

The politics of climate policy innovation: the case of the Argentine carbon tax*

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Abstract

This contribution analyzes the policymaking process of the carbon tax in Argentina based on the multiple streams approach (MSA). The study shows how policy entrepreneurs took advantage of a general tax reform bill to promote the idea of a carbon tax. Mainly driven by international emulation and reputational gains concerns, the carbon tax proposal successfully advanced through the government's internal drafting process of the Tax Reform Bill, however, it faced strong opposition during the legislative decision-making process, which resulted in the adoption of a weaker carbon tax. From a climate politics perspective, the Argentine carbon tax case suggests the political limitations of an over-reliance on international reputation arguments to advance climate policy innovation. In relation to the MSA, the study highlights how policy windows can shape processes of policy innovation and the analytical convenience of differentiating the coupling processes between the agenda-setting and decision-making stages.

Keywords: policy innovation; carbon tax; multiple streams; climate politics; climate policy; Argentina.

Introduction

In November 2017, the Argentine government submitted to the National Congress a Tax Reform Bill that included a carbon tax on fossil fuels. Even though carbon pricing was already a salient issue in the international climate agenda, the proposal for a carbon tax was an innovative issue for the Argentine domestic policy agenda, and – to some extent - an unexpected one. Argentina's policy frameworks did not have any type of carbon pricing mechanisms in place and carbon taxation was not part of the predominant climate

policy discourses in the country. The government proposal faced strong resistance from various economic and political actors and, although the Argentine Congress finally approved the carbon tax as part of the overall tax reform package, it suffered substantial changes in the legislative process.

This contribution analyzes the policymaking process of the Argentine carbon tax. It addresses two main questions: first, how did the idea of a carbon tax on fossil fuels emerge and reach the policy agenda in Argentina? This is a particularly intriguing question, given that carbon taxation was not part of the Government's discourse on climate change nor even among Argentine climate policy experts and non-governmental organizations (NGOs). Second, what factors and dynamics shaped the processes of design and adoption of the carbon tax instrument? There was already a relatively important number of experiences with carbon taxation worldwide when the Argentine government began to consider the carbon tax (World Bank 2017). However, policy innovations are not fixed and invariant over time (Jordan and Huitema 2014). The introduction of a new policy idea or instrument from the original context to a different one usually implies a process of considerable adjustment and change (Voss and Simons 2014). Our analysis, then, pays special attention to the internal process of design of the tax proposal, how the carbon tax was later modified during the legislative decision-making process, and why.

To address these issues, we apply the theoretical framework of the multiple streams approach (MSA) (Kingdon 1984; 2011; Zahariadis 2003; 2007). Two main reasons justify this theoretical choice to study a case of policy innovation. First, the MSA outlines the complexity of policymaking. Instead of rational and linear accounts of the policy process, the MSA focuses on the complex interactions between problems, potential solutions, and politics. In this way, MSA constitutes a particularly suitable framework for studying how novel ideas become policy (Mehta 2011; Béland 2016). Second, it allows

for analyzing contingency and agency in the policy innovation process. The MSA stresses the role of these factors in policy development. Favorable policy windows might open at different times and for different reasons, framing the context in which the policy process develops and emphasizing the relevance of the policy entrepreneurs' action in coupling a novel policy solution to a problem and mobilizing political support.

This contribution proceeds as follows. First, we discuss the main theoretical components of the MSA approach and briefly describe the methodology and data sources used. Then, we develop the case study. In the final section, we highlight some of the main empirical findings and theoretical implications resulting from our analysis.

Theoretical framework: the multiple streams approach

In its most basic terms, the MSA argues that policy changes occur when problems, policy solutions, and politics are coupled together by policy entrepreneurs, during fleeting open windows of opportunity. Although this approach was originally developed for analyzing the agenda-setting process at the federal level in the United States (Kingdon 1984; 2011), it has been widely applied to other stages of the policy process and other political systems (for a review see Cairney and Jones 2016; Jones *et al.* 2016). The MSA conceptual framework consists of five essential elements: the problem, policy and politics streams, the policy windows, and the policy entrepreneurs.

The problem stream refers to the situations or conditions policy actors want to address and resolve. The MSA literature identifies several elements that can call the attention of policy actors and help problematize a situation, such as indicators, focusing events, and feedback processes (Kingdon 1984; 2011). The politics stream refers to the political context and role of political actors in the policy processes. This includes governmental actors as well as interest groups and public opinion. Finally, the policy stream includes the range of different ideas and proposals of solutions that circulate in

policy networks and compete to gain the attention and acceptance from actors working on that policy issue or field.

How the MSA characterizes the process of developing ideas and solutions in the policy stream is particularly insightful for the study of policy innovations. This is a fluid process in which some ideas emerge and advance through this process unchanged, some ideas are modified or combined into new proposals and others lose relevance and are not seriously considered. Two main criteria help explain why certain policy ideas or solutions advance through this stream: technical feasibility and value acceptability (Kingdon 1984; 2011, Zahariadis 2007). Those policy proposals that are technically complex or difficult to implement face greater obstacles to advance in this process. Similarly, those proposals that are not congruent with the predominant values and visions of key political actors are less likely to be considered for adoption.

The policy window refers to favorable situations or contexts that provide an opportunity to advance a policy idea or solution. According to the MSA, policy windows generally open by compelling situations arising in the problem stream or by events or processes that take place in the political stream. These special situations generate opportunities - usually brief - to place certain issues in the policy agenda and advance policy changes.

Whether the window of opportunity opens in the problem or the politics stream is relevant. It affects what policy actors pay attention to and, therefore, the perspectives of the potential policy innovations. Zahariadis (2007; 2008) argues that when the policy window opens in the problem stream, the development of the policy responses tends to be sequential; that is, solutions are developed in response to specific problems. In these cases, policy actors' attention is mainly problem-driven. However, when the policy window opens up in the political stream, policy actors' attention tends to focus more on

the solution even before the problem can be clearly defined. In these cases, what matters more is the policy solution to be adopted rather than the problem to be addressed (Zahariadis 2007; 2008).

However, policy windows do not generate policy changes. There is a need for actors that can articulate and couple the three streams: that is, the perceived problem with a proposed solution and political support. In the MSA literature, these policy entrepreneurs are characterized not only as advocates of a particular policy proposal but also as brokers and negotiators among the different actors involved in the policymaking process (Kingdon 1984; 2011; Zahariadis 2007).

A main theoretical challenge facing the MSA is to what extent it can be applied to analyzing the adoption of a new policy. This is a highly relevant issue for our analysis of the Argentine carbon tax. As mentioned above, the MSA was originally developed to analyze the agenda-setting process; that is, how and why new policy issues and proposals reach the policy agenda.

Zahariadis (2003), one of MSA leading scholars arguing in favor of the extending applicability of the framework, suggests that agenda-setting and policy adoption can be considered as parts of a single decision-making process. In this way, the coupling of the different streams refers to both stages of the policy process, which can be analyzed together without the need to modify the overall MSA theoretical framework. However, as other authors have already observed (Herweg *et al.* 2015; Zohlnhöfer 2016) a policy proposal may reach the agenda but not be adopted or, as in the case of the Argentine carbon tax, be adopted after substantial modifications.

Therefore, following the approach developed by Herweg and others (Herweg *et al.* 2015; Zohlnhöfer 2016) our application of the MSA differentiates the coupling process that takes place in each of these two stages. The first stage refers to the process of

formulating and placing the carbon tax on fossil fuel on the Argentine domestic policy agenda, which resulted in the inclusion of the carbon tax proposal in the Tax Reform Bill submitted by the national government to Congress. The second stage refers to the legislative negotiation, which resulted in the approval of the carbon tax by Congress although with substantial changes in comparison to the original version submitted by the government. In this way, we are able to maintain the structure of the MSA framework to analyze the complete process of development of the carbon tax, from its formulation to its legislative adoption, but differentiating the factors and political dynamics that shaped the coupling process in each stage.

Method and data sources

This study consists of a within-case analysis based on process tracing. The process-tracing method involves identifying the sequence of events, intervening mechanisms, and causal chains within a case, with the goal of supporting or overturning a hypothesized explanation (George and Bennet 2004; Bennet 2010). It is important to clarify that we use process tracing not as a historical chronicle of how an outcome came about (i.e., how the Argentine carbon tax developed), but as a more analytical account that focuses on those aspects of the case that speak to the theoretical framework applied.

The study is based on two main sources of information: document analysis and interviews with key actors. Concerning the documentary sources, we used primary and secondary sources such as government tax reform reports and climate action plans, transcripts of the legislative committees and plenary debates of the House of Representatives and the Senate, and public statements and submissions made by different interest groups about the carbon tax. We also reviewed the media coverage on the issue, including national wide newspapers, newspapers from the provinces most directly affected by the carbon tax, and business and professional journals focusing on the energy

sector. The documentary sources were especially useful for identifying and analyzing the positions of the different political actors and interest groups once the carbon tax proposal was submitted to Congress. Moreover, we carried out seven semi-structured interviews with key actors involved in the carbon tax policy-making process (see Appendix). The interviews were particularly useful to gain insights about the carbon tax design process within the government as well as on the internal dynamics of the legislative negotiation process.

The Argentine carbon tax

The Paris Agreement and emission reductions in the Argentine energy sector

In mid-2016 the Argentine government ratified the Paris Agreement on climate change and, by the end of that year, submitted its revised National Determined Contribution (NDC). According to its Contribution, Argentina sets the goal not to exceed a net emission of 483 million tons of carbon dioxide equivalent (tCO₂eq) by 2030 (República Argentina 2016). This represents an 18% emission reduction with respect to a 2030 BAU (Business As Usual) scenario. The NDC also proposes an increase in the emission reduction target to 37% with respect to the baseline scenario, conditional on the availability of international funding, technology transfer, and strengthening of national capacities.

The ratification of the Paris Agreement and the fulfillment of these emission reduction goals pose a strong challenge for the Argentine energy system. According to the 2014 inventory of greenhouse gases (GHG) more than half of Argentina's GHG emissions (53%) come from the energy sector, including transport (Ministry of Environment and Sustainable Development 2017). Furthermore, during the period 1990-2014 the energy sector showed a sustained increase in emissions (with exceptions linked

to the 2001-2002 and 2008-2009 economic crisis), and it is reasonable to expect this trend to continue, as is the case in most middle-income countries.

Moreover, the Argentine energy matrix is strongly dependent on fossil fuels, particularly natural gas, although with a very small share of mineral coal. According to the 2017 national energy balance (Ministry of Energy 2017), natural gas accounts for almost 54% and oil for 31% of the total primary energy supply. Clean energy sources have a limited share, although with an upward trajectory in the case of non-conventional renewable sources (mainly, solar and wind). Coal, the fossil fuel with the highest carbon content, represents only about 1% of Argentina's primary energy supply.

Based on MSA's conceptual categories of analysis, the reduction of GHG emissions from the energy sector to meet Argentina's commitments under the Paris Agreement constitutes the 'problem stream'. That is, the problematic situation that captures the attention of certain policy actors and raises the need for public policy interventions.

During 2016 and 2017 the Argentine government, under the administration of President Macri, developed three action plans to implement the NDC in the energy, transport, and forest sectors. These sectoral plans were submitted at COP 23, in December 2017. The Ministries of Energy and Transport formulated the action plans for energy and transport respectively, in collaboration and coordination with the Ministry of Environment, within the framework of the National Cabinet on Climate Change (Gabinete Nacional de Cambio Climático 2017a; 2017b). Both plans include a series of policies and measures to reduce GHG emissions. However, neither of them refers to the introduction of a carbon tax on fossil fuels or, more generally, to the adoption of a carbon pricing mechanism. How, then, did this issue reach the Argentine domestic policy agenda?

The 2017 tax reform: a window of opportunities opens up for agenda-setting

In 2017 the Ministry of Finance was working on the Tax Reform Bill. The purpose of this Bill was to reduce tax distortions and the overall fiscal pressure on the economy while maintaining the progressivity of the tax system (Secretaría de Política Económica 2018). This implied the reduction or elimination of certain taxes as well as the reformulation or creation of others. The Tax Reform Bill was part of a broader and complex package of fiscal reforms that included, among others, a new fiscal agreement between the national government and subnational governments, and a reform of the pension system. Due to its economic and political implications this reform package was a central issue in the agenda of President Macri's administration. Climate change concerns were not part of the reasons motivating the Argentine tax reform, however, the tax reform process opened a window of opportunity to place a proposal for a carbon tax on the national policy agenda (Interviewees 5 and 6).

The idea of introducing a carbon tax as part of the tax reform began to be considered and designed in the Secretariat of Economic Policy of the Ministry of Finance. The head of the Secretariat and its technical team played a key role in promoting the idea of the carbon tax within the government and articulating technical and political rationalities to build support for the proposal (Interviewees 2, 4, 5 and 6). The Secretariat of Economic Policy was part of the coordination group of the Tax Reform Bill (Secretaría de Política Económica 2018) which, arguably, strengthened the Secretariat capability to raise issues into the agenda of the Tax Reform and its accessibility to the highest political decision levels in the Ministry of Finance. In this process, the Secretariat also consulted, negotiated, and gained the support of the Ministry of Energy. Technical experts from the Ministry of Energy become – unofficially - involved in the process and provided technical assistance in the design of the carbon tax (Interviewees 1, 4 and 5).

At this stage of the analysis, a key question to ask is how such a proposal for a carbon tax was born and developed at the Ministry of Finance? In terms of the categories of analysis of the MSA, how did the policy stream develop?

As mentioned before, the issue of carbon pricing was already heavily present in the global climate agenda. By 2017 42 national jurisdictions and 25 subnational jurisdictions were already implementing different carbon pricing initiatives, including carbon taxes (World Bank *et al.* 2017). The World Bank, the Inter-American Development Bank (IDB) and other international financial and economic organizations intensely promoted the adoption of these policy instruments (Partnership for Market Readiness 2017, Thisted and Thisted 2019). The Organization for Economic Cooperation and Development (OECD) also strongly endorsed the use of carbon pricing instruments as a way to reduce GHG emissions as well as other environmental externalities (OECD 2019). In the Argentine context this is very significant, since joining the OECD was a relevant issue on the international agenda of President Macri's administration.

The teams from the Secretariat of Economic Policy, as well as from the Ministry of Energy involved in the design of the carbon tax, were aware of the carbon pricing debates in academic and policy circles. For instance, Sebastian Galiani, the head of the Secretariat of Economic Policy, had an extensive research career and was co-author of several IDB reports on the economics of climate policy in Latin America (Chisari and Galiani 2010; Chisari *et al.* 2013).

According to the Secretariat team's view, the tax reform opened up the possibility of replacing existing taxes on fossil fuels with a carbon tax without significantly increasing the overall tax burden (Interviewee 6). In this way, Argentina could introduce a carbon pricing mechanism in its energy policy regime which, in turn, could generate international reputational gains for Argentina because such a policy measure was

favorably viewed by international organizations and many key States (Interviewees 5 and 6).

Therefore, the Secretariat team developed a proposal introducing a carbon tax on a comprehensive list of fossil fuels based on their carbon content. Emission factors were set for each fossil fuel as well as a uniform tax rate per ton of carbon dioxide equivalent (CO₂e). This implied that those fossil fuels with higher carbon content would have a higher level of taxation per unit.

One of the key issues in the design of the carbon tax proposal was setting the tax rate. In the internal discussion process it was argued that the price of carbon had to be ambitious enough to be consistent with the objectives of the Paris Agreement. At one point there were suggestions for a price in the range of 40 US dollars a ton of CO₂e, similar to the prices proposed by the Stern-Stiglitz Commission (High-Level Commission on Carbon Price, 2017).¹ However, arguments about the potential inflationary impact of a tax level of this nature promptly dismissed those suggestions (Interviewees 4 and 5). Finally, it was agreed to propose a carbon price of \$25 / tCO₂e, which was above the carbon price of other countries in the region (Mariana Conte Grand 2017) and higher than the world average (Gutman 2018).

Primary issues of concern during the design of the carbon tax were avoiding the increase in the tax burden and the potential inflationary impact of the tax. The proposal replaced three existing taxes on various liquid fuels by the carbon tax and another fixed sum equivalent to the amount necessary to equalize the tax pressure prior to the proposed reforms.² In this way, for those fuels already taxed, the final price remained stable. In the case of those fuels covered by the proposed carbon tax that were not previously taxed (for example, natural gas, coke, coal, and fuel oil), the proposal included a timeframe for a

gradual application of the carbon tax, starting at 2020 and reaching a full application in 2028.

The gradual application of the tax was also a way of addressing the problem of natural gas, which was one of the most critical issues in the process of designing the carbon tax proposal. High-level officials from the Ministry of Energy were especially resistant to include natural gas within the scope of the carbon tax (Interviewee 6). Such a tax was in tension with the government's policies to promote shale gas exploration and production in the Vaca Muerta basin, one of the world's largest shale oil and gas fields. In fact, in March 2017, the Ministry of Energy had established a program to stimulate investments in Vaca Muerta, guaranteeing minimum prices (subsidies) for shale gas sold in the domestic market until 2021 (Resolution 46/2017). The development of Vaca Muerta was largely perceived (and still is) as key for Argentina's energy sector recovery and the country's economic growth prospects, mainly through the export of oil and gas surplus. In this context, from the perspective of the teams working on the carbon tax proposal, the gradual application of the tax on natural gas allowed for the consolidation of shale gas production in Vaca Muerta while maintaining the objective of taxing all fossil fuels, including natural gas (Interviewees 5 and 6).

In this way, the carbon tax design process attempted to fit with the technical feasibility and political receptivity criteria described by MSA scholars (Kingdon 1984; 2011; Zahariadis 2007) and advanced in the policymaking process. The national government submitted the Tax Reform Bill, including a carbon tax on fossil fuels, to the House of Representatives on 15 November 2017. Thus, the issue got onto the Argentine political agenda and another stage began in the decision-making process.

From agenda setting to policy adoption: the legislative negotiation and approval of the carbon tax

Once the Bill was submitted to the House of Representatives, it was assigned to the Committee on Budget and Finance chaired by Congressman Laspina from the government coalition. Tax Reform was a large and complex Bill. It consisted of 12 sections and 285 articles that introduced various and important modifications to the national tax system. Articles 137 to 145 specifically referred to the carbon tax. Until that moment most of the specific content of the Tax Reform Bill was not publicly known and neither was the proposal for a carbon tax (Interviewee 7).

Once the proposal became public, there was a strong reaction from the economic sectors directly affected by the proposed carbon tax. The fossil fuel industry rapidly mobilized against the tax proposal. It argued that the introduction of this tax affected the development of shale oil and gas in Vaca Muerta and discouraged the prospects for new investments in the area. Industry spokespersons requested the carbon tax to be rejected entirely, or at least to exclude natural gas from the tax (Gandini 2017).

Similarly, the government of the province of Neuquén – where most of the Vaca Muerta basin is located - raised its opposition to the carbon tax proposal. The provincial and national governments were closely collaborating and articulating efforts to favor the development of shale gas and oil in the region. The Governor of Neuquén, Omar Gutierrez, stated that the national government's carbon tax proposal was surprising and it contradicted the policies taken to favor the development of Vaca Muerta (Diario de Rio Negro 2017).

The electricity generation industry was also opposed to the carbon tax. The Argentine electric matrix is strongly dependent on fossil fuel, especially natural gas. In 2016 more than 60% of the electricity generation was produced by thermal power stations based mainly on natural gas and, to a lesser extent, on other liquid fuels such as fuel oil

and diesel (Gabinete Nacional de Cambio Climático 2017a, 23). The Association of Electric Power Generators (AGEERA), which represents 90% of the electricity generated in Argentina, made a submission to Congress arguing that the proposed carbon tax would increase the electricity generation costs and requesting natural gas to be exempted from the tax, as well as coal, diesel oil, and fuel oil (AGEERA 2017 cited Villalonga 2018).

On December 11, the Committee on Budget and Finance had its first meeting to discuss the Tax Reform Bill. On behalf of the government, the Minister of Finance Dujovne attended the meeting to report on the Bill. In his presentation the Minister made only one brief reference to the carbon tax; he framed the adoption of the tax as a measure to combat climate change within the framework of the international commitments assumed by Argentina (Cámara de Diputados de la Nación 2017a, 2).

Opposition parties also paid limited attention to the carbon tax proposal during the Committee meeting. This can be attributed to the large number of other issues raised by the Tax Reform Bill and the limited time available for the legislators to analyze and discuss the entire Bill (Interviewee 7). Nevertheless, there were some strong objections. Congressman Bossio, spokesperson on the tax reform from the Federal Peronism legislative coalition, strongly criticized the carbon tax proposal and stated the need to evaluate policy alternatives (Camara de Diputados de la Nacion 2017a, 8). Bossio outlined that Argentina's contribution to global pollution was minimal compared to the big polluters and that Argentina's energy matrix was mainly based on natural gas, which emits less GHG than coal. He emphasized that there should be no increase in fuel prices or other situations that may affect economic competitiveness.

Given the opposition generated by the carbon tax, the legislators of the government coalition introduced several changes to the original carbon tax proposal (Micozzi 2019). It is important to note that the government coalition did not have a

legislative majority in Congress, neither in the House of Representative nor in the Senate, which meant that the government had to reach agreements with different opposition parties to get the Tax Reform Bill approved.

Two of the changes introduced to the carbon tax were highly significant: natural gas was exempted and the tax rate was reduced from U\$25 to U\$10 per ton. The arguments of the government coalition's legislators justifying these changes reflected those raised by the economic and political actors opposed to the carbon tax (Cámara de Diputados de la Nación 2017b, 2-3). In the context of the legislative negotiation, it is surprising that there was a lack of arguments supporting the rationality for an ambitious carbon tax, or more generally for carbon pricing, as a way to address climate change (for an exception see Villalonga 2018). Using the categories of analysis of the MSA, this raises the issue of the policy entrepreneurs and to what extent any political actors were taking an active role in promoting the carbon tax proposal during the legislative decision-making process. Clearly, this was not the case with the legislators from the government coalition leading the key negotiations at the Budget and Finance Committee. Their main concern was to get the Tax Reform Bill approved; the carbon tax was just one of the many issues encompassed by the Reform and, arguably, it was not a central one.

Furthermore, unlike those sectors affected by the tax, social actors favoring more ambitious climate policies did not get involved in the carbon tax debate nor actively supported the proposal. Socio-environmental NGOs and movements, which have played a very active role in law-making processes on various environmental issues in Argentina (Gutierrez and Issuani 2014; Ryan 2014), did not participate in the carbon tax legislative process. FARN, a leading environmental NGO in Argentina, was one of the few that issued a public statement on the carbon tax, mainly criticizing the exception to natural gas approved by the House of Representatives (FARN 2017). Similarly, the clean energy

industry, which was theoretically favored by a carbon tax on fossil fuels, neither provided active support for the proposal nor got involved in the legislative debate.

Various reasons can explain the lack of support from these sectors. Different experts and NGOs argued that the government's carbon tax proposal, although an important policy instrument, was a rather isolated measure (Gutman 2018). Furthermore, it was not perceived as a step towards a cleaner energy system given that the government continued to strongly promote shale oil and gas production in Vaca Muerta (FARN 2017). In these actors' views, the carbon tax proposal was more linked to the needs of the government's international agenda considering, for instance, the OECD admission process or the forthcoming G20 meetings, than to an effective policy commitment to decarbonize the energy sector (FARN 2017). From a resource mobilization perspective (McCarthy and Zald 1977), it can be reasonably argued that limited human resources and technical capabilities might also have affected NGOs and socio-environmental movements' involvement in the carbon tax legislative process. This was a technically complex issue and the legislative negotiation developed in a very short timeframe (Interviewee 7). Whatever the reasons, the fact is that the carbon tax proposal lacked social and political coalition support, while facing strong opposition that had quickly organized and mobilized against the adoption of the tax.

In this context, on December 19 and 20 2017 the House of Representatives voted on the Tax Reform Bill, including the modified carbon tax provisions. The Bill was approved in general with the support of the legislators from the government coalition and the Federal Peronism opposition coalition; legislators from the Peronist Frente para la Victoria and leftist parties voted against it, while legislators from the Frente Renovador abstained (for more details see Micozzi 2019). In the voting on the articles of the Bill individually, the provisions on the carbon tax were approved almost without comments

(Cámara de Diputados de la Nación Argentina, 2017c). The Bill then moved to the Senate where the carbon tax provisions were approved without modifications. By the end of December 2017 the government promulgated Law 27.430 on the Tax Reform and Argentina's carbon tax became law.

Discussion and Conclusions

This contribution conceptualizes Argentina's carbon tax proposal as a policy innovation and applies the MSA framework to analyze the process of design and adoption of the tax. Our case study analyzes how the carbon tax proposal was formulated, reached the policy agenda, and later, was significantly modified and weakened during the legislative process. This final section highlights two main elements of theoretical and empirical relevance resulting from the analysis: the impact of the policy window and the variations in the coupling processes between the agenda-setting stage and the legislative adoption.

First, our study shows how the characteristics of a window of opportunity can significantly shape a policy innovation process. In this sense our case study empirically supports Zahariadis' (2007) argument that, according to whether the window of opportunity opens in the politics or problems stream, the potential policy solutions that develop might differ.

In the Argentine carbon tax case the window of opportunity opened in the political stream, when President Macri's government promoted a macro reform of the Argentine tax system. As described in the previous section, a team from the Ministry of Finance 'saw' this opportunity - as stated by one of the Interviewees - to introduce a carbon tax by modifying the existing tax structure on fossil fuels. In this case the specific nature of the policy window (a macro tax reform) clearly affected the type of policy change that could be developed (a change in the taxation system).

The carbon tax proposal, then, was not born and developed as part of a process of analyzing and assessing different policy alternatives to address the problem of reducing GHG emissions in Argentina's energy system. In such a process (problems are defined - solutions are sought), it is possible that a carbon tax could not have been considered either as the prime or even the most convenient policy option for addressing that problem. In fact, several Argentine climate economists have argued that the adoption of a carbon tax alone could not generate the incentives to promote the decarbonization of the Argentine energy system in the timeframe and scale needed (Gutman 2017; Chidiak and Gutman 2018). There are different structural and technological factors limiting the possibilities of change towards cleaner energy production and consumption patterns in Argentina. On this view, other concomitants or previous policy actions are necessary for the carbon tax on fossil fuels to have the expected impact on GHG emission reductions from the energy system.

However, as argued by Zahariadis (2007), when the windows of opportunity open up in the stream of politics, actors' attention tends to focus more on a given solution rather than on the problem. Ultimately the goal is the promotion of a preferred policy idea or solution, whether based on ideological preferences, electoral interests, or some other rationale. The Argentine carbon tax case is an example of this type of dynamics. The driven factor of the policy process was not so much about how to reduce GHG emissions as the adoption of a specific policy instrument.

From a climate perspective, an interesting question is what are the political impacts of this type of policy window? Do they offer possibilities to promote more or less ambitious climate policy innovations than problem-based policy windows?

We do not have evidence available to make a generalizable argument about the policy change potential of politics-based windows vis-à-vis problem-based windows. In

principle, that potentiality seems to be contingent on contextual factors and conditions irrespective of whether the window opens in the problem or politics stream.

In any case, it is worth recalling that policy windows frame the contexts in which policy innovations can develop, but they do not determine the outcomes. In our case, the tax reform provided an unexpected opportunity for a group of policy entrepreneurs to advance a carbon tax proposal when the issue was not part of the predominant climate policy discourses in Argentina. However, the window by itself cannot explain how the idea for a carbon tax emerged and developed. That requires analyzing the interactions between problem, policy, and politics.

In this regard, our case study shows how the dynamic and strength of the coupling processes between the streams varied significantly between the agenda-setting and the legislative decision-making stages. This explains how the carbon tax proposal developed and, especially, why it changed throughout the policymaking process.

During the agenda-setting and formulation stage of the carbon tax, international factors played a key role in shaping the development of both the policy and politics streams, which facilitated the coupling process. In the policy stream, international factors contributed to the diffusion of carbon pricing ideas and policy instruments among the technical teams in the Ministry of Finance and in the Ministry of Energy, whose areas of work were not specifically climate policy. Similarly, in the political stream, they help to explain the receptivity to the idea of a carbon tax among high-level decision-makers of the Ministry of Finance and other areas of the national government, mainly motivated by potential international reputational gains and ideational concerns. In this regard, our case study contributes to a growing literature that shows the role of international diffusion factors and mechanisms in climate policy innovation (Inderberg *et al.* 2017; Wettestad and Gulbrandsen 2018; Thisted and Thisted 2019). Our analysis also suggests that the

diffusion of the carbon tax in Argentina was not so much driven by learning from other countries' experiences as from emulation; that is, normative and ideational considerations of what constitutes a proper policy action (Thisted and Thisted 2019). The receptivity of the idea of introducing a carbon tax, both among technical experts and relevant decision-makers officials at the government, was arguably linked to the perception that carbon pricing was an appropriate policy measure, something that 'responsible' countries ought to have in their policy regimes.

International factors and emulation benefits, then, provided the main framework for coupling the problem, solution, and politics streams during the agenda-setting stage. They help explain the core idea of this policy innovation as well as the motivations that drove the policy entrepreneurs to take advantage of the policy window and advance a proposal for a carbon tax. Policy entrepreneurs emphasized these international benefits to gain support among high-level decision-makers in the government, while negotiating gas transition measures and other features of the carbon tax proposal to avoid the opposition from the Ministry of Energy and other potential veto actors within the government. This framing of the carbon tax facilitated the coupling of the different streams, which allowed the proposal to advance through the government's internal policy decision-making process and become part of the Tax Reform Bill.

However, once the carbon tax proposal reached Congress, the coupling process becomes problematic. The ideational considerations and international reputation benefits attached to the carbon tax proposal did not have the same relevance in the political stream at the legislative level. This stage of the policy process was discursively and politically dominated by the economic and competitiveness concerns of those sectors affected by the carbon tax. Meanwhile, climate activists and NGOs received the carbon tax proposal with reluctance given the government's continuous support for shale oil and gas production in

Vaca Muerta and did not get involved in the legislative debate nor actively support the proposal. Our analysis highlights this asymmetry between a strong social and political coalition opposed to the carbon tax, which quickly mobilized against the proposal, and the lack of social coalition supporting it. This asymmetry characterized the politics stream during the legislative decision-making stage and clearly affected the final policy outcome of the legislative process.

Furthermore, in contrast to what happened during the agenda-setting and formulation stage, no actors took on an active entrepreneurial role advocating and promoting the carbon tax through the legislative negotiating process. There was a lack of political agency to reframe the proposal in order to mobilize support for the carbon tax inside and outside the legislature, especially among pro-climate social actors. In a context of strong opposition to the carbon tax, the lack of policy entrepreneurship further debilitated the chances of the proposal and it helps to explain the weaker final version of the tax instrument approved by the Congress.

In sum, the development of the Argentine carbon tax was mainly driven by a political window opened by the tax reform and a coupling based on international emulation and reputational gains. While this coupling was successful in advancing the carbon tax proposal into the Tax Reform Bill, it was unable to overcome the opposition during the legislative process nor to raise broader political and social support for the tax. From a climate politics perspective, the tale of the Argentine carbon tax suggests the political limitations of an over-reliance on international reputation arguments to advance climate policy innovation. In this regard, one could speculate whether the outcome would have been different if the coupling of the carbon tax proposal had been more heavily linked to climate and local development benefits of decarbonization.

From a more theoretical perspective, our case study shows the analytical convenience of differentiating the coupling processes between the agenda-setting and decision-making stages (Herweg *et al.* 2015). This theoretical refinement to the original MSA conceptual framework allows for analyzing the relevant factors and political dynamics that shape each stage and, hence, it helps to explain the modifications that a policy innovation can suffer throughout the policymaking process.

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Appendix. List of Interviews

Interviewees' names are listed only when the interviewees have provided their consent.

1. Soledad Aguilar, Director of Climate Change, Ministry of Environment and Sustainable Development, email communications, Buenos Aires, November 7-8, 2018.
2. Government official, Ministry of Finance, Buenos Aires, November 8, 2018.
3. Juan Carlos Villalonga, national congressman (House of Representatives) and former Greenpeace Argentina policy campaign director, Buenos Aires, November 16, 2018.
4. Government official, Secretary of Energy, Buenos Aires, May 27, 2019.
5. Government official, Secretary of Energy, Buenos Aires, May 27, 2019.
6. Sebastian Galiani, former Secretary of Economic Policy, Ministry of Finance, Buenos Aires, July 3, 2019.
7. Luciano Laspina, national congressman and chair of the Committee on Budget and Finance of the House of Representative, Buenos Aires, July 3, 2019.

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¹ The High-Level Commission on Carbon Price chaired by Joseph Stiglitz and Nicholas Stern brought together 13 leading economists to identify the range of carbon prices that, together with other supportive policies, would deliver on the Paris climate targets. The Commission concluded that to achieve the agreed climate goals countries should set a

carbon price with a target of \$ 40-80 per tCO₂e in 2020, then between \$ 50-100 by 2030.

² The 'fixed sum' also fulfills a buffer and stabilizer role of fuel prices against changes in international oil prices. This was a key element to get support for the proposal from the head of the Ministry of Energy (Interviewee 6).