

## Cooperation beyond the state: constraints on linking regional emissions trading systems

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# Cooperation Beyond the State: Constraints on Linking Regional Emissions Trading Systems

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**Abstract:** Since the launch of the European Union Emissions Trading System (EU ETS) in 2005, many regions worldwide decided to follow this approach and have implemented trading schemes to cap greenhouse gas emissions (e. g. California, several Chinese provinces, Tokyo and further jurisdictions). In addition to regional emission reductions, these initiatives may hold the potential of providing a new bottom-up architecture for international climate policy.

Parallel to its first implementation started the discussion on the possibility of connecting or 'linking' two or more emissions trading systems (ETSs) with each other. Linking creates a larger and more cost-efficient carbon market. From a theoretical perspective, linking to similar schemes is the most logical step for emerging regional ETSs. However, until today linking has been realized only on very few occasions.

This article deals with the question of why the linking of ETSs, especially between the EU ETS and the California Cap-and-Trade Program, is still lagging behind. It seeks to go beyond the analysis of economic and technical conditions for linking and focuses on the specific political difficulties that arise with the cooperation, and linking, of regions that do not have the status and mandate of a nation-state.

*Keywords: Emissions Trading, Linking, Cooperation, Regional Climate Policy, EU ETS, California*

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## 1. INTRODUCTION

In the past decade climate policy has become an integral part of the policy mix of many regions in the world. One instrument that has received very much attention is emissions trading. Since the launching of the largest emissions trading system (ETS) in the European Union (EU), many countries and regions have established domestic ETSs. Emissions trading is not limited to nation-states; the majority of the existing systems operate on a regional basis. Here, 'region' refers to a geographic entity that enjoys some autonomy on a subnational or supranational level, with the capacity to develop—at least to a certain degree—and enact domestic policies. Emissions trading is a market-based mechanism that has the overall aim of reducing greenhouse gas emissions through establishing a price for carbon dioxide (CO<sub>2</sub>) emissions. Participating companies have to hold an allowance or credit for every ton of emitted emissions, which is generally obtained for free from the government or bought via auctioning. An overall cap guarantees a fixed level of emissions and, ideally, follows an emission reductions pathway in the future.

One advantage of emissions trading that is stressed often by policy makers (e.g. ICAP, 2015b) is that it can be implemented in regions with very different geographical and political structures, because it is relatively easy to adapt to region-specific circumstances.



Table 1: Regional Development of ETSs (Source: ICAP, 2015a)

Emissions trading has been implemented in regions that differ in their legal status, such as cities like Tokyo and Saitama, subnational provinces or states like California, Québec, and several Chinese provinces, nation-states like Kazakhstan and New Zealand, and the EU as a supranational entity.

When this instrument was introduced in the Kyoto Protocol, the original idea was the establishment of a global carbon market. One way to achieve a globally-connected carbon market from the bottom up is through bi- or multilateral linkages between regional ETSs. Generally, the term 'linking' is used when two or more ETSs officially agree on a connection between each other, which allows for the exchange of emissions allowances. Participants of one of the ETS can use allowances issued by the other schemes to meet their compliance obligations. The connected systems create a common and larger carbon market. Basically, linking has the effect of leveling the marginal emissions abatement costs of the linking partners and converging their carbon prices (Green et al., 2014; Haites, 2014; Flachsland et al., 2008). The link can be formalized through a binding international treaty (Mehling & Haites, 2008). Burtraw et al. point out that a bilateral link can also figure two jurisdictions establishing a unilateral link through the amendment of their domestic regulations (Burtraw et al., 2013).

So far, academic literature reflects a mostly optimistic view on linking of ETSs; many studies have developed scenarios of prospectively linked carbon markets (e.g. Hawkins & Jegou, 2014; Goers et al., 2012; Zetterberg, 2012, Tuerk et al., 2009; Flachsland et al., 2009; Haites, 2009; Haug, 2005). However, political practice has challenged these forecasts; until today, linking has been realized only on very few occasions: e.g. in 2014 the California Cap-and-Trade Program and the Québec Cap-and-Trade System formed a common carbon market (see ARB, 2013). Although the playing field has constantly evolved; existing systems have matured and more ETSs are operating today, prominent actors hesitate to link. For example, no transatlantic link between the EU ETS and one of the existing North American systems (California Cap-and-Trade Program, Québec Cap-and-Trade System and the Regional Greenhouse Gas Initiative (RGGI)) has been arranged yet.

This article deals with the question of why linking of ETSs, especially between the EU ETS and the Californian Cap-and-Trade Program is not occurring. It seeks to go beyond existing approaches that analyze economic and technical conditions for linking and focuses on the specific political difficulties that arise with the cooperation and linking of regions that do not have the status and mandate of a nation-state.

This paper starts by looking at the relevance of the linking of ETSs for international climate policy and briefly introduces it as a form of international cooperation. It then focuses on a theoretically possible—though practically not implemented—case of linking between the California Cap-and-Trade Program and the EU ETS. Here, it examines the specific constraints, e.g. technical barriers and domestic policy priorities that have impeded the linking of these two ETSs. It especially focuses on the challenges that arise from the diverging legal statuses of both ETSs as being 'regions', one sub and the other supranational.

## **2. COOPERATION BEYOND THE STATE: INTERNATIONAL LINKING BETWEEN ETSS**

### **Linking and International Cooperation**

The EU claims to have an interest in linking because it is "(...) supporting global cooperation on climate change" (EU Commission, 2016b: par. 2). For the field of international relations in general, the linking of ETSs is a relevant phenomenon, because it can foster international cooperation, especially on climate policy. A linking

agreement between two or more regions signals to the world a strong commitment to climate policy and makes a statement for the common and shared effort, and ultimately international cooperation, on climate change (Flachsland et al., 2009). It may thus incentivize other regions to implement ambitious climate policies and, furthermore, improve the overall willingness to tackle climate change at a global level. Linking may have another positive effect when it comes to concrete international negotiations on cooperation, such as the international treaty that regulates climate action, the United Nations Framework Convention on Climate Change. Some authors have stressed that because linking is an activity that starts from the bottom up, ETS linking agreements are initiated on a regional level between two or more jurisdictions—rather than top-down like the Kyoto Protocol,—it may pave the way for a new, bottom-up architecture for international climate policy (see House of Commons, 2015; Bodansky et al., 2014; Marcu 2014 Ranson & Stavins, 2013). The new agreement on international climate policy consists of emissions reduction commitments that every nation made unilaterally and is legally liable to only on a regional basis, not to the international treaty itself. Additionally, every region is free to choose the instruments to achieve its goals (UNFCCC, 2015: FCCC/CP/2015/L.9/Rev.1.). In the future, international cooperation will likely happen regionally and through bi or multilateral linking of national climate policies, such as emission trading systems (see Ranson & Stavins, 2013). Therefore, linking may somehow represent an alternate form of cooperation to the centralized Kyoto Protocol approach that fixes binding emissions limits for all of its parties. The Kyoto Protocol was refused and not ratified by important greenhouse emitters such as China or the U.S.. Although in practice this seems a rather long-term and maybe idealistic perspective, linking could ultimately lead to the construction of a globally-networked carbon market (Edenhofer et al, 2007). This, in theory, would provide an optimal carbon market with the most cost-efficient climate policy.

Linking of ETSs can be defined as a form of international cooperation, where two partners create a new institution or engage in a mutually-beneficial international agreement. In fact, linking is an international cooperation, either based on a strong regulative framework such as an international treaty or the mutual recognition of norms and regulations, for example through more unofficial agreements. Assumptions in this paper are based on the idea that the decision to cooperate internationally stands and falls with a rational cost-benefit analysis realized by the ETS operating jurisdictions. Here, cooperation is vital if both cooperating partners gain from cooperating/linking; e.g. through the reduction of costs through a larger carbon market, an improved position and image in the national or international arena, or an increase in power in any other way.

In order to find out why an overall beneficial and desirable outcome, in this case a more cost-efficient climate policy through linking and a larger carbon market, is not achieved, it is important to look at domestic politics (Milner, 2009; Keohane, 1993; Moravcsik, 1997). Linking would have an impact on domestic policies: A linked market must accomplish a certain degree of coordinated action, rules, and regulations. In addition, also external events, such as an economic recession in one of the ETS operating jurisdictions, would influence the partner ETS. Furthermore, a linking agreement may directly impact domestic interests and, also, economic objectives such as the investment in low-carbon technology. It may interfere with legal provisions and even change the domestic balance of power. Linking of ETSs is negotiated at least at two different levels. On the one hand, a negotiation process takes place at the domestic level. Different interest groups fight for their economic interests and further policy goals that may be altered through a linking agreement; e. g. industrial groups that may have to pay a higher price for emissions allowances in a linked market. On the other hand,

negotiations take place at the international level, where governments seek to optimize agreements in order to satisfy domestic interests and minimize the possible negative impacts of developments in the linking partners' jurisdiction. We have in this sense a classical "two level game" (Putnam, 1988: 434) as it was postulated by Putnam.

Although domestic interests clearly determine cooperation, it is also important to take into account the international setting and its possible impacts on the domestic decision-structure (Putnam, 1988). In the case of ETS linkages, international pressure for action on climate change may also influence some actors' decisions. Keohane and Moravcsik have highlighted the interdependence of political actors, but also of domestic economic, political and social circumstances. Also, the decision to link is influenced by the degree of interdependence of linking jurisdictions with other jurisdictions. However, interdependence is also significant on another level; further actors have to be taken into account (Milner, 2009; Keohane, 1993). As mentioned above, interdependences between the government, interest groups, and further regulatory bodies also play a role. This applies especially for the analyzed case; while California has to take into account the federal rules and possibly other states' interests, the EU has various responsible administrative bodies in addition to the collective member states. In both cases also non-state actors, such as industrial groups or think tanks play a role in linking negotiations.

In this analysis, the specific characteristics and heterogeneity of the ETS operating entities are crucial. For this reason the paper has to expand the pure and exclusive neoliberal-rationalist view on cooperation. First, the category of the units of analysis is broadened beyond the nation-state level to the sub and supranational level. The classical neoliberalist thinking focuses on international cooperation as a process between nation-states (e.g. Keohane, 1984). However, political practice of emissions trading has shown that most of the ETS operating jurisdictions do not fit under this category, but under the collective term of 'region'. In the chosen case both actors, the EU and California, have neither the sovereign status nor the legal abilities of a nation-state. Consequently, they are regarded as 'regions'. Yet, both have regulating authority in the observed field of climate policy and both have established a regional ETS. The EU ETS is implemented on a supranational level, as all EU member states and several additional countries participate in the system. The California Cap-and-Trade Program operates on a subnational level, because the United States was not able to agree on such a system at the federal level.

Power plays an important role in neoliberal theory. The distribution of power determines, and ideally ensures, the gains from cooperation (Keohane, 1993). Power tends to be unequally distributed (Keohane, 1993), but goes beyond military and state power (Milner, 2009); for example being an international leader in climate change policy comes with a certain position of power. Looking at the example of the chosen ETSs, there is an imbalance of power between the EU ETS and the California Cap-and-Trade Program, not only in terms of size/ emissions covered, but also from an economic and political perspective. Neoliberal theory would suggest that a more powerful EU might use this power in linking negotiations to ensure a treaty that satisfies its domestic interests.

Ultimately, the neoliberal approach helps to explain this example of international cooperation because the decision-structure of linking is significantly influenced by domestic interests. Nevertheless, a more complete analytical assessment of linking perspectives should also integrate some ideational impact; knowledge sharing, learning, and generally the availability of information has a certain impact on the decision to engage in linking negotiations. This means that although it is assumed here that linking

is mainly determined by domestic interests, the construction, availability and acceptance of ideas plays a role to some degree.

### **3. REGIONAL EMISSIONS TRADING SYSTEMS: THE CASES OF CALIFORNIA AND THE EU**

#### **California**

The California Cap-and-Trade Program is part of California's strategy to battle climate change and reduce greenhouse gas emissions. It is based on California's climate change legislation of 2006, 'Assembly Bill 32 Global Warming Solutions Act' (AB 32), which sets the goal to reduce California's greenhouse gases to 1990 levels by 2020 and to 80% (of 1990 levels) by 2050 (ARB, 2015b). It is claimed to cover about 85% of California's total greenhouse gas emissions. In 2015, the cap for emissions allowances was set at 394.5 MtCO<sub>2</sub>e (ICAP, 2015c; ARB, 2015b).

The establishment of the California Cap-and-Trade Program has not been without trouble. Before its start several attempts were made to repeal the system, such as a state referendum, 'Proposition 23', intended to suspend AB 32 (see Faber & Frank, 2010; The Guardian, 2010; Purdon et al., 2014). Additionally, the policy faced further lawsuits, as in 2009 when the environmental justice movement opposed the ETS and filed a lawsuit before the California Superior Court (see London et al., 2013; Carlson, 2011). Other legal actions challenged the specific design of the system, like the auctioning rules (see Reuters, 2013; Purdon et al., 2014). The system was finally able to start its operation in 2013 and linked to the Québec Cap-and-Trade System the same year (CARB, 2013).

The Californian ETS is a very extensive system that covers many different emitting sectors; it includes companies from the power sector, industrial processes and transport, and several greenhouse gases. In California, the ETS is also a source of additional financial revenues: Emissions allowances are partially auctioned by the government. In 2013, US\$ 477 million were deposited in the Greenhouse Gas Reduction Fund (GGRF) that finances additional climate action, energy efficiency, and other environmental investments (Hsia-Kiung & Morehouse, 2015). This form of 'reuse' or recycling of auctioning revenues reflects some of California's political preferences. The California Cap-and-Trade Program aims not only at reducing greenhouse gas emissions, but also has the goal to drive long-term investments in cleaner fuels and improve energy efficiency (ARB, 2015b). Other design choices reveal the price policy that is intended with the system: California established a price floor that ensures that the price does not fall below a given price and the Allowance Price Containment Reserve that guarantees a certain maximum price. The system also allows for the use of so-called offsets: credits originating from national greenhouse gas reduction projects outside the ETS (ARB, 2015b; ICAP 2015c).

Not least because of its ambitious climate policy, California has gained an exceptional position within the United States. California as a region exercises a certain level of autonomy and even independence. When, in 2009, no consensus could be reached in Congress on the introduction of a federal climate legislation and cap-and-trade system, California demonstrated with its state approach that it is possible to realize ambitious climate policy at a regional level. While the topic of climate change had created a politically-divided nation, it also left the state of California with the freedom to enact a

system designed specifically according to state preferences. For California, 'no federal regulation' also meant no limiting provisions and a chance to be ambitious and make the first move. Additionally, ambitious climate policy may lead to a beneficial leadership position, if others perceive it as a role model and potential new standard for other regions (Grubb & Gubta, 2000; Elgström, 2010).

Furthermore, historically, California has been a frontrunner with respect to its climate and environmental policy, which allowed the state to go its own way and diverge from federal policy. For example, in 1970, amendments to the Clean Air Act authorized California to adopt stricter automobile emissions standards than those required at a federal level (Vogel, 1995). This distinguished position has helped to gain liberties in other areas. With its climate and environmental policy, California has also occupied a relatively active role in foreign relations. For example, California signed a Memorandum of Understanding with Mexico on climate policy (SEMARNAT, 2014). Also, the link to the Québec Cap-and-Trade System is a type of international cooperation. These examples indicate that Article 1, Section 10 of the US Constitution, which limits the states in their ability to engage in foreign relations, has not been handled in a very strict manner (U.S. CONSTITUTION. art. I, § 10).

### **European Union**

The EU ETS was launched as part of the EU's commitment under the Kyoto protocol in 2005. Although, when compared to the decade-long failing process of introducing a carbon tax, the implementation of the EU ETS was adopted rather quickly, the system has faced much opposition. Both industrial groups and many environmental activists fought, at least initially, against the system's launch. Additionally, it was a long and complicated process to reach a consensus among the European member states (for details on the implementation process and opposition against the EU ETS (see Skjærseth & Wettestad, 2008). Critics have not ceased, and are currently concentrating on the functioning of the system, the oversupply of emissions allowances on the European carbon market, price uncertainty, and long-term credibility (Knopf et al., 2014). Nevertheless, the EU ETS has been able to annex several members since its launching (Romania, Bulgaria, Liechtenstein, Iceland, and Norway).

The EU ETS covers about 45% of the region's greenhouse gas emissions, with its current cap at 2,007.8 MtCO<sub>2</sub>e in 2015 and includes different sectors and gases (ICAP 2015c:29). The fact that until now the EU ETS contains no provisions that guarantee a certain carbon price indicates that cost-efficiency of greenhouse gas reductions has the highest priority for the EU. This assumption is also confirmed by the EU's offset regulations. Here, allowances can be partially compensated with credits generated in international climate protection projects of the Clean Development Mechanism (CDM). As these credits tend to have a cheaper price, they lower the region's carbon price in total. Recently, the EU has planned a structural reform that intends to cope with the oversupply of emissions allowance, e.g. through the so called Market Stability Reserve, and will likely influence the carbon price level in the future (Knopf et al., 2014). Also, the EU auctions part of its allowances; in 2013, allowance auctions in the EU raised a total of EUR 3.6 billion and went back to the member countries (EU Commission - DG Climate Action, 2016a). The EU recommends member states to spend at least 50% of this amount in further climate mitigation measures (Directive 2009/29/EC Art. 25 (1a), European Union, 2009).

The European Union as a region is unique, because it comprehends a consortium of independent nation-states, in which members must cooperate on the operation of their common ETS. A challenging feature of European climate policy in general is that,

although the EU has a legal personality and may speak with one voice at international climate conferences, its members act in parallel as nation-states in the same policy field (e.g. the UN Conference of the Parties). Although climate policy is an area where EU law prevails and the EU Commission, as the responsible authority, has a certain degree of independence and maybe even autonomy (EU Commission - DG Climate Action, 2015), member states need to find common ground on the respective issue. Differing positions of the member states can inhibit ambitious climate policy.

#### **4. LINKING THE CALIFORNIA CAP-AND TRADE PROGRAM AND THE EUETS: PERSPECTIVES AND CONSTRAINTS**

##### **Considerations of Linking California and the EU**

A transatlantic cooperation between California and the EU through the linkage of their cap-and-trade systems is symbolically important, because it would be the first of its kind. California and the EU are both important actors in terms of economic power and amount of emitted greenhouse gases (in 2012, overall greenhouse gas emissions (excl. LULUCF) in California were 458.7 MtCO<sub>2</sub>e and in the EU 4611.6 MtCO<sub>2</sub>e (ICAP, 2015c)). Their cooperation would set an international signal for the commitment to climate change mitigation and highlight that a joint, cooperative approach is the best way to tackle this global problem. A link between California and the EU would create a larger carbon market that offers more abatement opportunities. Generally, a linked market may benefit from a higher liquidity, less exposition to price shocks, and improved stability (Haïtes, 2014). Additionally, other cooperation benefits, such as improved knowledge transfer, can result from a linkage agreement. Overall, a link between California's Cap-and-Trade Program and the EU ETS would be expected to bring greater cost efficiency (Haïtes, 2014; Zetterberg, 2012; Flachslund et al., 2008).

In practice, both systems have expressed their interest in a transatlantic link at some time. The EU declared its linking intentions on several occasions, mostly focused on a transatlantic cooperation; previously a link to a potential national US system and, when this became less probable in 2010, the EU was recorded to have an interest in linking to California (The Guardian, 2011; Zetterberg, 2012:41; EU Commission, 2008). In 2009, the EU even altered its Linking Directive, which formerly prohibited a link to non-Kyoto Parties, in order to facilitate a linkage to North America/ California and now explicitly allows linking to subnational entities (Directive 2009/29/EC Art. 25 (1a), European Union, 2009).

California has also stated officially its interest in linking its system with the EU ETS. In 2007, government officials were positive about the possibility of being the first non-European region to connect with the EU ETS (Reuters, 2007). An executive order issued by the former governor Arnold Schwarzenegger appealed for a program that would facilitate the linking to the EU ETS and other regions (Mehling, 2009). Nonetheless, this attitude has changed significantly and Californian interest in linking to the EU has quieted down. Apparently, California does not contemplate any linkage to the EU at this moment (Zetterberg, 2012).

Until today, no linking negotiations have been initiated between both jurisdictions and no signal has been shown that a link is envisioned in the near or mid-term future.

##### **Technical Barriers to a Linkage between the California Cap-and-Trade Program and the EU ETS**

The potential linkage between California and the EU has attracted attention from academics for some time and several papers have analyzed this case (see, e.g. Carbon Market Watch, 2015; Goers et al., 2012; Zetterberg, 2012; Tuerk et al., 2009; Mehling, 2007 etc.). The majority of publications on the linking of emissions trading systems concentrate on the economic consequences and technical difficulties that may arise when the design of the prospective linking partners is not compatible. With respect to a link between the Californian and the European systems, three technical barriers have been considered as the most significant.

Firstly; the differing use of offsets represents a significant obstacle to linking (Hawkins & Jegou 2014, Burtraw et al. 2013, Zetterberg 2012, Sterk et al. 2009, Flachsland et al. 2008, Haites & Mullins 2001). California accepts a quota of 8% of credits coming exclusively from projects within the United States, including certificates for the absorption of carbon dioxide through the forestry sector (carbon sinks) (ICAP, 2015c). Contrary to that, the EU allows for a quota of 11% of credits from international CDM projects and excludes projects and credits from the forestry sector (ICAP, 2015c). A linkage would technically form one common pool of offset credits, which is available to all participants. This may interfere with the specific regional priorities and goals of both regions (Tuerk et al, 2009).

Secondly, diverging cost-management provisions could prevent a linkage (Haites, 2014; Hawkins & Jegou 2014; Burtraw et al., 2013; Ranson & Stavins 2013; Zetterberg, 2012; Flachsland et al. 2008,). This is a challenge also for a link between California and the EU. For example, California operates a price floor and the EU does not limit the price. A common carbon market could undermine the Californian price floor, because Californian entities would likely buy European credits, if these were cheaper than the Californian price-limit (Burtraw et al., 2013).

Thirdly, comparative stringency of targets of ETS and climate policy in general is a determinant for successful linkages (Zetterberg, 2012). Allowance prices are often used to indicate stringency of emission trading systems, because they demonstrate the marginal costs incurred by this instrument (marginal abatement costs) (Ranson & Stavins, 2013; Zetterberg, 2012). At this moment of time, California's CO<sub>2</sub> price of approximately EUR 11.3 (Carbon Pulse, 2015), is higher, than that of the EU, which is around EUR 5 (Carbon Pulse, 2016). This could indicate that the Californian system is more stringent. Yet, for the calculation of stringency, other factors play a role in addition to the CO<sub>2</sub> price, such as population and economic growth, available abatement options, and additional climate policies, etc. Therefore, it is very difficult to determine which region has a more stringent climate policy and ETS (Zetterberg, 2012). Anyhow, the above-claimed lack of credibility of the EU system is likely to cause, at least for Californian policy makers, the risk of having a less stringent partner in the EU.

Further design aspects may need consideration in the event of linking. Additionally, the existing link between California and Québec should be taken into account. If linked to California, the EU would also be indirectly linked to Québec. However, both points go beyond the scope of this paper and are not examined here.

As the technical design is a manifestation of certain policy choices and priorities of a government (Green et al. 2014), this analysis centers on the political factors that influence the linking decisions of policy makers.

### **Political Obstacles**

Linking, being a form of cooperation, consists in a multifaceted policy decision (Ranson & Stavins, 2013), in which is decided that the expected benefits exceed the potential disadvantages and negative impacts (Haites, 2014). Linking also requires the political

decision to accept changes to the domestic market and, consequently, domestic circumstances. In a way linking of domestic ETSs raises similar questions and problems as the installation of an ETS, because ultimately it also creates a 'new' common carbon market, which may alter existing policy structures, such as the price of emissions allowances.

#### *DOMESTIC PRIORITIES*

The most prevailing barriers to linking are often differing domestic priorities—a problem very common in international climate policy—because linking may alter local environmental, livelihood, and economic conditions (Green et al., 2014). The convergence of different carbon markets and prices can have significant political consequences.

When systems with price differences link, financial flows go to the jurisdiction with the lower carbon price (Hautes, 2014). As the European carbon price is cheaper than that of California, it is likely that Californian companies would become net buyers of European allowances. Consequently, a net financial flow from California to the EU can be expected. Ultimately, carbon prices would probably decrease in California and increase in the EU. This could undermine intended targets and policies in both regions.

In California, possibly important co-benefits, such as the amount of financial revenues collected by the government in allowance auctions, may decrease. Less funding would be available for the financing of further climate and energy programs, etc. Furthermore, a lower carbon price may also reduce the incentive for companies to invest in low carbon technology and, thereby, slowdown the general pathway of a jurisdiction towards a low-carbon economy. Generally, industrial groups and maybe further interest groups may oppose the investment flow into a foreign region.

Contrary to this, companies in the EU would have to face higher costs for emissions trading after the linkage to California. Consequently, also related costs, such as energy prices, could increase. Higher costs would probably lead to opposition of European and national stakeholders, defending industrial and, possibly, consumers' interests.

A linkage between the EU and California could furthermore risk other domestic goals. A common carbon market has the consequence that, although overall emissions reductions are achieved through the joined cap, where exactly emissions are reduced, is not guaranteed. Ultimately, this can have a negative impact on domestic environmental targets; for example, the local air pollution is not reduced as intended because companies chose to buy cheaper emissions allowances instead of improving their production processes. Although it is difficult to calculate which exact effect the current low price of European allowances would have on Californian investment decisions, the risk that Californian companies would choose to buy cheaper EU allowances is tangible. Californian, but also European policy makers may fear their domestic climate policy targets at risk.

#### *A REGION'S LEGAL STATUS: WHO NEGOTIATES AND WHO HAS TO AGREE TO A LINK?*

This paper argues that another important aspect has not yet been researched sufficiently, although it is one important source of difficulties for many potential linking jurisdictions: The region's legal status and the power and restrictions that are affiliated with it and which may inhibit cooperation. This aspect shall be given a closer look in the following paragraph.

International cooperation and linking involve some basic legal abilities as preconditions. In order to engage in a treaty of international law, a jurisdiction must be subject to

international law. California is not subject to international law because it is a subnational jurisdiction, subordinated to the federal power of the United States, and has no international legal personality. Ultimately, it cannot engage in international treaties (Mehling, 2007: 50; Lenz et al., 2014: 320). This legal status restricts California's ability to link emission trading systems internationally (Mehling & Haites, 2008: 179). The US constitution limits the states' right to participate in foreign relations. Nevertheless, history and recent practices have shown that politics operate in a legal gray zone here and that a certain degree of autonomous activity in international environmental and climate policy has been tolerated by the federal authority so far (see Lenz et al. 2014: 315ff). In order to link, states may enter into certain bilateral 'compacts' or 'agreements' or an unofficial Memorandum of Understanding (MoU) with foreign jurisdictions such as the EU (Mehling, 2007). Linking partners could consent on an informal MoU and both implement a unilateral link to the other system through amending domestic regulations. Yet, such a link would have a less binding character and can be amended easily from each side (Mehling, 2007).

The legal status of ETS operating regions leads to a further difficulty: A subnational region, such as California, is generally faced with the risk that the federal level may impose a policy that prevails state law. For example, a federal legislation of the United States that regulates greenhouse gas emissions would preclude state law (Mehling et al., 2007). As discussed previously the Californian ETS was established because no greenhouse gas reduction policy was adopted at the federal level. However, this situation has changed: The federal administration initiated a paramount policy in 2014, the Clean Power Plan (CCP) (U.S. EPA, 2015). The CCP sets greenhouse gas reduction targets for the states but leaves them with some choice on how to reach these. The responsible federal authority, the Environmental Protection Agency (EPA), accepts emission trading systems, such as the California Cap-and-Trade Program or RGGI, as one possible way to fulfill the obligation under the Clean Power Plan. It does not explicitly prohibit linking carbon markets internationally. Yet, as the regulation only covers the domestic electricity sector, the broader scope of the Californian system may present some challenges, because reductions from other sectors, such as transportation, cannot be accounted for (see the EPA Technical support document, U.S. EPA, 2014). The CCP also prohibits counting sources of reductions from additional offset credits or credits of another international ETS against the states' obligations (U.S. EPA, 2014). This would complicate any linkage to existing ETSs, apart from RGGI, even including the already realized link to the Québec Cap-and-Trade System. This leads a prospective California-EU linkage to the question: How would European allowances be accounted for in a Californian ETS under the CCP? Although California may fulfill its CCP goals with additional policies apart from the ETS (Los Angeles Times, 2015), the design of the CCP gives a hint to the overall direction of US climate policy: it concentrates on domestic action and priorities. Until final state action plans are submitted in 2018 and accepted by the U.S. EPA, how a California - EU cooperation could exist under the CCP remains somehow opaque.

Being a supranational region, the EU faces a different legal and political situation than California as a subnational state. The EU has an international legal personality and may negotiate treaties. Directive 2009/29/EC sets the basis for linking to "compatible mandatory greenhouse gas emissions trading systems with absolute emissions caps established in any other country or in sub-federal or regional entities" (European Union, 2009: Directive 2009/29/E Art. 25 (1a)). Until today, the EU Commission has acted as the negotiator for linkages (EU Commission, 2015). But insecurities remain about its legitimacy. In the case of the planned linkage between the EU and Australia, a lawsuit

was filed against the EU commission for initiating linking negotiations, justified with the argument of 'institutional imbalance' (Council of the EU, 2013), which means that further European authorities would have a say before even starting negotiations on linking. In addition, also in the EU, member states can block policies at the national level. Thus, a link to the Californian ETS would represent a complicated legislative process. All three main European institutions; European Commission, Council, and Parliament, would have to be involved at some point of the linking process, which also implies the agreement of the European member states (Mehling, 2007). The initiatives to reform the EU ETS (so called 'Backloading' and the structural reform of the 4th EU ETS phase) have shown that amendments of the European ETS rules can be complicated and time-consuming, mostly because member states cannot find political consensus and disagree on climate policy. Similarly, an international linking treaty, as well as the unilateral linking amendment of the EU regulations, would likely involve a long and costly decision process, as member states have the final say over any linking agreement (Mehling, 2007).

#### *LOSS OF AUTONOMY AND CONTROL*

Another aspect may be significant when considering political constraints of linking between the California Cap-and-Trade Program and the EU ETS: Linking always implies a certain loss of control and autonomy (Hawkins & Jegou, 2014, Ransons & Stavins, 2013; Flachsland et al., 2008). With the start of the link, the decisions of one system will be shared by all systems. All developments from political regulations to economic shocks, etc. will be felt in the linked system (Wettestad & Jevnaker, 2013). For example, in the event of an economic recession, such as very recently experienced by the EU, also the linking partner's carbon market would very likely have been severely affected. The negotiation of the linking agreement itself, but mostly the maintenance of the link and the administration of the linked market, will require close coordination and cooperation. Policy makers may hesitate to share the control over their systems (Green et al., 2014).

International cooperation requires a process of two-level negotiation that not only takes place between the cooperating partners, but also within the domestic sphere.

Loss of control and regulative flexibility is especially relevant if the linking partners are very different jurisdictions, as in the case of the EU and California. Here, the different legal status and political power that is attached to each, but certainly also the economic power, cause a heavy imbalance. Although California is a leading 'economy' internationally, compared to the EU it is a rather small actor, also in terms of emitted greenhouse gases. A smaller system will be more strongly influenced by a larger system than vice versa (Haites, 2014). Consequently, development in the EU would influence the Californian ETS more strongly. Furthermore, as political decisions regarding the common market would have to be shared and coordinated between the partners, California could fear that the EU would dominate negotiations and further issue areas.

Autonomy could also be lost in a rather subliminal and symbolic manner. As already mentioned earlier, California has gained a fairly high degree of autonomy and an exceptional position as a climate policy frontrunner in the United States, which has led to the toleration of an active foreign policy in some cases. Californian policy makers may fear that a link to the EU ETS could threaten this special status. While one might also argue that a successful cooperation with the EU could give California more importance in international politics, it is more likely that such a link would cause difficulties between the federal government and the state. Policy goals and ambition levels play a crucial role at this point. If California imported existing problems of the EU ETS, such as the low

carbon price and uncertain price signal and the lack of long-term credibility (Knopf et al., 2014) these could possibly threaten its position as a climate frontrunner in the U.S. Furthermore, there is the diplomatic meaning of a linkage between California and the EU. How would US federal authorities like the U.S. Government or the U.S. EPA, but also other US states and stakeholder groups, regard such a linking agreement? It is possible that such a link would not be tolerated, as it may surpass the independence California is allowed to exercise without the consent of the federal level.

## 5. CONCLUSION

This article provides only a very brief insight into barriers that prevent an international cooperation and linking between the EU ETS and the California Cap-and-Trade Program. It shows that, as most of the existing ETSs are operated by non-nation-state, subnational and supranational jurisdictions such as California and the EU, international cooperation is faced with some extraordinary challenges. In the reviewed case of a potential linkage between the California Cap-and-Trade Program and the EU ETS political difficulties consist of domestic policies and preferences, on the one hand, and of characteristics that come with the specific legal status of a subnational entity such as California and a supranational entity such as the EU, on the other hand. It is not clear how a link could be managed legally and if prevailing federal policies might inhibit the link. For both linking partners the legal process would be complicated. Additionally, mostly the political makers of California may fear the loss of control that comes with the link. Also, the international diplomatic meaning this transatlantic cooperation comprehends may surpass the autonomy the US Federal Government is willing to cede to California.

In spite of these highlighted difficulties, ETS linking between regions is a topic that should be given more importance in academic research. Climate policy and emissions trading is becoming more and more a regional issue, as the appearance of such systems on a non-nation-state level has shown. Apart from concrete economic benefits, cooperation between ETS operating regions could have a symbolic value for international climate policy, being a symbol for international commitment to climate change mitigation. Furthermore, linking may become more relevant in a mid- to long-term future if the cost incurred by climate change increases and regions need to search for more cost-efficient abatement opportunities. Ultimately, further regional carbon markets are expected to emerge, e.g. in Ontario and other North American jurisdictions as well as in the EU neighborhood, in the Ukraine (ICAP, 2015a). In the mid-term future these developments could possibly renew interest in linking negotiations.

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