supra* note 24, at 46ff.

[103] https://www.rggi.org/sites/default/files/Uploads/Design-Archive/Model-Rule/2017-Program-Review-Update/2017_Model_Rule_revised.pdf.

[104] https://www.arb.ca.gov/cc/capandtrade/capandtrade/ct_reg_unofficial.pdf at 241. Allowances that remain unsold for more than 24 months are moved to the Cost Containment Reserve.

[105] https://www.arb.ca.gov/cc/capandtrade/reservesale/2019_reserve_sale_apcr_notice.pdf.

some probability be cancelled in the future, implying a kind of temporary "puncturing" of the waterbed effect.[106]

This design feature actually allows an auction reserve price to work with and support the aim of the MSR, without any alterations to the overall, agreed supply of allowances or the agreed linear reduction factor under the EU ETS. Allowances not sold at auction due to the reserve price can simply be added to the MSR. In this manner, an auction reserve price raises the likelihood that the MSR will exceed the threshold where excess allowances are subsequently cancelled.

This insight may trigger companion policies at the EU or Member State level, since these would no longer be futile. According to Article 193 TFEU, EU legislative acts based on the environmental policy shall not prevent the Member States "from maintaining or introducing more stringent protective measures."[107] In other words, EU environmental policy does not entail full harmonization; it rather aims at establishing a common minimum level of protection that Member States must meet—or exceed. Since the EU-wide cap determines the total emissions, it can be questioned whether a Member State action that aims to reduce emissions from installations covered by the ETS can indeed qualify as "more stringent," as long as the waterbed effect remains in place. In this situation, incorporating a measure that prevents allowance prices from adjusting fully to overlapping policies can allow "more stringent" national policies to still generate additional reductions. An auction reserve price could thereby render effective the right of Member States to pursue more stringent measures guaranteed in Article 193 TFEU.

The MSR, with its feed-in triggers and cancellation mechanism, added a layer of complexity to an already complex system; introducing a reserve price would simplify the system and increase predictability of price, even if it is implemented alongside an MSR.[108] Furthermore, the merits of a reserve price as outlined in Section 2 are still valid. If the MSR itself provides the hoped-for price support, adding a reserve price will do no harm; if, however, the MSR falls short, incorporating a reserve price will help it live up to expectations.

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[106] See Perino, Grischa, *New EU ETS Phase 4 rules temporarily puncture waterbed*, NATURE CLIMATE CHANGE (April 2018) 8: 260–271.

[107] Such measures must, however, be compatible with other pertinent provisions of the Treaties, such as those relating to restrictions on trade between Member States and competition. According to the Court of Justice of the EU (CJEU), "more stringent" national measures are those that "pursue the same objective" as an EU legal act or "follow the same policy of protecting the environment" as such an act (CJEU Case C-6/03, paras. 38 and 41). Apart from this requirement, there seem to be many ways in which a protective measure can be more stringent. For examples, *see* Langlet & Mahmoudi, *supra* note 26, at 103.

[108] One way to make the market stability reserve less complex would be to amend its design such that the decision about whether to withhold or reintroduce allowances is based on price triggers.

5.3 Dealing with free allocation

The majority of allowances in Phase 4 (57%) are to be allocated by auction, with the remainder being freely allocated to sectors exposed to trade and carbon leakage. There are two options for dealing with the freely allocated permits. One option is to proceed with direct allocations, after which recipients can trade freely, and to support the allowance price strictly through an auction reserve price on the auctioned portion of allowances. Precluding adjustments to free allocations may result in allowances entering the market even when prices are trading below the reserve price. However, for this situation to occur, it would mean that removing the entire auctioned supply (a 57% contraction) would be insufficient to support the price to the reserve price level. A disadvantage of this approach is that it implies a wealth transfer to recipients of free allocations at the expense of the potential use of revenues that would be received by Member States through the auction.

A second approach would be to require recipients of freely allocated allowances to consign their allowances to auction, with the proceeds from the auction returned proportionately to the original holders of the allowances. A consignment auction for freely distributed allowances has been implemented as part of the US sulfur dioxide trading program and is currently part of the California CO_2 program.[109] If the full allocated budget does not clear at the reserve price, recipients will receive a share of their value in proportion to the quantity of allowances they submit originally. The value of allocated permits then rises or falls with the total revenues from the auction. This option may be viewed as undercompensating trade-exposed firms. If the reserve price is modest, this situation occurs only if the market price is relatively low—trading at or below the reserve price—in which case competitive pressures are less intense. If the reserve price is at a level where competitiveness concerns are serious, then proportional restrictions to free allocation may not be desired.

5.4 Addressing windfall profits on banked allowances

The introduction of an auction reserve price will change the expected allowance price in the future, even if that price is not expected to be binding.[110] This effect will convey value to private holders of an allowance bank. If the reserve price is set at a level above the current price, then it will convey even greater value. Further, updating the reserve price could convey changes

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[109] Burtraw, D. and K. McCormack. *Consignment Auctions of Free Emissions Allowances*. ENERGY POLICY (2017) 107: 337-344.

[110] *See* Burtraw et al., *supra* note 18; S. Salant, W. Shobe, & N. Uler, *The Effect of "Non-binding" Price Floors on the Price of Storable Assets: Emissions Permits and Agricultural Commodities* (Aug. 3, 2017) (unpublished manuscript).

in the value of allowances. These effects should be carefully considered, and mechanisms might be implemented to limit the windfall increase in value if it is substantial. One approach might be to discount the value of allowances carried over (banked) from a previous year into Phase 4, which is similar to the approach attempted in the Clean Air Interstate Rule at the federal level in the United States, when the proposed regulation changed the compliance value (allowances per ton) of emissions allowances based on the year they were issued. On the other hand, some windfall gains may be useful to build the necessary political support among covered entities for the implementation of the reserve price.

5.5 Future issues with linking to other systems

The EU "aims to link the EU ETS with other compatible systems."[111] Price rigidities are therefore a concern in linking discussions. In negotiations between the EU and Australia, the EU required Australia to abandon its price floor in order to link to the ETS.[112] However, today potential linking partners do have reserve prices.

In linked systems, floor or reserve prices should be aligned to avoid unwanted distributional outcomes. With different reserve prices, one of three things would happen: (1) Demand for allowances under the combined cap leads to market prices higher than the higher reserve price, in which case neither is binding. (2) Combined demand for permits at the higher reserve price is less than the combined cap but more than the cap in the lower-reserve-price jurisdiction; in this case, the jurisdiction with the lower reserve price sells all permits at the higher reserve price, and the jurisdiction with the higher reserve price sells less than its cap, to satisfy the demand that remains at that price. (3) Combined demand for permits at the higher reserve price is less than the cap in the jurisdiction with the lower reserve price; in this case, the high-reserve-price jurisdiction sells no permits. The low-price jurisdiction either sells its entire cap at a clearing price between the two reserve prices or, if demand is insufficient, sells an incomplete share of its cap at the lower reserve price. In either of the second or third possible outcomes, revenue transfers between jurisdictions could result.[113] For this and other reasons, successful linking most likely requires harmonization of reserve prices. Such harmonization in itself already achieves some of the benefits of linking in the form of better price alignment and stability.

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[111] *See* European Commission, *supra* note 1.

[112] Australia subsequently abandoned carbon pricing altogether.

[113] D. Burtraw, C. Munnings, K. Palmer, & M. Woerman, *Linking Carbon Markets with Different Initial Conditions* (Resources for the Future, Working Paper 17-16, 2017).

6 Conclusion

An auction reserve price for the EU ETS deserves serious consideration. From an economic perspective, a reasonable reserve price for allowance auctions can bolster confidence in allowance values, provide transparency, enhance predictability, increase cost-effectiveness, and allow overlapping policies by Member States to have truly additional consequences. The barriers to implementing an auction reserve price do not appear to be legal: we find no sound support for the idea that adding a reserve price in allowance auctions would require a special procedure that depends on unanimity in the Council. A reserve price is not equivalent to a tax either legally or economically. Rather, a reserve price could be adopted in the ordinary procedure of environmental regulations that have the same aim of reducing greenhouse gas emissions in a cost-effective manner. In practice, the effects of a reserve price on allowance prices and auction revenues should be similar to the hoped-for effect of the market stability reserve, which was itself implemented by a relatively simple Decision to amend the ETS Directive. A reserve price could be incorporated by amending that Decision or the Auctioning Regulation in similar fashion. In fact, working together with the MSR, an auction reserve price can help ensure that the MSR's hoped-for effects actually materialize.

In the absence of an EU-wide solution, several individual Member States are formulating plans for their own carbon price floors. Such efforts face challenges to design them in ways to ensure they contribute to reductions in system-wide emissions rather than create the waterbed effect. An important next area for research is then to understand how EU law circumscribes the Member State options and compare the economic and environmental effects of feasible alternatives.[114]

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[114] *See* C. Böhringer & C. Fischer, *Emissions Floor Price Options for EU Member States* (2019) (unpublished manuscript) (on file with Vrije Universiteit Amsterdam).