

## 3. Linking Carbon Markets: Legal and Institutional Issues and Lessons for Northeast Asia

MICHAEL MEHLING

### SUMMARY

**RULES AND INSTITUTIONS MATTER WHEN LINKING.** Domestic and international laws govern the form and process of a link and also set out substantive conditions and restrictions. Once established, the operation of a link will benefit from defined procedures and institutions. Provision should be made for routine coordination as well as systemic change. Case studies of existing links, such as those between California, Ontario, and Québec and the European Union and Switzerland, highlight the importance of sustained dialogue, mutual transparency, and a commitment to shared principles. Over time, robust governance structures will prove as important to a functioning Northeast Asian carbon market as technical alignment of system design.

### LINKING CARBON MARKETS: LEGAL AND INSTITUTIONAL LESSONS FOR NORTHEAST ASIA

When considering a link between carbon markets, attendant decisions will be primarily guided by environmental, economic, and political considerations, including questions such as its expected distributional effects or its impact on aggregate emissions. Implementation of the link will eventually give rise to more technical questions, for instance, on the arrangements to account for emission transfers across linked registries. What these questions have in common is that they usually allow for a range of different answers, subject to the relative merits of alternative outcomes.

Legal and institutional questions related to linking tend to yield more rigid answers, however, and will usually apply to a narrower subset of issues, such as the legal authority to link and the legal form of a link's implementation. In some cases, the law may set out binary stipulations, requiring or proscribing a specific course of action, and affording limited or no flexibility to policy makers. In other cases, legal considerations may not mandate a specific outcome but will still affect the desirability of a link. Understanding the legal implications of linkage is therefore important when evaluating alternative approaches and their respective consequences.

Generally, legal norms can be distinguished by whether they address formal questions, such as institutional powers and procedures, or questions of substance. In the context of linking, formal aspects tend to dominate the legal assessment, including issues such as the mandate to negotiate a link, the form and process of linkage, and the procedures and institutions underpinning the routine operation, as well as the termination, of the link. These questions can overlap, for instance, when the legal authority to link has implications for the form or applicable procedures. Being primarily formal in nature, they do not necessarily affect the substantive choices reflected in or shaping an actual link.

Such legal and institutional questions transcend geographies, temporal contexts, and—to an extent—differences among respective political, economic, and legal systems. They must be grappled with across any prospective linkage setting, and Northeast Asia will prove no exception. Regional linkage efforts there would benefit from coalescing around core legal considerations, and from looking to linkage experiences elsewhere for lessons and guidance.

### Legal Authority

Linking emissions trading systems can facilitate the transfer of significant revenue streams across jurisdictions and will affect compliance costs under linked emissions trading systems as well as, potentially, their environmental integrity. Any decision to link should therefore be based on a solid legal mandate to avoid or minimize subsequent challenges, whether these occur through judicial channels or in the arena of political debate and public opinion. Ideally, the authority to link will thus stem from formal legislation; a link that is based purely on a political decision or administrative regulation could be seen as deficient in terms of its legitimacy, and the transparency and accountability of the preceding process.

In the European Union, for instance, the directive establishing its regional carbon market contains a mandate to explore agreements with “third countries...to provide for the mutual recognition of allowances” and goes on to specify procedural requirements as well as material and formal restrictions on the scope and partners of the link.<sup>1</sup> Likewise, a rule adopted by the Californian legislature allows for linkage but requires that any linking partner have “adopted program requirements for greenhouse gas reductions... that are equivalent to or stricter than those required” in California.<sup>2</sup> By including these provisions in formal legislation, both jurisdictions have created a robust basis for carbon market cooperation with other jurisdictions.

### Form and Process

A link between carbon markets can assume various forms, with differences in degree, scope, and the direction of trading flows. Conceptually, a link can be either direct or indirect, with a direct link allowing trade both within and between different systems,<sup>3</sup> whereas an indirect link occurs when one system links to a second system that is, in turn, linked to a third system. Direct links are conditional on an explicit linking decision by at least one of the linked jurisdictions<sup>4</sup> and can be further distinguished by whether unit flows are possible in one or more directions.

A unilateral link involves a jurisdiction recognizing units from one or more foreign systems without those systems necessarily reciprocating. It can be established through a simple clause specifying the conditions for recognition and any applicable restrictions, for instance, on the type or number of units. By the same token, a unilateral link can be altered or terminated at any point in time and does not narrow the sovereignty of the jurisdiction establishing the link. It is that flexibility which explains why a majority of links currently in place are unilateral.

A bi- or multilateral link, by contrast, requires two or more jurisdictions to agree on the mutual recognition of units and allows trade to occur in all directions across systems.<sup>5</sup> As a result, these links will generally necessitate some form of coordination between systems to synchronize the required adjustments, ranging from the mere decision to simultaneously accept foreign units for compliance purposes to more ambitious levels of integration, such as an agreement upon the trajectory of reduction obligations in each scheme.<sup>6</sup>

Different instruments are available to facilitate and formalize such coordination. Jurisdictions seeking to link may opt to negotiate and formally enter a binding international treaty, which offers a transparent and predictable framework for transactions across linked trading systems, yet it is also subject to a number of legal constraints and procedural requirements. As one of the recognized sources of international law, a treaty can, as a rule, be concluded by formal subjects of international law only,<sup>7</sup> entailing what is often a cumbersome ratification or approval process. Likewise, withdrawal from the treaty and subsequent amendments will only be possible under the provisions for adjustment or suspension set out in the treaty.<sup>8</sup> An example of linking through a formal international treaty is the link between the European Union and Switzerland, presented in greater detail in the pages that follow.

Coordination for a bi- or multilateral linkage can also occur by way of a political understanding on the mutual recognition of carbon units, coupled with domestic adjustments to each system. In legal terms, this alternative will be similar to the unilateral link described earlier, albeit with the difference that affected jurisdictions will establish unilateral links on a reciprocal basis. Such reciprocal links have the benefit of obviating lengthy ratification procedures and avoiding other restrictions imposed by domestic and international law, yet they still leave each linking jurisdiction with the flexibility to terminate the link or adapt it to changing circumstances as needed.

Details of the underlying political understanding can be formalized by a political agreement, such as a memorandum of understanding (MoU), and elaborated in technical guidance or standards. While these arrangements document the intent to cooperate, they lack the binding force of a treaty, entailing a residual risk of adjustments to, or even suspension of, the link by one of the participating jurisdictions, for instance, following political changes such as a domestic election. Such unforeseen disruptions can significantly impact the linked market and may even affect the broader economies of participating jurisdictions.<sup>9</sup> An example of multilateral linkage through a political agreement with mutual recognition of units and legal and administrative coordination is the link between California, Québec, and Ontario, which is described in greater detail in the pages that follow.

In sum, formalized legal agreements between linking parties provide the most overt and clearly defined rules and procedures and both express and protect the expectations of parties better than other linking instruments. But these agreements can also be difficult to achieve, and they will create real or perceived barriers for entry vis-à-vis future linking parties. Less formalized approaches based on MoUs can lower such barriers and prove more palatable, particularly during the early stages of linking efforts, but they will likely possess less legal and procedural clarity and less operational predictability once the linkage takes shape.

Formalized legal agreements between linking parties provide the most overt and clearly defined rules and procedures and both express and protect the expectations of parties better than other linking instruments.

### Procedures and Institutions

Once emissions trading systems are integrated through linkage, the discussion invariably shifts to considerations of ongoing governance and routine management of the link.<sup>10</sup> Such matters acquire

particular relevance in the event of critical changes to the link; to the linked trading systems; or to the context they operate in, for instance, due to suspension or termination of the link, amendments to design features of a trading system, or unexpected economic or environmental circumstances affecting the linked market.<sup>11</sup> To ensure smooth operation of the link, parties may establish institutional arrangements that go beyond the link itself, ranging from ongoing procedures such as recurrent consultations and notification duties all the way to a standing entity endowed with specified administrative and rule-making functions.<sup>12</sup>

At an early stage of integration, cooperation tends to be more informal and occurs through loose arrangements geared toward exchange of information, promotion of uniform approaches and standards, stakeholder involvement, and outreach activities. Such cooperation will typically precede an actual link and will help establish the necessary conditions for eventual trading between systems.<sup>13</sup> Rather than adopt binding standards or recommendations, the resulting networks will be largely limited to issuing recommendations and providing advice on the implementation and harmonization of trading schemes.<sup>14</sup> As emissions trading systems converge and their linkage enjoys greater political support, however, participating jurisdictions can opt for more formal arrangements to sustain and further strengthen market integration. Where separate emissions trading systems have not yet been introduced, such cooperation can also take the form of a common design framework harmonizing key features of the emissions trading systems and specifying joint procedures and institutional arrangements to ensure readiness for linkage from the outset.

Design features that can be harmonized over time or through a common design framework include common principles and standards for scope and coverage; allowance allocation; and measurement, reporting, and verification. Joint procedures can include mutual notification and information duties; external review or reciprocal monitoring of the emissions trading systems; and periodic meetings of representatives from each system to discuss items for harmonization, such as cost containment mechanisms. Harmonization can also extend to technical aspects, such as the registry software and auctioning platform used by participating jurisdictions and may result in the creation of an institution, such as a secretariat facilitating operation of the linked market through coordination, data collection, oversight, and broader administrative functions such as registry maintenance.

At a more advanced stage of integration, participating jurisdictions may opt for the establishment of a more formal institution with independent legal personality, a constitutive mandate, and defined governance structures. Such an organization could be afforded genuine powers to elaborate and enforce market rules in pursuit of its mandate, for instance, to facilitate market integration and convergence, uphold environmental performance and integrity, and safeguard market efficiency and functioning. Aside from the example of the supranational European Union Emissions Trading System (EU ETS), where the European Commission (EC) has gradually acquired greater and more centralized authority as the system administrator,<sup>15</sup> no linkage has to date resulted in the creation of such an entity with independent regulatory and enforcement authority, although some conceptual proposals have envisioned a central institution mandated with powers akin to those presently exercised by central banks, such as strategic interventions in the supply of tradable allowances.<sup>16</sup>

### Substantive Considerations

Aside from questions of form, process, and institutions, legal considerations can also arise with regard to the material content of the link. At a minimum, a link requires a stipulation that foreign units be recognized for compliance, a determination that will generally be made effective through an amendment of

the instruments establishing each trading system. Additionally, the link may need to account for differences in the type and definition of tradable units, impose quantitative or qualitative restrictions on foreign units (such as aggregate import limits), or apply any other adjustments—for instance, a discount or exchange rate—to reflect differences in their mitigation value.<sup>17</sup> In the case of bi- or multilateral linking, the treaty or informal arrangement between parties to the link may specify the rights and duties of each party, including procedures and penalties for any arising disputes.

Because each link emerges into an existing landscape of legal norms, moreover, it will invariably interact with different areas of material law. Areas of law that can have a bearing on the link range from high-level constitutional precepts—such as basic rights, general principles, and institutional mandates—to more specific issue areas—such as contract law, tort law, property law, taxation and accounting rules, financial services regulation, and criminal law.<sup>18</sup> Over time, the sustained viability and political acceptance of a trading link will depend on its ability to secure consistency of these written and unwritten norms, principles, and material provisions. Otherwise, it not only risks being annulled through a judicial challenge but also may undermine the validity of any transactions carried out under the link and, in the longer term, the legitimacy and acceptance of the link itself. Generalizations are difficult when assessing the relevance of substantive law to linkage, as that will necessarily depend on the particularities of the specific context.<sup>19</sup>

Adding further complexity to this question are the multiple sources of law and levels of governance that can set out relevant material law. Mostly, the areas of law cited in the preceding paragraph will originate in national law, which will generally have effect only within the jurisdiction in which it was adopted.<sup>20</sup> Indirectly, such rules may nonetheless affect entities in other linked jurisdictions, for instance, when the favorable status afforded to market participants in one jurisdiction results in “forum shopping”<sup>21</sup> or alters the distribution of units across jurisdictions. Material provisions governing both the form and substance of a link may also be found in supra- or international law, as exemplified by the mandate set out in the directive establishing the EU ETS, or the operational provisions to engage in voluntary cooperation under Article 6.2 of the Paris Agreement (see chapter four of this volume) that are currently being elaborated and will apply between all parties to the Agreement.

## CASE STUDIES AND LESSONS LEARNED

### California-Ontario-Québec Linking Agreement

On October 1, 2013, California and Québec entered an arrangement to link their respective trading systems by January 1, 2014.<sup>22</sup> Ontario subsequently joined this arrangement, which was revised to reflect evolving circumstances, on September 22, 2017.<sup>23</sup> Despite being designated an “agreement,” the linking arrangement was not legally binding, given the federate states’ and provinces’ lack of power to conclude formal treaties under public international law. All three jurisdictions expressly acknowledged this in the preamble when they stated, “the present Agreement does not, will not and cannot be interpreted to restrict, limit or otherwise prevail over each Party’s sovereign right and authority to adopt, maintain, modify or repeal any of their respective program regulations.”

As the second iteration of the instrument coordinating one of the most successful links between emissions trading systems in different jurisdictions, the agreement between California, Ontario, and Québec offers valuable insights into the material and procedural provisions of a link. It is structured in

five chapters, titled “General Provisions,” “Harmonization and Integration Process,” “Operation of the Agreement,” “Miscellaneous Provisions,” and “Final Provisions.” Central to the establishment of the link is the commitment to “provide for the equivalence and interchangeability of compliance instruments issued by the Parties for the purpose of compliance with their respective cap-and-trade programs” and “permit the transfer and exchange of compliance instruments between entities registered with the Parties’ respective cap-and-trade programs using a common secure registry” (Article 1 [b] and [d]), an objective that is operationalized by the “mutual recognition of the Parties’ compliance instruments” (Article 6). Regulatory harmonization is defined as one of the primary objectives of the linking arrangement (Articles 1 [a] and 4), and implementation of the foregoing commitments and other provisions is acknowledged in the preamble to require domestic regulatory adjustments by each party. Differences between trading systems and any design changes are addressed through consultations and cooperative efforts at harmonization between both parties (Article 3). Parties also undertake to cooperate in the application of these harmonized rules, for instance, in the area of market supervision and enforcement (Article 11).

A further tenet in the linking arrangement between California, Ontario, and Québec is the agreement to “develop and implement an accounting mechanism” that provides for transparency and to promote “the sharing of information to support effective administration and enforcement” of each trading system (Article 1 [c] and [g]). In terms of institutional structures, the linking arrangement specifies that parties “shall continue coordinating administrative and technical support through the WCI, Inc.,” a nonprofit corporation established in 2011 to provide administrative and technical support to participants in the Western Climate Initiative. Among its functions is the administration of a joint registry and joint auctions. Additionally, the agreement establishes a Consultation Committee composed of one representative from each party, a role assigned *ex officio* to specific offices in each jurisdiction, who meet “as needed to ensure timely and effective consultation in support of the objectives of this Agreement” (Article 13).<sup>24</sup>

### EU-Switzerland Linking Agreement

Following several years of—at times strained—negotiations, the EU and Switzerland agreed on criteria and arrangements for linking their emissions trading systems. On November 23, 2017, both jurisdictions signed an agreement establishing the link,<sup>25</sup> which is set to enter into force in the year following exchange of the instruments of ratification or approval, with the actual link thus expected to be operational from January 1, 2019 or 2020 (preamble). Unlike the arrangement between California, Ontario, and Québec described in the preceding section, the agreement between the EU and Switzerland has been adopted in the form of a binding international treaty, as required under the linking mandate set out in the legal basis of the EU ETS.<sup>26</sup> It is divided into nine chapters, titled “General Provisions,” “Technical Provisions,” “Aviation,” “Sensitive Information and Security,” “Development of Legislation,” “Joint Committee,” “Dispute Settlement,” “Suspension and Termination,” and “Final Provisions.” Several annexes provide further design criteria, technical standards on linking, and detailed guidance on sensitive information.

Chapter I declares both emissions trading systems linked (Article 1) but makes the link conditional on each system meeting the essential criteria set out in the annexes regarding scope and coverage, registries, and auctions and auctioning platforms (Article 2). Chapter II on technical aspects stipulates the mutual recognition and fungibility of allowances that operationalize the link and also sets out accounting provisions, including periodic transfer of Assigned Amount Units (AAUs) to ensure consistency under the Kyoto Protocol (Article 4).<sup>27</sup> Rather than create one shared registry, the agreement provides for a direct

connection between the registries in each trading system, the European Union Transaction Log (EUTL) and the Swiss Supplementary Transaction Log (SSTL), and stipulates conditions under which one or both parties may temporarily close the registry link (Article 3). Parties also commit to elaborating Linking Technical Standards (LTS), which will set out in much greater detail the technical specifications of the registry link (Annex II).<sup>28</sup>

A separate chapter is dedicated to the protection of sensitive information against unauthorized disclosure or integrity loss (Articles 8 and 9), with several annexes specifying the security requirements, the sensitivity levels, and relevant handling instructions (Annexes II, III, and IV). Several provisions set out notification and coordination obligations with regard to legislative and other activities that may affect the link (Articles 10 and 11), and either party can request a meeting of a Joint Committee composed of representatives of each party (Article 12). Its functions are to administer the agreement and ensure its proper implementation, adopt new or amending existing annexes, discuss amendments to the agreement, facilitate the exchange of views on domestic measures that may affect the link as well as suspension or termination of the agreement, settle disputes, and conduct periodic reviews of the link to ensure that, *inter alia*, the link does not undermine emissions reductions targets or the integrity and orderly functioning of each carbon market. Finally, the agreement also lists the conditions under which a party may suspend the link (Article 15) as well as the procedure for termination (Article 16), and it makes provision for unilateral or joint linkage with third parties (Article 18).

## RECOMMENDATIONS FOR NORTHEAST ASIA

Based on the foregoing conceptual analysis and case studies, a number of recommendations can be formulated for the legal and institutional architecture of a future Northeast Asian carbon market based on linked emissions trading systems. First, parties to such a link should ensure their regulatory framework specifies a mandate for linkage, setting out the required legal authority, attendant procedure, and—if applicable—any minimum conditions for linkage. An explicit mandate not only helps support the robustness of an eventual link but also sends a clear signal about the political willingness to cooperate on carbon trading and increases transparency about procedural and substantive requirements for linking in the respective jurisdiction. Where linking occurs on a mutual basis, especially where it is implemented through a formal arrangement such as an international treaty, parties have to take care to specify the rules, modalities, and procedures applicable to the link, addressing operational issues, such as notification and consultation provisions to ensure coordination of the link, as well as more systemic issues, such as amendments, suspension, or termination of the link.

Perhaps the most important condition of a successful link, therefore, remains a mutual commitment to acting in good faith, striving for transparency and fairness, and favoring a culture of long-term cooperation over short-term self-interest.

Another important condition for the sustained acceptance of a linking arrangement can be expressed in procedural terms during the process of establishment, but also in its subsequent operation. At all stages of its elaboration, a linking arrangement should seek to ensure transparency; provisions on linking should be clearly worded and precise, the processes leading to their adoption clearly described, and the institutions

they create governed by a defined mandate. Involvement by affected stakeholders and the public when designing the link can further help improve acceptance and confidence in the market. Once the linking arrangement enters into force, disputes and irregularities may nonetheless arise across the link, necessitating a mechanism to settle disputes but also raising the question of accountability, with regard to both market participants and supervising institutions. A linking arrangement should therefore consider not only routine operation of the link but also unexpected circumstances and situations.

Both case studies surveyed in greater detail here—the link between California, Ontario, and Québec and the link between the EU and Switzerland—have opted to spell out all these aspects, and more, in the arrangements they put in place between themselves to create the carbon trading link. Still, not all eventualities can be anticipated and set out beforehand in a linking instrument. Perhaps the most important condition of a successful link, therefore, remains a mutual commitment to acting in good faith, striving for transparency and fairness, and favoring a culture of long-term cooperation over short-term self-interest.

## ENDNOTES

<sup>1</sup> Linking to jurisdictions other than those with quantitative targets under the Kyoto Protocol is only possible, for instance, if these have “compatible mandatory greenhouse gas r systems with absolute emissions caps”; see Art. 25 (1a) of Directive 2003/87/EC of October 13, 2003, establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and amending Council Directive 96/61/EC, OJ 2003 L275/32, as amended.

<sup>2</sup> See California Senate Bill 1018, Public Resources, § 12894 (f) (1) and (3) (2011–2012).

<sup>3</sup> Jane Ellis and Dennis Tirpak, *Linking GHG Emission Trading Schemes and Markets* (Paris: OECD, 2006), 8.

<sup>4</sup> Judson Jaffe and Robert N. Stavins, *Linking Tradable Permit Systems for Greenhouse Gas Emissions: Opportunities, Implications, and Challenges* (Geneva: International Emissions Trading Association, 2007), 11.

<sup>5</sup> Michael Mehling and Erik Haites, “Mechanisms for Linking Emissions Trading Schemes,” *Climate Policy* 9, no. 2 (2009): 169, at 181.

<sup>6</sup> Jaffe and Stavins, *Linking Tradable Permit Systems*, 51.

<sup>7</sup> Anthony Aust, *Modern Treaty Law and Practice*, 3rd ed. (Cambridge: Cambridge University Press, 2014), 55.

<sup>8</sup> Erik Haites and Xueman Wang, “Ensuring the Environmental Effectiveness of Linked Emissions Trading Schemes Over Time,” *Mitigation and Adaptation Strategies to Global Change* 14 (2009): 465, at 474; William A. Pizer and Andrew J. Yates, “Terminating Links between Emission Trading Programs,” *Journal of Environmental Economics and Management* 71 (2015): 142.

<sup>9</sup> Mary J. Mace et al., *Analysis of Legal and Organisational Issues Arising in Linking the EU Emissions Trading Scheme to Other Existing and Emerging Emissions Trading Schemes* (Brussels: European Commission, 2008); Pizer et al., “Terminating Links.”

<sup>10</sup> Benjamin Görlach, Michael Mehling, and Ennid Roberts, *Designing Institutions, Structures and Mechanisms to Facilitate the Linking Emissions Trading Scheme* (Berlin: German Emissions Trading Authority (DEHSt) at the German Environment Agency, 2015).

<sup>11</sup> Haites et al., “Ensuring the Environmental Effectiveness”; Mace et al., *Analysis of Legal and Organisational Issues*; Pizer et al., “Terminating Links.”

<sup>12</sup> Andreas Tuerk, Michael Mehling, Christian Flachsland, and Wolfgang Sterk, “Linking Carbon Markets: Concepts, Case Studies and Pathways,” *Climate Policy* 9 (2009): 341.

<sup>13</sup> Dallas Burtraw, Karen Palmer, Clayton Munnings, Paige Weber, and Matt Woerman, *Linking by Degrees: Incremental Alignment of Cap-and-Trade Markets* (Washington, DC: Resources for the Future, 2013).

<sup>14</sup> An example for such cooperation is the International Carbon Action Partnership (ICAP) launched on October 29, 2007, by more than 15 national and regional governments, expressly aimed at creating a “forum to discuss relevant questions on the design, compatibility and potential linkage of regional carbon markets”; see ICAP, “ICAP Political Declaration,” October 2007, [https://icapcarbonaction.com/en/?option=com\\_attach&task=download&id=153](https://icapcarbonaction.com/en/?option=com_attach&task=download&id=153).

<sup>15</sup> Among the functions exercised by the European Commission are allocating emissions and regulating the auctioning process; defining rules on measurement, reporting, and verification; managing price extremes in the market through a Market Stability Reserve (MSR); and regulating market participants, including compliance entities and financial intermediaries such as brokers and exchanges.

<sup>16</sup> For a conceptual proposal that includes elements of such centralized governances, see the work on Networked Carbon Markets (NCM) advanced by the World Bank Task Force to Catalyze Climate Action. World Bank Task Force to Catalyze Climate Action, *Globally Networked Carbon Markets* (Washington, DC: International Bank for Reconstruction and Development, 2013).

<sup>17</sup> Lambert Schneider, Michael Lazarus, Carrie Lee, and Harro van Asselt, “Restricted Linking of Emissions Trading Systems: Options, Benefits, and Challenges,” *International Environmental Agreements: Politics, Law and Economics* 17 (2017): 883.

<sup>18</sup> Karoliina Anttonen, Michael A. Mehling, and Karl Upston-Hooper, “Breathing Life into the Carbon Market: Legal Frameworks of Emissions Trading in Europe,” *European Environmental Law Review* 16, no. 4 (2007): 96–115.

<sup>19</sup> For some case studies, see Michael A. Mehling, “Legal Frameworks for Linking National Emissions Trading Systems,” in *The Oxford Handbook of International Climate Change Law*, eds. Cinnamon P. Carlane, Kevin R. Gray, and Richard Tarasofsky (Oxford: Oxford University Press, 2016): 261–288; Michael A. Mehling, “Linking of Emission Trading Schemes,” in *Legal Aspects of Carbon Trading: Kyoto, Copenhagen, and Beyond*, eds. David Freestone and Charlotte Streck (Oxford: Oxford University Press, 2009): 108–133.

<sup>20</sup> This follows from the doctrine of territorial sovereignty, which affirms that a nation-state exercises the supreme, and normally exclusive, authority within its territory; see Robert Jennings and Arthur Watts, *Oppenheim’s International Law*, Volume I: *Peace*, 9th edn. (London: Longman, 1992), 564; Ian Brownlie, *Principles of Public International Law*, 7th edn. (Oxford: Oxford University Press, 2008), 299.

<sup>21</sup> Regina Betz and Ashley Stafford, “The Policy Issues Arising with the Linking of International Emissions Trading Schemes,” *Australian Resources and Energy Law Journal* 27, no. 1 (2008): 86–104.

<sup>22</sup> Agreement between the California Air Resources Board and the Gouvernement du Québec concerning the harmonization and integration of cap-and-trade programs for reducing greenhouse gas emissions, September 27, 2013, [www.arb.ca.gov/cc/capandtrade/linkage/ca\\_quebec\\_linking\\_agreement\\_english.pdf](http://www.arb.ca.gov/cc/capandtrade/linkage/ca_quebec_linking_agreement_english.pdf).

<sup>23</sup> Agreement on the Harmonization and Integration of Cap-and-Trade Programs for Reducing Greenhouse Gas Emissions, entered between California, Ontario, and Québec on September 22, 2017, [www.arb.ca.gov/cc/capandtrade/linkage/2017\\_linkage\\_agreement\\_ca-qc-on.pdf](http://www.arb.ca.gov/cc/capandtrade/linkage/2017_linkage_agreement_ca-qc-on.pdf).

<sup>24</sup> Specifically, the Consultation Committee is mandated with monitoring the implementation of all harmonization and integration efforts for the trading systems and greenhouse gas emissions reporting rules, making related recommendations, and—as a catchall clause—addressing any other issues raised by the parties.

<sup>25</sup> Agreement between the European Union and the Swiss Confederation on the linking of their greenhouse gas systems, *Official Journal* L 322 (December 7, 2017), 3–26, [http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:22017A1207\(01\)](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:22017A1207(01)).

<sup>26</sup> Article 25 (1) of Directive 2003/87/EC refers to the procedure set out in Article 218 of the Treaty on the Functioning of the European Union (TFEU), which applies to international agreements between the EU and third countries or international organizations.

<sup>27</sup> This exemplifies the necessary provision for future corresponding adjustments under Article 6(2) of the Paris Agreement, something that is acknowledged in the preamble of the linking agreement between the EU and Switzerland: “Welcoming the Agreement reached at the 21st Conference of the Parties to the UNFCCC in Paris on 12 December 2015, and recognizing that the accounting issues resulting from that Agreement will be looked at in due course.”

<sup>28</sup> Such LTS shall, for instance, specify the architecture of the communication link, the security of data transfer, the list of functions, the definition of the web services, the data-logging requirements, the operational arrangements, the communication activation plan, the testing procedure, and the security-testing procedure.