# Emissions Trading and Policy Diffusion: Complex EU ETS Emulation in Kazakhstan

*Lars H. Gulbrandsen, François Sammut, and Jørgen Wettestad**

## Abstract

This article examines the roles of international policy diffusion and domestic politics in shaping the design of an emissions trading system (ETS) in Kazakhstan. We find that although the overall framework for the Kazakh ETS and many of its design elements are based on the EU ETS, domestic political factors were central mediating variables in the diffusion process. The system was initiated at the highest levels within the government, but the fast-tracked nature of the implementation process did not provide sufficient notification to the donor community to mobilize much-needed technical support until the pilot phase had been completed. Implementation of a fully operational system was postponed until 2018 due to industry mobilization against the system and unresolved legal and technical issues. The findings indicate that the longer-term outcome of a diffusion process can be policy divergence, not convergence, as domestic interest groups influence policy and as governments learn from their own implementation experiences.

In 2008, having successfully overhauled the frontrunner EU emissions trading system (EU ETS), the environment commissioner at the time, Stavros Dimas, triumphantly declared: "the [EU] ETS is going to be the prototype for the world to imitate" (ENDS Europe 2008). Around the globe, other carbon-trading systems have started operating at subnational, national, and regional levels. However, for proponents of emissions trading, the results in the post-2008 era have definitely been mixed (see Calel 2013; ICAP 2016a; Mehling 2012; World Bank 2015). The EU has experienced increasing problems, with a growing surplus of allowances and a low carbon price, caused not least by recessionary pressures. The growth of renewables has further lowered demand for allowances, highlighting the challenge of putting together policy mixes that work well together.

The problems experienced by the EU ETS and by other systems have put the spotlight on the question of *design*: how to design systems that produce a stable and reasonably high carbon price and that interact well with other policy

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instruments in fulfilling the overriding goal of achieving emission reductions in a cost-effective way (see Klinsky et al. 2012). There is a substantial literature on "optimal" ETS design, but relatively little research on how political and economic interests affect the design and operation of these systems. Furthermore, because systems develop at different speeds, with frontrunners like Europe sharing the field with more recent adopters like China, the question of interaction and policy *diffusion* between systems becomes increasingly pertinent. Most research has focused on the diffusion of systems for emissions trading as such, not on specific design characteristics (e.g., Betsill and Hoffmann 2011; Meckling 2011; Paterson et al. 2014). The few studies that have examined the spread of specific design features have focused primarily on similarities across systems, not differences (Paterson et al. 2014). Moreover, most research has concentrated on the key players, such as the EU, California, and—increasingly—China.

To address these research gaps in the literature, this article investigates the roles of international policy diffusion and domestic politics in shaping the design of emissions trading in Kazakhstan. This country is an interesting actor to study in the context of international carbon market politics, for a number of reasons. Kazakhstan was the first country in Asia to implement an economy-wide ETS (in 2013). It is also the first former Soviet republic to implement an ETS, and as such could serve as a relevant case study for other former Soviet states looking to implement such a system (e.g., Ukraine). Covering a territory larger than Western Europe, it has become an economically dominant nation in Central Asia, due not only to its oil and gas industry but also to its mineral resources. Its greenhouse gas (GHG) emissions are also notable, with ETS sector emissions around 147 million tons in 2013 (greater than those of, e.g., France). Kazakhstan does not have a long history of climate policy entrepreneurship and leadership, as do the EU and California. Furthermore, its centralized and autocratic character does not make it a country one would naturally expect to turn to emissions trading.

Several international consultants and experts have been involved in assisting the Kazakh authorities set up the ETS, so it is interesting to explore whether the system has been initiated by external actors and shaped by learning, or even copying, from other systems. Because the political system in Kazakhstan can be characterized as centralized and autocratic, it is relevant to discuss how this has influenced the design and functioning of a market-based policy instrument that is fundamentally based on decentralized decisions and actions. Finally, Kazakhstan's turn to emissions trading was marked by the adoption of three central laws in 2010, 2011, and 2012, followed by a one-year pilot phase in 2013 and an intermediate Phase II—but further operation of the system has been put on hold. We examine the causes and possible consequences of this development.

In studying the Kazakh ETS, this article makes two important contributions to scholarship on policy diffusion and emissions trading. This first

contribution is a novel empirical case study of Kazakhstan, which has hardly received any attention in the academic literature on emissions trading. The second is the identification of six design features of its ETS and a detailed examination of how international policy diffusion and domestic politics have shaped those design features in the case of Kazakhstan. The latter contribution will help in particular to advance research on the specific design features of an ETS that might be diffused and how domestic political factors can be central mediating variables in the diffusion process. Regarding policy implications, we demonstrate that copying and fast-track implementation of a policy model before it is fully developed and adapted to the domestic or local context may prove counterproductive.

## Analytical Framework

Our principal research question concerns the causal role of international policy diffusion in shaping ETS design properties. We pose this question because we think those properties, in turn, will influence whether an ETS is *effective* (resulting in significant reductions in GHG emissions) and *efficient* (achieving such reductions at minimal costs). Such systems can be classified according to various criteria (see, e.g., van Asselt 2016; Weishaar, 2014; World Bank 2016). Here we focus on six main design features: (1) the *type of system*, including the distinction between baseline-and-credit and cap-and-trade systems, the presence or absence of intratemporal safety valves (such as "banking"—i.e., saving allowances from one phase/period to another), and the governance level (e.g., national vs. subnational or supranational systems); (2) its *ambition level*, concerning the level of the cap and emission cuts aimed at within a given period and the possible specific role assigned to the ETS for achieving the target(s); (3) the *sectors, gases, and emissions covered*, with a basic distinction between energy-producing and energy-consuming/energy-intensive sectors/industries: Is only $CO_2$ covered, or other greenhouse gases also? Are only "direct emissions" (from production) covered, or also "indirect emissions" (from the consumption of goods)?; (4) the *allocation mechanisms*, with a basic distinction between allocation by market (auctioning) and allocation for free (based on "grandfathering" or some type of benchmarking); (5) any *offsets and linking*, pertaining to the rules for allowing external offsets/credits (whether national or international, such as CDM credits), and including rules for linking up to other systems; and (6) *monitoring, reporting, and verification (MRV) and enforcement*, pertaining to the rules for carrying out these tasks and responding to cases of noncompliance.

In seeking to explain ETS design, we focus on policy diffusion mechanisms, linking up to the rich literature and discussion in political science. Policy diffusion can be seen as a particular type of "interdependent, but uncoordinated, decision making" in which a party *unilaterally* adopts a policy or practice initiated and pursued by others (Elkins and Simmons 2005, 35). The policy diffusion literature distinguishes four main mechanisms for diffusion: learning, emulation,

coercion, and competition (see Börzel and Risse 2012; Elkins and Simmons 2005; Finnemore and Sikkink 1998; Gilardi 2013; Graham et al. 2012; Shipan and Volden 2008; Shipan and Volden 2012; Simmons et al. 2006).

*Learning* refers to a process in which knowledge about policies and systems in one jurisdiction is used in the development of policies and systems in another. For example, policy-makers may rely on impact assessments and other expert reports to estimate the consequences of policy change, but experiences in other countries may also be a useful source of information (Gilardi 2013, 14). Diffusion may take the form of sophisticated learning, involving careful probing and efforts to correct design flaws observed in other systems. Relevant lessons can be learned from observation, or they can be communicated through bilateral and multilateral channels and by governmental and nongovernmental actors, such as epistemic communities (Haas 1992). Diffusion may also take the form of simple *emulation*, which involves copying policies or practices pursued by prestigious peers. Emulation can be understood as "the process whereby policies diffuse because of their normative and socially constructed properties instead of their objective characteristics" (Gilardi 2013, 17). Such policies are typically regarded as "appropriate" across jurisdictions—regardless of political ideology, political system, or level of economic development (Simmons et al. 2006, 799).

Coercion and competition have fundamentally different characters, since they involve material consequences and interdependency relationships established between or among the parties involved. *Coercion* refers to the imposition of certain policies or practices by international organizations and powerful states, typically through conditionality requirements (Simmons and Elkins 2004). One example is the way that international financial institutions have relied on their legal status to tie their financial assistance to neoliberal economic reforms that must be enacted by recipient governments (Gilardi 2013). This mechanism will often reflect an asymmetrical distribution of power, in which the stronger party can draw on legal provisions or effective control over important goods to impose certain policies on a weaker party.

*Competition* can be defined as "the process whereby policy-makers anticipate or react to the behavior of other countries in order to attract or retain economic resources" (Gilardi 2013, 10). This mechanism directs attention to growing political and economic interdependencies between economies and the related impact of these on the payoff structures associated with the pursuit of different policies (Underdal et al. 2015). This means that we need to pay attention to economic interdependency relationships and the extent to which decision-makers and industries see policy differences as an impediment to effective low-carbon policy-making.

We assume that international diffusion impulses are likely to be mediated by the domestic institutions and political processes in different jurisdictions (see also Bang et al., and Müller and Slominski, in this issue). Because the outcome of such mediating processes may be either policy convergence or policy divergence, we must ask, should the term "diffusion" be reserved *exclusively* for cases

of policy convergence? Diffusion is usually seen as leading to convergence, with actors adopting policies or practices initiated by others (e.g., Elkins and Simmons 2005, 35). Other definitions are more broadly framed, allowing for both divergence and convergence to occur as a result of policy diffusion (Underdal et al. 2015, 7). According to Simmons et al. (2006, 787), for example, international policy diffusion occurs "when government decisions in a given country are systematically conditioned by prior policy choices made in other countries (sometimes mediated by the behavior of international organizations or even private actors or organizations)." This implies that both convergence and divergence may occur as policy instruments evolve over time. Indeed, it has been observed that full convergence is not a necessary or even a likely outcome of diffusion, because norms, ideas, and practices often change in form and content as they diffuse (Gilardi 2013; Klingler-Vidra and Schleifer 2014, 264).

In this article, we pay particular attention to two broad sets of domestic political factors to explain both policy convergence and divergence as possible outcomes of diffusion processes. Following a standard political-economy approach, the first set of such factors refers to the mobilization and relative power of interest groups (e.g., Baumgartner and Jones 1993), such as industry and other stakeholders. The second set of domestic political factors refers to changes in government and institutional changes, which can be expected to influence policy diffusion processes (e.g., Gilardi 2013; Shipan and Volden 2012). Other domestic political factors, such as the roles of party politics and public opinion, can be expected to be less important in an autocratic regime such as Kazakhstan's.

We employ data from written sources including consultancy reports, policy reports, impact assessments, and policy reviews. Because one of the authors has been extensively involved in consultancy work on ETS design in Kazakhstan, we have been able to draw upon unique inside information.

## Kazakh Background: Political and Economic Characteristics

The Republic of Kazakhstan, located in the center of the Eurasian continent, is the ninth largest country in the world, with an area of 2.7 million square kilometers; it is also the world's largest landlocked country. Kazakhstan's current population stands at 17.7 million, with a growth rate of 1.5 percent in 2014.[1] The population is predominantly urban (54.9 percent), although the rural element remains significant (45.1 percent). The country shares an extensive border with Russia in the north, plus borders with China, Kyrgyzstan, Uzbekistan, and Turkmenistan, in addition to a significant coastline on the Caspian Sea.

Kazakhstan became the last Soviet republic to declare independence, on December 16, 1991. Its communist-era leader, Nursultan Nazarbayev, became—and has remained—the country's president. Kazakhstan has a parliamentary

1. World Bank, http://data.worldbank.org/indicator/SP.POP.TOTL, accessed October 12, 2016.

system with the president as head of state. The president sets foreign policy and can initiate legislation; he serves as commander-in-chief and appoints the prime minister, subject to parliamentary approval. Kazakhstan's parliament is the supreme legislative body; it consists of two chambers, the Senate (upper house) and the Mazhilis (lower house). Members of the Senate are indirectly elected representatives of regional assemblies and appointees of the president, whereas the Mazhilis is composed of elected deputies. Members of the parliament are elected for four-year terms.

Kazakhstan has become the largest economy in Central Asia, generating 60 percent of the region's GDP, thanks mainly to its significant natural resources, including oil, gas, other minerals, and metals. Exploitation of the natural-resource potential has been the main source of economic growth in the country. In 2015 Kazakhstan produced 77 million tons of oil and natural-gas condensate and 45.7 billion cubic meters of natural gas. According to World Bank statistics, the share of mineral products (including oil and gas) and metals in the total value of exports from Kazakhstan exceeded 80 percent in the first half of 2016.[2] Kazakhstan also has considerable agricultural potential, with its vast steppe lands accommodating livestock and grain production, as well as a developed space infrastructure. Economically, Kazakhstan experienced consistent growth from 2000 to 2008, with an annual GDP growth rate of around 9 percent as the norm. During 2008 and 2009, however, the global economic crisis hit the economy hard; although it picked up from 2010 to 2013, growth in 2015 and 2016 was considerably depressed as a result of the slump in oil prices.

The energy system of Kazakhstan is dominated by thermal generation; the electricity system includes seventy-one power plants with a total installed capacity of around 18 GW. Combined heat and power plants (CHPs) represent an installed capacity of 6.7 GW; these serve both residential-district heating networks and industrial end users, covering about 40 percent of heat and 46 percent of electric power consumption in Kazakhstan. Thermal generation is primarily powered by locally available coal (75 percent), followed by natural gas (10 percent) and oil (5 percent). Five large hydroelectric plants provide roughly 10 percent of the country's electricity generation. The majority of the facilities are located on the Irtysh river. Other renewables are largely undeveloped, although Kazakhstan has potential in renewable energy resources, especially in wind and solar power. Renewable energy sources could prove particularly attractive in isolated rural areas.

## The Road to Emissions Trading

Kazakhstan's Kyoto Protocol status is unique and is probably one of the original reasons why the country turned toward emissions trading. Following various

2. World Bank, Kazakhstan Trade Statistics, http://wits.worldbank.org/CountryProfile/en/KAZ, accessed January 10, 2017.

delays, Kazakhstan finally ratified the Kyoto Protocol on June 19, 2009, with the country's main focus being on participation in the regulated carbon market. At the time of ratification, Kazakhstan was a non-Annex I country with respect to the UN Framework Convention on Climate Change (UNFCCC), but an Annex I country for the purposes of the Kyoto Protocol. Kazakhstan, however, did not declare that it wished to be bound by the commitments of Annex I Parties under the Convention when the Protocol was adopted, and therefore had no emission target listed for it in Annex B. Being considered an Annex I Party without Annex B status meant that Kazakhstan could not participate in any of the flexible mechanisms: the Clean Development Mechanism (CDM), joint implementation (JI), or international emissions trading (Climate Focus 2010). Kazakhstan repeatedly requested an amendment to Annex B to the Kyoto Protocol that would enable it to participate in the flexible mechanisms. At the COP/CMP meetings, a decision regarding this request was continually postponed until the next meeting, mainly due to procedural issues and Kazakhstan's proposal for a quantified GHG emission limitation or reduction commitment of 100 percent of the 1992 level. Because of these delays and postponements, Kazakhstan never gained any economic benefits from the flexible mechanisms, whereas its direct and close neighbors—in particular China, and to a lesser extent Russia and the Ukraine—seem to have successfully accessed the international carbon market.

The *legislative* foundations for a Kazakh ETS can be traced back to 2007, when the government adopted the Environmental Code of Kazakhstan, which attempted to consolidate and harmonize the disparate legislation related to the preservation and restoration of the environment and the use of natural resources. The Environmental Code set a requirement for specific legal entities (such as industrial companies, power plants, and oil and gas operators) to prepare an annual inventory of GHG emissions and made provisions for annual reporting of the results of the inventory to the Committee for Environmental Regulation and Control in what was then the Ministry of the Environment. As is specified in Kazakhstan's III–VI National Communication to the UNFCCC, "the organization of the system of accounting of greenhouse gas emissions at the level of individual industrial units was based on the intention to establish a national cap-and-trade market for greenhouse gas emissions in the country" (UNFCCC 2013).

Against this background, the decision to implement an ETS, with specific focus on a market mechanism for reductions of GHG emissions that should include "international trade in allowances between the countries that have quotas and/or GHG emissions reductions and their legal entities" (UNFCCC 2013), can be interpreted as a political decision, approved at the highest level, to take a more proactive and, it was hoped, more successful role in the international carbon market.

In August 2009, the Ministry of the Environment was appointed the authorized body for coordinating the implementation of the Kyoto Protocol. In addition, this ministry was placed in charge of implementing an industry-wide

program called *Zhasyl Damu* ("Green Growth"), aimed at achieving reductions in GHG emissions and mitigating the environmental impacts of climate change. The program includes the development of proposals for the government of the Republic of Kazakhstan to create a legal framework for implementing the Kyoto Protocol and post-Kyoto agreements, for developing proposals for domestic policies and measures to reduce GHG emissions, and—especially relevant here—proposals for the development of market mechanisms for the reduction of GHG emissions.

At the national level, activities related to GHG reduction intensified following publication of the "Strategic Development Plan of the Republic of Kazakhstan to 2020," approved by presidential decree (no. 922) on February 1, 2010. This was followed by an amendment to the Environmental Code adopted on December 3, 2011, according to which a market mechanism for reductions of GHG emissions should include three components: trade in national GHG emission allowances; trade in certified emission reductions (CERs), emission removal units (ERUs), and units from domestic offset projects; and international trade in allowances between countries that have quotas and/or GHG emission reductions and their legal entities.[3]

Although the establishment of the ETS in Kazakhstan predated the Paris Agreement and submission of country-wise Intended Nationally Determined Contributions, the system is now seen as an integral part of any commitment made with respect to the latter. Kazakhstan's INDC commits the country to achieving the unconditional target of a 15 percent reduction of all emissions from a 1990 baseline by 2030, and a 25 percent reduction for the same period conditional on international financial support.

## Diffusion and Domestic Influences on ETS Design

### *Type of System: EU Inspiration*

The ETS in Kazakhstan is a conventional cap-and-trade system, divided into several phases.

The overall framework for the ETS in Kazakhstan is inspired by the EU ETS, although the Kazakh ETS is divided into three much shorter phases. A main reason for this is that the relevant amendment to the Environmental Code, which specified that the start date of the pilot phase should be January 2013, was adopted only in December 2011. In other words, just over a year before the pilot phase was to start, all that was in place was the primary legislation that provided an outline of the ETS, with further legislative instruments (government decrees and ministerial orders) being developed during 2012. The second phase, which ran from 2014 to 2015, therefore had an intermediary

3. Law No. 505-IV, "On Amendments and Additions to Certain Legislative Acts of the Republic of Kazakhstan concerning Environmental Issues" (the Law "On Amendments").

character that went beyond that of a pilot phase, but still involved dealing with and developing fundamental aspects of a working ETS. In April 2016, the government decided to suspend a third trading period—originally planned to last from 2016 to 2020—until January 2018, to allow time for amendments and clarifications to be made to the relevant legislation.

### *Level of Ambition: Doha Pledge, but Also Appeasing Industry*

Both international and internal factors have shaped the ambition level of the system. In the international context, Kazakhstan pledged to decrease GHG emissions by 7 percent through to 2020, as a percentage of the 1990 reference year, as part of its commitment made at the UN Climate Change Conference in Doha, December 2012. This pledge has influenced the level of ambition of the Kazakh ETS. Although allocation during the pilot phase was equal to 100 percent of the emissions reported by companies during 2010, in Phase II a 1.5 percent reduction in emissions was planned by the end of 2015, relative to a company's average emission level in 2011/2012. If this annual 1.5 percent reduction were to continue until 2020, emissions from the "ETS sector" would be projected to be reduced by at least 7 percent (Carbon Limits and Thomson Reuters Point Carbon 2015).

Opposition to introduction of the ETS from key target groups—in particular, operators in the power sector—has characterized the rollout of the system since its early days (Nabiyeva 2014). Attempts to appease this opposition have influenced the level of ambition, although this was not reflected in the original National Adaptation Plan (NAP). Rather, this influence led to an increase of nearly nine million allowances above the government's allocation plan (Carbon Pulse 2015). This attempt to appease industry proved inadequate, and Kazakhstan subsequently suspended its ETS until 2018 as a result of opposition from industry, which claimed that the emission reduction demands under the system were too strict and would lead to competitiveness concerns, and also that the legal foundations were too weak (Carbon Pulse 2016; Climate Policy Observer 2016).

### *Allocation Mechanisms: Borrowing from the EU*

The choice of free allocation and the allocation methodology (i.e., grandfathering) were copied from the early phases of the EU ETS. During the pilot phase of the Kazakh ETS, the allocation was based on the grandfathering approach, being equal to 100 percent of the nonverified emissions reported by companies for the reference year of 2010. This approach was retained for Phase II, with allocation being based on an average of reported emissions for 2011–2012. For Phase III, however, allocation is to be based on a benchmarking approach like the one adopted by the EU for allocating emission allowances under their ETS from

2013 onward. Work is currently underway on developing appropriate benchmarks for the various sectors and products in Kazakhstan.

Any benchmarking approach adopted in Kazakhstan is expected to be based on the EU approach. However, it is unlikely to be a direct application of the EU or other relevant ETS approaches and benchmark figures, because it will need to adequately reflect the specific conditions and economic burdens for the sectors in Kazakhstan. The various industrial sectors held slightly differing positions on the allocation mechanism (grandfathering vs. benchmarking), which reflected their general views of the ETS and whether they considered their sector to be more advanced, or less, according to international standards. The power sector in general has been opposed to a benchmarking approach, which mirrors its overall opposition to the ETS. Both the oil and gas sector and the industry sector have been more receptive to the idea of a benchmarking approach, provided that the benchmarks chosen are specific to Kazakhstan and reflect operating conditions there.

### *System Coverage: Looking to the EU*

Both $CO_2$ and methane are subject to monitoring and regulation in Kazakhstan,[4] but only $CO_2$ emissions are covered by the Kazakh ETS. Since the inception of the scheme, discussions have been ongoing as to whether methane emissions should be covered at a later date, but this is not reflected in any current legislation or relevant documentation, nor is it expected to be in the foreseeable future.

The coverage of the Kazakh ETS focuses on easy-to-monitor large, fixed-point sources of emissions in the energy and power sector and in industries in which combustion is part of the production cycle. In this respect, the Kazakh ETS is largely compatible with the first two phases of the EU ETS. The operators and activities covered by the ETS in both Phases I and II were grouped into three sectors of the Kazakh economy: power; production of coal, oil, and gas; and industry. According to the Environmental Code, the Kazakh ETS is also intended to cover agriculture and transport, but by the start of implementation of the pilot phase, it had become clear that these are sectors with very specific challenges regarding monitoring and ownership and in which there is little (if any) international experience with respect to emissions trading.

Operators with annual $CO_2$ emissions exceeding 20,000 tons/year (called "major emitters") that belong to one of the three sectors mentioned above are covered by the Kazakh ETS. It should be noted that the 20,000 tons/year threshold was applied at the operator, or company, level, and not for individual sites, and that each company is therefore likely to operate several discrete sites that may be subject to a cap. Originally, an amendment to the legislation had been proposed that would oblige companies to report data on an installation-level,

4. Government Decree No. 840, "On Approval of the Rules for Monitoring/Control of the GHG inventory," June 26, 2012.

as opposed to an entity-level, basis, which would be akin to the boundaries used by the EU ETS.

### *Offsets and Credits: Domestic Drivers, International Vision*

Regarding the use of international and domestic crediting, the Kazakh ETS differs significantly from the EU ETS. The Environmental Code allows for the implementation of offset projects in Kazakhstan under the existing international offset mechanisms (JI and CDM), a domestic crediting mechanism to reduce emissions, and a mechanism for environmental (green) investments. With respect to the domestic crediting mechanism (offset mechanism), a nine-point priority list of project types that can be implemented as offset projects in Kazakhstan has been specified by government decree, containing the following: mining and metallurgy (utilization of mine methane), agriculture, housing and communal services, forestry, prevention of land degradation, renewables, processing of municipal and industrial waste, transport, and energy-efficient construction. Unlike the ETS, which at present considers $CO_2$ only, projects that reduce emissions of any GHG can be implemented as domestic offset projects.

To prevent double counting, the legislation also clearly states that "project mechanisms cannot be carried out on installations or production objects that fall under greenhouse gas emission allocation requirements established by the National Allocation Plan." This implies that domestic offset projects cannot be implemented at installations that are covered by the NAP. At present, no regulations limit the amount of carbon units from domestic offset projects that can be used by an operator. In other words, as the regulation currently stands, theoretically a company could use 100 percent domestic offset units for compliance. With respect to CERs and ERUs, their use for compliance is not envisaged, so only units generated from domestic offset projects may be used to this end.

The potential for linking the Kazakh ETS with systems in other jurisdictions and trading with these systems has been a point of interest to the architects of the Kazakh ETS from an early stage. This is demonstrated by the Environmental Code, which specifies that a market mechanism for reductions of GHG emissions should allow for "International trade in allowances between the countries that have quotas and/or GHG emissions reductions and their legal entities."[5]

In addition, one of the stated aims of the pilot phase of the Kazakh ETS was "Launching consultation in regard to linking with the EU ETS." In pursuit of this objective, the Preparedness for Emissions Trading in the EBRD Region (PETER) project,[6] supported by the EBRD, was undertaken: among its chief aims was to assess the "market readiness" of the Kazakh ETS for linking with other carbon

5. Article 94-7 of the Environmental Code.
6. See www.ebrdpeter.info/.

markets. This analysis of the compatibility of the Kazakh ETS with the key features of the main operational trading schemes globally—the EU ETS, as well as the Regional Greenhouse Gas Initiative (RGGI) and Western Climate Initiative (WCI) in North America—concluded that linking with the EU ETS appeared the most promising option, at least from the perspective of market design. Both RGGI and WCI have complex cost-containment procedures and elaborate market-support schemes that would not currently be compatible with the outline of the Kazakh ETS. The study further concluded that among the emerging trading schemes, South Korea's ETS appears interesting to observe as a potential linking partner: it bears some similarity to the Kazakh ETS, in that it has a broad sectoral scope and will operate in the conditions of a regulated electricity market.

### *MRV and Enforcement: Copying the EU*

With regard to conducting MRV, the Kazakh ETS has copied many of the aspects found in the EU model. Although several components of the system are still under development, it is expected to be similar to its EU counterpart when completed. For example, there is the requirement for preparing a monitoring plan to be submitted for third-party verification prior to approval by the competent authority. Several monitoring and reporting regulations are based on the EU ETS Monitoring and Reporting Regulation; the annual emissions report is based on the monitoring plan and must be verified and confirmed by an independent third party. As in the EU ETS, uncertainty assessments are to be undertaken and, related to this, the concept of "tiers" also features in the Kazakh MRV system.

As regards enforcement, Zhasyl Damu—an executive body of the Ministry of the Environment that is responsible for drafting the secondary legislation, modeling the allocation procedure (including defining the NAP), and collecting and compiling emission data from operators—originally also performed many of the roles assigned to the ETS regulators under the EU system, including granting and maintaining permits, reviewing monitoring plans, and reviewing verified annual emission reports. At the end of 2014, however, the oversight functions of Zhasyl Damu concerning company data and reporting were permanently transferred to the Committee on Environmental Regulation and Control (CERC), the institution that handles pollution control and environmental licenses. The ETS functions are new to the CERC, whose approaches toward MRV compliance appear to be geared toward pollution control rather than market reporting, with a stronger focus on enforcement than on providing follow-up instructions and secondary legislation. As of June 2014, any operator that fails to surrender sufficient allowances to meet its cap will be liable to a fine of 5 Monthly Calculation Index points for each ton of $CO_2$ in excess (currently equivalent to approximately US$ 30). In addition, administrative fines—for example, for deficiencies or delays in emission reporting—were to be enforced during the 2014–2015 period.

## Discussion: Policy Diffusion and Domestic Politics

Our examination of the influence of policy diffusion on ETS design shows that the overall framework for the ETS in Kazakhstan was inspired by the EU ETS, with many of its design elements being directly based on the EU system. In this respect, the key mechanism of policy diffusion could be seen as one of *emulation*, although *learning* also played an important role, mainly through the support of donor agencies and international financial institutions. The EU ETS appears to have been the main model for the Kazakh system, but the latter incorporated learning from other systems as well, in particular the US-based systems WCI and RGGI, through USAID-supported programs. Importantly, *coercion* as a policy diffusion mechanism was not particularly evident. Here we may note that, thus far, the EU has shown limited interest and provided little if any support—which might seem surprising, since the design of the Kazakh ETS owes so much to the EU ETS. One explanation could be that the EU has paid significant attention to China in the field of "carbon trading assistance" (see Biedenkopf et al., this issue) and has had limited capacity to engage elsewhere.

The key domestic influences on the adoption and design of the Kazakh ETS have shifted in the course of the implementation period. The system was initiated, and strongly supported, by the highest levels within the government. Given that the implementation of the ETS initially had such high-level backing in the government, and that emphasis was placed on a "fast-track" approach, it was politically important to ensure that the operational phase followed on directly from the one-year pilot phase. Due to the lack of time and resources, the vast majority of issues and procedures related to such matters as installation-level data, allocation approach, MRV, the fundamental design of the ETS (e.g., auctioning of allowances, or whether GHGs other than $CO_2$ would be covered by the scheme), setup of the allowance registry, and design of the market oversight system were poorly defined (if at all) at the start of the pilot phase (Carbon Limits and Thomson Reuters Point Carbon 2013). At the time, Kazakhstan had no domestic tradition of using economic instruments in environmental/climate policy upon which to build an operational ETS. The fact that policy-makers and legislators assumed that it would be possible to establish an operational ETS from scratch in just over twelve months shows an inadequate grasp of the complexities of such a market-based system and the need for mechanisms, regulations, and institutional capacity to ensure transparency and confidence in the system. The resources—in terms of the finance, manpower, and know-how needed to fast-track implementation of the ETS—were simply not available.

The objectives of the pilot phase were stated as being, first, to establish the trade infrastructure (national registry, methodological basis, monitoring system, verification and reporting for operators, accreditation of verifiers, infrastructure of the secondary market, etc.), and second, to clarify/amend legislation. In hindsight, however, we can see that more of these items should have been defined prior to the start of the pilot phase, which then could have served to fine-tune

and amend the relevant procedures. Also, although Kazakhstan has received significant donor assistance in relation to developing its ETS, the first ETS-specific technical assistance program was not launched until 2013. The fast-tracked nature of the implementation process did not provide sufficient notification to the donor community to mobilize much-needed technical support until the pilot phase was completed. Donor agencies including the EBRD, the World Bank, the Norwegian Ministry of Foreign Affairs, and USAID did provide significant and valuable assistance and support—but, had the Government of Kazakhstan requested this assistance prior to initiation of the pilot phase, many of the issues that led to the current postponement of the system could probably have been resolved.

Similarly, formal cooperation and exchange between Kazakhstan and the international community on the subject of the ETS started relatively late in relation to its actual implementation—that is, after the adoption of the relevant amendment to the Environmental Code in December 2011. For example, Kazakhstan became a technical partner of the World Bank's Partnership for Market Readiness only in March 2014—after the start of Phase II of the ETS. The upshot was that, by the end of the pilot phase, a significant number of technical issues remained unresolved, and many of the required procedures were not defined. Phase II, which was originally planned to be a fully operational long-term phase, became in practice an intermediary phase, a hybrid between pilot and operational—the official one-year pilot phase was not sufficient to fully resolve all issues related to the design of the ETS.

In parallel, opposition to the system on the part of the power, oil and gas, and industrial sectors has become stronger. Various factors have contributed to this growing opposition to the system. First, although economic growth initially picked up during 2010 to 2013 after the global economic crisis, growth in 2015 and 2016, when the ETS was in its operational phase, was severely depressed as a result of plummeting oil prices. The slump in the country's economy is reflected in the value of the Kazakhstan currency unit, the tenge, which has more than halved relative to the US dollar, from around 150 tenge/US dollar at the start of 2014, to 330 tenge/US dollar at the end of 2016. Companies experienced economic difficulties during this period, and therefore became averse to the perceived possibility of further financial burdens that could result from implementation of the ETS.

Specific issues related to the tariff-setting mechanism for energy prices also contributed to the vocal opposition to the ETS, from the power sector, in particular. Although the power sector is largely deregulated and the state cannot impose tariffs, any changes to rates have to be proposed by operators, forwarded to the Monopolies Commission, and justified in terms of an approved list of cost elements (e.g., the cost of fuel). The cost of carbon is currently not included in this approved list of cost elements, so any additional expenditures that a power company assumes that result, for example, from the need to purchase quotas cannot be passed on to consumers.

Industry opposition to the system resulted in design changes, such as the increase of nine million allowances, and eventually in the postponement of the system until 2018. The Law "On Amendments" came into force on April 22, 2016. These amendments had the dual purpose of (1) making changes to the Environmental Code that clarified various terms related to the ETS and eliminated conflicts on the issues of distribution, issuance, change, and redemption of quotas, and (2) suspending the ETS until January 1, 2018 (ICAP 2016b).[7] When the ETS restarts in 2018, it is expected to introduce a few innovations: new allocation methods based on benchmarking rather than grandfathering, better-defined MRV processes and regulations, and trading procedures for all market participants.

To summarize, emulation of the EU helps explain the adoption of the Kazakh ETS and several of its design elements. Two sets of domestic political factors influenced the subsequent implementation of the system and its evolving design. First, as government actors learned from their own experience, they realized that they needed more expertise and technical assistance with implementing the ETS. Second, as industry learned about the costs of implementing the ETS, they mobilized against the system, claiming that the emission reduction demands under the system were too strict and that the legal foundations were too weak. These two sets of factors explain the suspension of the Kazakh ETS until 2018. Hence, as the diffusion process moved from the ETS adoption phase to the implementation phase, it was strongly influenced by domestic political factors.

## Conclusions

The government of Kazakhstan can be seen as a trailblazer in the Central Asian region with respect to its vision on greening the economy and to developing policies and formulating targets that emphasize the need for low-carbon growth. The implementation of an ETS has been a fundamental element of this vision. During the design of the Kazakh ETS, considerable emphasis was placed on learning and borrowing from the most established and largest operating system at the time: the EU ETS. This was a logical approach, since the EU is one of Kazakhstan's main trading partners; geographically it was the closest operating system, and it could be taken as a template due to its relative longevity. Another important reason for basing much of the design on that of the EU ETS was the fact that the architects of the Kazakh ETS aimed at eventually linking their system to other systems, and saw the EU ETS as a potentially important market for Kazakh emission reductions.

The sections above have described how the ETS in Kazakhstan was launched, underwent a one-year pilot phase, and then entered a hybrid pilot/

7. Ministry of Energy of the Republic of Kazakhstan, http://energo.gov.kz/index.php?id=5355, accessed October 12, 2016 (in Russian).

operational phase that lasted two years, with implementation of a fully operational system originally slated to begin on January 1, 2016. Now the Kazakh ETS has been postponed until 2018, following complaints from industry that the emission reduction demands under the system are too strict and the legal foundation too weak. To what extent are these complaints well-founded?

Starting with the legal foundation, there were indeed significant weaknesses in the original legislative design (the original amendments to the Environmental Code) of the ETS. A main reason was the fast-track nature of ETS implementation in Kazakhstan. As we highlighted above, legislation specifying the start date of the pilot phase was adopted less than thirteen months prior to that date. It proved impossible to develop, fully and appropriately, all the necessary secondary legislation, procedures, tools, organizations, and other elements by the start date. To the credit of the government officials who were given responsibility for managing and operating the system when it was launched, these deficiencies were indeed identified, and work was undertaken to make relevant changes to the legislation and develop the required tools—but that was a difficult task to undertake while the system was already officially operating. Designing an ETS takes time and requires resources, and rushing the implementation through before it is fully developed may prove counterproductive.

Are the emission reduction demands under the system too strict? Our interpretation is that this relates more to enforcement than to the actual targets themselves. The ETS enforcement role was shifted from Zhasyl Damu to the CERC, which traditionally handles pollution control and environmental licenses. CERC has seen the ETS more as a permission than a trading system, and that view may undermine the nature of the ETS as an effective market mechanism. The perceived risk of this emphasis on permissions is that regulator resources will focus on identifying incidents of noncompliance and the application of penalties, instead of developing a workable trading mechanism to allow operators to meet their emissions targets in the most cost-effective manner. An important lesson here is the importance of ensuring that whoever enforces the ETS understands that the application of penalties is an option of last resort, in particular when the ETS is not fully formed or operational. In such cases, a more flexible approach may be more appropriate.

The Kazakh ETS is a fundamental element of the country's green growth initiative, and the adoption of a workable and effective trading system will be essential if Kazakhstan is to meet its international commitments in a cost-effective manner. The overall framework for the ETS in Kazakhstan was inspired by the EU ETS, with many of its design elements based on those of the EU system. Policy diffusion mechanisms—particularly emulation and learning—help to explain some of the design similarities observed between the EU and Kazakh ETSs. This applies not least to their allocation mechanisms, coverage, and MRV. This observation is consistent with the traditional understanding of emulation as leading to *convergence*, as actors adopt a policy or practice initiated by more

prestigious peers. However, domestic political factors have been important as mediating variables in the diffusion process that helped shape the design of the Kazakh ETS, resulting in design *divergence* rather than convergence. This applies particularly to its ambition level, the offset rules, and specific elaborations of the design features.

The adoption of emissions trading in Kazakhstan is also a story of the short-term versus long-term effects of diffusion. In the beginning, when no stakeholder really knew what an ETS was about, individual entrepreneurs at the highest level in the government were able to push for the adoption of an ETS without really knowing how technical and complex this task would be. After a phase of experimental implementation, governmental actors realized that they required more expertise, and industry actors learned that they should mobilize against the ETS. Thus, we see that even when emulation can be identified as the key diffusion mechanism, the longer-term outcome of a diffusion process may be policy divergence as governments learn from their own implementation experiences and domestic industries mobilize to protect their interests. Although this observation gives rise to questions about the feasibility of linking carbon markets more effectively, we conclude that having a clearer understanding of the role of policy diffusion will be of both theoretical and practical value in following up the ambitious climate policy goals adopted in Paris in 2015.

## References

Baumgartner, Frank R., and Bryan D. Jones. 1993. *Agendas and Instability in American Politics*. Chicago: University of Chicago Press.

Betsill, Michele, and Matthew J. Hoffmann. 2011. The Contours of "Cap and Trade": The Evolution of Emissions Trading Systems for Greenhouse Gases. *Review of Policy Research* 28 (1): 83–106.

Börzel, Tanja A., and Thomas Risse. 2012. From Europeanisation to Diffusion: Introduction. *West European Politics* 35 (1): 1–19.

Calel, Raphael. 2013. Carbon Markets: A Historical Overview. *WIREs Climate Change* 4 (March/April): 107–119.

Carbon Limits and Thomson Reuters Point Carbon. 2013. The Domestic Emissions Trading Scheme in Kazakhstan. Available at www.ebrdpeter.info/uploads/media/report/0001/01/d3cc004ab04df5be2d66179669998c2869992b15.pdf, accessed May 2, 2017.

Carbon Limits and Thomson Reuters Point Carbon. 2015. An Analysis of the Potential for Linking with External Emission Trading Schemes [report on file with authors].

Carbon Pulse. 2015. Kazakhstan Proposes 4 percent Drop in Allowances for Third Phase of ETS. Available at http://carbon-pulse.com/12738/, accessed January 10, 2017.

Carbon Pulse. 2016. Kazakhstan Suspends ETS Until 2018. Available at https://carbon-pulse.com/16179/, accessed April 20, 2017.

Climate Focus. 2010. Option Review for Kazakhstan to Participate in the International Carbon Market. Available at www.ebrd.com/downloads/sector/eecc/kaz.pdf, accessed May 2, 2017.

Climate Policy Observer. 2016. Kazakhstan ETS to Be Suspended Until 2018. Available at http://climateobserver.org/9443-2/, accessed January 6, 2017.

Elkins, Zachary, and Beth A. Simmons. 2005. On Waves, Clusters and Diffusion: A Conceptual Framework. *Annals of the American Academy of Political and Social Science* 598: 33–51.

ENDS Europe. 2008. Global Carbon Market "Unlikely by 2020," February 25.

Finnemore, Martha, and Kathryn Sikkink. 1998. International Norm Dynamics and Political Change. *International Organization* 52 (4): 887–917.

Gilardi, Fabrizio. 2013. Transnational Diffusion: Norms, Ideas, and Policies. In *Handbook of International Relations*, edited by Walter Carlsnaes, Thomas Risse, and Beth A. Simmons, 453–477. London: Sage.

Graham, Erin R., Charles R. Shipan, and Craig Volden. 2012. The Diffusion of Policy Diffusion Research in Political Science. *British Journal of Political Science* 43 (3): 673–701.

Haas, Peter M. 1992. Introduction: Epistemic Communities and International Policy Coordination. *International Organization* 46 (1): 1–35.

ICAP. 2016a. Emissions Trading Worldwide: International Carbon Action Partnership (ICAP) Status Report 2016. Berlin: ICAP.

ICAP. 2016b. Kazakhstan ETS Suspended Until 2018. Available at https://icapcarbonaction.com/ru/news-archive/387-kazakhstan-ets-suspended-until-2018, accessed October 12, 2016.

Klingler-Vidra, Robyn, and Philip Schleifer. 2014. Convergence More or Less: Why Do Practices Vary as They Diffuse? *International Studies Review* 16 (2): 264–274.

Klinsky, Sonja, Michael Mehling, and Andreas Tuerk. 2012. Beyond Déjà Vu: Opportunities for Policy Learning from Emissions Trading in Developed Countries. *Carbon Climate Law Review* 4: 291–305.

Meckling, Jonas. 2011. *Carbon Coalitions: Business, Climate Politics, and the Rise of Emissions Trading*. Cambridge, MA: MIT Press.

Mehling, Michael. 2012. Between Twilight and Renaissance: Changing Prospects for the Carbon Market. *Carbon Climate Law Review* 4: 277–290.

Nabiyeva, Komila. 2014. Businesses Urge Kazakhstan to Halt Asia's First Carbon Trading Scheme. Thomson Reuters Foundation News, January 1. Available at news.trust.org/item/20140101144716-ef4xl/, accessed December 10, 2016.

Paterson, Matthew, Matthew Hoffmann, Michele Betsill, and Steven Bernstein. 2014. The Micro Foundations of Policy Diffusion Toward Complex Global Governance: An Analysis of the Transnational Carbon Emission Trading Network. *Comparative Political Studies* 47 (3): 420–449.

Shipan, Charles R., and Craig Volden. 2008. The Mechanisms of Policy Diffusion. *American Journal of Political Science* 52 (4): 840–857.

Shipan, Charles R., and Craig Volden. 2012. Policy Diffusion: Seven Lessons for Scholars and Practitioners. *Public Administration Review* 72 (6): 788–796.

Simmons, Beth A., Frank Dobbins, and Geoffrey Garrett. 2006. Introduction: The International Diffusion of Liberalism. *International Organization* 60 (4): 781–810.

Simmons, Beth A., and Zachary Elkins. 2004. The Globalization of Liberalization: Policy Diffusion in the International Political Economy. *American Political Science Review* 98 (1): 171–189.

Underdal, Arild, David G. Victor, and Jørgen Wettestad. 2015. Studying the Global Diffusion of Emissions Trading: Key Conceptual Building Blocks in the ETS-DIFFUSION

Project Research Design. FNI Report 2/2015, Fridtjof Nansen Institute, Lysaker, Norway. Available at www.fni.no/doc&pdf/FNI-R0215.pdf, accessed May 2, 2017.

UNFCCC. 2013. The III–VI National Communication of the Republic of Kazakhstan to the UN Framework Convention on Climate Change, Ministry of Environment and Water Protection of the Republic of Kazakhstan. Available at http://unfccc.int/files/national_reports/annex_i_natcom_/application/pdf/kaz_nc3,4,5,6_eng.pdf, accessed April 20, 2017.

van Asselt, Harro. 2016. The Design and Implementation of Greenhouse Gas Emissions Trading. In *The Oxford Handbook of International Climate Change Law*, edited by Cinnamon P. Carlarne, Kevin R. Gray, and Richard G. Tarasofsky, 332–356. Oxford: Oxford University Press.

Weishaar, Stefan E. 2014. *Emissions Trading Design: A Critical Overview*. Cheltenham, UK: Edward Elgar.

World Bank. 2015. *State and Trends of Carbon Pricing 2015*. Washington, DC: World Bank.

World Bank. 2016. *Emissions Trading in Practice: A Handbook on Design and Implementation*. Washington, DC: World Bank.