

Leveraging the power of mutual learning networks among state and non-state actors to negotiate and implement the Paris Agreement

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Abstract

Learning among actors in non-negotiation settings within the UNFCCC helped to diffuse policies across countries and changed negotiation positions in the core negotiations, resulting in the Paris Agreement. In combination with group pressure, these experience, knowledge and belief-based types of learning altered the negotiation dynamics within the UNFCCC. Transgovernmental city networks, the UNFCCC secretariat and NGOs created non-negotiation settings for governmental representatives to explore options and learn from other countries' successes. These learning networks were established to help countries share their experiences with low carbon economic development plans to address climate change while decoupling their economic growth. This contribution examines the role of non-negotiation settings at intergovernmental negotiations allowing countries to share experiences and best practice in implementing low carbon economic development plans. It focuses on how this learning on the international level encouraged countries to set up low carbon development plans, facilitating the Paris Agreement. Reflection on other countries' and non-state actors' successful experiences with domestic climate policy can help shape national interests over time towards increasing cooperation on climate action. It can facilitate the learning of other actors how successful initiatives for climate action can be transferred and adapted to their specific framework conditions. This is particularly important when transferring successful policies from the global North to the global South and vice versa across transnational initiatives.

Key words:

International negotiations, agency, learning, climate governance, climate policy

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INTRODUCTION

The adoption of the Paris Agreement on climate change in December 2015 was regarded as major breakthrough by parties and non-state actors alike. It concluded over a decade of deadlocked international negotiations about no less than sustained economic development and prosperity in the 21st century while averting and adapting to the unavoidable consequences of climate change. The Paris Agreement was made possible through the concerted effort of state and non-state actors alike, global public pressure, a bottom-up process of Intended Nationally Determined Contributions (INDCs) and commitments, skillful process management by the French presidency and the UNFCCC secretariat as well as falling costs of low carbon technologies and the development of a climate finance architecture compensating and supporting developing countries to pursue low carbon economic development pathways (Falkner, 2016; Ivanova, 2016; Oberthuer, 2016).

The key objective of this paper is to examine how learning can contribute to achieving breakthroughs in international negotiations and facilitate policy outcomes on the national level. While usually stable throughout such negotiation deadlocks, parties' interests and positions can be influenced among other factors by domestic interest group pressure (Milner, 1997) and domestic democracy (Mansfield et al., 2002). Negotiation analysis contains constructivist elements, especially how negotiators perceive and interpret other parties' demands and interests. Learning is understood as a positive means to identify compromise solutions, while it can also be distorted by distrust, self-serving assessments of fairness, information asymmetries and over-confidence (e.g. Arrow et al., 1995; Odell, 2009; Thompson, 2001). Yet gaps remain in the negotiation literature to better understand learning as a facilitating factor towards achieving breakthroughs in political decision-making and how this can be achieved.

This contribution examines to what extent learning among government representatives at intergovernmental negotiations and domestic policymaking can help to arrive at governance outcomes capable of effectively addressing climate change. It subsequently analyses how learning can be used in conjunction with policy entrepreneurship strategies to create group pressure among countries to revise their positions towards positive action on climate change. The central hypothesis based on the learning and negotiations literature is that a better understanding and use of learning mechanisms can contribute to achieving breakthroughs in negotiations and help shape countries' national interests towards increasing cooperation on climate action.

It focuses is on climate change as a cross-cutting policy area that is particularly difficult to address and can subsequently yield findings that are relevant and transferable to other policy areas. The United Nations Framework Convention on Climate Change (UNFCCC) negotiations were deadlocked for over 20 years due to incompatible national interests (Biermann et al., 2009; Falkner et al., 2010; Gupta, 2012) while the objective of avoiding dangerous climate change was slowly drifting out of reach (IPCC, 2013; Jacobs, 2012) and still requires additional efforts to those pledged in the INDCs (Michaelowa and Michaelowa, 2017). Initial empirical evidence from the climate negotiations (2011-2013) indicates that countries began to use the UNFCCC as forum to share their experiences with climate legislation (Nachmany et al., 2014). A key factor was positive group pressure to avoid being branded as 'laggard', while countries also began to compete for leadership roles (Rietig, 2014a). Transgovernmental city networks and NGOs created non-negotiation settings for countries to explore options and learn from successes, playing key facilitating roles. These cities and NGOs established learning platforms and networks

to help countries share their experiences with low carbon development plans, enabling them to address climate change while decoupling their economic growth from emissions.

Consequently, there was increasing scope to achieve a breakthrough in the negotiations. The transfer of knowledge and provision of support to local actors (Bernstein and Cashore, 2012) is especially relevant with regards to policy learning when international efforts try to “build learning fora and training about how to produce improved environmental, social and economic performance ‘on the ground’” (Bernstein and Cashore, 2012: 594). Policy learning can occur in the decision-making process when stakeholder networks diffuse knowledge and stimulate “win-win opportunities that otherwise would fail to emerge owing to perceived conflicts” (Bernstein and Cashore, 2012: 594).

This contribution applies and adapts a theoretical framework developed within the European Union policy-making context (Rietig and Perkins, 2017) to decision-making on the global level of international climate change negotiations. The learning framework synthesizes key theoretical perspectives on policy learning situated at the intersection of public policy and international relations within institutionalism and constructivism (e.g. Argyris and Schön, 1978; Haas and Haas, 1995; Nye, 1987). In order for learning to occur, the following should take place: (1) a reflection and judgment based on an input, experience or detection of error, which leads the individual and/ or organization to select a different view on (2) how things happen, i.e. the acquisition of knowledge or learning facts and (3) what course of action to take, i.e. the reflection on individual or collective experience or advice from others on such previous experiences (Rietig and Perkins, 2017). In adopting this definition, this article advances a number of previous studies on learning, which have included in their conception of learning the simple act of acquiring information and experience, without any reflection or change in behavior. Yet it is precisely these aspects that are necessary for change to occur. Early work on learning (e.g. Argyris and Schön, 1978; March and Olsen, 1975) places considerable emphasis on the essentially reflexive nature of learning, treating learning as an active process of change (Rietig and Perkins, 2017). Learning can be a relevant factor in arriving at policy outcomes, which can also interact with (and strengthen) other factors such as the institutional machinery, political interests, bargaining, and coercive power such as subordinates following powerful actors’ orders (Rietig and Perkins, 2017).

The central research question is ‘How does learning among policy makers involved in international climate governance be identified and if present, how can it facilitate policy outcomes on the international and domestic levels? The key contribution of this article is to advance our understanding of how learning can facilitate policy change. This is not only relevant for climate change, but could also be applied to other sustainable development related challenges of the 21st century. The paper proceeds in four parts. The next section will analyze the learning literature and present an adapted learning framework applicable to identify and evaluate learning in international negotiations and domestic policymaking. Following the methodology section, the empirical section will apply the learning framework to the UNFCCC negotiations leading up to the 2015 Paris Agreement. The discussion and conclusion section will reflect on the analytical strength of the learning framework and the importance of other factors that facilitated arriving on a ‘common landing zone’ for the Paris Agreement and that, in combination with non-state actors, can also support its implementation.

LEARNING AND OTHER EXPLANATIONS FOR NEGOTIATION OUTCOMES

Learning in negotiations occurs when an individual or a group is exposed to an input and reflects upon it (Rietig and Perkins, 2017; Zito and Schout, 2009). Factual learning refers to an increase in knowledge. The individual received new information or rearranged existing knowledge given a new context, processed the new information cognitively and added it to the knowledge base (Argyris and Schön, 1978). In a negotiation context, **factual learning** refers to an increase in knowledge about policy instruments (e.g. how market-based instruments such as emission trading work) and facts on the policy area such as technological details about the carbon performance of biofuels. It requires the individual or organisation to reflect on information provided to them either via publications, information by outside actors such as experts and information gained via their own fact-based research activities.

Experiential learning refers to the reflection on working experience accumulated over a certain time frame such as being involved in international negotiations and reflecting on the effectiveness of certain negotiation tactics. This occurs when individuals make an experience regarding a negotiation approach, reflect upon it and add the conclusions from the experience to their skill sets (Rietig and Perkins, 2017). A key aspect of experiential learning in negotiations is learning how the negotiation process works and becoming skilled at using strategies and tactics to influence decision-making on the national and international level. This is also referred to as ‘political learning’ (May, 1992; Radaelli, 2009). Most aspects of single-/ double loop learning in Organizational Studies (Argyris and Schön, 1978) fall within the experiential learning category as it focuses on identifying and eliminating errors following the reflection on past policy-making experiences.

If underlying beliefs change, resulting in a different view of how the individual or organisation ‘sees things’ (Nye, 1987), **constructivist learning** occurs. Beliefs are defined as a person or organisation’s views of the world and normative understanding of how things ought to be, which can mean maintaining or changing the status quo. A normative understanding of beliefs includes reflections on the importance of addressing certain policy problems and which policy instruments are deemed appropriate. Learning throughout the negotiation process however may or may not be reflected in the negotiation outcome. The following table summarises the theoretical framework on learning developed by Rietig and Perkins (2017).

Table 1. Criteria for identifying learning in the policy process. Source: Rietig and Perkins 2017: 11.

	Factual learning	Experiential learning	Constructivist learning
Individual level	Individual actors have acquired (e.g. from studies) and reflected on new information; increased knowledge and expertise deployed by actors in their task environment.	Active engagement with particular issue through direct experience and reflecting on successes and failures to enhance actors’ existing political or bureaucratic practices and competencies.	Changed personal norms, values or policy beliefs; underpins new and/or reinforced personal commitments and actions.

Organizational level	New knowledge is acquired by and transmitted through an organization; reflection, incorporation and use of knowledge in organizational activities and/or to inform organizational position.	Critical reflection on existing practices and performances within context of existing organizational goals; the accompanying development and/or refinement of new organizational processes, strategies and behaviours.	Change in organizational beliefs and values over time; institutionalization of normative beliefs, the reframing of organizational goals and discontinuous organizational action.
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Despite the relevance of learning for negotiation outcomes, it is also possible for negotiation outcomes to occur without learning processes when, for various motivations and reasons, actors do not reflect on new information or experiences. One central reason why actors do not reflect on new input is because they follow external pressures to implement decisions taken elsewhere, comply with national or organisational interests, or react to political pressure. Much has been said about the importance of power in global governance (e.g. Clegg, 2013; Saurugger, 2013), power relations between the European institutions and among states (e.g. Dunlop and Radaelli, 2016; Moravcsik, 1993; Wendt, 1992). Actors within the European institutions and multilateral negotiations such as those chairing committee meetings and UNFCCC contact groups have considerable power. This results in power asymmetries, which allow these actors to achieve their objectives via procedural tactics, behind-the-scene deals with counterparts in negotiations and forming coalitions to secure a voting majority (see e.g. Tallberg, 2006; Warntjen, 2008). They also form coalitions with other like-minded countries to improve their bargaining power (Elgström and Jönsson, 2000) both in terms of votes and side-payments via concessions in other policy areas. This literature points towards the relevance of ‘gains’ from participation in negotiations and voting power within international institutions and thus ultimately the importance of parties’ ability to protect national interests.

This however needs to be balanced with shared norms and expectations regarding transparency and accountability in international negotiations, in particular consensus-based processes within the UN that give every country a de-facto veto right (Depledge, 2005). Behind closed door deals and small groups taking leadership roles while failing to win the trust and support of the remaining actors by giving them an opportunity to provide input and develop a feeling of ownership can result in low effectiveness and failing to win the support of all actors necessary to arrive at a commonly shared decision (Monheim, 2015). The ‘non-learning’ literature emphasises that there are hindering factors that prevent individuals or organisations from reflecting on knowledge or experience and thus to enter a learning process. Both can occur during the negotiation process: actors can learn, but their learning is not transferred to the negotiation outcome due to lobbying, powerful opposing coalitions, missing majorities or veto players. Similarly, a negotiation outcome emerges although actors entered defensive avoidance (Janis and Mann, 1977) or followed orders from higher levels of the hierarchy, for example from a policy entrepreneur who used conventional bargaining and negotiation tactics to achieve a voting majority in support of a proposal. Furthermore, it is also possible that individual actors learned how to better negotiate and bargain to achieve their pre-set political objectives or protect the status quo in order to avoid reflection on whether new information calls for a reconsideration of the status quo (Radaelli, 2009).

In conclusion, the analysis of the role of learning in negotiations and policy change can be differentiated along the three learning types of knowledge-based (factual) and experience-based (experiential) learning as well as changes in beliefs (constructivist learning). It also needs to take into account other explanations for policy change than learning, including power, national interests, lobbying, bargaining, and instances where decisions are avoided through procrastination and delegating the decision to others. The central pre-requisite for learning to occur is however that actors reflect on a knowledge- or experience-based input and come to re-evaluate their negotiation position and policy actions (Rietig and Perkins, 2017).

LEARNING IN THE UNFCCC NEGOTIATIONS LEADING UP TO THE PARIS AGREEMENT

The following sections apply above theoretical framework developed by Rietig and Perkins (2017), which places the pre-requisite of ‘reflection’ by the individual and organisational learning agent at the heart of its analysis, to the case of negotiating the 2015 Paris Agreement on climate change. To determine whether learning did indeed take place, the learning literature concluded that an observation time frame of about a decade is appropriate (Radaelli, 2009). Therefore, the analysis covers the years between 2005 and 2015, from the entering into force of the Kyoto Protocol to the adoption of the Paris Agreement. This makes for an interesting and relevant test case of learning as it is the result of a decade-long negotiation process involving various political interests, expressed through state and non-state actors, that spans from the Kyoto Protocol of 1997 via the 2009 Copenhagen Accords to the Second Commitment Period of the Kyoto Protocol 2012-2020 and the 2011 Durban Platform on Enhanced Action, which paved the way to the Paris Agreement. The research triangulates findings from 20 elite interviews with negotiators and non-state actors involved in the negotiations leading up to the Paris Agreement with document analysis (e.g. negotiation texts, position papers, records of speeches).

To identify learning on the individual level, the accounts of decision-makers would need to reflect a change in knowledge in terms of a better understanding of policy instruments and how they can be applied (factual learning) or increased experience by being involved in the drafting and/or negotiation process and gaining experience in negotiation strategy (individual experiential learning). Reflection on this ‘normal’ learning can potentially result in constructivist learning via changed underlying beliefs (Nye, 1987). The key determinant for learning on the individual level is the previous experience and expertise the individual had at the outset of engaging with the new legislative proposal. Learning can be measured as a change in the status quo, the difference between the point in time when the individual began to engage with a topic discussed in the UNFCCC negotiations and the adoption of the Paris Agreement as the final step.

Factual learning in the UNFCCC negotiations

There is a certain inherent fluctuation of individuals involved in the UNFCCC negotiations on behalf of their countries’ government or via a non-governmental organizations.

Actors on the diplomat level frequently work for their government's ministry of the environment, climate change, energy, foreign affairs or increasingly finance/ economic affairs and tend to remain in their roles for a longer time frame of over 5 years and are therefore also more likely to participate in several UNFCCC negotiations. Some participated in the UNFCCC negotiations or worked on climate change related topics for over ten years as a comparison of the UNFCCC participation lists over a decade illustrates (UNFCCC 2005-2015), while others entered the climate negotiations and gained new knowledge about climate change related topics through job rotations as civil servants or career changes (Interviews). It is important to differentiate between those groups when analyzing learning as the level of pre-existing knowledge on climate change and technical topics matters such as emissions trading, measuring, reporting and verification of greenhouse gas emissions, reducing emissions from deforestation and forest degradation. If the individual is already an expert in those areas, they are more likely to act as 'teachers' (Bomberg, 2007) by offering their expertise to other negotiators and explaining technical details when the need arises. They are less likely to gain a significant amount of new knowledge from participating in the negotiations; thereby their learning can be rather classified as incremental. They also participate in 'side events' by organizing and contributing to panels on dedicated topics that aim at disseminating information about the latest climate science and governance research findings and offer a forum to discuss questions in a non-negotiation setting that encourages a more open exchange of ideas and knowledge than in the formal negotiations. Actors who only began to attend UNFCCC negotiations relatively recently experience a steep learning curve with regards to being presented with and reflecting on an overwhelming wealth of knowledge about the different sub-topics of the climate negotiations and especially the area they are specializing in such as climate finance, technology transfer or the finer points of measuring, reporting and verifying greenhouse gas emissions (Interviews).

Reflecting on the facts-based input provided and thereby engaging in factual learning is, to a certain extent, unavoidable while being actively engaged in the negotiations. Country representatives filter the information they receive through the lens of their national interests and compare how they fit with the existing negotiation position (Rietig, 2014b; Weible, 2008). If the scientific input matches with the pre-existing negotiation position, they engage in political use of the knowledge to underpin their arguments and try to convince other negotiators with scientific studies of the viability of their proposals (Interviews). If however the information does not match their negotiation position, they either enter a state of defensive avoidance by ignoring the input or, as long as the new information is compatible with the underlying beliefs of their government or negotiation coalition, they reflect on the new input and may arrive at the conclusion that their negotiation position needs to be changed to reflect the new evidence (Rietig, 2017).

For the UNFCCC negotiations, the Intergovernmental Panel on Climate Change (IPCC) provides the main input regarding the latest evidence on climate change via its Assessment Reports. The 4th Assessment Report (IPCC 2007), for which the IPCC was awarded the Nobel Peace prize, had a major effect on individual negotiators to reflect on the input, learn about the exacerbating effects of climate change and to acknowledge in the face of the overwhelming scientific evidence provided by the IPCC that the climate crisis exists and that it requires a global response (Interviews; Side events). This consensus was maintained among UNFCCC negotiators also in the light of 'climate gate' and rising levels of climate skepticism fuelled by attempts of the fossil fuel industry and closely linked government officials to dispute the scientific consensus. The 5th Assessment Report of the IPCC (2013) resulted in an updating of individual negotiator's knowl-

edge base in terms of recognizing that the climatic changes were progressing even faster and with more intensive weather impacts.

The second major learning process among individual negotiators occurred between 2010 and 2015, when certain countries assumed leadership positions in the climate negotiations by setting up domestic climate change policies covering mitigation and adaptation efforts and began to present their achievements in negotiation streams within the UNFCCC negotiations (Rietig, 2014a). This took initially the form of roundtable discussions and side events between 2010 and 2013, until a significant part of the 2013 May UN climate talks in Bonn was dedicated to countries presenting their low carbon economic development plans and domestic climate change legislation. In this time frame an increasing number of developed and developing countries began to set up ambitious climate policies (Nachmany et al., 2014), which were further enhanced by a multitude of non-state actors such as regions, cities, businesses and investors setting up initiatives for decarbonization and divestment from fossil fuel investments which resulted in strong 'bottom-up' action (Falkner, 2016). This wealth of information opened up the capacity of lead negotiators usually fully emerged in the core negotiations to also update their knowledge on other countries' climate change policies, gain information on how climate policies can be designed in similar national contexts. They began to draw lessons from other actors' experiences regarding the challenges and opportunities of such policies for co-benefits in terms of economic development and at the same time and avoiding greenhouse gas emissions by investments into energy efficiency and in the case of renewable energies also to increase their energy security (Interviews).

The factual learning that occurred among individual negotiators both about climate science as well as options for low carbon economic development and climate policies was transferred to the organizational level of national governments and non-governmental organizations once the individuals convinced their central decision-makers. Learning on the organizational level occurs as soon as statements are given on behalf of a country or an organization adopts a certain position that was influenced by the learning experience. This was evidenced by speeches and statements given on behalf of countries and multinational negotiation groups in recognition of the scientific findings of the IPCC reports and by requests for more information regarding the effectiveness of other countries climate policies (Interviews) as well as calls for assistance to develop their own climate policies in the form of INDCs in response to the Paris Agreement (Interviews).

Experiential learning

Learning based on experiences requires individuals and/or organizations to reflect on their previous experiences and to either confirm their course of action based on the previous experiences or to modify it. Individuals usually engage in experiential learning by being involved in the UNFCCC negotiations. They gain new experience regarding the decision-making process within their governmental or non-governmental delegation and negotiation bloc as well as modify their negotiation strategies and tactics based on their experiences of what helps them to achieve their objectives – and what is rather a hindrance (Interviews). As learning is measured from the baseline of pre-existing experience, new entrants to the negotiations experience a steeper learning curve than 'veteran' negotiators who have several years of negotiation experience within the UNFCCC and/ or related ne-

gotiations. Experienced negotiators also possess a larger network and have built a higher level of trust to other negotiators, which allows them to also benefit from their experiences, however they act less as learners themselves (as there is little new for them to learn in terms of negotiation tactics) than rather as ‘teachers’ (Bomberg, 2007) by supporting more junior negotiators to benefit from their experience (Interviews). Their previous experiential learning over several UNFCCC negotiation years also enables senior negotiators to act as policy entrepreneurs by taking on leadership roles, actively promoting their proposals and convincing other actors of its importance and feasibility by repeating arguments, emphasising facts and positive outcomes of impact assessments or scientific studies and using their personal capabilities (Braun, 2009). These activities can result in convincing other actors in their own delegations and especially across negotiation groups of the importance to support the proposal. Thus, policy entrepreneurs are central to transfer their individual learning to the organisational level.

Two experiential learning instances were particularly influential on the road to the Paris Agreement. The COP-15 climate negotiations in Copenhagen were widely regarded as a failure to arrive at the needed global new agreement to effectively address climate change, resulting in a fragmentation of the climate change regime and putting the future of the climate negotiations in jeopardy (Christoff, 2017; Falkner et al., 2010). Reflections on this ‘failure’ resulted in a number of individual and experiential learning processes. The President of COP-15 was appointed European Commissioner on Climate Action from 2010-2014. During her tenure as Commissioner, she used policy entrepreneurial strategies to convince her counterparts and achieve her negotiation objectives. Previous colleagues described her as “a very strong person, with her own views and a lot of self-confidence, as most politicians have (...) hard-working and very energetic, so quite remarkable” (Interview 17). This dedication was linked to her reflection on her experience as COP-15 President drive to still achieve a meaningful climate agreement, having “a bit to prove now, because [COP-15] was considered a failure and then she was appointed Climate Commissioner, so she can’t really afford to fail again. I think she has an extra motivation, working very hard where she is now” (Interview 2). Subsequently, she played a central role in getting an agreement from the developing countries, especially India, to negotiate some kind of comprehensive agreement of legal character under the Durban Platform for enhanced Action (Rajamani, 2012), which resulted in the Paris Agreement. The ‘side payment’ was to extend the expiring Kyoto Protocol to include a second commitment phase from 2012 until the new agreement would enter into force in 2020, although this de-facto meant unilateral commitments to reduce emissions by the European Countries (Interviews).

The second major aspect of experiential learning that influenced the negotiation outcome was the reflection of the UNFCCC secretariat, especially of the Executive Secretary, as well as the COP 16-21 Presidencies on their previous negotiation experiences and the COP-15 negotiations. They concluded that the negotiation process requires a different leadership approach with regards to a high level of transparency to ‘take every country along’ and give the negotiations the level of legitimacy required to avoid that individual countries object to the draft agreements. They emphasized a ‘common landing zone’ and town hall-type meetings that listened to every negotiator’s concerns and at the same time established rules encouraging constructive and innovative suggestions on moving towards common ground as opposed to simply voicing objections. These informal negotiation formats of ‘Indabas’ were introduced by the South African Presidency in Durban in 2011 and continued to be used by the French Presidency into the hours leading up to the Paris Agreement (Nhamo and Nhamo, 2016). They also paired ministers from

developed and developing countries to work through the most controversial issues together, a tactic used successfully at the Cancun 2010 negotiations. Furthermore, the French Presidency reflected on the tactical errors made during the Copenhagen COP-15 negotiations, in particular the loss of trust among the majority of countries excluded from the closed door negotiations among the major greenhouse gas emitters who were accused of “drawing up a ‘secret text’” (Morales, 2015). Subsequently, the focus at COP-21 was on emphasizing the inclusiveness of the process and that “nothing is agreed until everything is agreed” (Interview 10), as well as adapting the strategic management of the negotiations to take into account developing countries concerns (Morales, 2015). These measures illustrate how individuals reflected on their and other’s experiences with previous UNFCCC negotiations and drew lessons on what worked and did not work. This also resulted in organizational learning as governments and the UNFCCC secretariat as a whole reflected on these experiences and changed their approaches and strategies with regards to managing the process of the negotiations (Monheim, 2015).

Constructivist learning

If individuals and countries change their underlying beliefs regarding an issue following a reflection on a knowledge or experience-based input, they engage in constructivist learning. This learning type can be regarded as relatively rare and particularly useful in achieving lasting policy change as it can be ‘self-perpetuating’ given that the individual, organization or country changed the way they ‘see things’ and in the future use their adapted beliefs as compass guiding their actions and decisions (Rietig and Perkins, 2017). In the UNFCCC negotiations between 2011 and 2015, remarkable constructivist learning occurred especially among developing country negotiators and, by extension, within their governments and countries. As illustrated in the section on factual learning, both developed and developing countries alike began to present their low carbon economic development plans and climate change policies in side events, at roundtables and increasingly within the formal UNFCCC negotiations (Rietig, 2014a). This resulted in institutionalized days of exchanging best practices and showcasing lessons learned from developing and implementing climate policies (UNFCCC, 2016). The UNFCCC thus evolved into a ‘learning forum’ with various platforms and initiatives aimed at policy transfer, policy diffusion, lesson drawing and showcasing best practices. This put increasing pressure on ‘laggard’ countries to explore how they can set up low carbon economic development plans themselves and how they can pick ‘low hanging fruits’ in the areas of energy efficiency and renewable energies (Interviews). Especially renewable energies have dropped in price far enough to increase their competitiveness compared to fossil fuels, which provided new incentives for developing countries to consider shifting their infrastructure investment to integrate resilience and low carbon objectives (Interview 8).

The constructivist learning is particularly illustrated in the shift in perspective among developing countries, which are exempted from greenhouse gas emission reductions under the Kyoto Protocol, to consider setting up their own climate policies in support of low carbon economic development (Ivanova, 2016) and realizing other co-benefits such as reducing air and water pollution. The INDCs are a voluntary measure on the side of developing countries to shift to a low carbon trajectory in line with the principle of common but differentiated responsibilities. Individual negotiators convinced their

governments, together with non-state actors, that there are ‘win-win’ opportunities in addressing climate change while realizing countries right to development. They formed this new belief and embraced it in their INDCs. This narrative marks a strong shift away from the dominant perspective within the UNFCCC negotiations that addressing climate change equals sacrificing economic growth and results in job losses. Countries instead began to embrace a positive narrative regarding shifts to a green economy and green jobs and understanding this shift as sources of new economic growth (Interviews).

DISCUSSION AND CONCLUSION ON THE RELEVANCE OF LEARNING AND NON-STATE ACTORS IN (NON-)NEGOTIATION SETTINGS

The empirical section illustrated how learning among individuals and countries mattered and facilitated the negotiation outcome in the form of the Paris Agreement to emerge by first developing in non-negotiation settings surrounding the UNFCCC negotiations. This narrative of learning as a facilitating factor for policy change is certainly a positive story of successful negotiations, in which policy entrepreneurs learned from their past failures by reflecting on their experiences and changing their negotiation strategies. A new, positive narrative around ‘low carbon economic development’ helped countries to overcome their decade old opposition to climate policies, change their underlying beliefs on the economic impacts of climate policies and to embrace instead INDCs to harvest the fruits of co-benefits from sustainable development. Table 2 summarizes the empirical findings.

Table 2. Learning and alternative explanations for the negotiation outcome. Compiled by the author, based on Rietig and Perkins, 2017.

	Alternative explanations	Factual learning	Experiential learning	Constructivist learning
Individual level	Limited and/or linked to learning	Individuals reflected on scientific evidence on climate change, recognition and diffusion of national climate legislation,	Key individuals reflected on their experiences (successes and failures) and became engaged policy entrepreneurs	Group pressure from other countries’ climate policies and low carbon development plans results in competition for more ambitious climate action following individuals’ reflection on the compatibility of climate action and economic development and conclusion that climate action is in the interest of developing countries

Or- ganiza- tional level	Influence of non-state actors, which however facilitated learning among state actors and helped changing their beliefs on the compatibility of climate action and economic development	Urgency of climate crisis communicated by 5 th IPCC report	Reflection on ‘failures’ of COP-15, subsequent emphasis on inclusive and transparent negotiation process	Change in beliefs regarding compatibility of climate action and economic development, focus on long-term low carbon development architecture, emerging win-win perspective on combining climate action with economic prosperity, developing countries like China, India and Brazil acknowledge their responsibility to shift to low carbon economic development pathways
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However, there are also other factors that explain why the Paris Agreement was able to emerge. These range from the activities and influence of non-state actors, changing framework conditions in the global economy and availability of technologies to individual and organizational policy entrepreneurs who made use of the ‘historical window of opportunity’ that presented itself to carefully orchestrate the negotiation outcome. One central factor is that a new paradigm of transnational governance emerged (Chan et al., 2016; Michaelowa and Michaelowa, 2017). The fragmentation of the climate regime (Biermann et al., 2009) was a consequence of the ‘Copenhagen failure’ when several non-Annex 1 actors decided to take unilateral action and set up national climate policies (Nachmany, 2014), started to invest in clean technologies, renewable energies and energy efficiency, divested their fossil fuel investments, and began to turn their attention to how cities, regional governments and states can strengthen their emerging and existing collaborations in transnational networks while beginning to set their view on achieving an agreement to replace the Kyoto Protocol by 2020 (Chan et al., 2016; Jacobs, 2012).

Especially non-state actors played a pivotal role in changing the framework conditions to facilitate the Paris Agreement. They “effectively identified the landing ground for the agreement, then encircled and squeezed the world’s governments until, by the end of the Paris conference, they were standing on it” (Jacobs, 2015). The Global Commission on the Economy and Climate’s report generated significant momentum among parties. It picked up on the 2006 Stern Review’s narrative on combining economic growth with climate action into “Better Growth, Better Climate” (New Climate Economy, 2014) and was communicated by leading figures such as the former Mexican President Calderon at the 2014 Lima UNFCCC negotiations. Together with the 5th Assessment Report of the IPCC, the business community picked up on the positive narrative of co-benefits after reflecting on the feasibility and forming new beliefs that the climate crisis can be addressed by viable investments in clean technologies, divesting their investments in the ‘stranded assets’ of fossil fuels to low carbon technologies (Jacobs, 2015). Inspired by the ‘We Mean Business’ coalition, 6.5 million businesses urged governments for climate action by December 2015. This was also a result of the environmental NGOs global campaign efforts against fossil fuel investments based on the Carbon Tracker’s concept on ‘unburnable carbon’ and global mass mobilization of 42 million supporters by activist NGOs such as Avaaz to put public pressure on governments (Jacobs, 2015). Public pres-

sure from non-state actors on governments gained further momentum in the wake of the Climate Summit of September 2014 organized by UN Secretary General Ban Ki-Moon, when cities and businesses made ambitious pledges, launched new initiatives (Hale, 2016) and over 400,000 members of civil society made headlines with their climate march (Jacobs, 2015; Interview 20). Overall, non-state actors and their entrepreneurial activities played a pivotal role in opening up the window of opportunity for the Paris Agreement to emerge. Their strategies of mobilization can however also be traced back to reflecting on their experiences leading up to the Copenhagen climate change conference, when their influence remained limited and far behind expectations (Rietig, 2014a; 2016).

The central finding of this article is not that learning alone mattered, but that learning was an important intervening factor that facilitated and reinforced the positive effect of these other explanations for resolving the negotiation deadlock. Not one factor alone explains why it was possible to overcome the decade old negotiation deadlock in the UNFCCC and to arrive at the comprehensive climate agreement the world longed for in 2009, but learning is one of the central analytical lenses that helps to gain a more in-depth understanding of the interactions of different negotiation dynamics at play. Understanding how learning facilitated the Paris Agreement also allows to draw lessons on how learning among actors can facilitate policy change on the national, regional and transnational levels crucial for actual greenhouse gas emission reductions.

The findings also indicate that timing played a very important role, together with learning from failure and external pressure to achieve a negotiation outcome. In 2009, developing countries were not yet willing to commit themselves to reducing their emissions as they believed this would mean sacrificing development and inducing economic hardship on their populations. It also violated beliefs regarding climate justice aspects – and in particular feelings of being at the receiving end of further colonial-era injustices at the hands of the developed countries who industrialized by exploiting developing countries' natural resources, burning fossil fuels and locking themselves into carbon-intensive infrastructures and lifestyles, while at the same time denying developing countries their right to similar economic development pathways to address social injustices and invest in education, health and lift millions out of poverty via economic growth. This belief only began to change gradually between 2010 and 2015 when it became clear that even if the developed countries stopped emitting greenhouse gases, the emissions from developing countries would still exacerbate climate change (Canete, 2015). Especially since China overtook the United States as the world's largest emitter and the dire consequences of air and water pollution began to threaten political stability in China, the Chinese government reacted by enshrining the shift to a low carbon economy in their five-year plans.

In 2009 renewable energies were also not yet a viable alternative to installing fossil fuels as their higher prices called for subsidies to support their uptake in domestic energy markets. By 2015, the price of renewable energies dropped to a level that makes them competitive with fossil fuels, including coal. The capacity to set up smart grids and manage the constant provision of electricity has also improved significantly (Covington, 2017). A number of key governments from China (Hilton and Kerr, 2017), the United States, Germany, the UK to India (Dubash, 2017; Walsh et al., 2011) benefitted from dedicated leaders who acknowledged that climate change is a serious threat to their countries future economic prosperity and that acting upon it is in their national interest. These factors, combined with the activities of non-state actors and the learning among individuals and countries allowed the international community to make use of the 'window of opportunity' that was carefully orchestrated in December 2015. While many actors expected a lengthy the ratification process after the exceeded expectations following the Paris

summit (Ivanova, 2016), the sustained momentum and risk of political change in Autumn 2016 allowed a early entering into force of the Paris Agreement ahead of COP-22 in Marrakesh, which became an ‘implementation COP’ full of new initiatives, platforms and commitments confirming existing pledges such as the Non-State Actor Zone on Climate Action (NAZCA) and increasing positive competition pressure to mobilize more financial resources and political will to increase actors ambitions to reduce the gap between existing commitments and the climate action necessary to limit global temperature increases to the 1.5 to 2°C target. In conclusion, it could be argued that the world was not yet ready for a climate agreement in 2009, but without the failure of 2009 and the lessons learned from this experience, the 2015 triumph would not have been possible. Especially the aspect of learning from failure is particularly noteworthy and a central explanatory factor for the Paris Agreement and, by extension, for overcoming deadlocks in other negotiations and implementing climate policies on the national level.

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