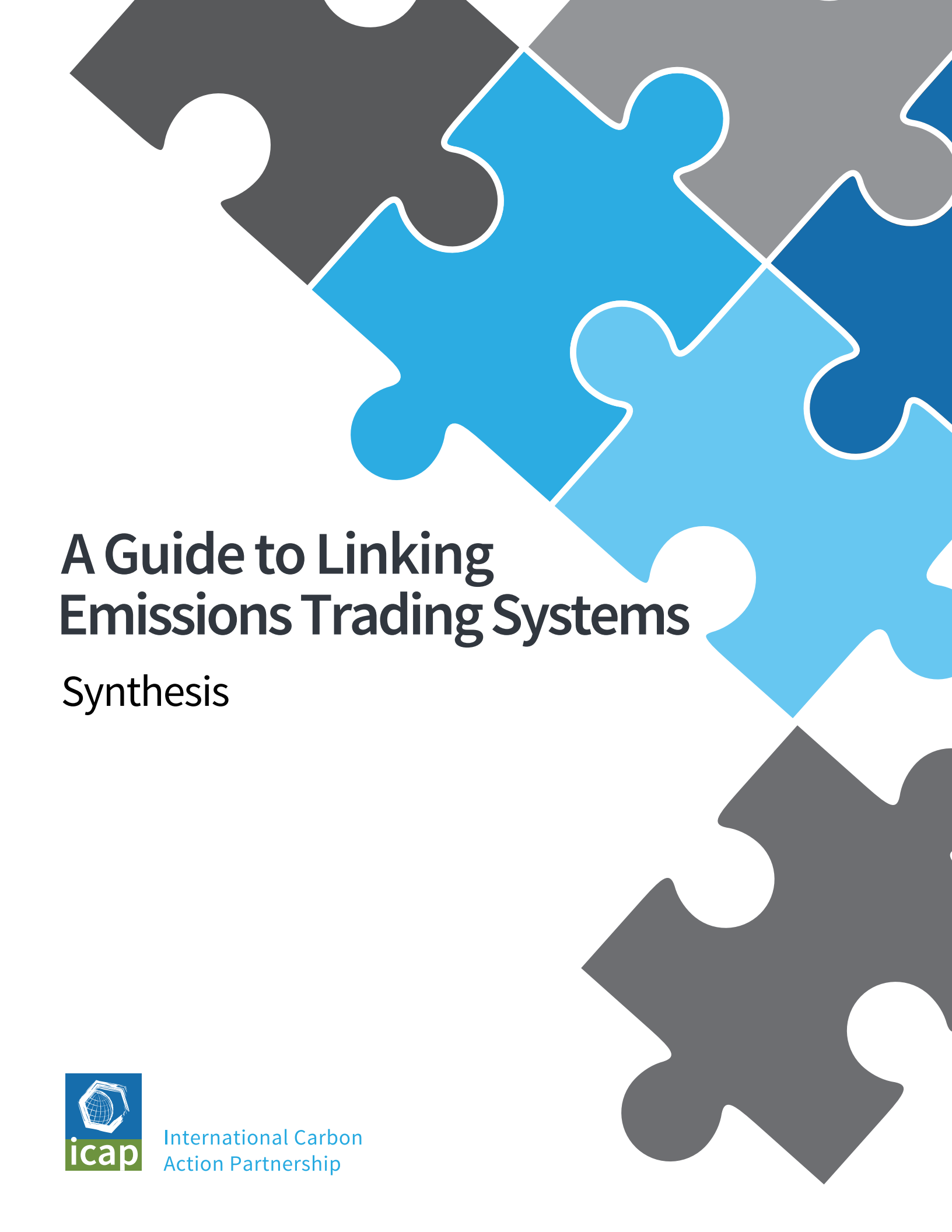




A Guide to Linking Emissions Trading Systems

Synthesis



International Carbon
Action Partnership

September 2018

Authors:

Marissa Santikarn
Lina Li
Stephanie La Hoz Theuer
Constanze Haug

Editors:

Dallas Burtraw
Michael Mehling

© 2018 International Carbon Action Partnership
Köthenerstraße 2
10963 Berlin
Germany

Some rights reserved

The International Carbon Action Partnership (ICAP) is grateful to the Québec Ministry of Sustainable Development, Environment, and Fight Against Climate Change for funding this Guide. adelphi lends scientific and technical support to the ICAP Secretariat; adelphi staff supporting the ICAP Secretariat drafted and coordinated the Guide. This work is a product of the staff of adelphi, representing ICAP, with external contributions. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of ICAP and its members. adelphi does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of ICAP concerning the legal status of any territory or the endorsement or acceptance of such boundaries. Nothing herein shall constitute or be considered to be a limitation upon or waiver of the privileges and immunities of ICAP, all of which are specifically reserved.

Rights and Permissions

This work is available under the Creative Commons Attribution 3.0 IGO license (CC BY 3.0 IGO) <http://creativecommons.org/licenses/by/3.0/igo>. Under the Creative Commons Attribution license, you are free to copy, distribute, transmit, and adapt this work, including for commercial purposes, under the following conditions:

Attributions— Please cite the work as: Santikarn, M., L. Li, S. La Hoz Theuer, & C. Haug. 2018. A Guide to Linking Emissions Trading Systems—2018 Synthesis. ICAP: Berlin. Creative Commons Attribution CC BY 3.0 IGO.

Translations—If you create a translation of this work, please add the following disclaimer along with the attribution: This translation was not created by ICAP and should not be considered an official ICAP translation. ICAP shall not be liable for any content or error in this translation.

Adaptations—If you create an adaptation of this work, please add the following disclaimer along with the attribution: *This is an adaptation of an original work by ICAP. Views and opinions expressed in the adaptation are the sole responsibility of the author or authors of the adaptation and are not endorsed by ICAP.*

Third-party content—ICAP does not necessarily own each component of the content contained within the work. ICAP therefore does not warrant that the use of any third-party-owned individual component or part contained in the work will not infringe on the rights of those third parties. The risk of claims resulting from such infringement rests solely with you. If you wish to re-use a component of the work, it is your responsibility to determine whether permission is needed for that re-use and to obtain permission from the copyright owner. Examples of components can include, but are not limited to, tables, figures, or images.

All queries on rights and licenses should be addressed to the International Carbon Action Partnership, Köthenerstraße 2, 10963, Berlin, Germany; e-mail: info@icapcarbonaction.com

Design: Corporate Visions, Inc.

A Guide to Linking Emissions Trading Systems

Synthesis



International Carbon
Action Partnership

CHAPTER ONE

Introduction to the Linking Guide

Emissions trading is a cost-effective way of reducing greenhouse gas (GHG) emissions that are the main cause of climate change. Emissions trading systems are operating across four continents, regulating about 15% of global GHG emissions.¹ A number of systems are also being considered in major economies in Southeast Asia and Latin America. An emissions trading system (ETS) (also known as “cap and trade”) is a market instrument that puts a price on emissions. A total cap on the number of emissions is set in one or more sectors of the economy and the government distributes tradable allowances among the regulated entities. Each regulated entity must submit enough allowances to cover their emissions.² Under an ETS, emissions are reduced where it is most cost effective to do so. Regulated entities have the option of reducing their own emissions, trading with other entities, or—depending on the design of the ETS—purchasing offset credits.

One major advantage of emissions trading is that systems can be linked to create a common carbon market. Once linked, allowances in one system can be used in another for compliance, which has several advantages. For example, a bigger market opens up more (and potentially cheaper) reduction options, which in turn decreases the overall mitigation costs for the linked market. It also creates a level playing field for companies across the linked market and signals climate change leadership. However, as linking shifts the initial allowance price and may change the initial design of the jurisdiction’s ETS, this can create new “winners and losers”, due to the fact that certain companies, households, or sectors may be better off than others.

It may also raise concerns about the level of emissions being reduced in the different jurisdictions that are part of the linked system. Finally, linking can also diminish a jurisdiction’s capacity for market intervention, because operating a joint market will require a certain level of coordination and cooperation with the linking partner.

Several linked markets currently operate around the world. In North America, the Western Climate Initiative (WCI) links California and Québec, while a separate linked system, the Regional Greenhouse Gas Initiative (RGGI), brings together several states in Northeast US. In Japan, the prefectures of Tokyo and Saitama have linked their systems, and in Europe, the European Union (EU) and Switzerland have signed a Linking Agreement (pending ratification at the time of publication). Furthermore, many jurisdictions that have, or are developing, an ETS are exploring the possibility of linking or other forms of cooperation through bilateral talks or through broader forums such as the Pacific Alliance.

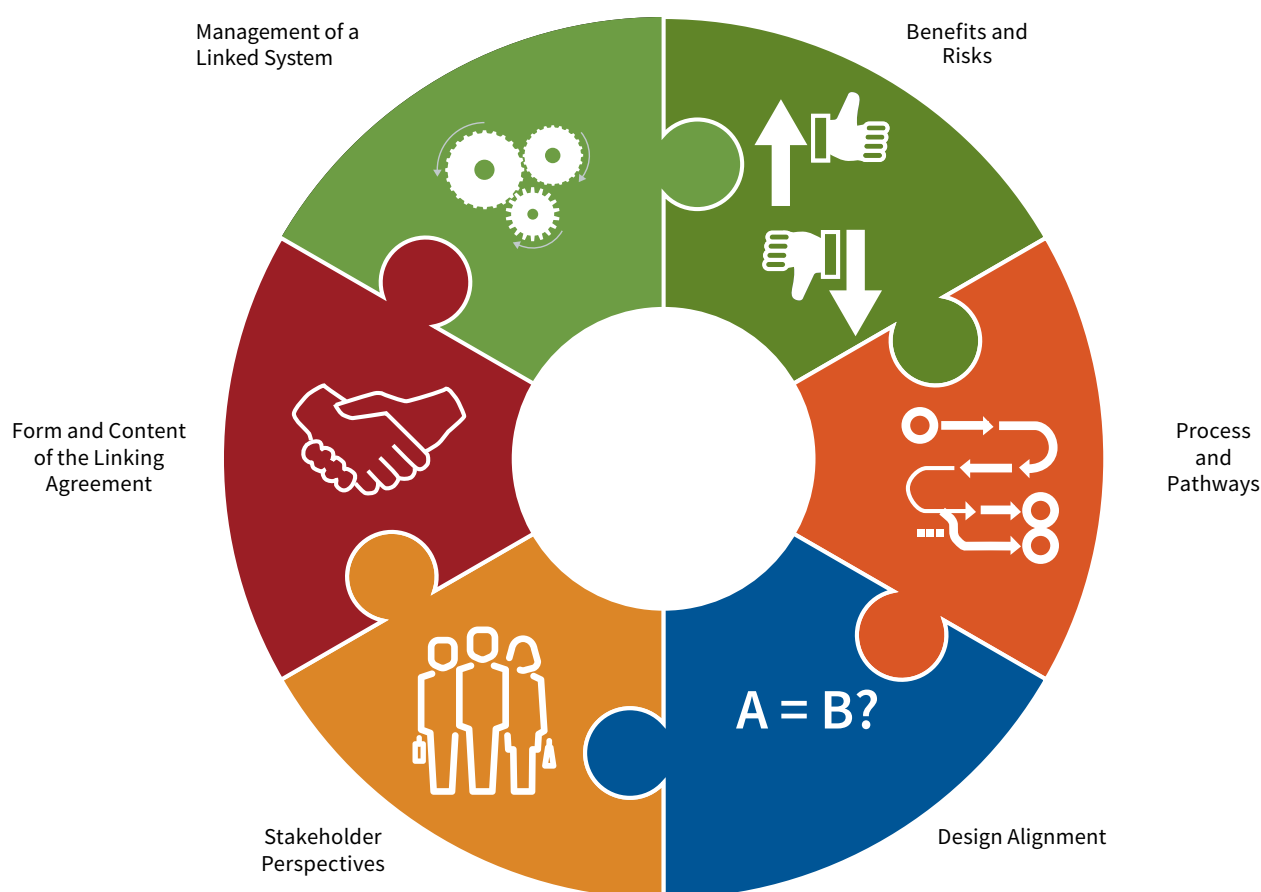
Linking can occur on a spectrum from gradual alignment to restricted linking to full, two-way linking. This Guide largely focuses on full, two-way linking, where allowances from both systems can be used for compliance. However, mitigation may also need to be attributed and accounted for across the linked market under the Paris Agreement if allowances cross national borders. At the time of publication, the rulebook on cooperative approaches (article 6 of the Paris Agreement) is still being negotiated. Policymakers will need to consider the resulting international framework and how it relates to their linked market if it involves the international trading of allowances.

¹ International Carbon Action Partnership (ICAP, 2018b).

² The Guide does not focus on baseline-and-crediting systems, which set an intensity level for certain emitting activities against a baseline (e.g., against Business-as-Usual (BAU) emissions). Although it does not set a fixed cap on the total number of emissions, regulated entities that reduce below the baseline can generate tradable credits.

The Guide builds on the existing experiences with linking in order to identify practical lessons for policymakers who are interested in linking or emissions trading more broadly. The main arguments for and against linking are outlined at the outset (chapter 2). Following this, potential pathways to implement a link are considered (chapter 3). In order to operate a functioning and robust linked carbon market, specific ETS design elements need to be discussed and aligned (chapter 4). Throughout the linking process, policymakers also

have to consider how and when to involve stakeholders (chapter 5). Once a common understanding has been reached, a linking agreement is often concluded to provide a shared understanding and common basis for the linked market (chapter 6). To ensure the market runs smoothly, joint management and coordination structures may need to be adapted or established (chapter 7). The Guide closes with the future outlook for emissions trading and potential pathways to a global carbon price (chapter 8).



CHAPTER TWO

Potential Benefits and Risks of Linking

The potential benefits and risks of linking can be grouped into three categories: economic, environmental, and political/administrative.

- **Economic benefits:** by linking systems to create a larger carbon market, emissions can be reduced more cost efficiently as it opens up more (and potentially cheaper) mitigation options. With more buying and selling of allowances, this makes trading more efficient and increases market liquidity. A larger market can also better absorb external shocks, reducing daily or long-term price volatility. Finally, it also creates a level playing field in that all regulated entities in the linked market are subject to the same allowance price, which minimizes the risk that these companies relocate production (“carbon leakage”).³
- **Environmental benefits:** because linking lets linking partners achieve a reduction target at a lower cost, it could encourage partners to set more ambitious targets. Increasing climate ambition can also be more politically feasible when moving forward as a group than as a single jurisdiction.
- **Political/administrative benefits:** linking can be used to demonstrate climate change leadership to create political momentum on climate action both on the international and domestic level. On an administrative level, linking can result in more streamlined processes that reduce costs for both operating the system and for companies complying with the ETS.

However, linking also brings several challenges.

- **Economic risks:** even as it improves resilience to external shocks by broadening the market, some shocks or developments in one linked partner jurisdiction will also be felt in the other linked partner jurisdiction(s).
- **Environmental risks:** if the linking partner’s ETS is not sufficiently robust, this can undermine the system robustness and credibility of the whole market. Furthermore, linking may incentivize partners to set weak reduction targets in order to sell more allowances to their linking partner as this would generate more capital flows to their own jurisdiction.
- **Political risks:** in an ETS, regardless of whether it is linked or not, spending will shift from high- to low-carbon intensive goods and services; as well, certain groups (industries, sub-sectors, firms, and households) will be affected in different ways. Some groups will end up better off than others, giving rise to “distributional concerns”. Furthermore, when systems link, there will be capital flows from the higher-priced system to the lower-priced system until prices in both of the linked systems equalize. Depending on the scale of these transfers, this could attract political opposition. Finally, if certain design elements such as offsets are not aligned, they can automatically propagate from one system to the other.

If certain risks cannot be avoided, policymakers may consider restricted linking as an initial or alternative option to full, unrestricted linking.

³ However, this only addresses the risk within the linked market and does not alleviate any leakage risk to third-party jurisdictions with a lower or no allowance price.

CHAPTER THREE

Process and Pathways to Implementing Linking

There is no single pathway to implementing a linked market. However, past experience suggests three considerations will shape the process for establishing a linked market.

- **The relationship with the linking partner:** fostering a close relationship and a supportive political environment in both jurisdictions will be critical, as close cooperation will be necessary between the linking partners well in advance of the operationalization of the link. Familiarity with the linking partner's ETS and broader climate policy framework will also facilitate the linking process.
- **The level of ETS design alignment:** the more closely systems seek to align or harmonize the design of their respective systems, the more complex discussions on alignment are likely to be. This process may be easier if systems have been designed with linking in mind from the beginning (i.e., upfront coordination on ETS design or modeling an ETS on a pre-existing system). However, design alignment, although preferred, may not be necessary in order to link two systems.
- **The type of link:** the type of link (e.g., full two-way linking, one-way linking, restricted linking) that partners choose will affect the complexity of the linking process.

Based on these considerations, the linking process typically follows three phases: genesis, negotiation, and

implementation. During the **genesis phase**, policymakers assess the possibility of linking and the elements of a successful link. Political leadership is key during this phase, and high-level public announcements or declarations of intent to establish a link can help “kick start” the process.

During the **negotiation phase**, policymakers need to establish a linking agenda, as well as gain a deeper understanding of the linking partners' emissions trading systems and broader regulatory framework. An overall structure for negotiations, how these issues will be addressed, and the relevant bodies that should be involved in the linking negotiations all need to be determined. Analytical work and modeling may also be commissioned to give an indication of potential impacts and implications of linking.⁴

Finally, once the negotiations have concluded, the **implementation phase** covers the time from when the technical details of the linking agreement have been resolved to the operationalization and launch of the linked market. This last step is important because it gives jurisdictions the legal certainty that the linking partner will respect the provisions in the linking agreement, as this agreement itself may not be legally binding. To manage the linked market, partners may also establish new or adjust existing institutions. The linked market then becomes effective as soon as allowances can be traded across the linked system and these transactions are adequately recorded in the registry/registries.

⁴ Beuermann, Bingler, Santikarn, Tänzler & Thema, 2017.



CHAPTER FOUR

Design Alignment

In considering the core trade-offs when making ETS policy alignment decisions, policymakers can use the following three criteria:

- **System robustness:** policymakers should have a clear understanding of what is being measured and how it is being measured in their linked market in order to guarantee that a tonne of emission reductions in one jurisdiction is the same as one tonne in the other. Robust Monitoring, Reporting and Verification (MRV) processes and accounting are critical in this regard. Partners must also have sufficient capacity to monitor and enforce (i.e., surrender obligations, carry out market oversight, and impose penalties) their respective systems to ensure compliance.
 - **Important design elements:** the accounting and compliance framework of both linking partners must be robust—this includes their MRV processes, registries, and penalties. The cap-setting process, the existence and design of a price floor and price ceiling, as well as the use of flexibility mechanisms such as borrowing and offsets, will also affect system robustness.
- **Environmental ambition:** linking partners should be confident that their partner's ETS will drive a certain level of mitigation. As the environmental ambition of the system is largely determined by the cap, the stringency of that cap (however this is assessed) and the reduction pathway it sets out will be critical factors for consideration.
 - **Important design elements:** partners need to have a solid understanding of, and be satisfied with, their partner's cap—particularly if there is a link between an ETS with an absolute cap and one with an intensity-based target. In addition, market intervention mechanisms such as price

floors and other adjustment mechanisms will affect environmental ambition, and if left to operate without any additional alignment or coordination, may have additional side effects on the linked market. Borrowing and the use of offsets could also affect when and where mitigation will occur.

- **Possible side effects:** certain design elements may have possible side effects in a linked system. Differences in design elements may, for example, give rise to competitiveness or fairness concerns if one system is perceived to have a competitive advantage over the other. However, these concerns exist regardless of whether or not systems choose to link. Differences in design may be beneficial, such as increasing capital flows to one system and increasing access to lower-cost mitigation options for the other system.
 - **Important design elements:** if certain design elements are not aligned in this category, this can give rise to two main concerns—competitiveness and automatic propagation. Differences in coverage and allocation raise the most significant risks in terms of potential competitiveness concerns. Inclusion thresholds, as well as opt-in/opt-out provisions, should also be considered. Second, there is a risk that flexibility provisions (e.g., offsets, banking, and borrowing), as well as any price- or quantity-based controls (e.g., price floors, price ceilings, quantity mechanisms, and other adjustment mechanisms) from one linking partner are automatically propagated to the other. This would mean such provisions would exist in a system that does not have any. In a linked market where linking partners have their own flexibility provisions, the less stringent provisions may undermine the conditions in the other system.

CHAPTER FIVE

Stakeholder Perspectives

Linking will affect different groups of stakeholders in different ways. Engaging the stakeholders in the linking process can help ensure the success of a linked market by providing an opportunity to build support, draw on outside expertise, and address stakeholders' concerns; as well, it improves the transparency and inclusiveness of the policy. This builds trust, credibility, and mutual understanding during the linking process.

The question of **when** the stakeholders become engaged in the linking process will depend on:

- the linking negotiation process;
- the stage of development of that jurisdiction's ETS;
- the specific topic under discussion; and
- the jurisdiction's legal framework and culture of stakeholder engagement.

Generally, there are two windows of opportunity for stakeholder consultation in the context of linking: during discussions on whether or not to link, and later during the implementation of the linked market.

In engaging with stakeholders, a balance should be struck between inclusiveness, administrative capacity, and effectiveness, taking into account three factors: the purpose of the engagement, the type of policy development, and available resources. Stakeholder engagement does not necessitate public consultation for every single step and/or process. Rather, engagement is about ensuring stakeholders are involved in the key choices and decisions that affect everyone, where they can form legitimate views and have a forum to express those views.

In general terms, when communicating with stakeholders on linking, it is useful to highlight the following three areas of best practice:

- **Clarity on the role of consultation:** a commitment by policymakers to listen to the views of stakeholders before decisions are made, alongside clarity on the stakeholder process and treatment of stakeholder responses, can facilitate credibility and transparency of the consultations. The engagement should also feature clear objectives, requirements, and procedures in line with statutory provisions, thereby aligning expectations from the start.
- **Targeted and coordinated communication:** transparent and accessible communication, adjusted to the concerns and knowledge level of the respective stakeholder groups, can be particularly helpful because emissions trading is a complex and technical topic. Coordinated and unified messages from the linking partners' governments will also help avoid confusion, especially if several government bodies are involved.
- **The messenger:** external experts can be used to facilitate workshops or conduct independent analyses as government representatives may not always be the most appropriate or effective messenger.

How stakeholders in a system view linking will depend on the role they play in the ETS, as well as how they will be affected by the linked market (e.g., any distributional consequences). In previous linking negotiations, stakeholders (e.g., government members, companies, industry associations, environmental groups, non-governmental organizations (NGOs), and think tanks) have focused on how linking affects compliance costs, their jurisdiction's overall mitigation targets, as well as the extent to which abatement takes place in their respective jurisdiction.

CHAPTER SIX

Form and Content of a Linking Agreement

Linking is typically formalized through linking agreements. A linking agreement can help solidify the partnership and give partners a shared understanding of common goals and coordination needs. Once concluded, linking agreements are followed in each jurisdiction by the adoption of reciprocal legislation or regulations (as required) in order to implement the link and make any amendments to their respective ETS design.

Linking agreements can take different **forms**. International treaties provide high legal certainty, but can be very time-consuming. Non-binding arrangements such as Memoranda of Understanding

(MoUs), although less formal, can be faster to conclude and offer more flexibility if they need to be amended.

The **content** of the linking agreement will generally depend on the form of the agreement and the type of link. Not every detail of the link or the design elements for the linked market needs to be set out in the agreement itself. The linking agreement can establish the wider framework, such as: the objectives and principles governing the link; the institutions and procedures to operate and manage the linked market; and the suspension, termination, and entry into force of the agreement. Operational details can be outlined in the respective legal frameworks of the linking partners.



CHAPTER SEVEN

Management of the Linked Systems

An ETS will have institutions and mechanisms in place to ensure the smooth functioning of the market. Although these structures will largely be retained when an ETS is linked to another, they may be altered or expanded (or new structures may be added) to allow linking partners to work together to ensure the routine operation of the linked market.

In a linked market, four areas routinely require coordination.

- Linking partners need to coordinate **how information is shared**; this refers both to the flow of information between the linking partners and to the release of information to market participants and the public. Linking partners also need to ensure that private, commercially sensitive, and confidential information is protected.
- **Coordinated and effective market oversight** is critical to ensure that the common market functions properly. This may include ensuring robust accounting across the jurisdictions, preventing any market misconduct, and safeguarding the system against fraud and other forms of market manipulation.
- The **operation of joint elements** of the linked market, such as the use of a common registry or auctioning platform, needs to be coordinated.
- Linking partners should ensure that they have established **dispute resolution procedures** to mediate any disagreements or issues among market actors and between the linking partners.

As systems change and evolve over time, exchange or consultation between the linking partners is important. System reviews and reform may have a significant impact on the linked market, and some consultation between the partners can ensure that any changes result in minimal disruptions to the linked market. However, the extent to which the linking partner is involved in system reviews and reform process varies depending on the nature of the relationship.

Linking partners may also need to coordinate their response(s) to unforeseen events and/or sudden changes to the linked system or the environment it operates in, such as an economic crisis leading to changes in the carbon price, or drastic shifts in political circumstances.

Moreover, **coordination mechanisms** are themselves likely to unfold in a dynamic and evolutionary process, much like the underlying systems.⁵ Jurisdictions can coordinate their linked market using a variety of structures, ranging from informal to formal set-ups. It is likely that informal, technical coordination will happen continuously, while exchanges and decision making on the political level are likely to occur more formally and less frequently. Structures established during linking negotiations can be adapted to form the bodies that manage the linked system. Jurisdictions may also choose to outsource part of their responsibilities by setting up a **separate institution** to take over a share of these tasks, as is the case in both the RGGI and WCI carbon markets. Experience suggests that such an institution may provide useful benefits,

⁵ Tuerk, Mehling, Flachsland & Sterk, 2009.

such as decreasing operational costs, minimizing the administrative burden, and depoliticizing the management of the linked market.

The management of the linked system may also have to address a situation in which one or more partners decide **to delink**. Linking partners should think through the potential implications of delinking (preferably when the linking agreement is being developed), and actions that may be required once delinking occurs given the decision by one system to leave a linked carbon market will affect the rest of the market. Three major considerations include:

- **Treatment of allowances:** choices on how to treat the allowances from a system that is no longer linked can affect market behavior prior to and after delinking takes place. The remaining linked jurisdictions need to decide whether their entities

will still be able to trade and use allowances from the delinking jurisdiction for compliance purposes.⁶

- **Cap adjustment:** if linking partners have a joint cap, then this will have to be adjusted because the volume of the cap will be smaller as a result of delinking. The timing of delinking may influence the adjustment of the cap and other relevant elements. In general, it is more complicated to calculate such adjustments within a compliance phase rather than at the end of it.
- **Joint institutions:** a delinking jurisdiction will most likely no longer participate in the decision-making process and respective bodies. Joint institutions may require adjustments, both in terms of structure and of budgetary arrangements.

⁶ Görlach et al. (2015).

CHAPTER EIGHT

Looking to the Future

As countries around the world consider how their Nationally Determined Contribution (NDC) targets can be reached and ramped up to meet the long-term goals of the Paris Agreement, international cooperation can be a means of achieving this in a cost-effective manner. Emissions trading offers an attractive policy tool to achieve this. The growth of emissions trading systems and their emerging networks could lead to multiple

carbon hubs (or “carbon clubs”) that bring jurisdictions committed to carbon pricing together. Over time, they can jointly move from mutual learning to policy alignment and finally linking. Over time, linking these bottom-up, fragmented instruments can help shift the world toward a single, global carbon price, assuaging competitiveness concerns and allowing mitigation to take place on a global scale at the lowest cost.

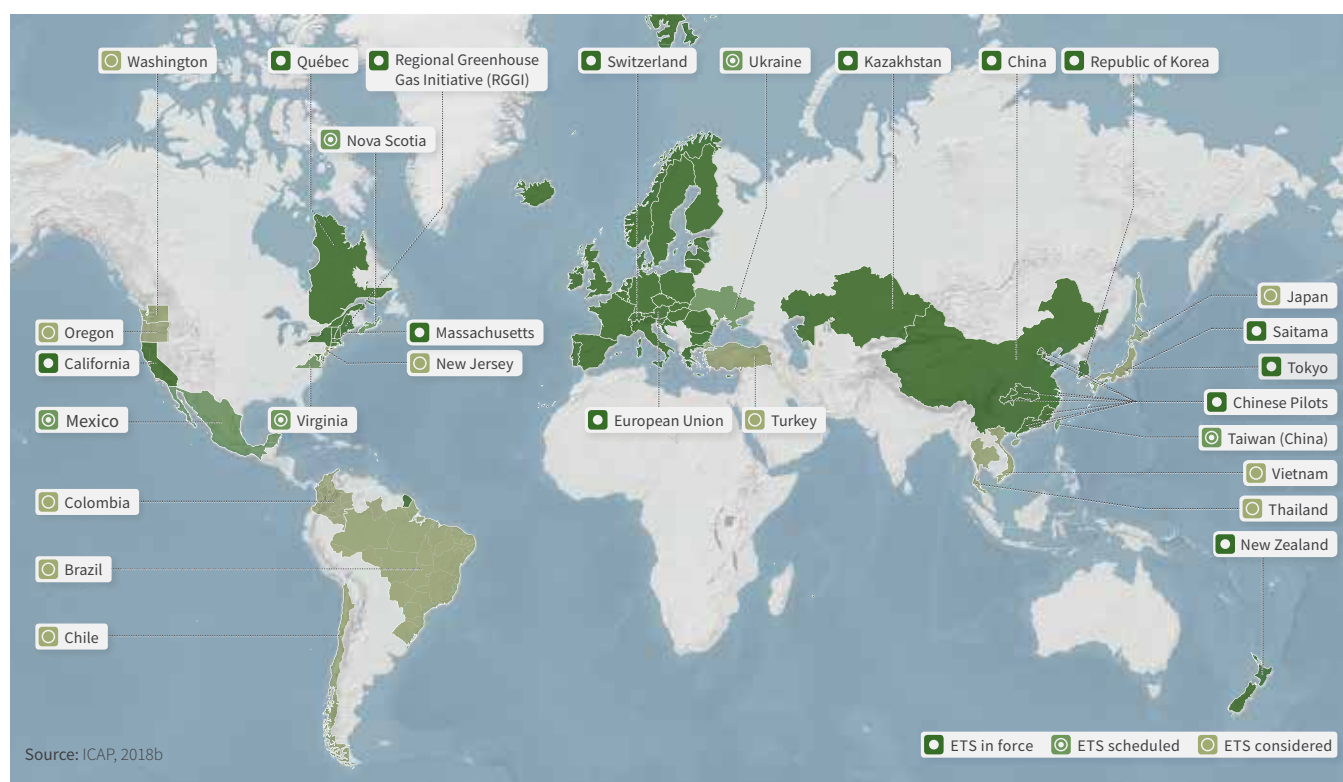


Emissions Trading Worldwide
The state of play of cap-and-trade in 2018

ETS in force

ETS scheduled

ETS considered





International Carbon
Action Partnership