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PREFACE

The **CARISMA** project (“**C**oordination and **A**ssessment of **R**esearch and **I**nnovation in **S**upport of climate **M**itigation **O**ptions”) intends, through effective stakeholder consultation and communication leading to improved coordination and assessment of climate change mitigation options, to benefit research and innovation efficiency, as well as international cooperation on research and innovation and technology transfer.

Additionally, it aims to assess policy and governance questions that shape the prospects of climate change mitigation options and discuss the results with representatives from the target audiences to incorporate what can be learned for the benefit of climate change mitigation.

Knowledge gaps will be identified for a range priority issues related to climate change mitigation options and climate policy making in consultation with stakeholders.

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CB3	Joint Implementation Network	JIN	NL
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1 Introduction

1.1 Characterising the complex problem of climate change

Climate change cannot be reduced to a simple matter of rising greenhouse gas emissions, but must be understood as a “wicked” problem (Rittel and Webber 1973) or even as a “super wicked problem” problem (Levin et al. 2007: 4-9; Lazarus 2009: 1159-1183). The “wicked” nature of climate change means that its causes and its impacts cut across all sectors of society. Generating electricity from a coal-fired power plant, travelling by car or by plane, clearing forests for agricultural land, or cooking using natural gas are just a sample of the various activities leading to greenhouse gas emissions. Similarly, climate impacts such as heat waves, floods and droughts, sea-level rise may adversely affect energy systems, public health, ecosystems and biodiversity, agricultural productivity, and so on.

Climate change also cuts across national borders: whether emissions are released in India, China or the United States, they may affect people and ecosystems all over the world, since it does not matter for global temperature changes where emissions come from. Impacts of a changing climate further have an important temporal dimension due to the long-lived nature of greenhouse gases in the atmosphere. This means that to prevent or reduce impacts in the future, it is necessary to take action now (Lazarus 2009: 1174-1176). The climate problem is also characterised by various levels of scientific uncertainty, including uncertainty regarding the future development of greenhouse gas emissions as well as the impacts (and associated costs) of climate change in the long term (IPCC 2007: 72-73).

All of the above also makes climate change an ethical and a moral challenge. Among the questions raised are: who should pay for the costs of reducing emissions; how should the remaining carbon budget be divided; and who should bear the burden of adapting to the inevitable impacts of climate change? Historically, the industrialised West has been responsible for most of greenhouse gas emissions (although China and India are catching up fast) while developing nations are most likely to suffer from adverse effects of climate change but having contribute only little to it. Moreover, some countries might be inclined to develop first and then clean up later, an understandable argument when more than 600 billion people in sub-Saharan Africa still lack access to electricity (IEA 2014). Yet also within countries there are inequalities, with high emitting individuals spread across developed and developing countries (Chakravarty et al. 2009).

If this level of complexity was not enough, climate change is caused and requires action by a multitude of public and private actors. For instance, recent research shows that 63 percent of global cumulative industrial carbon dioxide (CO₂) and methane emissions from the period 1751-2010 can be traced to just 90 companies (Heede 2014: 237). This means that in 2010, Saudi Arabian oil company Aramco released 1,550 megatonnes of CO₂-equivalent, almost double the CO₂ emissions of Germany in 2012. Yet notwithstanding the relevance of such actors for climate change mitigation, international

climate policy has developed mainly on the basis of inter-state negotiations and agreements.

1.2 Climate change governance: a primer

Governance is an elusive concept, but at the same time heavily used in academic, journalistic and popular discourse. Most definitions seem to incorporate the notion of “steering society” in a certain direction (Pierre and Peters 2000: 1; Capano et al. 2015: 3), by incorporating a variety of actors such as non-governmental organisations (NGOs) and business players (Kooiman 2003: 4), and doing so in a less hierarchical manner than traditional policy making by government (Dingwerth and Pattberg 2006: 192). Here, governance is defined more broadly than the term “government”, focusing on the coordination of activities rather than top-down policy making (Pierre 2012; Capano et al. 2015: 5). Moreover, normative judgements can be applied to the term governance when speaking of *good governance* (Rothstein 2012) or when seeing the term as reaction to the neo-liberal world order which either hollows out traditional state functions (Stoker 1998: 18) or which emulates private sector practices such as cost-efficiency and “customer” satisfaction (Pierre 2012).

So, what are some of the key features of *climate change* governance?

First, climate change governance is diffused – both horizontally across sectors and vertically across levels – along a wide range of sites of governance, with some being climate-related and others not. Internationally, climate change has been said to be governed by a ‘regime complex’ (Keohane and Victor 2011), comprising a variety of international institutions. Efforts to tackle climate change have been carried out most prominently under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC), which led to the Kyoto Protocol in 1997, and most recently to the Paris Agreement (see below). Other international legal agreements such as the 1987 Montreal Protocol on Substances Depleting the Ozone Layer also influence how governments and individuals respond to our changing climate. Climate change is also governed indirectly by a range of other international institutions whose mandate does not necessarily focus on environmental issues (Moncel and van Asselt 2012). Consider for example the World Trade Organization, whose aim is to liberalise the trade in goods and services, which could lead to higher emissions,¹ but which could also promote climate objectives by facilitating the trade in environmental goods and services or reducing subsidies for fossil fuel production and consumption.

At the national level, climate change is being addressed increasingly by specific laws, policies and strategies (e.g. national climate acts in Finland and the United Kingdom) or institutions (e.g. DG Clima at the European Union (EU) level or the Climate Change

¹ Although the industrialised North has recently decoupled economic growth from rising emissions by a multitude of policy instruments seeking to promote energy efficiency and renewable energy production, economic growth in developing countries is thought to go hand-in-hand with increasing levels of pollution; see Bernauer and Schaffer (2010).

Committee in the United Kingdom) (Nachmany et al. 2017). However, the biophysical and socio-economic interrelationships with 'other' issue areas such as 'energy,' 'agriculture' and 'water' also necessitate thinking about the interlinkages between policies and institutions in these areas to ensure policy coherence. This has led to increasing calls for and activities aimed at, climate policy integration (Adelle and Russel 2013; van Asselt et al. 2015b).

Second, climate change governance also involves a myriad of actors, including not only national and subnational governments, but also the private sector (from multinational corporations to small and medium-sized enterprises), NGOs, religious organisations and citizens' initiatives (Pattberg and Stripple 2008; Andonova et al. 2009; Hoffmann 2011; Bulkeley et al. 2014). But also financial institutions such as pension funds, investment banks and development banks can wield influence. For instance, the European Investment Bank decided to curb financing of coal-fired power assets in 2013 (McGarrity 2013), and Norway's pension fund, the world's largest sovereign wealth fund, decided to divest from coal mining in 2015 (Carrington 2015).

Third, climate governance involves a range of non-hierarchical, collaborative modes of governance, (Bäckstrand and Lövbrand 2015). When employing these instruments, governments increasingly involve, or rely upon, the collaboration of other societal actors. One example is the EU emissions trading system: though it was established through an EU Directive, and displays regulatory elements in the form of mandatory emissions caps, monitoring, reporting and verification, and compliance and enforcement, it also is crucially dependent on market activity, with companies covered by the system trading allowances with each other. Other examples include a wide variety of multi-stakeholder partnerships initiated by both states and non-state actors, such as the Climate and Clean Air Coalition, the Carbon Pricing Leadership Coalition and Mission Innovation.

The international climate governance landscape – although first and foremost state-based – has increasingly acknowledged and accommodated these specific features of climate governance, with the adoption of the Paris Agreement a key milestone along the way.

1.3 The Paris Agreement and the future of climate change governance

The year 2015 marked a major step forward for multilateral climate diplomacy under the UNFCCC. Climate negotiators were faced with the challenge of reaching a universal and legally binding agreement to tackle climate change in the post-2020 era. After negotiators failed to reach such an agreement in Copenhagen 2009, this time they succeeded with the adoption of the Paris Agreement on 12 December 2015 at the 21st Conference of the Parties (COP) of the UNFCCC.

The Agreement forms the basis for a new era of international cooperation on climate change, putting in place obligations that apply to all its parties. This does not mean that all countries will be treated alike for all intents and purposes of the Agreement; however, it does mean that the dichotomy of developed versus developing countries (or Annex I

Parties versus non-Annex I Parties) is largely left behind, and subtler forms of differentiation are being pursued instead (Maljean-Dubois 2016; Rajamani 2016).

The Paris Agreement also is significant in that it confirms the shift towards a hybrid governance architecture – combining both ‘top-down’ and ‘bottom-up’ elements – that started with the 2009 Copenhagen Accord and the 2010 Cancún Agreements (Van Asselt et al. 2015a). This shift means that legally binding emission reduction targets have been replaced by non-legally binding nationally determined contributions (NDCs), through which countries determine their individual level of ambition as well as the type of contribution they intend to make. The basic premise behind the Agreement is that, over time, the Paris Agreement functions as a mechanism to ratchet up parties’ ambition. This mechanism consists of the following elements: (1) long-term temperature goals to stay well below 2°C and to pursue efforts to stay below 1.5°C; and a long-term goal of net zero carbon emissions by 2100; (2) a five-yearly cycle of submitting NDCs; (3) the provision that new NDCs will have to go beyond previous ones (e.g. in terms of scope, type of mitigation commitment, or stringency) and have to reflect a party’s highest possible ambition; and (4) periodic review, including a review of implementation through a transparency framework; a review of compliance through an implementation and compliance mechanism; and a review of overall progress through a five-yearly global stocktake.

With 152 Parties having ratified the treaty by July 2017, the Paris Agreement witnessed the fastest entry into force of any multilateral environmental agreement. While the hybrid approach can be successful in terms of inducing participation (Bodansky 2012), the crucial challenge will be to make sure that countries’ pledges are followed through, especially in light of the likelihood that current pledges are insufficient to meet the Agreement’s objective to keep global warming well below 2°C compared to pre-industrial levels (UNEP 2015b; Rogelj et al. 2016). Moreover, the announcement of the impending withdrawal by the world second-largest emitter, the United States, in June 2017 means that it may be challenging to meet the Agreement’s goals.

The robustness of the Paris Agreement in the face of adversity will be influenced, among others, by two factors that are the subject of this report.

First, as will be explained in **Chapter 2**, actors and institutions outside the UNFCCC have started to take climate action autonomously of – though in some cases influenced by – the international climate regime. These actors and institutions include, first of all, other international legal regimes, including those addressing sectoral emissions (notably from international aviation and maritime shipping) and regimes addressing greenhouse gases other than carbon dioxide (notably the Montreal Protocol on ozone depleting substances). In addition, other international legal regimes such as those governing international trade (including both the multilateral World Trade Organization agreements as well as regional trade agreements) have also assumed increasing importance in climate change mitigation. Second, so-called ‘minilateral’ climate coalitions or ‘climate clubs’, involving a limited set of governments (with or without the participation of non-state actors) can

play an increasingly important role in implementing international climate policy and strengthening ambition. Third, there is an important role to play for non-state actors, including the private sector, civil society and sub-national authorities, who have already independently stepped up their efforts in recent years. The efforts made by these actors and institutions, and their relationship with the regime established by the UNFCCC, is the topic of Chapter 2. The chapter explains the activities undertaken by these actors and institutions, and offers suggestions for how the coherence among a variety of climate governance initiatives can be strengthened.

Second, ambitious climate change mitigation policy requires strong leadership. **Chapter 3** discusses the possible role of the EU as a climate leader. While the EU has been perceived as a leader in international environmental and climate action in the past (e.g. Gupta and Grubb 2000; Wurzel et al. 2017), several challenges have arisen in recent years that may make it harder for the EU to claim the mantle of leadership. Chapter 3 will outline the conditions under which the EU could reclaim international climate leadership.

2 Improving coherence in the post-Paris climate governance architecture

2.1 Introduction

The year 2015 marked a major step forward for multilateral climate diplomacy under the UNFCCC.² The Paris Agreement forms the basis for a new era of international cooperation on climate change, putting in place obligations that apply to all its Parties. Yet the achievements in Paris do not mean that the United Nations climate regime is the only venue for climate action. Indeed, the Paris outcome itself offers strong indications that action outside of the UNFCCC's remit will play a key role in the struggle against climate change, acknowledging and encouraging action by voluntary efforts, initiatives and coalitions. The reason why such initiatives and coalitions matter beyond Paris is the flexibility that the Agreement offers in its implementation. Parties are not only free to choose their NDCs; they are also free to choose how they implement them. In addition to the discretion offered in the implementation phase, the Paris Agreement does not cover all possible areas of climate change mitigation, and other international institutions can still play an important complementary role by addressing sectors or gases that are not covered by the Agreement.

Against this background, this chapter examines the broader architecture for global climate governance after Paris and offers suggestions for improving coherence within international climate governance that can be implemented by Parties to the UNFCCC and the Paris Agreement, Parties to other international legal instruments, non-Party stakeholders and other relevant actors (e.g. the UNFCCC Secretariat). It begins with an overview of three significant areas of climate action initiated outside of the UNFCCC, offering some indications of how such action may evolve in light of the Paris outcome. It then discusses the ways in which the United Nations climate regime is linked to action taken in other venues, with a focus on the Paris Agreement. The chapter then offers three suggestions on how those relationships could be strengthened, before offering some concluding remarks.

2.2 Climate action outside the UNFCCC before and after Paris

This section provides an illustrative overview of climate action undertaken outside of the UNFCCC context, focusing on: (1) developments in three other international legal regimes focusing on specific sectors or gases, namely the International Civil Aviation Organization (ICAO), the International Maritime Organization (IMO), and the Montreal Protocol on Substances that Deplete the Ozone Layer; (2) the rise of minilateral climate coalitions to address climate change; and (3) initiatives undertaken by non-state and subnational actors. The section is not meant to offer a comprehensive analysis of the developments in each area of climate action outside the UNFCCC, but serves to illustrate

² This chapter is a shortened and updated version of van Asselt and Bößner (2016).

the point that important initiatives to mitigate climate change are developing outside of the UNFCCC context, and that this trend will very likely continue beyond Paris.

2.2.1 Non-UNFCCC international legal regimes

2.2.1.1 The International Civil Aviation Organization

Greenhouse gas emissions from the aviation sector are growing rapidly, with an increase of 76.1 percent between 1990 and 2012 (Lee et al. 2009: 3520; UNFCCC 2014: 11). Even though new technologies have led to considerable improvements in fuel efficiency, and biofuels may hold further potential to reduce emissions, their benefits are outstripped by an ever-growing demand for air travel. While emissions from domestic aviation are covered by the UNFCCC, the Kyoto Protocol mandated Annex I Parties to discuss measures to mitigate international aviation emissions through the ICAO (Article 2.2).

While environmental protection was not part of ICAO's original mandate, the organisation's technical expertise and its significant experience in setting (non-legally binding) international standards in the sector makes it an ideal candidate to tackle emissions from aviation. Indeed, the organisation has lately been striving to reduce aviation emissions by voluntarily promoting fuel efficiency among its members and by agreeing on a market-based measure (MBM) to tackle emissions. ICAO adopted a series of measures, including a global goal of improving annual average fuel efficiency by 2 percent, and an aspirational goal of keeping global carbon emissions from 2020 onwards at the same level (i.e., ensuring carbon-neutral growth). In October 2016, within a year after the adoption of the Paris Agreement, the organisation further adopted a market-based mechanism to offset emissions growth in the sector from 2020 onwards, the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).³ An outstanding question is the extent to which this mechanism will draw on existing experience with similar mechanisms created under the Kyoto Protocol, notably the Clean Development Mechanism.

2.2.1.2 The International Maritime Organization

As with aviation emissions, the Kyoto Protocol suggests that the regulation of emissions from international shipping should be dealt with in another venue, in this case the IMO (Article 2.2). The IMO was established in 1948, initially with a focus on maritime safety, but has covered related areas such as marine pollution from an early stage onwards. The IMO's Marine Environment Protection Committee is the primary body responsible for matters relating to environmental pollution from ships while its main governing body is the IMO Assembly.

A wide range of treaties has been adopted under the auspices of the IMO, including the binding and successful technology-oriented 1973/1978 International Convention for the

³ <http://www.icao.int/environmental-protection/Pages/market-based-measures.aspx>.

Prevention of Pollution from Ships. Like ICAO, the IMO has also adopted a series of measures to address shipping emissions. Following a series of studies, the organisation's Marine Environment Protection Committee adopted a mandatory Energy Efficiency Design Index for new ships in 2011, and required a Ship Energy Efficiency Management Plan for all ships. By doing so, the IMO put in place the first mandatory international sectoral agreement on greenhouse gas emissions applying to both developed and developing countries (Bodansky 2011: 7). The measures are expected to yield a significant effect on greenhouse gas emissions, with an IMO study estimating an annual reduction of carbon dioxide emissions of 13-23 percent compared to business-as-usual between 2020 and 2030 (Bazari and Longva, 2011). However, those technical and operational measures alone are insufficient to meet global objectives (Lee et al. 2013) and, unlike ICAO, discussions on adopting a market-based mechanism under the IMO have not led to any agreement, with several developing countries questioning the competence of the IMO in this area.

2.2.1.3 Montreal Protocol on ozone-depleting substances

The Montreal Protocol (1987), which aims to phase out ozone-depleting substances, is generally seen as a success not only from the perspective of addressing ozone depletion but also for reducing greenhouse gas emissions, as the chlorofluorocarbons (CFCs) it seeks to phase out also contribute to global warming. Scholars tend to argue that, compared to the climate problem, ozone-depleting substances covered by the Montreal Protocol could be phased out more easily because the group of companies producing ozone-depleting substances was small, the countries producing these substances were also significantly affected by the problem, substitutes were readily available, and industries involved in the production of harmful substances benefited from developing those substitutes (Falkner 2005).

There has been awareness of the linkages between the two regimes since the early days of the climate regime, with the UNFCCC – and later on the Kyoto Protocol – covering only 'greenhouse gases not controlled by the Montreal Protocol'. In effect, this means that Annex I Parties under the Kyoto Protocol were not able to use CFC reductions to meet their Kyoto targets. Arguably, the Montreal Protocol has contributed more to climate protection than the first commitment period of the Kyoto Protocol by tackling CFCs (Velders et al. 2007). The treaty also provides for the phasing down of hydrochlorofluorocarbons (HCFCs), and Parties in 2007 significantly accelerated their phase-out for both developed and developing countries (UNEP 2007).

However, the Montreal Protocol also played an indirect, negative role through its promotion of hydrofluorocarbons (HFCs) as alternative to other ozone-depleting substances. HFCs are powerful greenhouse gases, but they do not contribute to ozone depletion. And although HFCs are used in only a limited set of applications, their use is increasing, mainly as a result of the decisions to phase out CFCs and HCFCs under the Montreal Protocol and the associated funding available through the Multilateral Fund for the implementation of the Montreal Protocol (UNEP 2011).

Although HFCs were part of the Kyoto Protocol's basket of greenhouse gases, countries diverged on whether the Montreal Protocol or the climate regime would be the most appropriate venue for addressing them. This debate became centred on one of the key hurdles in international climate politics, namely ensuring some form of differentiation between developed and developing countries (Andersen et al. 2014; Akanle 2015). However, in October 2016, Parties to the Montreal Protocol ultimately reached agreement on an amendment to phase down HFCs. The Kigali Amendment is said to help avoid 0.5°C warming by 2050, based on (non-Intergovernmental Panel on Climate Change) HFC scenarios (Xu et al. 2013). The agreement maintains a differentiation between developed and developing countries by granting developing countries a more flexible timeline for implementation.

2.2.2 Minilateral climate coalitions

In addition to these sectoral regimes, a range of country coalitions with limited membership have emerged over the 10-15 years. As a collective action challenge, climate change requires participation by all countries to prevent free riding, i.e. countries benefiting from the efforts of other countries without contributing themselves. Crafting a global regime in which all countries have binding emission reduction targets has proved to be impossible, however, given long-standing contestations about the best way of sharing the effort to tackle climate change. Moreover, progress has been slow, due in large part to the fact that the multilateral climate regime involves 197 Parties, and decisions are adopted by consensus, meaning that one country or a small group of countries can block progress. 'Minilateral' climate coalitions – or 'climate clubs' – are said to overcome these problems (Victor 2015; Nordhaus 2015). One of the core ideas behind such coalitions is that it is easier to get to agreement among a smaller number of like-minded countries than through a multilateral negotiation process (Victor 2006; Naím 2009).

A minilateral approach was first tested in the 2000s, when the United States became involved in several initiatives involving a limited number of countries. One notable example was the Asia-Pacific Partnership on Clean Development and Climate (APP), which was launched in 2005, and brought together Australia, China, India, Japan, South Korea and the United States, later followed by Canada. The APP nations comprised some of the world's largest emitters, which was a major rationale for creating the APP and for its potential to be effective. However, notwithstanding enthusiastic efforts by some countries – notably Japan – the APP became defunct in 2011, following a change of administration in the United States and the subsequent drying up of government funding (van Asselt 2014). The United States also led a number of other technology-oriented initiatives (e.g., the Carbon Sequestration Leadership Forum), as well as a new dialogue process, the Major Economies Meeting on Energy Security and Climate Change (which later changed into the Major Economies Forum). The jury is still out on the performance of these initiatives: although they may have offered new venues for intergovernmental dialogue in a setting that is less politicised than the UNFCCC, it is unclear to which extent

the various initiatives aimed at project implementation have performed (Weischer et al. 2012; Bausch and Mehling 2013).

Following the Copenhagen COP in 2009, several new initiatives emerged, such as the Climate and Clean Air Coalition, which addressed an issue hardly addressed by the UNFCCC, namely short-lived climate pollutants. With the emergence of new initiatives, and the inclusion of new partner countries in older initiatives, the narrative began to shift towards ways in which climate coalitions could complement, and offer support to, the multilateral climate regime. This narrative also prevailed in Paris, where several new coalitions were announced, such as the Carbon Pricing Leadership Coalition,⁴ Mission Innovation,⁵ and the International Solar Alliance.⁶

To the extent that a limited group of countries finds that they have common interest in addressing specific climate change challenges – e.g. strengthening research, development on, and diffusion of clean energy technologies, designing or linking carbon markets, reducing emissions from deforestation, adaptation, reforming fossil fuel subsidies – it is likely that climate coalitions will continue to emerge and co-exist with the UNFCCC.

The extent to which such coalitions can bring about ‘transformational’ change remains unclear, however (Weischer et al. 2012). Their effectiveness will depend, among others, on their ability to build trust and create solidarity, generate and attract public and private funding, share diffuse clean technologies, and incentivise and scale up climate action on the ground. Grubb et al. (2015) suggest that a club can bring about benefits if it leads to coordinated actions among the club members in three areas, namely (1) introducing a domestic carbon price according to the stage of economic development countries; (2) strengthening domestic technology programmes and international technology collaboration along the innovation chain; and (3) agreeing on the treatment of the trade in carbon-intensive and low-carbon technologies and products, in line with international trade rules. More generally, van Asselt (2017) points to three lessons for the development of clubs, namely: (1) starting with a small and dedicated number of members, incrementally attracting further (enthusiastic) members; (2) keeping the door open to multilateralism to maintain connections to global climate efforts and avoid the impression of pursuing an alternative (rather than complementary or supporting) approach; and (3) being transparent about the activities and achievements of the club.

Although, like international legal regimes, unilateral climate coalitions are still largely driven by national governments (see also Hale and Roger 2014), other actors have also started to assume a more prominent role in global climate governance, as the next subsection will show.

⁴ <http://www.carbonpricingleadership.org>.

⁵ <http://mission-innovation.net/>.

⁶ <http://www.intsolaralliance.org/>.

2.2.3 Non-state and subnational climate action

Non-state actors play a variety of roles in the context of the international climate regime, including as lobbyists, expert advisers, and by helping to hold states to account (van Asselt, 2016). In the years leading up to the Paris climate conference, however, the role they play in the implementation of climate action has come increasingly to the foreground (Hoffmann 2011: 70f; Abbott 2012: 571; Bulkeley et al. 2014).

Initiatives by non-state and subnational actors, it is argued, can help bridging the emissions gap (UNEP 2013; 2015; Hsu et al. 2015b; Roelfsema et al. 2015; CISL and Ecofys 2015; Graichen et al. 2016). By the end of 2016, the UNFCCC's Non-State Actor Zone for Climate Action (NAZCA) platform⁷ listed 12,549 climate actions, including 2,138 companies, 238 civil society organisations, and 2,578 cities in 118 countries (Yale Data-Driven Environmental Solutions Group, 2016). Looking at a subset of non-state action, namely international cooperative initiatives, estimates of the mitigation potential range from 2.5 gigatonnes of CO₂ equivalent (GtCO₂e) by 2020 (Roelfsema et al. 2015) to 2.9 GtCO₂e by 2020 (UNEP 2015a). The extent to which this helps bridge the emissions gap depends on the overlap with countries' nationally determined contributions. While this overlap can be significant (Roelfsema et al. 2015) and many uncertainties remain in the estimates, UNEP (2016: xxi) concludes that "the aggregated impact of the initiatives are in the order of a few GtCO₂e in 2030 beyond the current Intended Nationally Determined Contributions", going some way towards bridging the emissions gap.

Non-state and subnational climate action can involve both public and private actors. In the public sphere, subnational governments are key actors. These include public authorities such as cities, municipalities and regional governments, which have been increasingly active through transnational networks (Bulkeley 2010: 229; Bansard et al. 2017), such as the International Council for Local Environmental Initiatives (which hosts the Cities for Climate Protection campaign⁸), the C40 Cities Climate Leadership Group,⁹ and the Covenant of Mayors for Climate and Energy.¹⁰ Such initiatives can circumvent or reinforce national legislation, or leverage regional or municipal authorities' weight in international forums (Betsill and Bulkeley 2006: 141).

In the private sector, initiatives can be linked to mandatory (compliance) or voluntary carbon markets. In the context of the latter, a variety of standards has emerged for measuring, reporting and verifying emission reductions (Green 2013: 1), such as the Verified Carbon Standard and the Gold Standard. Another group of private-led initiatives focuses on transparency. A key example is the CDP (formerly known as the Carbon Disclosure Project), which works together with companies to measure, disclose, manage and reduce their emissions.¹¹ Another set of initiatives consists of business-led initiatives.

⁷ <http://climateaction.unfccc.int>.

⁸ <http://www.iclei-europe.org/ccp>.

⁹ <http://www.c40.org/>.

¹⁰ http://www.covenantofmayors.eu/about/covenant-of-mayors_en.htm.

¹¹ <http://www.cdp.net>.

Examples include the various investor-driven initiatives that seek to limit the risks of climate change (and climate policies) for their sizable investment portfolios, such as the Investor Network on Climate Risk (representing over 120 investors and US\$14 trillion in assets in North America)¹² and the Institutional Investor Group on Climate Change (including over 120 institutional investors in Europe and nearly US\$13 trillion in assets).¹³ But also other companies, from Apple to Unilever, have taken on commitments or have become involved in emission reduction initiatives. Lastly, non-state climate action can involve civil society as well as concerned citizens. For example, various climate marches held throughout the world have attracted over 1.55 million people in 2014 and 2015, and over 13 million people signed petitions calling for climate action (Hsu et al. 2015a).

2.3 The Paris Agreement and non-UNFCCC climate action

So how is this wealth of climate action outside the UNFCCC context linked to the international climate regime? And what can Parties to the UNFCCC and the Paris Agreement, non-Party stakeholders and other relevant actors do to strengthen the linkages, and realise the potential of this wider institutional complex? Before addressing these questions, this section will first examine what the UNFCCC, the Kyoto Protocol, and the Paris Agreement state about linkages to other legal regimes, minilateral climate coalitions and non-state and subnational actors.

The UNFCCC and Kyoto Protocol contain several provisions regulating its relationships with other legal regimes. For instance, the treaties delimit their scope by only covering 'greenhouse gases not controlled by the Montreal Protocol'. The Kyoto Protocol further suggests that in the implementation of policies to protect and enhance sinks and reservoirs of greenhouse gases, Parties need to take into account their "commitments under relevant international environmental agreements" (Article 2.1(a)(ii) Kyoto Protocol). And, as mentioned above, the Kyoto Protocol contains a negotiating mandate for ICAO and IMO members to reach agreement on emission reductions in their respective sectors.

By contrast, the Paris Agreement says remarkably little about its relationship with actions taken outside of it. No references to other legal instruments or coalitions can be found. Moreover, the role of non-state and subnational actors is also addressed only tangentially in the Agreement itself (Chan et al. 2016).

Yet while the treaty is largely silent on non-UNFCCC climate action, Decision 1/CP.21 adopting the Paris Agreement offers much more clarity and positive encouragement. Although no specific legal instruments, coalitions or initiatives are mentioned, the decision welcomes "the efforts of non-Party stakeholders to scale up their climate actions" (Decision 1/CP.21: para. 117), encouraging them to register their actions on

¹² <https://www.ceres.org/investor-network/incr>.

¹³ <http://www.iiqcc.org/>.

NAZCA. The decision also specifies that a 'technical examination process' will continue beyond Paris, extending and strengthening its mandate up to 2020. The technical examination process started in the context of 'workstream 2' of the Ad Hoc Working Group on the Durban Platform for Enhanced Action, which focused on scaling up climate action before 2020. It entailed a series of mitigation-oriented technical expert meetings (TEMs), at which governmental and non-governmental experts shared experiences and views on specific actions, technologies and policies with high mitigation potential, covering topics such as energy efficiency in urban environments, renewable energy, non-CO₂ greenhouse gases, and carbon capture and storage.¹⁴ The TEMs thus offer an opportunity for engaging with initiatives started outside the UNFCCC. Moreover, Decision 1/CP.21 calls for a 'high-level event' that, among others, "[p]rovides an opportunity for announcing new or strengthened voluntary efforts, initiatives and coalitions", "[t]akes stock of related progress and recognises new or strengthened voluntary efforts, initiatives and coalitions", and "[p]rovides meaningful and regular opportunities for the effective high-level engagement of dignitaries of Parties, international organizations, international cooperative initiatives and non-Party stakeholders" (Decision 1/CP.21: para. 120). It further introduces two 'high-level champions', which are "to facilitate ... the successful execution of existing efforts and the scaling-up and introduction of new or strengthened voluntary efforts, initiatives and coalitions" (Decision 1/CP.21: para. 121).

Following up on Paris, the two high-level champions released a 'Road Map for Global Climate Action' in June 2016 (UNFCCC 2016a), indicating that they will explore linking initiatives and coalitions with NDCs under the Paris Agreement, and that they will aim to improve the transparency of action outside the UNFCCC. This was followed a few months later by the launch of the Marrakech Partnership for Global Climate Action in November 2016 (UNFCCC 2016b).¹⁵ The Marrakech Partnership aims to: bring Parties and non-Party stakeholders together to strengthen collaboration and enhance implementation, through processes such as the technical expert process; showcase successes and offer a platform for new initiatives through events, such as the high-level event mentioned above; track progress through NAZCA; and report back to the COP. To achieve this, the Partnership offers further details on the role of the high-level champions, which are to produce a Yearbook of Global Climate Action. Moreover, the Partnership specifies minimum criteria for the inclusion of non-state and subnational action in NAZCA, including: (1) relevance to the goals of the Paris Agreement; (2) scale (of sufficient size to have an impact); (3) specificity (clear and quantifiable outcomes, with milestones along the way); (4) transparency in progress (e.g. annual reporting); (5) results-oriented (rather than, for instance, information sharing or calls for action); and (6) capacity to deliver.

In short, unlike the UNFCCC and the Kyoto Protocol, the Paris Agreement makes no effort to clarify the relationships with other international legal instruments. However, Decision

¹⁴ http://unfccc.int/focus/mitigation/technical_expert_meetings/items/8179.php.

¹⁵ The Marrakech Partnership replaces the 'Lima-Paris Action Agenda', which was established to encourage and support new initiatives by non-state and subnational actors by the Peruvian and French COP Presidencies, the UN Secretary-General, and the UNFCCC Secretariat (see Widerberg 2017).

1/CP.21, together with the Marrakech Partnership, does take important first steps towards institutionalising the engagement with non-state and subnational actors and initiatives. Although this does not yet add up to a comprehensive framework for non-state action – something that some scholars have called for (Chan et al. 2015) – it strengthens the linkages between the intergovernmental process and the groundswell of non-state action. The question now is: can Parties and non-Party stakeholders do more to strengthen these linkages with action outside the UNFCCC? The next section will offer several suggestions in this regard.

2.4 Harnessing the institutional complex for climate change: possible ways forward

This section outlines three possible actions that Parties to the UNFCCC and the Paris Agreement, Parties to other international legal instruments, as well as non-Party stakeholders, can take in the near future to strengthen the linkages with non-UNFCCC climate action undertaken in other international legal regimes, through minilateral climate coalitions and through non-state and subnational action, with a view to improving overall coherence in global climate governance. The suggestions assume a need to avoid a hierarchy between the climate regime and other legal regimes as well as the diversity of non-UNFCCC action (Betsill et al. 2015). The suggestions offered here primarily seek to establish an ongoing dialogue between the United Nations climate regime and action taken outside of it, with the role of the UNFCCC – and its institutions – approximating that of an ‘orchestrator’ or facilitator of climate actions by other institutions and actors (Abbott 2012; Hale and Roger 2014).

2.4.1 Enhancing the visibility of non-UNFCCC climate action

Enhancing the visibility of activities undertaken outside of the UNFCCC can strengthen the case for climate action. In addition to their potential contributions to climate action in terms of achieving emission reductions, building capacity, and promoting transnational cooperation on a range of issues, initiatives outside the UNFCCC have an important symbolic role: they showcase the wide variety of climate action already taking place, underscoring support for further action by different levels of governments, businesses, civil society and investors. They can help show that climate action in practice can be cost-effective or that it has certain co-benefits (e.g. for public health or energy security). Beyond the emission reductions achieved, the actions undertaken by these actors can therefore help normalise actions taken by governments under the Paris Agreement, and build support for more ambitious NDCs in future cycles.

Important steps in this direction were already taken before, in and after Paris. As mentioned above, the NAZCA platform offers a registry to highlight commitments by a wide variety of non-state and subnational actors, as well as a number of ‘cooperative initiatives’ (which include some of the minilateral climate coalitions mentioned above). It can be expected that the activities planned in the context of the Marrakech Partnership, including the annual high-level events planned between now and 2020, will ensure that non-UNFCCC action will continue to draw attention. In addition, the Momentum for

Change initiative by the UNFCCC Secretariat, launched in 2011, puts specific climate actions ('lighthouse activities') in the spotlight.¹⁶ And finally, the technical examination process, reaffirmed by Decision 1/CP.21, offers an ongoing opportunity to showcase and discuss specific climate actions. And although

In other words, important efforts have already been made to increase the visibility of non-UNFCCC action, and Decision 1/CP.21 and the Marrakech Partnership offer a good indication that such efforts will continue in the short term. But more can still be done.

First, a key precondition for improved visibility is that initiatives start performing. In other words, as the Marrakech Partnership (UNFCCC 2016b) specifies, initiatives should go beyond calls for action to be listed in NAZCA, and actually start with the implementation. Follow-up of the actions announced by non-Party stakeholders in NAZCA will be a key first step, as it would show that the voluntary commitments made are credible (see also Section 2.4.3). This means that those non-state and subnational actors that have made pledges – not only through NAZCA, but also for example through the 2014 United Nations Climate Summit hosted by the United Nations Secretary-General Ban Ki-moon (see Chan et al. 2017) – should start taking the necessary steps to achieve their various commitments, and should be forthcoming in providing information on how much progress they are making.

Second, Parties should acknowledge that non-UNFCCC action is not only of relevance in the immediate future (i.e. the pre-2020 period, as Decision 1/CP.21 and the Marrakech Partnership seem to suggest). In other words, relevant mandates – e.g., for high-level events and champions, and for the technical examination process – should be extended to beyond 2020. If UNFCCC Parties confirm this as early as possible – e.g. during COP23 or during the 2018 facilitative dialogue – it would facilitate the institutionalisation of practices starting now (e.g. the development of Yearbooks), and send a strong signal to non-state and subnational actors that Parties are genuinely interested in supporting their actions.

Third, improved visibility should be promoted for all types of climate actions – i.e., including both mitigation and adaptation – and covering a wide range of countries – from small island developing states to major emitters. While the number of minilateral coalitions, and actions by non-state and subnational actors is growing (as can be observed in the NAZCA platform), they are still concentrated heavily in the Global North, and primarily focused on climate change mitigation in the energy sector (e.g. Chan and van Asselt 2016; Chan et al. 2017). To ensure global benefits – and strengthen the legitimacy of non-state action in the eyes of developing countries – the high-level champions, working with Parties, the UNFCCC Secretariat and non-Party stakeholders, should seek to identify gaps in actions (both thematically and geographically) and call for further actions in those areas.

¹⁶ http://unfccc.int/secretariat/momentum_for_change/items/6214.php.

2.4.2 Developing operational linkages

Connections with actions outside the UNFCCC can be made through the development of the rules and procedures necessary to make the Paris Agreement operate effectively. Such rules and procedures can pertain to the Paris Agreement's use of the UNFCCC's Technology Mechanism, its Financial Mechanism, or to new mechanisms created by the Agreement. Establishing such connections could help avoid the emergence of multiple, conflicting standards and could underline a harmonised global response to the climate problem.

For example, in the coming years, Parties to the Paris Agreement will need to adopt rules for the cooperative approaches and the sustainable development mechanism in Article 6. Such rules can be expected to specify conditions with a view to promoting sustainable development and environmental integrity. The negotiation of such rules should be of high relevance for the development of market-based measures outside of the UNFCCC, for instance ICAO's new offsetting mechanism. Parties to the Kyoto Protocol already have significant experience with developing such rules in the context of the CDM. Operational linkages could mean that in the further development of a global MBM, ICAO members either use, or link to any standards developed under the Paris Agreement with a view to safeguarding the environmental integrity of offsets. Specifically, as Arvanitakis and Dransfeld (2017: 30) suggest, "one would need rules under the UNFCCC in order to avoid double counting between NDCs and CORSIA, i.e. ensuring that certified GHG emission reductions foreseen for offsetting under CORSIA have been, or will only be used, counted and claimed once (i.e. under the CORSIA), and not used in other schemes or put towards other targets (NDCs) as well". Putting these operational linkages in practice, requires, first of all, action by ICAO members: for instance, they can decide to unilaterally adopt standardised baselines and methodologies developed and approved under the CDM for a large variety of offsetting projects, or draw on the rules developed by the Kyoto Parties and the CDM's Executive Board for pertinent questions such as additionality (i.e. would the emission reductions have taken place also without the offsetting project) and contribution to sustainable development.

Further operational linkages can also be developed with non-state actors. Again, following the example of the CDM, private actors can be involved in the operation of the new sustainable development mechanism. Possible roles include the verification of emission reductions to ensure the environmental integrity of the mechanism, or monitoring compliance with standards to ensure that mitigation activities contribute to sustainable development. Similar roles were already played by a variety of non-state actors (including both businesses and civil society) in the context of the CDM (Green 2014).

Finally, further operational linkages can be made between the UNFCCC and subnational actors. For instance, in a first for the UN climate regime, the Canadian province of Québec became the first non-nation state to contribute to the Green Climate Fund at COP21 in 2015, a move that was followed by other subnational governments (Robinson,

2015). The Fund now accepts such pledges from subnational areas and cities (Green Climate Fund 2017), and similar pledges – or alternative methods of raising finance, such as crowdfunding – could also offer a boost to other UNFCCC funds (Müller 2016).

2.4.3 Monitoring and review

To ensure the credibility of the global response beyond the UNFCCC and to ensure that the actions undertaken in various forums are not at odds with each other, it is necessary to know what is happening – i.e., what are the commitments made, what are the actions taken to implement those commitments, and is the response in line with the long-term goals of the Paris Agreement? For this purpose, improving the transparency of non-UNFCCC climate action, through monitoring and review, is key.

Several transparency mechanisms are already in place. Some international organisations, including ICAO and the IMO, regularly report to the UNFCCC. And with the NAZCA platform, the UNFCCC Secretariat, the high-level champion and other interested parties have a system in place to keep track of the commitments made by non-state actors and some minilateral coalitions; as was confirmed by the Marrakech Partnership (UNFCCC 2016b).

However, the monitoring of the wider landscape of climate action outside the UNFCCC could still be improved. This monitoring would need to go beyond aggregated analyses of the variety of climate action, and into more detailed analysis of the experiences of individual initiatives. Beyond the UNFCCC Secretariat, other actors including academia, think tanks, but also the actors involved in non-state and subnational climate actions themselves can play a role in keeping track of how actions are performing. In doing so, care should be taken to ensure that monitoring and possible reporting will not stifle the groundswell of climate action (Chan et al. 2015). Moreover, monitoring should take into account the sheer diversity of actions – with some initiatives possibly leading to measurable greenhouse gas emission reductions, and others focused on actions that are not so easily quantifiable, such as capacity building or strengthening cooperation on research and development of new mitigation technologies.¹⁷

In addition to the transparency mechanisms mentioned above, two processes established by the Paris Agreement could also play a role. First, the enhanced transparency framework of Article 13 offers an opportunity for Parties to report on actions relevant for achieving their NDCs by non-state and subnational actors (e.g. cities and regions) or by the minilateral coalitions they are involved in. The rules – which are currently under negotiation – could specifically encourage Parties to report on such action, including possible quantification of effects. Including this information may also mean that it can be subject to the technical expert review and the facilitative, multilateral consideration of

¹⁷ Quantifying the contributions of such actions may be possible as well, as targets can be set in a variety of ways. For instance, rather than aiming to reduce emissions by X% or improve energy efficiency by Y%, an initiative can set fundraising goals, strive to train a certain number of people, aim to host a certain amount of events, and so on (see also Chan et al. 2017).

progress under Article 13, shedding further light on the actions outside the UNFCCC. A related suggestion is that minilateral coalitions report themselves (rather than through the Parties involved in them) (Stewart et al. 2013). Such reporting may be feasible and of interest to some coalitions, for instance to showcase recent achievements and to receive recognition for the action taken. However, establishing formal relationships with the United Nations climate regime may also be challenging, precisely because some initiatives may have been established with a view to creating some distance to the politics of the climate change negotiations. Nonetheless, Parties – in the development of rules for the enhanced transparency framework – could offer guidance on how Parties can report the actions taken by non-state and subnational actors within their territories, or specify that – in addition to Party reports – inputs from non-Party stakeholders will be considered in the review process (see also van Asselt, 2016).

Second, the global stocktake, which starts in 2023, provides an important occasion to assess and review non-UNFCCC action. The stocktake could include various types of information that could help understand the performance of climate action outside the UNFCCC. This includes reports by the ICAO and IMO, but also by the Ozone Secretariat, on progress made. Such reports could clarify the contribution of these legal regimes towards the long-term goal of the Paris Agreement to keep temperature increases to well below 2°C. In the ongoing negotiations on the modalities for the global stocktake, it will be important for Parties to the Paris Agreement to leave the door open for such inputs from other international organisations. However, it will also be important to not limit the global stocktake to purely the actions undertaken by national governments. To that end, Parties can mandate the high-level champions, working with the UNFCCC Secretariat and non-Party stakeholders, to offer an assessment of initiatives by non-state actors and minilateral climate coalitions, to serve as an input into the stocktake. The Yearbook of Global Climate Action – drawing on the information in NAZCA – offers a good opportunity to synthesise the available information. However, the efforts by non-state actors themselves to track progress (e.g. through the UNEP Emissions Gap report) may also serve as useful inputs into the stocktake.

Well before the first global stocktake is launched, the 2018 facilitative dialogue offers an important initial opportunity to consider the contributions from actors and institutions outside the UNFCCC. To do so, the Moroccan and Fijian Presidencies (tasked with considering options for the organisation of the dialogue) can solicit views from non-Party stakeholders on how they can best be involved in the facilitative dialogue, and what kinds of inputs could be of use to Parties during the dialogue.

The involvement of non-Party stakeholders in the global stocktake (and the 2018 facilitative dialogue) is not only important from the perspective of achieving greater transparency of their own actions: non-Party stakeholders can also offer insights into the mitigation potential in countries, identify untapped sources of financial, technological and capacity-building support, and consequently help identify ways of strengthen the ambition of Parties' future NDCs (Galvanizing the Groundswell 2017). Parties should therefore not just consider the role of non-Party stakeholders in the 'input' stage of the

facilitative dialogue and global stocktake, but also identify possible roles in the output and outcome stages (e.g. involving non-Party stakeholders in implementing follow-up actions).

In monitoring and reporting the contribution of non-state and subnational climate action or that of unilateral coalitions, care should be taken to avoid any double counting between national efforts and actions by non-state or subnational actors, or unilateral coalitions. As Widerberg and Pattberg (2015: 53) note: “If the achieved mitigation of [international cooperative initiatives] is incorporated into national reporting to the UNFCCC, then it is hard to see what additional emissions reduction they bring beyond supporting a country to fulfil its pledges”. However, in the reporting process as well as in the assessment it should be borne in mind that not all actions taken can be easily quantified, let alone be translated into measurable emission reductions (Van der Ven et al. 2017). Nonetheless, also qualitative information can offer further clarity on progress made. More importantly, by including information on non-UNFCCC action, a more complete picture would emerge, showing more accurately whether Parties, in aggregate, are on track to meet the long-term goals of the Paris Agreement.

2.5 Conclusion

The Paris Agreement reaffirms the crucial role played by the multilateral climate regime as a lodestar for climate action. Yet achieving the goals of the UNFCCC and the Paris Agreement will depend on more than just the actions announced by Parties in their NDCs. It will require an across-the-board governance strategy, involving a wide variety of international legal regimes, unilateral coalitions, and non-state and subnational actors. The main challenge for global climate governance after Paris will be to leverage this institutional complex and ensure that it coherently delivers on the common goal of keeping temperature increases well below 2°C.

It is encouraging that, as this chapter shows, there are already ongoing developments to strengthen the response in other venues. A global market-based measure under ICAO and an amendment on HFCs under the Montreal Protocol were both adopted within a year from Paris, helping to maintain the momentum. The increasing institutionalisation of a process to recognise and promote voluntary initiatives by unilateral coalitions and non-state and subnational actors in the Paris outcome also holds significant potential, and the Marrakech Partnership on Global Climate Action shows a strong awareness among the high-level champions of the importance of the groundswell of climate action.

However, the chapter has also stressed that more could still be done by Parties to the UNFCCC and the Paris Agreement, as well as members of other legal regimes and non-Party stakeholders themselves. Specifically, Parties and non-Party stakeholders can ensure that non-UNFCCC action remains a visible part of the global response to climate change also after 2020, and that attention is paid to the large diversity of climate action outside the UNFCCC. Second, members of other legal regimes can seek to develop operational linkages with the mechanisms of the Paris Agreement. And third, Parties can ensure that the various review processes under the Paris Agreement – notably the

enhanced transparency framework, global stocktake and 2018 facilitative dialogue – help to track and review the progress made outside the UNFCCC.

3 EU climate leadership after Paris: rising to the challenge?

3.1 Introduction

As we have seen in Chapter 2, climate change governance involves many actors and institutions on various levels. This is no different in the European Union, which has been referred to as a “microcosmos of the international climate change *problematique*” (Jordan et al. 2010: 8). Several institutions shape and decide on policies which to a large extent have to reflect the consensus reached by 28 (and soon 27) Member States, representing a wide range of interests in terms of climate and energy policies, ranging from Danish interests in wind to the Polish predilection for coal. Notwithstanding these diverging interests, the EU has traditionally sought to exert leadership on climate change issues in international forums, and by some accounts, has done so quite successfully (Wurzel and Connelly 2011). The EU has been credited with keeping the Kyoto Protocol alive after the US refused to ratify in 2001 (Parker and Karlsson 2010) and more recently, European diplomatic skills helped to bring about the landmark Paris Agreement in 2015 (Parker et al. 2017). In addition, achieving 20 percent greenhouse gas emission reductions by 2020 while simultaneously cutting 20 percent of energy consumption and raising the share of renewable energy sources in the energy mix to 20 percent – the 20-20-20 objectives of the first energy and climate package¹⁸ – is a significant achievement. Indeed, this package was a major source of the EU’s credibility underpinning its international leadership role on climate change (Oberthür and Kelly 2008) and overall, the Union is on course to meet its 2020 targets (EEA 2016). If the EU can lead by example and show that economic growth, energy security and sustainability are not mutually exclusive, other countries might follow. However, data suggests that more should be done not only to turn around recent negative trends such as the increase in energy consumption and emissions (see Table 1), but also to strengthen the EU’s climate pledges, which are deemed insufficient to meet the Paris Agreement’s objectives (Rogelj et al. 2016).

¹⁸ The first climate and energy package was adopted in 2008 and consists of multiple directives and regulations to meet the 20-20-20 objectives.

Table 1. Key EU climate and energy statistics

	2000	2015	Change 2014 to 2015
Emissions	4280.2 MtCO ₂	- 14.9%	+ 0.95%
Emissions from road transport	845.8 MtCO ₂	+ 0.8%	+ 1.6%
Final energy consumption	1132.9 Mtoe	- 4.32%	+ 2.1%
Energy intensity	155.2 toe/M€	- 22.36%	- 1%
Renewables in final energy consumption	49.1 Mtoe	+ 76.8%	+ 4.7%

*MtCO₂=Megatonnes of carbon dioxide; (M)toe=(Million) tonnes of oil equivalent.
Source: European Commission (2017b).*

The EU can only be a credible leader internationally if it increases its ambition and follows through on implementation. Its leadership has become all the more important since the United States federal government under President Trump announced it would turn its back, once again, on a multilateral agreement to tackle climate change (Halper 2017), notwithstanding a great number of US states and cities that have since declared their commitment to the Paris Agreement, stating that they “are still in”.¹⁹ However, ensuring that the EU delivers both internally and externally faces many challenges. With the ‘low-hanging fruit’ of climate change mitigation (i.e. reducing emissions from the power sector) increasingly being picked, the challenge of decarbonisation moves to more difficult sectors such as heat, industry and transport.

This chapter investigates the prospects for EU climate leadership from a historical perspective, offering insights on the challenges ahead, and proposing several improvements to overcome internal challenges and strengthen external relationships in the wake of the Paris Agreement.

3.2 EU Climate Change Governance

European action on climate change is clearly mandated by the EU’s founding treaties. Since the Treaty of Lisbon, environmental policies are a shared competence, meaning that European institutions can legislate if Member States fail to do so (Article 4 of the

¹⁹ <http://wearestillin.com/>.

Treaty on the Functioning of the European Union, TFEU). The environmental chapter (Article 191 TFEU) further offers a clear mandate that EU policy should promote measures to “combat[ing] climate change”. Following the ordinary legislative procedure most of the time, EU climate mitigation policies are commonly proposed by the European Commission – taking into consideration the directions given by the European Council – and then negotiated in the Council of Ministers and the European Parliament. Besides those core institutions, the policy-making process (and subsequent implementation) is influenced by consultative bodies such as the European Economic and Social Committee and the Committee of Regions, as well as a plethora of other actors including NGOs, business networks and other lobbying organisations. Those policies can take many forms, ranging from regulatory instruments such as emissions or energy efficiency standards for passenger cars or products (e.g. fridges, dishwashers or vacuum cleaners) to market-based instruments such as the EU emissions trading system (EU ETS). In addition, the Commission often uses informal instruments such as guidelines and recommendations or establishes financial instruments such as funds for research and innovation to act on climate change.

The EU’s complex governance system has been captured by the concept of ‘multi-level governance’ (Knill and Liefferink 2007; Jordan et al. 2012), which underscores that policy is made between several institutions and on several levels, from the supranational level – as embodied by the European Commission – to the sub-national level, with the national level – i.e. Member States – in between. In the resulting multi-level dynamics, it is important to remember that – contrary to what populist detractors of the EU may argue – Member States retain a significant amount of power and often limit the influence of “Brussels” and the European Commission by pursuing intergovernmental bargaining strategies to counter the supranational elements of EU policy making.

Notwithstanding the countervailing forces in EU policy making, the multitude of actors and the various levels involved, EU climate governance can be considered quite successful. The Union is likely to meet its self-imposed emission reduction targets by 2020, and the uptake of renewable energy sources in the energy mix progresses according to plan (EEA 2016). Externally, its long experience with consensus-seeking negotiations based on the rule of law has made the EU a staunch supporter of multilateral climate cooperation (van Schaik and Schunz 2012; Bäckstrand and Elgström 2013). Indeed, some scholars see the aforementioned complexity of EU policy making not as a hindrance (see Section 3.4), but rather as a potential asset for EU climate leadership at the international stage (Schreurs and Tiberghien 2007; Oberthür and Kelly 2008; Jordan et al. 2012; Parker et al. 2017).

3.3 The EU and climate change leadership

There are different conceptualisations of ‘leadership’. For instance, countries might lead because of their military or economic might (structural leadership), because of their diplomatic skills (entrepreneurial leadership), through ideas (normative/cognitive leadership), or by example (symbolic/directional leadership) (Parker and Karlsson 2010:

926; Wurzel and Connelly 2011: 13). The EU has exhibited most – if not all – of them at some point during the past three decades.

The EU is the largest economic area in the world, accounting for almost 23 percent of global gross domestic product (GDP) (Eurostat 2015) and exporting and importing more goods and services than the United States or China (European Commission 2014a). And while roughly 20 countries have the United States as their largest trading partner, the EU is the largest trading partner for 80 nations (European Commission 2014a). That economic weight can allow the EU to exert non-negligible structural leadership, which it did when the US withdrew from the Kyoto Protocol in 2001. By supporting World Trade Organization membership of the Russian Federation, which in return signed the Protocol, the EU's effort allowed the Protocol to enter into force in February 2005 (Parker and Karlsson 2010: 929).

While the EU, as a staunch supporter of multilateralism and the rule of law, also qualifies as a normative leader (van Schaik and Schunz 2012), it has also tried to lead by example. In 1997, the EU proposed the deepest emission cuts in the final stages of the Kyoto Protocol negotiations (Oberthür and Kelly 2008: 36); and in 2005, the bloc adopted the largest emissions trading system in the world, covering almost half of the EU's emissions. In the same vein, the first EU climate and energy package (2008) enshrining the 20-20-20 targets can be considered visionary at the time, as other large economies did not have comparable targets in place. This climate and energy package allowed the EU, among other benefits, to claim that its climate leadership was credible (Oberthür and Kelly 2008; van Schaik and Schunz 2012).

However, in the recent past, EU climate leadership has come under fire. At the UNFCCC Conference of the Parties in Copenhagen in 2009, the EU was effectively side-lined and despite the EU's success (owing much to the French government's diplomatic skills) in Paris in 2015, its structural leadership has been dented by the United Kingdom's decision to leave the bloc (see Box 1). The EU's directional leadership has been called into question by the likely insufficiency of its 2030 climate and energy targets to limit global warming to well below 2°C (Rogelj et al. 2016) and controversies such as the Volkswagen 'Dieselgate' cast doubt over the EU's ability to take on vested interests of the fossil-fuel based economy given its lacklustre regulatory response (Neslen and Harmsen 2016).

Box 1. Brexit and EU Climate Policy

A year after the United Kingdom's vote to leave the EU, the country still remains in the dark over its future relationship with the Union. Though a 'hard Brexit' may have looked likely following British Prime Minister Theresa May's Brexit speech on 17 January 2017, the recent elections – which took away the Conservative Party's small majority in Parliament – have cast doubt on this scenario. What the outcome for the UK and Europe will be is up for at least two years of fierce negotiations, and predicting

the outcomes is *charlatanerie*. Nevertheless, some potential implications for UK and EU climate policy can be pointed out.

For the UK, there may be several possible negative consequences, including a lack of access to EU financing instruments, declining investment in clean technologies due to policy instability, a declining role in the EU energy market, the dismantling of European environmental regulations and a challenging process to replace them (House of Lords, 2017).

In addition, there are several possible effects for EU climate governance. For instance, the UK has traditionally been a leader on mitigation policies (Skjærseth 2014) although in some areas (e.g. renewables deployment) it has lagged behind other countries. The departure of the UK might weaken the position of other 'green' countries such as Germany, and strengthen the negotiating hand of countries more sceptical of the EU's climate ambitions, such as Poland, which may in turn affect future negotiations about climate and energy targets.

From an energy market perspective, the UK has traditionally been an advocate of market liberalisation (Froggatt et al. 2016) which, again, might put a break on further energy market integration. The UK's National Balancing Point is Europe's busiest gas trading hub, but it might lose importance compared to the Title Transfer Facility in the Netherlands (Giblom and Shiryayevskaya 2016), which might affect gas and liquefied natural gas (LNG) prices in the EU. This could exacerbate the already existing under-utilisation of LNG infrastructure in Europe (European Commission 2016b).

Furthermore, externally, the EU would lose a political and economic heavyweight and its structural climate leadership might suffer from the reduction of its economic and political clout.

However, there may also be some positive aspects in terms of climate and energy policy. The UK has been traditionally wary of the EU's perceived political integration process. Its penchant for market-based (rather than regulatory) approaches to problem solving might make regulatory and binding climate policies and targets more likely. For example, the UK has blocked policies such as binding energy efficiency targets, given the country's old and inefficient building stock (Reuters 2017). It also lobbied to keep the renewables obligation for 2030 non-binding (Waterfield 2014).

Finally, climate change might offer both the EU and UK an opportunity to continue to cooperate after Brexit. It is in the interest of both parties to tackle the issue together, and collaborating on climate change mitigation internally or on climate leadership externally might be a conduit for further cooperation in other issue areas after the UK has left the bloc.

Notwithstanding the various crises plaguing the EU, its leadership on climate change is needed more than ever, at a time in which populist resistance to science runs high and

the world's second largest emitter, the United States, seems to have, at the federal level, turned its back on climate change action (Weaver and Jopson 2017). However, strengthening European climate governance and leadership faces old and new challenges, as will be discussed next.

3.4 Old and new challenges to EU climate governance and leadership

If the EU wants to continue as a climate leader, it is essential for the bloc to get its own house in order first. Only when leading by example and showing that economic growth and (deep) emission reductions are not mutually exclusive might other nations follow. Research suggests that, overall, EU competitiveness has not suffered significantly from the bloc's past climate and energy policies (Sartor 2012; European Commission 2014b; Neuhoff et al. 2014) and, that jobs gained in developing renewables outweigh the jobs lost in other sectors (Ragwitz et al. 2009). In addition, models suggest that stringent climate policy and economic growth potentially go well together (Green 2015; Bretschger 2017). Indeed, the EU took on ambitious climate policies in the middle of the biggest financial crisis since the depression of the 1930s, when adopting its first climate and energy package at the end of 2008.

However, despite the economic woes at the time, conditions for stringent climate action were favourable, since several factors were aligned and opened a window of opportunity for ambitious climate policies (see also Kingdon 1984): EU leaders saw climate action as a less controversial way to further European integration after the failed attempts of bestowing the EU with a constitution in 2005. Moreover, the Intergovernmental Panel on Climate Change had just released its Fourth Assessment Report in 2007, urging immediate and strong action (van Schaik and Schunz 2012). New Member States who joined in 2004 were less opposed to climate action since they received side-payments in the forms of funds to modernise their energy system and the guarantee to share the burden of emission reductions fairly (Skjærseth 2014).²⁰ And, importantly, governments of the three most powerful Member States at the time, Germany, France and the UK, were all in support of ambitious climate action (Skjærseth 2014).

Conditions for strengthening climate ambitions are less conducive today. In 2016, the EU went through probably the biggest crisis since the signature of the Treaty of Rome, due to the Brexit vote, the influx of migrants from the Middle East and North Africa, the still continuing economic crisis on its Southern shores, and the generally rising level of populist criticism laid on the EU. Divergences between Eastern and Western Europe seem to increase not only concerning European values (Rupnik 2016) but also concerning the bloc's climate and energy policies (Szulecki et al. 2017). Eastern European Member States seem increasingly successful in watering down policies (Olgun 2017) and some Member States still seem to prefer national solutions to European energy and climate challenges. The case of the gas pipeline Nord Stream II illustrates this well: German

²⁰ Also, much of the EU's climate legislation dates back to the 1990s, and is thus part of the *acquis communautaire*, to which all new Member States must sign up when joining the EU.

interests clashed with the ones of the Baltic states and Poland (Goldthau 2017; Lang and Westphal 2017) and with the European Commission's strategy to diversify energy supply away from Russia, the EU's largest gas supplier (Maznewa and Shiryaevskaya 2017). This underscores not only the differing priorities of Member States, but also the tensions between the EU's energy and climate goals. While increasing energy security by looking for more gas may contribute to short-term energy policy goals it may undermine the long-term sustainability of the EU's energy mix (Bößner 2016).

All those challenges – misalignment of policies, divergences between Member States' policies and interests, external crises, populist surges and a general low appetite for closer integration – are likely to remain in place for the foreseeable future. However, the EU can still take steps to address these challenges internally, by increasing its climate mitigation ambitions, and externally, by reclaiming the mantle of international climate leadership. Recent literature points to several options for how this could be achieved.

3.5 Addressing internal challenges

Given that EU policy making exhibits both supranational and intergovernmental traits, and taking into account the limitations of the EU's founding treaties, it is clear that the EU cannot take on all responsibilities; Member States need to do their part. But ensuring that Member States deliver and do not undercut EU climate and energy policies remains challenging, and the current mood does not seem to make a change in decision-making procedures – for example a switch from unanimity voting to qualified majority voting in the Council to outvote climate laggards – very likely.²¹ Notwithstanding these constraints, several options are available to EU and Member State policy makers.

A first suggestion is to try and turn the complexity of EU decision making into a possible strength. While the multi-level nature of EU climate governance can be a weakness, it also provides 'policy entrepreneurs' such as Commissioners or ambitious policy makers from Member States with windows of opportunity to build coalitions in support of stronger climate mitigation policies (Schreurs and Tiberghien, 2012; Jordan et al. 2012; Boasson and Wettestad 2013; Szulecki et al. 2017). This dynamic of 'multi-level reinforcement' seems to be particularly fruitful when taking into account the subnational level, where local governments and initiatives can help drive EU climate policies forward despite opposition at the national level (Jänicke and Quitzow 2017). For example, Polish regions increasingly oppose the central government's plans to build new lignite power plants; and Spanish and Italian communities are the majority of signatories to the Covenant of Mayors²² – an initiative launched by the Commission – despite the waning support of Italy and Spain for renewables (Jänicke and Quitzow 2017).

The Commission therefore has several options to strengthen and enlarge its 'policy network' and to make use of multi-level reinforcement dynamics. On the transnational

²¹ Even though legislation in many policy areas could be adopted by qualified majority voting, the Council usually seeks consensus wherever possible (Wurzel 2013: 82).

²² http://www.covenantofmayors.eu/index_en.html.

and subnational level, it can do so by facilitating a stronger interaction between EU and local initiatives. But also at the regional level it can strengthen its policy network by building on already existing forums such as the North Seas Countries Offshore Grid Initiative or the Pentilateral Energy Forum (Umpfenbach et al. 2015). And at the national level, EU institutions could use Council presidencies of environmentally ambitious countries to open up and seize windows of opportunity for ambitious climate mitigation action (Skjærseth 2017).

Seizing these opportunities, however, depends crucially on a more streamlined approach within the European Commission itself: different directorates often compete with each other due to their different preferences and cultures (Skjærseth 2017). For example, Directorate-General (DG) Energy's energy security and LNG strategy might clash with DG Clima's mission to tackle climate change, which can lead to sub-optimally aligned policies. It is therefore important to ensure better internal coordination and alignment within the Commission and to make sure that climate concerns are adequately reflected in other sectoral policies (see also van Asselt et al. 2015).

To facilitate processes of multi-level reinforcement, however, it also is necessary to overcome vested national or business interests that may oppose stronger climate policies. To help overcome these interests, a third suggestion – drawing on lessons learned from the first energy package adoption in 2008 – therefore points to the importance of making side-payments and establishing policy linkages (Skjærseth 2014). Financial transfers from Western to Eastern European Member States in exchange for the new Member States' acceptance of emission reduction efforts is one example of side-payments that have been used in the past. The support for bioenergy in Eastern Europe to increase energy security is an example of a successful policy linkage, where renewable energy development was linked to energy security concerns (Skjærseth 2014). EU policy making regularly provides for opportunities to establish linkages and negotiate side payments. In January 2017, for example, the European Parliament voted to include a 'Just Transition Fund' into the reform of the EU ETS to help fossil-fuel dependent countries embrace the energy transition (European Parliament 2017). Other opportunities are the negotiations on the new Multi-Annual Financial Framework – the EU's budget - which will start in 2018. However, side-payments or policy linkages should not just be seen as a way to obtain the buy-in of Member States; there needs to be a *quid pro quo* that ensures that Member States deliver and increase their climate ambitions and use funding for purposes that do not undermine the EU's climate goals. The importance of this relationship is illustrated by new research that shows that funding meant for clean energy was used to effectively subsidise fossil fuels, particularly in Eastern European Member States (Whitley et al. 2017).

In moving forward, a certain realism should prevail. Less ambitious Member States may find a way to water down new climate policy proposals and to block stronger legislation. Moreover, the appetite for a pan-European approach to climate and energy policy might be low or overshadowed by the Brexit negotiations and national solutions to European problems. However, the EU and its institutions, such as the European Commission, might

work around this opposition by focusing on less controversial issues that might still help to strengthen EU leadership on climate change mitigation.

One option is to ramp up the support for research on, innovation in, and demonstration of climate change mitigation technologies. The EU has been a leader on clean technologies – globally, 40 percent of the high-value technologies originated in the EU – and today, more than 1.2 million people work in the renewables sector (Reinaud et al. 2016). Building on this strength might prove less controversial and therefore easier to implement, particularly if Member States and the private sector can be convinced of the economic benefits of a low-carbon economy. There is a large body of literature backing up the compatibility of economic growth and stronger climate policy (New Climate Economy 2014; Fankhauser and Jotzo 2017; OECD 2017), but creating examples that put these findings in practice will be important for scaling up low-carbon technologies. The EU could play an important part through supporting emerging mitigation technologies that show that economic growth and emission reductions can work together. The EU's NER 300 programme, using revenues from the EU ETS to fund low-carbon technologies is a case in point of how the EU could support this, and might form a basis for an even more ambitious (and more generously endowed) tool. Founding and financing research centres of excellence with a specific focus on climate change mitigation might be a concrete activity, ideally drawing on competencies and skills from several Member States and drawing on lessons learnt from the European Institute for Innovation and Technology.

Another potentially less contentious option would be to help Member States collect, process and evaluate relevant data on climate mitigation policies. Following the Paris Agreement's introduction of a pledge-and-review process (see Chapter 1), information about how those pledges (i.e. NDCs) add up and how policies to achieve these pledges are performing will become essential. Research has shown that monitoring climate policies in the EU is fraught with difficulties (Schoenefeld et al. 2016) and stakeholder consultations carried out under CARISMA reveal the often insufficient capacities of Member States to report on the impacts of specific mitigation policies (Bößner et al. 2017). By providing expertise and financial support to measure and assess the various effects (greenhouse gas emission reductions, costs, social and environmental impacts and co-benefits) of Member States' climate mitigation policies – and possibly streamline their monitoring – the Commission, along with organisations such as the European Environment Agency, could implement (relatively) low-cost and uncontroversial measures to help Member States to deliver, and in the medium term, strengthen their climate change mitigation policies to meet the Paris Agreement's long-term goals.

Complementing these efforts, another way to boost EU climate policy internally is to increase and improve the communication concerning the EU's climate actions. All too often, the EU is derided by detractors and even by environmental NGOs for its shortcomings and failure to take climate action. However, much progress has been made in the past. The supply of energy has become more secure due to legislation such as Regulation 994/2010 on gas security (Gaventa et al. 2016); emissions are down by more

than 22 percent (in 2014) compared to 1990, while the EU economy is (timidly) growing; and integrating almost 30 percent of renewable energy into the European electricity grid is no small feat.

These (and other) success stories should be communicated better and more regularly to European citizens. By showing the tangible benefits of EU climate and energy policies, public support among EU citizens might consolidate, which in turn might help reduce Member State opposition to stronger climate policies at the European level. Surveys and studies suggest that support for climate action is already high among EU citizens (Eurobarometer, 2014; 2015). It would therefore be helpful to show citizens how the EU is tackling climate change in a more transparent and engaging manner. For instance, the Commissioner for the Energy Union initiative, Maroš Šefčovič, regularly embarks on an 'Energy Union tour' to speak with policy makers and citizens. A 'climate action tour' by Commissioner Cañete with a focus on citizen engagement might be an option, particularly since research suggests that the impetus from the EU level is well received on the subnational level (Jänicke and Quitzow 2017). Providing climate data in an open, interactive and understandable manner for citizens to explore would be another low-cost option to better communicate the benefits of low-carbon policies. Here, research institutes and think tanks could help to construct and maintain a 'climate benefits' database, with regional and subnational (local) success stories. Such success stories will also be important for convincing other countries that the EU is achieving its climate policy goals.²³

3.6 Reclaiming external leadership

It is this external projection of internal climate change expertise and experience which should help the EU to regain credibility as an international climate leader.

Research suggests that the EU's self-perception of a climate leader is shared by other countries. While the bloc's reputation took a significant dent in 2009 in Copenhagen and the US and China recently surpassed the EU in other countries' perceptions as leaders on climate change issues, the EU is still seen as part of the leadership group (Parker et al. 2017). But with the election of Donald Trump as President of the United States, the countries most likely to remain in this group are the EU and China. And although the Chinese government has made impressive progress in renewable energy investment and deployment (Rumney 2016), its environmental record is still mixed. Taken together, this strengthens the case for European climate leadership.

For European and Member State policy makers, there are several options for translating international climate leadership aspirations into concrete actions.

²³ Initial stakeholder consultations were carried out in 2016 and the beginning of 2017 in the framework of CARISMA Work Package 7 on 'International Collaboration on research, innovation and the transfer of climate change mitigation technologies'. These initial consultations suggest that some developing countries outside the EU look at lessons learned from EU policies when deciding and implementing their own climate change mitigation legislation.

As the successful conclusion of the Paris Agreement has shown, the EU and its Member States have the necessary skill set to be an important player in international climate diplomacy. With the creation of the European External Action Service in 2010, the EU is able to employ a wide diplomatic network, making it well positioned to nurture old and establish new partnerships, as recognised in its climate diplomacy White Paper in 2013 (EEAS 2013). Indeed, establishing partnerships particularly with countries adopting ambitious positions on international climate policy was key in negotiating the Paris Agreement (Parker et al. 2017). Besides nurturing those and other already established partnerships in forums such as the G7, the G20 or the 'High Ambition Coalition', an 'action partnership' with China seems crucial following the withdrawal announcement by the United States. Such a partnership can build on past collaborations such as the one established with Chinese national and subnational governments on a Chinese ETS (EEAS 2016; see also European Commission 2016a) or the China-EU Energy Dialogue 2013. Further, the suggestion of creating an office of an 'EU Envoy of Strategic Climate Change Collaboration' could help to institutionalise the EU's role in multilateral climate politics and give it a better capacity to reach out to other countries such as India (Kjellén and Müller 2017). Indeed, forming a strong partnership between China and the EU on climate change issues is seen not only as an option within EU policy-making circles but also increasingly in China itself. Recent research suggests that experts, policy makers as well as the public see an EU-China partnership, especially on renewable energy technologies and energy efficiency policies, as a good opportunity for mutual learning in a multi-polar world (Suetyi and Zhiqin 2017). And while China's human rights and environmental records may still be mixed (Phakathi 2017), strengthening support for multilateral action by reaching out to other major emitters still offers one of the best ways for the EU to exert international climate leadership.

Another pathway to strengthen leadership on climate action is for the EU and Member State policy makers to act as an 'orchestrator' of climate initiatives involving non-state and subnational actors (Hale and Roger 2014), as mentioned above. As Chapter 2 elaborates, international climate governance currently involves a wide array of international organisations and actors. To ensure that this groundswell of climate action is steered in the direction of meeting overarching governance goals (i.e. keeping temperature increases well below 2°C), some organisations with the intellectual, financial and technical capacity can coordinate (or orchestrate) intermediaries to scale up their actions (Abbott et al. 2015). The EU institutions (particularly the Commission) as well as some Member State governments are well placed to assume a more prominent role in the orchestration of international climate initiatives because of their experience, know-how and credibility (Hale and Roger 2014). For example, as mentioned above, the Commission was the driver behind the Covenant of Mayors, a voluntary network of cities undertaking climate action, and aside from the World Bank, the UK government was seen as the main orchestrator of a variety of climate initiatives (Hale and Roger 2014). And while Brexit might potentially reduce the opportunities for orchestration, other countries might fill the void (e.g. as evidenced by the French government's skilful conclusion of the crucial Paris COP in 2015).

European and Member State policy makers could strengthen new and existing international climate initiatives through (1) technical support; (2) financial support; (3) the hosting of regular events to discuss and possibly launch new actions and initiatives. The latter would particularly be beneficial if orchestration aims to fill existing gaps in climate governance. This could be done by launching initiatives to promote mitigation options and technologies that are insufficiently supported by national or EU-wide policies (e.g. tackling short-lived climate pollutants such as black carbon; or fossil fuel subsidy reform) in collaboration with non-state and subnational actors. Another option would be to support initiatives that help implement national climate policies and achieve a country's climate pledges under the Paris Agreement, for instance initiatives that help to strengthen insights into the *ex-post* performance of national climate policies (cf. Schoenefeld et al. 2016). Supporting existing and new initiatives involving non-state and subnational actors in the Global South could further strengthen the EU's credibility and offer evidence of its commitment to support other countries in mitigating and adapting to climate change.

3.7 Conclusion

The EU is at a crossroads. Riddled by economic, political and social crises, under attack from left and right and with potentially one member less, the bloc faces its biggest challenge since the signature of the Treaty of Rome. Although it was proposed as a possible future scenario (among five) in the recent Commission's White Paper on the *Future of Europe* (European Commission 2017a), the scenario of 'carrying on' (or 'muddling through'), often chosen as a way of least resistance, might this time be insufficient to restore trust in the EU's institutions and to deliver on the promises of improving "the living and working conditions" of its citizens (TFEU, Preamble) as well as of dealing with "worldwide environmental problems" and "combating climate change" (TFEU, Article 191).

Yet the EU has often emerged stronger from crises and has used them to give a fresh meaning to the European project. Ambitious climate policies in the past have been one vehicle of strengthening Member State cooperation in times of crises, and being a climate leader can be a unifying factor around which Member States, European institutions and its citizens can rally.

Though the context for reclaiming EU climate leadership may in some ways be challenging, much has changed for the better since the Energy and Climate Package of 2008 was adopted. For instance, renewable energy sources have become cheaper than fossil fuels in many regions (IRENA 2015; Dowling and Gray 2016); renewables employ over 1.1 million people across Europe, accounting for a turnover of €153 billion (Euroserv'ER 2016); and big business players increasingly support stronger climate action (NBC News 2017), waking up to the high costs of inaction (Carbon Tracker Initiative, 2013; Dietz et al., 2016) but also to the "biggest [economic] opportunity of our age" (King 2016). Furthermore, countries other than the United States still seem to be willing to uphold the liberal-institutionalist order and view climate change as a continuing

political priority (G20, 2017). Finally, the Paris Agreement has provided the international community with a guiding framework with a comprehensive scope, and initiatives to tackle global climate change across borders have multiplied. These are developments that should facilitate multilateral, multi-stakeholder action to tackle global warming and multilateral, inclusive action is usually what the EU does best. While the recently published White Paper on Europe's future remains silent on this topic, it is perhaps time for a sixth scenario: The EU as international champion of a low-carbon, sustainable economy.

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