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LINKING EMISSIONS TRADING SCHEMES

Linking Emissions Trading Schemes: Assessing the Potential for EU-South Korea Linkage

Gerard Kelly*

Emissions trading schemes (ETSs) have emerged as stable components of a fragmented climate governance landscape. Yet the proliferation of ETSs raises critical questions concerning their design, the development of conflicting norms, and how such schemes might link. This Article engages with these concerns by advancing a linkage framework based on a series of core convergence criteria which are considered necessary to assess the compatibility of candidate partner schemes. For the EU, the search for a candidate linkage partner has seemed a Sisyphean undertaking, but it is suggested that South Korea offers the prospect of stable climate settings. The critical design features of South Korea's Emissions Trading Scheme (KETS) are evaluated before applying core convergence criteria to evaluate compatibility. This Article identifies a degree of alignment between the design features of the EU's flagship Emissions Trading Scheme (EU ETS) and the KETS, but also uncovers divergences where detailed negotiation will prove necessary.

Keywords: European Union emissions trading scheme, Korea emissions trading scheme, linkage, climate governance

I. Introduction

Emissions trading schemes (ETSs) have emerged as critical components in a fragmented climate governance landscape. The EU's flagship Emissions Trading Scheme (EU ETS) perhaps best illustrates the remarkable transformation of emissions trading as a regulatory tool from the 'seemingly politically impossible to practical implementation'.¹ Moreover, EU climate policy-makers have long recognized that, through the elaboration and maturity of its ETS, the EU could carve-out a particularly influential role as international standard setter.² Yet despite this global ambition, to date there has been little substantive synchronization of the EU ETS with other emerging regional trading schemes.³

A key challenge lies in assessing how to implement the modalities of any such linkage between the EU ETS and other regional ETSs. This is particularly so given that a

single global infrastructure to facilitate emissions trading has proven a 'practical impossibility'.⁴ Fundamental to this task is identification and evaluation of those design features which are critical to successful linkage and the challenges of translating negotiated compromises into legally viable and durable linkage arrangements. The process of linkage need not require that linked schemes are perfectly synchronized in all respects, but rather that any partner scheme must be sufficiently similar to ensure that the objectives of one scheme are not compromised by differences in the design of another scheme.

ETSs now constitute a core component of a fragmented climate governance landscape and – with the recent launch of China's long anticipated ETS – are likely to continue to do so.⁵ There is an urgent need for scholars and policy-makers to identify and unpack with greater precision the modalities and mechanics of linking ETSs. Scaling-up this regulatory approach by elaborating the necessary convergence criteria for linkage and the modalities of linkage are critical concerns. This is particularly so since it is increasingly recognized that linkage between ETSs offers a viable pathway towards establishing a global carbon market.⁶ Whilst much will be learned from the full implementation of the EU's first intercontinental linkage in a not dissimilar learning-by-doing experimentalist theme to that which animated the early life of the EU ETS, it is also clear that the design and operation of the EU ETS is instructive for other countries considering implementation of a carbon ETS.

This Article is structured in five sections. Section II, with reference to the key design features of the EU ETS, defines and elaborates what are construed as core

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¹ Markus Wråke, Dallas Burtraw, Åsa Löfgren & Lars Zetterberg, *What Have We Learnt from the European Union's Emissions Trading System?*, 41 *Ambio: J. Hum. Env't* 12, 13 (2012).

² Indeed, the then EU Environment Commissioner, Stavros Dimas, observed that the EU ETS is 'going to be the prototype for the world to imitate'. Jørgen Wettestad & Torbjørg Jevnaker, *The EU's Quest for Linked Carbon Markets: Turbulence and Headwind*, in *Toward a New Climate Agreement: Conflict, Resolution and Governance* 266, 268 (Todd L. Cherry, Jon Hovi & David M. McEvoy eds, Routledge 2014).

³ The notable exception to this has been the full integration of EFTA Member States with the EU ETS, a development which is not entirely surprising given the pre-existing heightened culture of harmonization between the EU and EFTA Member States across a range of policy fields.

⁴ William A. Pizer & Andrew J. Yates, *Terminating Links Between Emissions Trading Programs*, 71 *J. Envtl. Econ. & Mgmt.* 142, 143 (2015).

⁵ It is notable that over half of the Parties to the Paris Agreement indicated their intention to use or consider the use of market-based instruments ranging from international, regional or domestic schemes.

⁶ Mengyu Li & Maosheng Duan, *Exploring Linkage Opportunities for China's Emissions Trading System Under the Paris Targets: EU-China and Japan-Korea-China Cases*, 102 *Energy Econ.* 1 (2021).

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convergence criteria and advanced as fundamental to successful implementation of linkage.⁷ Section III introduces the context and legal framework governing South Korea's Emissions Trading Scheme (KETS) before considering why South Korea may prove a prescient, if unexpected, direct linkage partner for the EU.⁸ It is suggested that the KETS, anchored within a political environment broadly supportive of emissions trading, could provide the stable climate settings which have been absent in the climate policy of many other potential linkage partners.⁹ Section IV analyses the critical design features of the KETS and reveals that, whilst there is a substantial degree of pre-existing compatibility with the EU ETS, there are also material differences which raise risks of regulatory divergence. Whilst recognizing that the implementation of direct linkage requires the presence of a de minimis degree of alignment, section IV examines the core convergence criteria, as defined and elaborated in section II, within the context of potential direct linkage between the EU ETS and KETS. The degree to which the design of the KETS provides scope for direct linkage is critically explored before this Article concludes in section V by offering a perspective on how this analysis contributes important insights into the prospect of direct linkage between the EU ETS and the KETS.

II. Devising Modalities for Direct Linkage: Core Convergence Criteria

With the increasing development and implementation of ETSs, the concept of linkage is rapidly emerging as a critical consideration in climate governance. Yet, as Li and Duan have acknowledged, linking ETSs which have heterogeneous design elements and regulatory frameworks will face multiple challenges in practice.¹⁰ The implementation and proper functioning of linkage therefore requires compatibility in fundamental design features and the maintenance of a minimal degree of convergence. The absence of such alignment could otherwise undermine the underlying environmental objective. Consequently, it is important to elaborate design features which are, in essence, core convergence criteria before progressing to apply such criteria to critically evaluate the compatibility and mechanics of operationalizing linkage between the EU ETS and the KETS.

The cross-compatibility of certain fundamental design features across all linked schemes – what we might construe as *core convergence criteria* – is integral to the proper functioning of emissions trading across directly linked schemes. The need for early dialogue between policymakers concerning such core convergence criteria, particularly as trading schemes emerge beyond the EU, is fundamental. Indeed, incremental alignment of key design features of ETSs prior to the operationalization of direct linkage is likely to prove a much more valuable route map towards development of an interconnected network of ETSs.

The over-arching commitment of candidate partners schemes to a shared decarbonization objective, to a certain extent, is likely to lead to a degree of organic complementarity in the design of schemes.¹¹ However, the development of a network of interconnected ETSs will require much more compatibility than is achievable through organic complementarity alone. It is instead important to identify and develop modalities to promote harmonization of critical design features.¹²

2.1 Identifying core convergence criteria

The identification of such critical design features – what may be construed as *core convergence criteria* – is far from straightforward. The threshold for classification of a design feature as a core convergence criterion is necessarily inextricably linked to the fundamental over-arching carbon reduction objective of emissions trading. Consequently, it is suggested that the governing rule must require that any divergence between schemes' design features which could compromise environmental integrity is unacceptable. In the context of linkage, environmental integrity requires that directly linked trading schemes could not lead to fewer emissions reductions than if each scheme continued to operate independently.¹³

By requiring that linked trading schemes must not lead to fewer emissions reductions than if linkage had not occurred, the governing rule recognizes that the primary purpose of deploying emissions trading as an environmental regulatory tool is the contribution of this policy

⁷ For further discussion and analysis of the concept of linkage and the core convergence criteria identified and elaborated here see Gerard Kelly, *Governing Emissions Trading: Constructing Core Convergence Criteria for Linkage*, 40(1) *Dublin U. L.J.* 63 (2017).

⁸ Changmin Yoo, *Emission Trading: South Korea Steams Ahead*, *Global Carbon* 16, 17 (Autumn 2012).

⁹ Wolfgang Sterk & Joseph Kruger, *Establishing a Transatlantic Carbon Market*, 9(4) *Climate Pol'y* 389 (2009).

¹⁰ Li & Duan, *supra* n. 6, at 2.

¹¹ For example, 'some emerging regional schemes are broadly compatible with the EU ETS': see Wolfgang Sterk & Ralf Schüle, *Advancing the Climate Regime through Linking Domestic Emission Trading Systems*, 14 *Mitigation & Adaption Strategies Global Change* 409, 413 (2009).

¹² Andreas Türk, Michael Mehling, Christian Flachsland & Wolfgang Sterk, *Linking Carbon Markets: Concepts, Case Studies and Pathways*, 9 *Climate Pol'y* 341, 355 (2009).

Close coordination between regulatory authorities will remain critical too, particularly since linkage is a continuing process rather than an event.

¹³ Additional principles to govern consideration of how and whether to link trading schemes, beyond environmental integrity, have been recognized in the literature: Mace and Anderson, e.g., have specifically identified three such principles, including institutional capacity, economic efficiency, and equity: see M. J. Mace & Jason Anderson, *Legal and Design Issues Arising in Linking the EU ETS With Existing and Emerging Emissions Trading Schemes*, 6(2) *J. Eur. Envtl. & Plan. L.* 197, 217 (2009).

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instrument to promoting ambitious carbon reduction. It is important to emphasize that this is not a quest for perfectly identical ETSs, but rather a process of ensuring that the necessary *de minimis* degree of alignment has occurred before formal direct linkage is operationalized.¹⁴

The EU ETS Directive, by imposing the restriction that linkage is permissible only with ‘compatible’ trading schemes, necessarily provides the starting point for any enquiry to define core convergence criteria.¹⁵ Significantly, such a starting point does not preclude the possibility of normatively reimagining the contours imposed by the legislation, but instead acknowledges the relevance and influence of the present legislative language in seeking to ascertain and define core convergence criteria. Consequently, Article 25(1)(a) identifies specific criteria indicative of ‘compatibility’: for example, a candidate emissions scheme must contain ‘absolute emissions caps’ and must be ‘mandatory’. As such, these design features are defined below as the first and second core convergence criteria. Whilst the language of Article 25(1a) is silent as to whether these design features constitute the only criteria of compatibility, a teleological interpretation of the text, as has been favoured by the European Court of Justice, tends to suggest that any meaningful definition of compatibility must necessarily extend beyond only requiring that a candidate scheme is mandatory with an absolute emissions cap.¹⁶

2.1.1 Absolute emissions cap

The text of Article 25(1a) provides the first core convergence criterion: any potential partner scheme must impose an absolute emissions cap. It is relevant to recall that the implementation of a single Union-wide absolute cap was far from straightforward and only achieved after concerning discrepancies regarding Member States’ NAPs surfaced. Indeed, it has only been since 2013 that the cap across the EU (and Norway, Liechtenstein, and Iceland) has represented a single Union-wide cap rather than the aggregate of Member States’ individual caps.¹⁷ Under Article 9 of the Directive, for every year during Phase III (from 2013–2020) this cap decreased by a linear factor of 1.74% of the average total quantity of allowances issued annually during Phase II from 2008–2012.¹⁸ Due to the operation of this mechanism, by 2020 emissions from fixed installations were approximately 21% lower than in 2005.¹⁹ The operation of this decreasing cap mechanism has been fundamental to the fabric of the EU ETS and the absolute emissions cap requirement in Article 25(1) is best understood as a commitment to preserve this functionality. The amended EU ETS Directive permits only very limited intervention in the market in ‘the event of excessive price fluctuations’.²⁰

The prohibition contained in Article 25(1a) enjoys broad support in the literature. Gilbert has emphasized that the environmental stringency of individual schemes is ‘absolutely key in determining the success or failure of a linking initiative’,²¹ whilst Sterk and Schüle have noted that ‘[o]ne of the main advantages of cap-and-trade

emission trading is the ability to precisely define the environmental outcome ... [but] price caps and safety valves crack the cap’.²²

2.1.2 Mandatory targets

In addition to the absolute cap requirement, Article 25(1a) further requires that any candidate linking scheme must be ‘mandatory’. The distinction between what have been categorized as ‘compliance markets’ and ‘voluntary markets’ is critical.²³ Whilst both forms of markets may impose absolute caps, compliance markets are mandatory, in the sense of Article 25(1a), by public regulatory underpinning. Voluntary markets are based on private law and do not rely on public regulation to generate demand. The fact that these markets have developed organically without any government mandate has been one of the more surprising features of the emerging emissions trading landscape.²⁴ Moreover, the emergence of voluntary markets provides salient insights into the complex influences

¹⁴ David Burtraw, Karen Palmer, Clayton Munnings, Paige Weber & Matt Woerman, *Linking by Degrees: Incremental Alignment of Cap-and-Trade Markets*, Resources for the Future Discussion Paper 04/2013, 10 (2013).

¹⁵ EU ETS Directive, Art. 25(1a).

¹⁶ For example, in the seminal case, *Van Gend en Loos*, the ECJ emphasized that it is necessary to consider ‘the spirit, the general scheme and the wording’. In the *CILFIT* case the ECJ affirmed that ‘every provision of Community law must be placed in its context and interpreted in the light of the provisions of EC law as a whole, regard being had to the objectives thereof and to its state of evolution at the date on which the provision in question is to be applied’. See Case C-283/ 81 *Srl CILFIT and Lanificio di Gavardo SpA v. Ministry of Health* [1982] ECR 252, para. 20. See also Nial Fennelly, *Legal Interpretation at the European Court of Justice*, 20(3) *Fordham Int’l L.J.* 656 (1996).

¹⁷ Directive 2009/29/EC of the European Parliament and of the Council of 23 Oct. 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community [2009] OJ L140/63. The directive set a cap of 2,084,301,856 allowances.

¹⁸ In absolute terms this equates to an annual reduction in allowances by 38,264,246.

¹⁹ Article 9 mandates that the Commission review the linear factor from 2020 with a view to the adoption of a decision by 2025.

²⁰ EU ETS Directive, Art. 29a.

²¹ Alyssa Gilbert, *Linking Carbon Markets: The Climate Change Silver Bullet?*, 20(6) *Energy & Env’t* 901, 914 (2009).

²² Sterk & Schüle, *supra* n. 11, at 409, 419.

As a practical matter, Sterk and Kruger have elaborated: ‘through linking a system without price controls to a system with price control mechanisms, the former would effectively cede control over its allowance price and emissions to the latter. It does not seem likely that the former would be willing to pursue such a policy’. See Sterk & Kruger, *supra* n. 9, at 389, 397.

²³ Eva Lövbrand & Johannes Stripple, *Disrupting the Public-Private Distinction: Excavating the Government of Carbon Markets Post-Copenhagen*, 30(4) *Env’t & Plan. C Gov. & Pol’y* 658, 662 (2012).

²⁴ Scott Deatherage, *Carbon Trading Law and Practice* 64 (Oxford University Press 2011).

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driving the decarbonization agenda. Such voluntary markets offer testing grounds for industry before mandatory trading and by so doing influence the climate governance landscape.

However, to be a suitable partner for linkage, the candidate trading scheme should demonstrate a clear commitment to emissions trading in the medium to long term. From the perspective of a well-functioning market capable of delivering some degree of certainty to its participants, linking would be risky if a scheme had no clarity on a succession plan. Whilst this would also be the case in compliance markets with an early expiration date and no clear commitment in succeeding years beyond such a date, the innately provisional nature of voluntary markets adds further doubt about the continuity of any such linkage. This would create serious concerns amongst EU ETS participants about the permanence of the link and could ultimately diminish the liquidity of allowances generated in the linked scheme. In these circumstances Article 25(1a) is correct to specifically recognize the ‘mandatory’ element of a candidate scheme as a core convergence criterion.

2.1.3 Unconstrained borrowing

ETSs which permit borrowing allowances from future trading phases present particular risks for the environmental integrity of any partner ETS. Whilst borrowing during the life of a particular compliance phase is implicitly permitted in the EU ETS by virtue of the lag-time between satisfaction of the previous year’s compliance obligations and the allocation of the next year’s allowances, borrowing between trading phases within the EU ETS is not permitted.²⁵ As such, allowances generated during Phase III which ended in 2020 could not be surrendered for compliance with obligations which now arise during the life of Phase IV.

The ability of market actors in one scheme to borrow against periods with an unfixed length, or periods for which allocations have not yet been specified, would undermine the present penalties for non-compliance and undercut the environmental integrity of the EU ETS.²⁶ In fact, the function of an unconstrained borrowing facility within an ETS is more akin in practice to the operation of a price ceiling. However, not only is borrowing from future commitment periods likely to delay carbon abatement but, perhaps paradoxically, high rates of borrowing may even result in escalating future abatement costs. Given the urgency of the climate science consensus, unrestricted borrowing is likely to aggravate environmental harm by facilitating the concentration of the emissions stream in the earlier years of a trading phase.²⁷

2.1.4 Monitoring, reporting, and verification of emissions (MRV)

The EU has emphasized that the ‘complete, consistent, transparent and accurate monitoring and reporting of greenhouse gas emissions are fundamental for the

effective operation’ of the EU ETS.²⁸ The original language of the EU ETS Directive had afforded considerable flexibility to both Member States and installations and the need for greater EU uniformity with respect to MRV became clear during Phases I and II. Indeed, it was widely acknowledged that the high level of decentralization and the significant degree of discretion for Member States might well pose challenges with Kruger and Pizer identifying the crux of the problem as ‘the question of who will resolve inconsistencies if different Member State governments or the third party verifiers they hire vary in their interpretations of EU monitoring or verification guidelines’.²⁹ In the context of the EU, perhaps this should not be surprising. Significantly different legal systems, enforcement cultures, and administrative capabilities across the EU often creates a variable implementation geometry.³⁰ Incremental harmonization has become the EU’s tried and tested route map. Regulation 601/2012 concerning monitoring and reporting subsequently advanced harmonization, but the prospect of formal direct linkage would significantly sharpen concerns related to MRV. For example, the differences in cultures of enforcement and administrative capacity within the EU is only a fraction of what exists if one were to compare the EU as a whole to China. An uneven approach to MRV would inevitably create unfair competitive advantages for firms in states with less robust enforcement regimes whilst discolouring the metric by which carbon reduction is measured. In particular, the capacity to conceal or obstruct progress is of sufficiently serious concern to warrant the inclusion of MRV as a core convergence criterion.

Yet, unlike other critical scheme design features, an assessment of MRV compatibility requires a value determination along a continuum of compliance. Since linkage

²⁵ For example, allowances are allocated by 28 Feb. of each year, whilst allowances must be surrendered equal to the total (verified) emissions to satisfy with the previous calendar year’s trading period by 30 Apr. each year. It is therefore not a case of borrowing *per se* constituting a core convergence criterion, as the structure of the EU ETS provides scope for borrowing, albeit within a relatively narrow window.

²⁶ Mace & Anderson, *supra* n. 13, at 219.

²⁷ Julien Chevallier, *Banking and Borrowing in the EU ETS: A Review of Economic Modelling, Current Provisions and Prospects for Future Design*, 26(1) *J. Econ. Surv.* 157, 172 (2012).

²⁸ Commission Regulation (EU) No 2066/2018 of 19 Dec. 2018, on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council and amending Commission Regulation (EU) No 601/2012 [2012].

²⁹ Joseph Kruger & William Pizer, *Greenhouse Gas Trading in Europe: The New Grand Policy Experiment*, 36(8) *Env’t* 8, 15 (2004).

³⁰ This was particularly evident during the pilot phase of the EU ETS with Slovakia failing to draft a satisfactory NAP, whilst the NAPs of Poland and the Czech Republic failed to meet the Commission’s deadline.

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is likely to evolve in an incrementalist manner, this creates the necessary space for dialogue and discussion regarding MRV and how best to ensure that one scheme's approach to MRV has the confidence of its potential linkage partner. Moreover, the EU's successful implementation of direct linkage between the EU ETS and Norway has demonstrated that MRV provisions need not be identical. For example, the Norwegian ETS requires participating entities to monitor and report their emissions on an annual basis but, unlike the EU ETS, does not require independent verification of an entity's emissions data.³¹

2.1.5 Equivalent rules governing fungibility of carbon credits

Since the end of Phase III in 2020 the EU does not permit regulated entities to surrender carbon credits purchased from CDM projects, Certified Emission Reductions (CERs), to meet EU ETS commitments.³² Whilst the CDM is not the only offset programme in existence, it has certainly been the most significant.³³ As of 31 January 2022, over 8,070 projects have been approved since operationalization of the CDM and more than 8 billion offset credits have been issued.³⁴ During Phase II of the EU ETS, Member States had retained discretion to decide the rules relating to the usage of CERs. Consequently, each Member State individually determined the percentage of offsets allowed (as a percentage of total allowances). The range of flexibility varied markedly between Member States from 0% in Estonia to 20% in neighbouring Lithuania (and Germany and Spain).³⁵ Moreover, seven Member States (Germany, Spain, Italy, France, Poland, the UK and the Czech Republic) accounted for over 75% of total use across the EU.³⁶ The Commission subsequently harmonized the use of offsets within the EU³⁷ with the exact amount eligible for use per operator until 2020 dependent on specific factors.³⁸

The experience of the EU demonstrates that there is potential for significant divergence between the rules governing the use of offsets across different ETSs. This is clearly a material consideration in circumstances where allowances and credits are fungible since unrestricted trading between linked schemes would permit credits generated in one scheme to enter the other scheme. Whilst it would remain open to the EU ETS (or any partner ETS) to limit the quantity and quality of offsets or, alternatively, to apply an exchange rate, this would not entirely resolve the supply-and-demand dynamics resulting from the free circulation of such offset credits in the linked partner scheme. Substantial divergence between rules governing fungibility of carbon credits could materially impact pricing in linked schemes and ultimately disrupt the operation of a scheme's absolute cap.³⁹ As such, rules governing recognition of offsets which may be surrendered for compliance purposes are inextricably connected to preserving a scheme's environmental integrity. Consequently, it is appropriate to recognize that implementation and maintenance of equivalent rules governing fungibility of offset credits represents a core convergence criterion.

III. The KETS: The EU's Elusive Linkage Partner?

Since the launch of the EU ETS in 2005, the EU has tentatively explored the prospect of linkage with a number of countries.⁴⁰ The United States had been the initial focus of the EU's linkage ambitions.⁴¹ However, the contested nature of climate policy (and science) within political discourse in the United States has overshadowed progress at a federal level and cast doubt on the prospect of a national American ETS emerging in the medium-term. Similar such 'political swings' in a number of countries have made it less predictable to identify a candidate scheme for linkage with the EU ETS.⁴² For

³¹ Chapter 4 (s. 16), Act of 17 Dec. 2004 No 99 Relating to Greenhouse Gas Emission Allowance Trading and the Duty to Surrender Emission Allowances. See Norwegian Government, *Acts and Regulations*, <https://www.regjeringen.no/en/dokumenter/greenhouse-gas-emission-trading-act/id172242/> (accessed 31 Jan. 2022). Instead, it is open to the Norwegian regulator, on a case-by-case basis, to 'decide that the emissions report from an operator shall be verified by an independent third party before it is submitted': see Ch. 4 (s. 17).

³² Commission Regulation (EU) No 1123/2013 of 8 Nov. 2013 on determining international credit entitlements pursuant to Directive 2003/87/EC of the European Parliament and of the Council [2013] OJ L299/32.

³³ See generally Gerard Kelly, *Assessing the Climate Governance Contribution and Future of the Clean Development Mechanism*, 87(4) *Nordic J. Int'l L.* 394 (2018).

³⁴ Clean Development Mechanism, *CDM Insights: Project Activities* (30 Dec. 2021), <https://cdm.unfccc.int/Statistics/Public/CDMinsights/index.html> (accessed 31 Jan. 2022).

³⁵ Raphael Trotignon, *Combining Cap-and-Trade With Offsets: Lessons from the EU-ETS*, 12(3) *Climate Pol'y* 273, 276 (2009).

³⁶ *Ibid.*

³⁷ Commission Regulation (EU) No 1123/2013, *supra* n. 32.

³⁸ *Ibid.*, Art. 1(1). For example, whether or not the operator was a new entrant. Existing operators could only use CERs either up to the amount allowed in the period from 2008 to 2012 or to an amount corresponding to a maximum of 11% of its allocation in the period from 2008 to 2012, whichever was the higher.

³⁹ Moreover, as Sterk and Kruger have noted, there may be serious political repercussions from such commingling of credits and allowances in the absence of cross-compatibility: see Sterk & Kruger, *supra* n. 9, at 389, 395.

It is recognized that given the potential for disruption to a scheme's overall emissions cap, it is conceptually legitimate to categorize compatibility of rules governing the recognition of offsets as a subset of the first core convergence criterion which requires the presence of an absolute emissions cap in any candidate partner scheme. However, it is suggested that the dynamic and materially relevant nature of offset schemes, which also constitute indirect linkages in their own right, merits particular recognition as a distinct core convergence criterion.

⁴⁰ Wettstad & Jevnaker, *supra* n. 2, at 266.

⁴¹ Sterk & Kruger, *supra* n. 9, at 397.

⁴² Daniel Bodansky, Seth A. Hoedl, Gilbert E. Metcalfe & Robert N. Stavins, *Facilitating Linkage of Climate Policies*

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example, Australia had initially embraced the prospect of linkage with the EU ETS,⁴³ but changes in government also resulted in changes in climate policy. So it was with Australia, but so too has it been with climate policy in a number of countries beyond the EU.⁴⁴ In fact, as Wettstad and Jevnaker have recognized ‘the development of emissions trading globally has progressed slowly [and] there have simply not been that many candidates for the EU to approach for linking purposes’.⁴⁵

South Korea is, perhaps, an unlikely bedfellow for the EU. As a non-Annex I country, it was not obliged to adopt an emissions reduction commitment under the Kyoto Protocol. The Paris Agreement has not continued with the Kyoto Protocol’s distinction between countries with and without emissions reduction commitments. Instead, the Paris Agreement envisages that all countries contribute to climate governance through engagement in carbon abatement or mitigation initiatives, even if the scale of ambition of each country will vary, consistent with the principle of common but differentiated responsibilities and respective capabilities (‘CBDR-RC’). The annex structure of the UNFCCC and the Kyoto Protocol ‘never perfectly reflected the principle of CBDR-RC’⁴⁶ and South Korea is a case in point, as it has been in the somewhat unique position of remaining a non-Annex I country even after joining the OECD in 1996.⁴⁷ The country’s developmental path from one of the poorest in the early 1960s to the world’s eleventh largest economy by 2015 has been described as ‘unprecedented’.⁴⁸ However, during this period South Korea’s carbon emissions have rocketed. By 2015, South Korea had the seventh highest carbon emissions in the world and an emissions growth rate of 3.9%, the highest amongst OECD members.⁴⁹ This placed the country in the unenviable position of ‘stand[ing] at the line that divides developing and developed countries’, providing the classic example of a rapidly developing non-Annex I country with surging emissions, but which did not have any binding reduction commitments under the Kyoto Protocol.⁵⁰

Yet successive South Korean governments have also promoted carbon mitigation initiatives, most notably through the launch of the KETS in 2015. Whilst implementation of the KETS may have been an anticipatory move pre-empting criticism of the country’s emissions pathway,⁵¹ in a domestic context the KETS proved a ‘tough sell’.⁵² Business and industrial leaders publicly voiced opposition to the KETS based on concerns regarding ‘the economic burden and decline of competitive power’.⁵³ For example, the Korean Chamber of Commerce and the Federation of Korean Industries argued that the government should only launch an ETS once China and Japan agreed to domestic action to similarly impose a price on carbon.⁵⁴ Yet, there is persuasive evidence that the urgency of climate change is recognized in South Korea: 97% of South Koreans acknowledge climate change as a fact, whilst over 90% consider it a serious problem.⁵⁵ Given the lack of consensus in a number of other potential linkage partners, the consensus which has emerged in South Korea should be of particular interest to EU policy-makers.

The KETS launched on 1 January 2015 with the scheme initially covering 525 businesses and public institutions accounting for approximately two thirds of the country’s annual greenhouse gas emissions and, until the launch of China’s national scheme in 2021, the KETS was the world’s second largest carbon market. The scheme is underpinned by the Framework Act on Low Carbon and Green Growth 2010 (‘Framework Act’). Described by South Korean legal scholars as the ‘first and highest legal base for green growth and implementation of the KETS’,⁵⁶ Article 46 of the Framework Act provides that the ‘government may utilise market functions in accomplishing the national greenhouse gas reduction target and operate a cap-and-trade scheme’.⁵⁷ The Framework Act

Through the Paris Outcome, 16(8) *Climate Pol’y* 956, 959 (2016).

⁴³ Implementation of the proposed linkage had originally been envisaged to take effect by July 2015. Commission, *Linking EU ETS With Australia: Commission Recommends Opening Formal Negotiations* (DG Climate Action: Newsroom 21 Jan. 2013), http://ec.europa.eu/clima/news/articles/news_2013012401_en.htm (accessed 31 Jan. 2022).

⁴⁴ Canada’s withdrawal from the Kyoto Protocol provides yet another salient example.

⁴⁵ Wettstad & Jevnaker, *supra* n. 2, at 275.

⁴⁶ Daniel Bodansky, *The Paris Climate Change Agreement: A New Hope?*, 110 *Am. J. Int’l L.* 269, 298 (2016).

⁴⁷ Sun-Jin Yun, Dowan Ku & Jin-Yi Han, *Climate Policy Networks in South Korea: Alliances and Conflicts*, 14(2) *Climate Pol’y* 283, 284 (2014).

⁴⁸ Randall Jones, *Korea’s Economy: Finding a New Momentum* (2016), OECD Observer Oct. 2016, http://oecdobserver.org/news/fullstory.php/aid/5649/Korea_s_economy:_Finding_a_new_momentum.html (accessed 31 Jan. 2022).

⁴⁹ Kye Lim Kwon, *South Korea’s Emission Trading System: Challenges, Prospects and Lessons for Canada* (2015), Asia Pacific Foundation of Canada’s (APF Canada) Canada-Asia Agenda 20 Apr. 2015, <https://www.asiapacific.ca/news/apf-canada-releases-report-south-koreas-emissions-trading> (accessed 31 Jan. 2022).

⁵⁰ Yun, Ku & Han, *supra* n. 47, at 284.

⁵¹ Kwon, *supra* n. 49.

⁵² Hyungna Oh, Junwon Hyon & Jin-Oh Kim, *Korea’s Approach to Overcoming Difficulties in Adopting the Emission Trading Scheme*, 17(8) *Climate Pol’y* 947, 948 (2017).

⁵³ Jin-Yi Han & Sun-Jin Yun, *Policy Networks Among Actors Concerning the Introduction of the Greenhouse Gas Emissions Trading Scheme in Korea Based on Social Network Analysis*, 20 (2) *Korean Pol’y Stud. Rev.* 81, 85 (2011).

⁵⁴ Oh, Hyon & Kim, *supra* n. 52, at 11. Whilst the industrial sectors’ primary motivation had been the potential implications for South Korea’s competitiveness, this argument also engaged a very real climate governance concern that stringent emissions reduction measures – in the absence of similar regulatory initiatives in those countries – would only increase carbon leakage in neighbouring competitor countries.

⁵⁵ Yun, Ku & Han, *supra* n. 47, at 296.

⁵⁶ Oh, Hyon & Kim, *supra* n. 52, at 3.

⁵⁷ Korea Legislation Research Institute (KRLI) Legislative Translation Centre, *Statutes of the Republic of Korea* http://elaw.klri.re.kr/eng_service/main.do (accessed 31 Jan. 2022).

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provided the legal basis for the scheme with subsequent legislation elaborating design and structure: the Act on the Allocation and Trading of Greenhouse-Gas Emissions Permits 2012 and subsequent Act on the Allocation and Trading of Greenhouse-Gas Emissions Permits 2018 ('KETS Act')⁵⁸ and the associated Enforcement Decree ('Decree').⁵⁹ It is noteworthy that the 2012 Act passed the National Assembly with near-unanimous support.⁶⁰

Key aspects of the operation of the KETS, including the cap and allocation formula, are not elaborated within the KETS Act. Instead, Article 4(1) of the Act provides that '[t]he Government shall establish a plan to allocate national emission allowances for each commitment period by no later than six months prior to the beginning of each commitment period in order to effectively achieve national greenhouse-gas reduction targets' ('Allocation Plan').⁶¹ Mandatory language in Article 4(2) – 'shall include the following' – requires that the government ensure that the Allocation Plan contains certain specific directions which, *inter alia*, includes '[m]atters regarding the standards for the allocation of emission permits for each compliance year and the amount allocated for each compliance year'⁶² and '[m]atters regarding the standards and methods for the allocation of emission permits to business entities eligible for allocation'.⁶³

Unlike the EU ETS – where the process of allowance allocation, including the methodology and linear reduction in allowances over the course of the commitment period, is enshrined in legislation – the KETS Act instead affords a substantial degree of discretion to the executive to make such determinations. In addition to the Allocation Plan, Article 4 of the KETS Act provides that '[t]he Government shall establish a ten-year master plan for the emissions trading system every five years, which shall define the objectives of, and basic direction for, medium to long-term policies on the emissions trading system' ('Master Plan').⁶⁴ The first Master Plan, which applies from 2015 until 2024, provides assurance and certainty to market participants about the direction of the KETS over the ten year period, whilst the Allocation Plan is a more functional component within the KETS.⁶⁵

It is notable that the fundamental legislative principles underpinning the KETS, as contained in Article 3 of the KETS Act, explicitly contemplate linkage. Article 3(5), for example, recognizes the importance of regulatory complementarity with a view to facilitating linkage by providing that 'the Government shall implement policies in conformity with international standards, considering the link with international carbon markets'.⁶⁶ Given the language of Article 3(5), it is reasonable to conclude that the legislation envisages that the prospect of future linkage is a consideration which should inform the design and development of the KETS. The four remaining fundamental principles require the government to (1) comply with the principles set forth in the UNFCCC and relevant protocols and consider international negotiations on climate change; (2) consider the impact of an emissions trading system on the international competitiveness of economic sectors; (3) make the most of market

mechanisms to achieve national greenhouse gas reduction targets effectively; and, (4) ensure that emission permits are traded in a fair and transparent manner in accordance with general trading rules.⁶⁷

Whilst the KETS Act specifies five fundamental principles, the legislation is clear in advancing a single purpose: 'to achieve national targets for reducing greenhouse gas effectively by introducing a system for trading greenhouse gas emission permits through market mechanisms'.⁶⁸ Importantly, this purpose is consistent with the governing rule of environmental integrity, as elaborated above, which provides that linked trading schemes should not lead to fewer emissions reductions than if a scheme continued to operate independently.

IV. The Design of the KETS

In a climate governance landscape characterized by diverse experimentation, linkage holds out the potential to provide multi-speed pathways to incrementally develop and deepen institutions governing emissions trading. This is particularly important as implementation of the Paris Agreement unfolds. In a manner not dissimilar to the architecture of the Kyoto Protocol, the Paris Agreement only delivers the framework within which to construct linkage.⁶⁹ The Agreement does not provide the mechanics to implement direct linkage, nor the structures to govern such linkage. Instead, the Paris Agreement 'offers guidance to markets being crafted, managed, and linked around the world', rather than attempting to create an international market or a global carbon price.⁷⁰ With the EU ETS, the KETS has now emerged as a stable

Translations provided by the KRLI are not official versions and thus are not equally authentic to the original version in Korean.

⁵⁸ Act on the Allocation and Trading of Greenhouse Gas Permits 2012 (Act No 15836, 16 Oct. 2018), hereafter referred to as the 'KETS Act'.

⁵⁹ Enforcement Decree of the Act on the Allocation and Trading of Greenhouse Gas Permits (Presidential Decree No 28562, 29 Dec. 2017), hereafter referred to as the 'Decree'.

⁶⁰ Yoo, *supra* n. 7, at 17.

⁶¹ KRLI Legislative Translation Centre, *supra* n. 57.

⁶² KETS Act, Art. 5(1)5.

⁶³ *Ibid.*, Art. 5(1)6.

⁶⁴ KRLI Legislative Translation Centre, *supra* n. 57.

⁶⁵ Oh, Hyon & Kim, *supra* n. 52, at 4.

⁶⁶ KETS Act, Art. 3(5).

⁶⁷ KETS Act, Art. 3(1) – Art. 3(4).

⁶⁸ KETS Act, Art. 1.

⁶⁹ As Bothe observed with respect to Kyoto: '[it] only contains very general rules on instruments, next to none on emissions trading': see Michael Bothe, *The United Nations Framework Convention on Climate Change: An Unprecedented Multilevel Regulatory Challenge*, 63 Heidelberg J. Int'l L. 239, 248 (2003).

⁷⁰ Jackson Ewing, *Beating Climate Change Through Innovative Carbon Markets in Northeast Asia*, Asia Society Policy Institute (17 Oct. 2016), <http://asiasociety.org/policy-institute/beating->

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component of this nascent network of ETSs. To explore the potential for direct linkage between the EU ETS and the KETS, this Section will assess the application and implications of the core convergence criteria defined and elaborated in section II.

4.1 Absolute emissions cap

The EU ETS Directive expressly requires that any potential linkage partner scheme incorporates an absolute emissions cap.⁷¹ This requirement is best understood, within the broader context of increasing EU climate governance ambition, as a mechanism to ensure that the EU ETS delivers the Union's domestic emissions reduction commitments. In the context of potential direct linkage, it is therefore significant that the KETS has also been designed as a cap-and-trade scheme with an absolute quantity limit on emissions which is progressively reduced over time.⁷² As such, the inclusion of an absolute emissions cap in the KETS should 'simplify linkage with the EU ETS by making it technically less complex'.⁷³ As the presence of an absolute emissions cap in any candidate partner scheme is an express requirement of Article 25(1a), it is clear that it would not be legally possible for the EU to implement direct linkage with a partner scheme unless that scheme contained an absolute emissions cap.

The KETS cap of 3,048 million tCO₂e during Phase III (2021–25) includes both indirect emissions and reserves.⁷⁴ The inclusion of reserves is particularly significant given the presence of price containment measures within the KETS framework, as the KETS Act permits regulatory intervention in the market for stabilization purposes.⁷⁵ However, if the legislation governing the KETS had permitted the release of allowances *additional* to those calculated within the cap, then the integrity of the cap itself – and, by extension, the environmental integrity of the KETS – would be seriously undermined. The presence of market intervention provisions, whilst likely reassuring to South Korean market participants, could prove particularly problematic in the context of linkage negotiations with the EU. As has been observed, the EU 'continues to reject any form of price management and decided to manage supply more effectively through its recently decided Market Stability Reserve'.⁷⁶ Whilst the price containment measures within the KETS are not a breach of the absolute emissions cap, it is important that policy-makers in both systems have similar levels of environmental ambition.⁷⁷

Unlike extension of the EU ETS to EFTA Member States, the KETS represents a very substantial market in its own right and – having witnessed the EU's problems with price volatility – South Korean policy-makers may be reluctant to 'give up flexibility with regard to market stabilisation measures'.⁷⁸ South Korean reservations in this respect should not be under-estimated, particularly as commentators have observed that the South Korean government was 'alarmed ... by the price volatility that has prevailed in the European carbon market' and that this

specific concern informed design of the KETS.⁷⁹ This is a salient reminder that direct linkage with the EU ETS is unlikely to simply consist of the exportation of the design features of the EU ETS to a candidate partner scheme. It is instead likely that the EU will be required to demonstrate a spirit of compromise in its approach to direct linkage with potential partner schemes. As Gilbert quite rightly acknowledges, EU policy-makers cannot reasonably expect 'that a country will simply, without regard to national concerns, adopt another country's emissions trading scheme'.⁸⁰

Yet if direct linkage between the EU ETS and the KETS is to prove both possible and durable, it would not be unreasonable to expect that consultations should take place – and potentially consent required – before any exercise of market stabilization powers by the South Korean regulator post-implementation of direct linkage. In practice, this may mean that for South Korean policy-makers '[t]he concessions and loss of regulatory control over its own scheme have to be weighed against the potentially significant benefits the country could achieve through linkage with the EU ETS'.⁸¹

The KETS legislation also permits revision of a participating entity's allowance allocation in certain specified circumstances. The most flexible of the three permitted conditions under which such an application may be approved is that there has been an unexpected change in product line or business plan. The Decree envisages an objective assessment of whether the alleged change is

climate-change-through-innovative-carbon-markets-northeast-asia (accessed 31 Jan. 2022).

⁷¹ EU ETS Directive, as amended, Art. 25(1a).

⁷² KETS Act, Art. 1(4).

⁷³ Sonja Hawkins & Ingrid Jegou, *Linking Emissions Trading Schemes: Considerations and Recommendations for a Joint EU-Korean Carbon Market*, International Centre for Trade and Sustainable Development Global Platform on Climate Change, Trade and Sustainable Energy – Climate Change Architecture Series Issue No 3 Mar. 2014, 17 (2014), https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/ICTSD_linking-emissions-trading-schemes-considerations-and-recommendations-for-a-joint-eu-korean-carbon-market.pdf (accessed 31 Jan. 2022).

⁷⁴ Whilst legislation governing the KETS uses the term 'commitment period', for the purposes of analysis with the EU ETS the term 'phase', as employed within the EU context, is used throughout.

⁷⁵ KETS Act, Art. 23.

⁷⁶ Jan Ahrens, *Price Management in Emissions Trading Systems*, in *ISIC, Carbon Markets Almanac 2016: Global Developments & Outlook* 4, 5 (Reed Business Information Ltd 2016).

⁷⁷ Samuel Fankhauser & Cameron Hepburn, *Designing Carbon Markets, Part II: Carbon Markets in Space*, 38 *Energy Pol'y* 4381, 4384 (2010).

⁷⁸ Hawkins & Jegou, *supra* n. 73, at 44.

⁷⁹ Anders Nordeng, Joo-jin Kim, Jin Kim & Thomas Winkehnner, *Dialogue: What Now for South Korea's Emissions Trading Scheme?*, *Carbon Pulse* (5 July 2016), <http://carbon-pulse.com/22019/> (accessed 31 Jan. 2022).

⁸⁰ Gilbert, *supra* n. 21, at 901, 919.

⁸¹ Hawkins & Jegou, *supra* n. 73, at 44.

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‘unexpected’.⁸² For the purposes of clarifying the implications of any revisions to the total allowance allocation, Article 21(7) of the Decree confirms that any ‘[e]mission permits additionally allocated ... shall arise from reserve emission permits’. This provides crucial reassurance that the environmental integrity of the absolute emissions cap of the KETS is unaffected by any individual revisions to a participating entity’s allowance allocation. Whilst the necessity for the presence of such allocation readjustment powers remains questionable, the fact that the absolute emissions cap is secure ensures that the environmental integrity of any linked partner scheme is not endangered. Consequently, whilst allocation differentiation raises potential equity concerns amongst participating entities and could give rise to a perception that there is a transfer of wealth (through free allocations), there is no reason to think that such variations alone would – in the absence of disturbing the absolute emissions cap – undermine environmental integrity across directly linked schemes.

4.2 Mandatory trading

In addition to the absolute cap requirement, Article 25(1a) of the EU ETS Directive limits direct linkage partner eligibility to ‘mandatory’ schemes. In this respect, Lövbrand and Stripple’s categorization of ETs as either ‘voluntary markets’ or ‘compliance markets’ is helpful.⁸³ This distinction reflects the fact that voluntary markets are based on private law and do not rely on public regulation to generate demand, whilst compliance markets are ‘mandatory’ and rely on public regulation for their existence and functioning.

The KETS Act specifies that any facility with annual emissions exceeding 25,000 tCO₂e or any company which emits more than 125,000 tCO₂e is required to participate in the KETS.⁸⁴ If an entity satisfies either metric, then participation in the KETS is mandatory. Moreover, the legislation does not provide discretion to the executive to exempt an entity in circumstances where Article 8(1) would otherwise mandate its participation. Whether an entity has reached the threshold for inclusion in the KETS is also subject to ongoing review with Article 9(1) of the KETS Act providing that ‘[t]he competent authority may designate and publicly announce business entities that *newly* fall under Article 8(1)1 *during a commitment period* due to the establishment of a new facility or the alteration or expansion of a facility’.⁸⁵ In addition, Article 8(1)2 of the KETS Act provides that an entity which is not otherwise required to participate in the KETS may apply to do so (termed a ‘voluntarily participating business entity’). A degree of flexibility is afforded to such entities by the Decree which provides that a voluntarily participating business entity is permitted to choose to opt-out of subsequent phases.⁸⁶ In this sense, Sopher is accurate to classify KETS participants as ‘fall[ing] under two categories: voluntary and mandatory’.⁸⁷ However, there can be no doubt that the KETS is a ‘mandatory’ scheme within the meaning of Article 25(1a) of the EU ETS Directive: participation is clearly required where a business entity satisfies either of the two thresholds in the KETS Act.

As coverage under the KETS extends to all six greenhouse gases, a separate question could arise for South Korea as to whether it considers the scope and coverage of the EU ETS too limited. This does not present an obstacle to the implementation of direct linkage in the sense that coverage broader than that of the EU ETS is not inconsistent with preserving the environmental integrity of the scheme. The inclusion of multiple gases and indirect emissions could, however, raise MRV considerations. From the perspective of the EU, it is unlikely that the inclusion of additional greenhouse gases would obstruct direct linkage. Australia, for example, had intended to cover methane emissions within its proposed ETS and this was not identified as a potential problem by the EU during linkage negotiations.⁸⁸ For South Korea, political pressure could arise if domestic industry resists direct linkage with the EU ETS in circumstances where certain South Korean entities are covered by the KETS, but their EU competitors in equivalent sectors are not. Of course, the underlying competition rationale would persist in such circumstances irrespective of the implementation of direct linkage. For example, an EU competitor is not additionally advantaged by linkage, nor is a South Korean entity further disadvantaged.⁸⁹ In this sense, broader coverage of emissions in one scheme is less consequential for the purposes of direct linkage.

4.3 Borrowing

Within the EU ETS borrowing of allowances between years within the same phase is implicitly recognized since allowances are allocated by 28 February each year,⁹⁰ whilst participating entities are not required to surrender allowances for the preceding compliance year until 30 April.⁹¹ Consequently, a firm may legitimately surrender allowances allocated in February for the purpose of compliance with the preceding year’s trading period. The facility to borrow allowances in a candidate partner scheme is not necessarily an impediment to linkage, it is rather *unconstrained* borrowing in a potential partner scheme which raises the risk of undermining the environmental integrity of the partner scheme.⁹²

⁸² Decree, Art. 21(3), but it must be cautioned that further empirical research is necessary to understand precisely how the regulator is implementing this requirement in practice.

⁸³ Lövbrand & Stripple, *supra* n. 23, at 658, 662.

⁸⁴ KETS Act, Art. 8(1).

⁸⁵ KETS Act, Art. 9(1) (emphasis added).

⁸⁶ Decree, Art. 6(7). Peter Sopher, *Emissions Trading Around the World: Dynamic Progress in Developed and Developing Countries*, Carbon & Climate L. Rev. 306, 311 (2013).

⁸⁷ Sopher, *supra* n. 86, at 311.

⁸⁸ Hawkins & Jegou, *supra* n. 73, at 41.

⁸⁹ Instead, the KETS entity may, post-linkage, see lower compliance costs given the differentiation in price between KETS and EU ETS allowances.

⁹⁰ EU ETS Directive, Art. 11(2).

⁹¹ *Ibid.*, Art. 9a(2).

⁹² Emilie Alberola & Julien Chevallier, *European Carbon Prices and Banking Restrictions: Evidence From Phase I (2005–2007)*, 30(3) Energy J. 51 (2009).

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It has been observed that ‘[s]trong similarities exist with regard to the rules for temporal trading under the EU ETS and the KETS’.⁹³ Both schemes permit unrestricted banking of allowances to the following year and both facilitate borrowing whilst limiting such borrowing to within the same trading phase. The trading phases for the EU ETS and KETS are not aligned, but the limitation on borrowing within each phase is important as it prevents unconstrained borrowing. In the case of the EU ETS, borrowing is constrained by the entity’s allowance allocation for the following compliance year, whilst under the KETS borrowing is explicitly limited to not more than 10% of a participating entity’s allowance requirement during Phase I (2015–2017).⁹⁴ Perfect uniformity between rules governing borrowing is not a prerequisite for the successful implementation of direct linkage and South Korea’s more rigorous provisions suggests that there is sufficiently close alignment between the EU and South Korea on the importance of the underlying carbon reduction rationale.

4.4 Monitoring, reporting and verification of emissions (‘MRV’)

An uneven approach to MRV by the competent regulator in one scheme could create unfair competitive disadvantages for entities in a partner scheme. Unreliable or deficient MRV processes, however, could have more serious consequences by obfuscating or even obstructing progress towards achieving emissions reduction commitments. For this reason, rigorous MRV is considered a sufficiently serious consideration to warrant classification as a core convergence criterion. It is suggested that assessment of MRV requires a value determination along a continuum of compliance.

The MRV frameworks governing the EU ETS and the KETS respectively have been acknowledged as ‘comparable’.⁹⁵ This is perhaps less surprising given that scholars have observed that ‘details of the EU ETS were studied thoroughly by South Korean policy-makers ... [and that] the KETS has been designed to be ... compatible with international standards’.⁹⁶ Such an approach is consistent with the KETS fundamental principle which envisages the implementation of policies which are in conformity with international standards.⁹⁷ KETS participating entities are required to self-report their greenhouse gas emissions, but the emissions data must also be confirmed through submission of an independent verification report. Under the EU ETS, participating entities are also required to submit their verified emissions (by 31 March) before subsequently submitting sufficient allowances to cover these emissions (by 30 April). The detailed MRV principles and technical processes are elaborated in the Monitoring and Reporting Regulation⁹⁸ and the Accreditation and Verification Regulation.⁹⁹

The MRV frameworks governing the EU ETS and the KETS respectively are not identical, but each is robust and transparent. The EU’s successful implementation of direct linkage between the EU ETS and Norway,

however, demonstrated that MRV provisions need not be identical. For example, the Norwegian ETS requires participating entities to monitor and report their emissions on an annual basis, as is also required in the EU ETS and the KETS, but the Norwegian scheme does not require independent verification of entities’ emissions data.¹⁰⁰ Instead, it is open to the Norwegian regulator, on a case-by-case basis, to decide that the emissions report from an operator shall be verified by an independent third party before it is submitted. The absence of a mandatory requirement for independent verification was not considered material by EU policy-makers and did not obstruct the implementation of direct linkage.

Whilst the MRV provisions within the KETS legislative framework are robust and arguably equivalent to the MRV approach adopted by the EU, the accompanying penalty regime in the KETS, in cases of non-compliance, is less reassuring. Article 33(1) of the KETS Act sets the penalty per tCO₂e at three times the average market price of an allowance during that particular compliance year up to a maximum of KRW 100,000 (EUR 73.75). Under the KETS framework, however, a defaulting participating entity is not required to surrender the allowance shortfall in addition to paying the penalty. This approach represents a substantial and concerning divergence from the EU ETS framework in at least three important respects.

First, the penalty for non-compliance under the EU ETS has increased from EUR 40 per tCO₂e in Phase I to EUR 100 per tCO₂e since Phase II and is therefore approximately 25% higher than that imposed by the KETS. Second, non-compliant participating entities in the EU ETS remain obliged to surrender the allowance shortfall in the subsequent compliance year. Third, the practical consequence of imposing a maximum penalty of KRW 100,000 (EUR 73.75), without requiring the delinquent participating entity to also surrender the missing allowances, is that the KRW 100,000 penalty cap

⁹³ Hawkins & Jegou, *supra* n. 73, at 19.

⁹⁴ Article 28(3) of the KETS Act provides that ‘[t]he maximum emission permits that may be borrowed ... shall be prescribed by Presidential Decree’, whilst Art. 36(2) of the Decree defines ‘maximum’ as ‘15% of emission permits to be surrendered’.

⁹⁵ Hawkins & Jegou, *supra* n. 73, at 19.

⁹⁶ Oh, Hyon & Kim, *supra* n. 52, at 9.

⁹⁷ KETS Act, Art. 3(5).

⁹⁸ Commission Regulation (EU) No 601/2012 of 21 Jun. 2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council [2012] OJ L181/30.

⁹⁹ Commission Regulation (EU) No 600/2012 of 21 Jun. 2012 on the verification of greenhouse gas emission reports and tonne-kilometre reports and the accreditation of verifiers pursuant to Directive 2003/87/EC of the European Parliament and of the Council [2012] OJ L181/1.

¹⁰⁰ Article 4 (§16), Act of 17 Dec. 2004 No 99 Relating to Greenhouse Gas Emission Allowance Trading and the Duty to Surrender Emission Allowances.

See Norwegian Government, *supra* n. 31.

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functions as a price ceiling. The implementation of direct linkage in such circumstances would result in the propagation of the KRW 100,000 price ceiling into the EU ETS, a development which could ultimately undermine the environmental integrity of the EU ETS. In circumstances where a participating entity is non-compliant with its allowance obligations, there is substantial risk that the penalty framework under the KETS is insufficiently robust and, consequently, could materially endanger the environmental integrity of the EU ETS.

By not requiring delinquent participating entities to surrender their shortfall in allowances, South Korea has effectively created an option to pay a fixed fee of KRW 100,000 for each tCO₂e emitted in place of surrendering an emissions allowance. In current market conditions, the option of a fixed fee of KRW 100,000 is undesirable. However, if allowance prices in the KETS were to increase to KRW 100,000 (and beyond), then the maximum penalty mechanism would operate to permit total emissions to exceed the total number of allowances.¹⁰¹ In practical terms, this is tantamount to releasing additional emission allowances equivalent in number to the total amount already allocated during the compliance year. Consequently, if the KETS allowance price exceeds KRW 100,000, it is reasonable to assume that market participants will choose to pay the fixed penalty of KRW 100,000 for each tCO₂e emitted and sell allowances to EU-based participating entities at a price in excess of KRW 100,000. As allowances in the KETS are overwhelmingly allocated for free, there is an additional risk of perverse incentivization since any sale of allowances to EU ETS participating entities for more than KRW 100,000 would deliver a windfall to KETS participating entities.

Consequently, the structure of the penalty regime established under the KETS legislative framework is not yet within a zone of compatibility with the EU ETS. There is a further substantial risk that the penalty regime could, in practice, breach the principle of an absolute emissions cap and contravene Article 25(1a) of the EU ETS Directive. As such, it is reasonable to anticipate that EU policy-makers would likely insist that the KETS penalty framework incorporates a requirement for non-compliant participating entities to surrender the allowance shortfall in addition to paying any monetary penalty. This amendment would be sufficient to prevent the introduction of a price ceiling and bring the MRV framework into a zone of compatibility with that of the EU ETS.

The KRW 100,000 (EUR 73.75) maximum penalty for non-compliance represents an approximate 25% discount per excess tCO₂e in comparison with the EUR 100 penalty imposed on non-compliant participating entities within the EU ETS. However, it is important to re-emphasize that the core convergence criteria are not designed to synchronize perfectly identical schemes, but rather to facilitate the necessary *de minimis* degree of alignment to allow successful implementation of direct linkage. Therefore, it is not unreasonable to expect that EU policy-makers should also be willing to demonstrate a spirit of compromise with respect to variations in non-critical

design features. Consequently, at the time of writing, there is little basis to conclude that the variation in the penalties imposed on non-compliant participating entities in the EU ETS and the KETS, respectively, would breach the core convergence criteria.¹⁰²

Direct linkage is a dynamic process and it is also possible that extraordinary external events, such as severe exchange rate fluctuations, could materially disrupt the preceding analysis. For example, if the value of the South Korean won collapsed compared to the euro, this would have serious implications for the stability of the common carbon price across the linked EU ETS-KETS network. Direct linkage is not a single one-time event and, as Gilbert has recognized, '[f]urther challenges will emerge once a meta-scheme is in place, such as adequate governance to ensure market confidence'.¹⁰³ It is important that linkage is framed as a continuing process which extends beyond the implementation of direct linkage and necessitates ongoing monitoring and regulatory dialogue to ensure compatibility of the core convergence criteria.

4.5 Equivalent rules governing the fungibility of offset credits

In the context of EU ETS-KETS direct linkage, offset credits recognized by either scheme would be fungible across both schemes. As such, offset credits recognized in one scheme could enter the linked partner scheme even in circumstances where that scheme's recognition rules might otherwise prohibit such credits. The KETS permits recognition of offsets, but imposes both qualitative and quantitative restrictions: a participating entity may surrender offset credits to cover up to 5% of its compliance obligations and credits generated from overseas projects have only been recognized for compliance purposes since 2020.¹⁰⁴ In Phases I and II of the KETS, legislative priority had been afforded to domestic offset credits, termed Korean Offset Credits ('KOCs'), issued for local offset projects (which may or may not also retain CDM status).¹⁰⁵ Since 2020, offset credits which have been generated through 'an external project performed in any foreign nation shall not exceed 50% of the limit'.¹⁰⁶ Commentators have observed that during Phase I of the KETS 'most offset credits are known to have been issued for emission reductions within local CDM projects'.¹⁰⁷

During Phase II (2008–2012) of the EU ETS participating entities were permitted to surrender offset credits for up to 13.4% of their emissions cap. The offset limits during

¹⁰¹ KETS Act, Art. 33(1).

¹⁰² Hawkins & Jegou, *supra* n. 73, at 48.

¹⁰³ Gilbert, *supra* n. 21, at 916.

¹⁰⁴ Decree, Art. 38(4).

¹⁰⁵ Younghun Choi, *Emissions Trading System – South Korea ETS*, in *ICIS Carbon Markets Almanac 2016: Global Developments & Outlook* 54, 58 (Reed Business Information Ltd 2016).

¹⁰⁶ Decree, Art. 38(4).

¹⁰⁷ Choi, *supra* n. 105, at 59.

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Phase III (2013–2020) varied by installation type,¹⁰⁸ but the Commission's announcement that the Union's 2030 reduction target of 40% below 1990 levels would be 'achieved through domestic measures alone (i.e., without the use of international credits)' signalled an end to future fungibility of offset credits in the EU ETS.¹⁰⁹

The cautious approach of the EU ETS and KETS respectively to the recognition of offsets suggests that there is a degree of alignment between the two schemes on the principle of prioritizing domestic reduction initiatives. Indeed, policy-makers in both schemes have emphasized the importance of achieving domestic emissions reductions. At present, the offset credits which are recognized by the KETS are no longer recognized by the EU ETS, but it is important not to overstate this distinction. The governing legislation of the EU ETS and KETS confirms that both South Korea and the EU are committed to only marginal or no use of offset credits and this policy alignment provides a strong basis to pursue dialogue to ensure equivalence between schemes' rules governing the fungibility of offset credits.

4.6 Implications of analysis

To date there have been few examples in practice of the implementation of direct linkage between ETSs and it has been suggested that successful implementation of direct linkage tends 'to be characterised by similarity in design and by prior economic and political ties'.¹¹⁰ The EU's successful implementation of linkage with Norway and later Switzerland are often cited as such examples. However, the circumstances under which these linkage arrangements were implemented are unlikely to provide insights for future linkage negotiations.¹¹¹ Indeed, Hawkins and Jegou have described the implementation of linkage between Norway and the EU as more akin to 'an integration of the Norwegian scheme into the EU ETS'.¹¹²

South Korean policy-makers carefully studied the EU ETS whilst drafting the governing framework for the KETS and this likely explains why, as Oh and colleagues have observed, '[s]imilarities between the EU ETS and the KETS are easily found'.¹¹³ The preceding analysis supports this assessment. Critical design features, as reflected in the core convergence criteria, are generally either already compatible, such as the absolute cap and mandatory nature of both schemes, or are otherwise converging, such as both schemes' emphases on the promotion of domestic emissions reductions rather than the use of credits generated from international offset projects.

Beyond critical design features, South Korea's proactive climate governance policies enjoy sustained political support with the National Assembly unanimously passing legislation establishing the KETS (148-0 vote, with three abstentions).¹¹⁴ There is also evidence of an emerging societal consensus recognizing climate change as a serious issue.¹¹⁵ Whilst some domestic industrial sectors have challenged the KETS, it is notable that the South Korean government has maintained a positive outlook

with commentators observing that policy-makers 'hope to link up with other regional and more distant carbon markets that may provide South Korea with more economic opportunities'.¹¹⁶ In the context of linkage, a settled commitment to rigorous climate governance is particularly reassuring even if it is always open to sovereign jurisdictions to change their minds about climate policies. As Pizer and Yates have acknowledged, linkage is not immutable.¹¹⁷ Yet in a landscape where national climate policies are often characterized by discord rather than consensus, the observations of Park and colleagues that 'it is almost impossible to conceive of a case when the South Korean government discards the [then proposed] emissions trading system' should prove particularly reassuring to EU policy-makers.¹¹⁸ The search for a candidate partner scheme for the EU ETS has often seemed a Sisyphean undertaking, but South Korea potentially now offers the prospect of a partner with stable climate settings with whom the EU should negotiate.

Direct linkage with the KETS is an attractive proposition, but such linkage negotiations are likely to take on a very different dynamic than the EU's past experience of linkage. With Norway, for example, the EU was able to successfully require harmonization from the Norwegian government.¹¹⁹ The context of EU-Norway linkage suggests that 'smaller states are more likely to be willing to adapt their rules to facilitate linking'.¹²⁰ However, the KETS is the third largest carbon ETS in the world and its size implies that South Korea could exert a material influence on the carbon price in a linked EU ETS-KETS market. It is reasonable to suspect that this factor will influence South Korean policy-makers' approach to any

¹⁰⁸ Commission Regulation (EU) No 1123/2013 of 8 Nov. 2013 on determining international credit entitlements pursuant to Directive 2003/87/EC of the European Parliament and of the Council [2003] OJ L299/32, Art. 1.

¹⁰⁹ Commission, *Questions and Answers on 2030 Framework on Climate and Energy* (Memo 22 Jan. 2014), http://europa.eu/rapid/press-release_MEMO-14-40_en.htm (accessed 31 Jan. 2022).

¹¹⁰ Wettestad & Jevnaker, *supra* n. 2, at 151.

¹¹¹ Or at least 'rare' as Betsill and Hoffmann have suggested: see Michele Betsill & Matthew J. Hoffmann, *The Contours of 'Cap and Trade': The Evolution of Emissions Trading Systems for Greenhouse Gases*, 28(1) *Rev. Pol'y Res.* 83, 100 (2011).

¹¹² Hawkins & Jegou, *supra* n. 73, at 32.

¹¹³ Oh, Hyon & Kim, *supra* n. 52, at 9.

¹¹⁴ Kwon, *supra* n. 49.

¹¹⁵ Yun, Ku & Han, *supra* n. 47, at 296.

¹¹⁶ Kwon, *supra* n. 49.

¹¹⁷ Pizer & Yates, *supra* n. 4, at 151.

¹¹⁸ Hojeong Park & Won Kyung Hong, *Korea's Emissions Trading Scheme and Policy Design Issues to Achieve Market-Efficiency and Abatement Targets*, 75 *Energy Pol'y* 73, 82 (2014).

¹¹⁹ Hawkins & Jegou, *supra* n. 73, at 44.

¹²⁰ Sampo Seppänen et al., *Demand in a Fragmented Global Carbon Market: Outlook and Policy Options* 55 (Norden 2013).

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linkage negotiations with the EU and, ultimately, the country's willingness to compromise.

Direct linkage with the KETS would send an important signal about the EU's commitment to international climate governance cooperation. The successful conclusion of linkage negotiations with South Korea would also endorse the Union's embrace of its emerging role as a 'leadior' – 'a leader-cum-mediator that work[s] with rather than against the changing geopolitical context of climate change'.¹²¹ As such, it makes sense for the EU to actively embrace a flexible vision of incrementally evolving emissions trading governance arrangements by harnessing opportunities to advance the EU ETS as a central component in bilateral climate partnerships. The negotiation of a well-functioning direct linkage with the KETS would provide tangible reassurance that the EU's climate leadership credentials have matured to represent a stable feature of climate governance.¹²²

The initiation of a process of linkage by degrees which could envisage the incremental alignment of key design features of ETSs prior to the potential introduction of direct linkage has much to recommend it.¹²³ This approach, consistent with the decentralized framework of the Paris Agreement, recognizes that a global framework governing emissions trading is more likely to emerge incrementally through the gradual de minimis alignment of schemes' design features along a spectrum of convergence. Such a process could initially focus on transparent dialogue between EU and South Korean policymakers to openly discuss ambitions, priorities, and barriers.¹²⁴ Such early dialogue could pre-empt regulatory divergence and the potential embedding of conflicting rules around core convergence criteria, such as recognition and fungibility of offsets. The continuing negotiations on the outworking of the Paris Agreement also provides a fortuitous opportunity for EU and South Korean policy-makers to develop a deeper understanding of their respective schemes and potentially provides a forum for the EU to enhance its leadior credentials by agreeing mutually beneficial EU-South Korean emissions trading policy preferences to then jointly upload to the emerging international architecture.

V. Conclusion

South Korea is perhaps not an obvious climate governance partner for the EU, but many of the EU's more likely climate governance allies have remained mired in policy uncertainty.¹²⁵ For the past decade successive South Korean administrations have embraced climate governance initiatives, such that the KETS is now moored as a stable and critical component of South Korean climate policy.¹²⁶ The EU has also demonstrated 'significant leadership by example, by being a front-runner in climate policy'.¹²⁷ Indeed, it has been observed that the EU's experience with emissions trading influenced the design of the KETS and provided practical policy formation advantages

for South Korean policy-makers by 'avoiding mistakes that may arise ... and learning lessons from an existing scheme in practice'.¹²⁸ As this Article has demonstrated, it is evident that there is already a significant degree of alignment between the critical design features of the EU ETS and the KETS.

The implementation of direct linkage would necessarily involve compromise for both the EU and South Korea. The EU's experience of direct linkage to date suggests that the Union is a reluctant importer of a potential partner scheme's design features. However, the KETS represents a significant carbon market in its own right and, after the failure of previous negotiations with Australia, direct linkage with the KETS holds out the prospect of establishing the EU's first intercontinental linkage. In such circumstances, some concessions on the part of the EU, such as flexibility towards the varying coverage of the KETS and limited recognition of offsets, could contribute to producing a measured foundation for direct linkage. However, it is impossible to overlook the fact that there are also critical design features where much more detailed discussion and negotiation will be necessary particularly, for example, South Korea's penalty regime and market stabilization powers. From the EU perspective, preserving the environmental integrity of the EU ETS must remain the central consideration in any prospective direct linkage negotiations concerning the KETS (and any other potential partner schemes in the future). EU policy-makers will need to carefully reflect on the potential gains, risks, and compromises that direct linkage with the KETS requires.

The incremental alignment of key design features of the KETS and the EU ETS through a model of linkage by degrees could provide a pathway towards direct linkage. Indeed, a deliberate process of linkage by degrees could initially prioritize dialogue with a focus on preventing the

¹²¹ Karin Bäckstrand & Ole Elström, *The EU's Role in Climate Change Negotiations: From Leader to 'Leadior'*, 20(10) J. Eur. Pub. Pol'y 1369, 1381 (2013).

¹²² Sebastian Oberthür & Lisanne Groen, *The European Union and the Paris Agreement: Leader, Mediator, or Bystander*, 8(1) Wiley Interdisc. Rev.: Climate Change 1, 6 (2017).

¹²³ Burtraw et al., *supra* n. 14, at 9.

¹²⁴ Hawkins & Jegou, *supra* n. 73, at 45.

¹²⁵ For example, Betsill and Hoffmann have drawn attention to the 'increasingly polarised [climate] politics in countries like the United States, Canada, and Australia': see Betsill & Hoffmann, *supra* n. 111, at 86.

¹²⁶ There have been four presidents during this period and the KETS remains a stable feature of South Korea's climate policy: Lee Myung-bak (2008–2013); Park Geun-hye (2013–2016); Hwang Kyo-ahn (2016–2017) and Moon Jae-in (2017–Present). See also Oh, Hyon & Kim, *supra* n. 52, at 2.

¹²⁷ Jo Dirix, Wouter Peeters, Johan Eyckmans, Peter Tom Jones & Sigrid Sterckx, *Strengthening Bottom-Up and Top-Down Climate Governance*, 13(3) Climate Pol'y 363, 370 (2013).

¹²⁸ Oh, Hyon & Kim, *supra* n. 52, at 9.

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emergence of further conflictive design features, such as we have seen in the rules governing the fungibility of offset credits. Discussions could then mature to potentially more challenging questions, such as the penalty regime and market stabilization powers enabled by the KETS legislative framework. Linkage ought not be considered as synonymous with direct linkage alone and limited linkage could prove an important transition stage

to direct linkage.¹²⁹ Framing linkage as a spectrum which nurtures – without further delay – the development of deepening complementarity offers a viable model for the incremental evolution of a more rigorous global climate governance architecture.

¹²⁹ Li & Duan, *supra* n. 6, at 10.