

International Cooperative Initiatives in Global Climate Governance: Solution of Thread?ⁱ

Oscar Widerberg and Philipp Pattberg

Abstract

To close the gap between existing country pledges and the necessary ambition level to limit anthropogenic climate change to not more than 2 degrees Celsius average global temperature increase above pre-industrial levels, decision-makers from both the public and private domain have started to explore a number of complementary approaches to the top-down targets-and-timetables approach of international climate change policy. Referred to as International Cooperative Initiatives (ICI), these governance arrangements are now also officially acknowledged under the United Nations Framework Convention on Climate Change (UNFCCC) Durban Platform for Enhanced Action. While proponents see ICIs as important bridging devices towards more ambitious climate policy, in particular up to 2020, critical observers note that the voluntary nature of ICIs makes it difficult to assess their contribution to climate change mitigation. This article scrutinizes the potential of ICIs to meaningfully contribute to closing the emissions gap along the criteria of effectiveness, legitimacy and institutional fit. As means of illustration, the analytical framework is applied to a random sample of nine ICIs (out of a total of 45 listed on the UNFCCC Secretariat's website). We find that while potential technical effectiveness is high, legitimacy and institutional fit should be improved with a view towards integrating ICIs into the emerging post-2015 climate governance architecture.

1. Introduction

The international community is not on track to meet its own global climate change goals. The emissions gap between the greenhouse gas (GHG) reduction pledges made by countries party to the United Nations Framework Convention on Climate Change (UNFCCC) and the mitigation pathway necessary to limit climate change within the range of 2 degrees Celsius above pre-industrial levels (UNEP, 2013; den Elzen, Hof and Roelfsema, 2011) is widening. To close this gap, states have started to consider complementary approaches to internationally negotiated top-down emissions reduction targets. One approach that is gaining traction among practitioners and decision-makers suggests to boost climate-relevant International Cooperative Initiatives (ICI) that operate beyond the auspices of the UNFCCC and are driven by smaller groups of like-minded countries, often including companies, NGOs, academia, international organizations (IO) and sub-national public actors such as cities (see e.g. Blok et al., 2012; Stewart, Oppenheimer and Rudyk, 2013; Falkner, Stephan and Vogler, 2010; Hale, 2013). ICIs are expected to help closing the gap between existing country mitigation pledges and the necessary ambition level appropriate for limiting temperature increase to 2 degrees Celsius, in particular in the period leading up to 2020, where a new global treaty (to be negotiated in Paris in 2015) is expected to enter into force. The second work stream under the UNFCCC's ad hoc working group on the Durban Platform for Enhanced Action (ADP) – tasked with increasing countries' GHG mitigation ambitions – has been the main forum for discussing ICIs, and it is becoming increasingly clear that ICIs are likely to play a larger role under the Convention (cf. UNFCCC, 2014c). However, the proposition that ICIs could bridge the emissions gap spurs a number of questions. Do ICIs actually increase national ambitions and result in additional GHG emission reductions beyond national pledges? Can they muster the same level of legitimacy as the multilaterally negotiated targets (cf. Eckersley, 2012)? Are ICIs a threat to less powerful states that do not possess the capacity to influence the increasingly fragmented global climate governance architecture (Benvenisti and Downs, 2007)? These questions demand urgent attention in order to prepare for the ICIs' possible integration into the UNFCCC regime. To this end, this article develops an assessment framework based on three criteria: effectiveness, legitimacy and institutional fit. The framework is applied to a random sample of nine ICIs and the results are used to inform a discussion on the further integration of ICIs into the UNFCCC. The next section briefly discusses the emergence of ICIs in the context of the failure of the 2009 Copenhagen climate summit and the resulting shift towards a pledge-and-review approach. Section 3 introduces our assessment framework along the three criteria of effectiveness, legitimacy and institutional fit, before we provide a discussion of our findings. A detailed description of our measurement per indicator and case can be found in the scoreboard (annex 1). The concluding section advances a number of policy recommendations to better integrate ICIs into the current international climate governance architecture without inhibiting their flexibility and innovative potential.

2. The emergence of ICIs: From “targets and timetables” to “pledge and review”

At the 15th Conference of the Parties (COP) in Copenhagen in 2009, the traditional approach of the UNFCCC – where countries agree on legally-binding targets and timetables to keep global warming in check – was challenged by the summit's political outcome, the Copenhagen Accord (Bodansky, 2010; Falkner, Stephan and Vogler, 2010). It signifies a shift towards a focus on voluntary contributions and actions and away from legally-binding commitments. Industrialized countries were hence invited to communicate their voluntary mitigation targets to the Secretariat (Dimitrov, 2010). It quickly became

clear that the accumulation of all national pledges would not suffice to limit global warming to 2 degrees Celsius above pre-industrial levels (UNEP, 2013; den Elzen, Hof and Roelfsema, 2011). After summing up all pledges, an emissions gap of approximately 8 to 12 gigatonnes of carbon dioxide equivalent (Gt CO₂ eq) remains (UNEP, 2013). In an attempt to close the gap, parties decided at COP 17 in Durban to establish the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) as a subsidiary body to the UNFCCC, commonly known as the Durban Platform (UNFCCC, 2011). The ADP is sub-divided into two work streams. Workstream 1 is tasked with developing the legal text to be adopted at Paris in 2015, and workstream 2 with *inter alia* exploring ways to increase countries' pre-2020 mitigation ambition and considering options for enhanced action. Under workstream 2, the strengthening of ICIs was discussed early on as a means to raise national ambitions (UNFCCC, 2012). Subsequent ADP sessions discussed ICIs more concretely and proposals were submitted mainly by states, but also by observer organizations to map and explore the potentials of on-going initiatives that are currently undertaken by 'international organizations and other stakeholders' (UNFCCC, 2013b). In 2013, based on these submissions, the UNFCCC secretariat published two technical papers (UNFCCC, 2013a, 2013c) in conjuncture with the launch of an online repository of ICIs (UNFCCC, 2014a), currently listing nearly 45 ICIs. The information in the repository is based on the submissions from member states and observer organizations to the ADP as well as fact finding by the UNFCCC Secretariat. The result is a highly heterogeneous set of initiatives including multilateral forums such as the G8 and the G20, public-private partnerships such as the International Partnership on Mitigation and Monitoring Reporting and Verification (M-MRV) or Sustainable Energy for All (SE4ALL), international treaties such as the Montreal Protocol on Substances that Deplete the Ozone Layer, and international organizations such as the International Maritime Organization (IMO). While the Secretariat was mandated to collect information on ICIs and promote their work, it was neither tasked with monitoring, reporting and verification nor with scrutinizing the submissions according to pre-defined criteria. Moreover, parties to the UNFCCC hold different views on how to integrate ICIs into the climate change regime. Developing countries have warned against new commitments being introduced through ICIs and emphasized that alternative arrangements should be complementary rather than alternatives to a legally binding approach. Developed countries, in particular those that are active in various ICIs, are afraid that a formal recognition of ICIs could lead to red-tape and loss of flexibility. To conclude, the integration of ICIs into the UNFCCC is still in its infancy but is likely to proceed as long as the overall negotiations are unable to generate a comprehensive and ambitious agreement. Consequently, an assessment of the added value of ICIs is urgently needed, along with a discussion of their relation to the existing climate change regime. The next section introduces our assessment framework to analyse the potential effectiveness, legitimacy and institutional fit of ICIs.

3. A framework for assessing International Cooperative Initiatives

In constructing our assessment framework, we have taken into account two central assumptions. First, ICIs are not an entirely new phenomenon, but have been previously assessed under various headings, including "transnational institutions" (cf. Abbott, 2011), "climate governance experiments" (Hoffmann, 2011), "minilateralism", (cf. Eckersley, 2012), "networked climate governance" (Pattberg, 2010) and "climate clubs" (Weischer, Morgan and Patel, 2012), to name a few. The last few years have also seen the emergence of sophisticated modelling approaches to assess the technological mitigation potential of ICIs (see Blok et al., 2012; UNEP, 2013). Moreover, many of the so-called Type

II Partnerships emerging from the 2002 World Summit on Sustainable Development in Johannesburg bear much resemblance with ICIs and are in fact often overlapping (Pattberg et al., 2012), the Renewable Energy and Energy Efficiency Partnerships (REEEP) being a well-known example.

Second, providing recommendations about ICIs should be based on a multi-dimensional assessment framework, incorporating criteria beyond effectiveness and efficiency. Both the research on alternative climate governance arrangements and Type II Partnerships has resulted in a rich literature of mappings, evaluations and in-depth case studies, proposing various criteria for assessment. Most existing studies on the subject of alternative climate governance arrangements focus on criteria that can be categorized as either effectiveness, i.e. understanding the performance of an arrangement vis-à-vis a policy goal, or legitimacy, i.e. exploring the normative aspects of an arrangement such as accountability or transparency. The separation of criteria however has led to overly narrow analyses, which in turn has consequences for policy recommendations. At one extreme, some studies focus exclusively on the technical potential of ICIs and propose solutions based on technocratic arguments supported by modelling (see Blok et al., 2012; UNEP, 2013). At the other extreme, normative approaches emphasize aspects such as inclusiveness, accountability, equity and transparency, and support their arguments by reference to democratic theory (see Karlsson-Vinkhuyzen and McGee, 2013; Eckersley, 2012; Bäckstrand, 2008). Both views have their strength and weaknesses. The first approach provides an attractive simplicity on how to curb GHGs but is naïve in its disregard of power and politics. The latter approach highlights the political and equity aspects of climate governance but lacks tangible suggestions towards reducing emissions. Beyond effectiveness and legitimacy, a third category of criteria has also emerged from recent scholarship in International Relations. On this account, global climate politics increasingly takes place in broader governance architectures consisting of a range of interacting private and public institutions (Biermann et al., 2009; Keohane and Victor, 2011). Taking into account the current shortcomings in assessing ICIs, we construct a multi-dimensional assessment framework, including the criteria effectiveness, legitimacy and institutional fit.

Effectiveness

ICIs could increase the effectiveness of global climate governance in at least two ways. First, by contributing directly to mitigation of GHGs; and second, by creating the political conditions necessary for more ambitious climate commitments under the UNFCCC (Hale and Roger, 2013; Falkner, Stephan and Vogler, 2010; Hale, 2013; Widerberg and Engström Stenson, 2013). For example, options for linking emission trading schemes, the harmonization of standards, improved access to public climate finance, or agreement on support for green industries could all facilitate more beneficial political conditions for curbing GHG emissions and consequently, negotiating a global agreement (Weischer, Morgan and Patel, 2012, p. 189–190). However, measuring effectiveness in terms of real impact on GHG emissions is difficult. Instead, we measure *the potential effectiveness* of an ICI to reach its goals according to two sub-criteria: first, membership of ICIs should reflect the key actors necessary to address the problem at hand. If, for example, the general target is to reduce deforestation, then countries with large forest covers and problems with deforestation should be represented. Second, the ICI needs to have the resources available to address the problem. For example, if an ICI intends to increase global energy efficiency, then it should have the appropriate means in terms of funding and expertise to make a significant contribution. In this sense, while both membership constellations and resource availability do not automatically lead to the preferred

outcomes, they are measures of problem-solving capacity and therefore proxies for potential effectiveness in line with environmental regime literature (Miles et al, 2002).

Legitimacy

While effectiveness has been the prevailing criteria for analysis, several authors have called for a multi-dimensional inquiry (Biermann and Gupta, 2011; Zelli and van Asselt, 2013). For example, by focusing exclusively on effectiveness, we might underestimate the risks of ICIs undermining the UNFCCC by, among other things, stimulating forum-shopping, fostering opaque decision-making procedures and side-lining the core norms of the UNFCCC (e.g. common-but-differentiated-responsibilities) (Eckersley, 2012; Karlsson-Vinkhuyzen and McGee, 2013; Murphy and Kellow, 2013). The issue of legitimacy has also been raised during the ADP sessions, where several developed countries have underlined the need for a fair distribution of burdens and gains in the process of convincing national constituencies of the need to enhance ambitions (UNFCCC, 2012). Developing countries, on the other hand, have emphasized the issue of historical emissions, and consequently demanded developed countries to take the lead in mitigation pledges. In short, the perceived legitimacy of an institution is connected to its potential for raising national ambitions and creating favourable conditions for subsequent agreements.

One way of creating legitimacy is by achieving an equal distribution of burdens and benefits. This, in turn, could be bolstered by proper representation of key stakeholders during the decision-making process (Ikeme, 2003; Grasso, 2010). Hence, to assess the legitimacy of ICIs we use level of inclusiveness as a proxy and explore to what extent those that are subject to decisions are included in the decision-making process. Inclusiveness is sub-divided into two categories: scope and quality. Scope looks at who is participating in the decision-making process and whether the affected constituency is represented. Quality is determined by the process of decision-making procedures (Dingwerth, 2007, p. 28).

In addition to inclusiveness, the concept of legitimacy also entails the potential for holding someone accountable for their actions. While accountability is a multi-dimensional concept, one of its prerequisites is access to information (Bäckstrand et al., 2012; Gupta, 2010). Hence, an initiative that communicates its actions and results in an open and transparent manner is more accountable than an initiative with intransparent communications. We therefore assess the way in which information is shared with the broader public via for example homepages and other reporting instruments.

Institutional fit

Finally, contemporary global governance goes beyond single-issue regimes to include complex governance architectures (or regime complexes) consisting of various public and private institutions (Biermann et al., 2009; Keohane and Victor, 2011; Raustiala and Victor, 2004). This has repercussions for our analysis, since an institution's position in the overall governance architecture impacts on its effectiveness and legitimacy. For example, if both membership and function of ICIs are overlapping, this might result in 'conflictive fragmentation' and provide opportunities for opportunistic behaviour in the form of e.g. forum-shopping (Biermann et al., 2009; Murphy and Kellow, 2013). Based on a framework to assess institutional fragmentation presented by Biermann and colleagues (2009), ICIs should be analysed in terms of their fit to the overall institutional architecture of climate governance. To avoid delegitimizing the UNFCCC, actions and decisions with clear relevance to climate change should be taken in accordance with the core norms of the UNFCCC. Moreover, previous research on transnational initiatives has shown how the creation of alternative governance arrangements can be

supply-driven rather than demand-driven, i.e. partnerships, clubs and collaborations are set-up because of political interest rather than a functional need (c.f. Andonova and Levy, 2003). We therefore argue that ICIs should be problem-driven and be clearly linked to a specific governance gap.

In sum, the three assessment criteria have been broken down into six sub-criteria: actors, resources, inclusiveness, access to information, institutional fit and demand-driven. An overview and detailed operationalization of each indicator and sub-criteria can be found in annex 1 (on file with authors) and table 1.

Table 1 Framework criteria and key questions

CRITERIA	SUB-CRITERIA	KEY QUESTIONS
Effectiveness	Actors	<ul style="list-style-type: none"> ▪ <i>Does the composition of members in the ICI reflect the problem it addresses?</i>
	Resources	<ul style="list-style-type: none"> ▪ <i>Does the ICI have the technical and financial capacity to solve the problem at hand?</i>
Legitimacy	Inclusiveness	<ul style="list-style-type: none"> ▪ <i>Is the target-group represented in the composition of members?</i> ▪ <i>Is decision-making power equally distributed among the members?</i>
	Access to information	<ul style="list-style-type: none"> ▪ <i>Do the participants and the broader public have access to information?</i>
Institutional fit	Institutional fit	<ul style="list-style-type: none"> ▪ <i>Are the norms and goals of the ICI aligned with those of the UNFCCC?</i> ▪ <i>Are there overlaps in the governance functions and/or membership of the ICI with other ICIs'?</i>
	Demand-driven	<ul style="list-style-type: none"> ▪ <i>Is the ICI responding to a governance gap?</i>

For analytical purposes, we treat the three criteria in isolation from each other, while they might interact in the real world. Trade-offs between participation and effectiveness, for example, are endemic to transnational politics and also manifest themselves in the discussion on ICIs. Proponents of unilateralism and climate clubs highlight exclusivity as a condition for success (c.f. Naím, 2009; Weischer, Morgan and Patel, 2012), which is hardly compatible with criteria of openness, inclusiveness and accountability (Karlsson-Vinkhuyzen and McGee, 2013). Eckersley (2012, p. 25) argues that 'Proponents of exclusive unilateralism appear ready to sacrifice procedural justice at the altar of an efficient and best-practical outcome that ensures the buy-in of the major emitters'. While we recognize these interactions, they are considered to be beyond the scope of this article.

4. Method and Case Selection

To illustrate our assessment framework and provide a first insight into the merits of the official list of ICIs on the UNFCCC homepage, we have selected nine cases for further research. Each case has been

ranked according to a detailed protocol explained in annex 1. Data on the ICIs has been collected from academic and policy literature; reports from IOs, NGOs and think-tanks; news outlets; and homepages. Additional background information on the UNFCCC’s role has been gathered in an interview with a policy officer at the UNFCCC Secretariat who wishes to remain unnamed. The UNFCCC’s official list of ICIs establishes nine categories of ICIs and we have consequently selected one ICI from each category (see table 2) using a random order function in Excel. Table 2 shows the nine cases in our sample.

Table 2 Overview of sample of cases

Name	Abbrev.	Category	Created	No. Members	Member type
Group of Twenty	G20	Political dialogue	1999	20	Countries + EU
Clean Energy Ministerial	CEM	Technical dialogue	2009	23	Countries
Regions of Climate Action	R20	Implementation	2010	560	Subnational and local governments
International Renewable Energy Agency	IRENA	Energy efficiency/renewables/energy supply	2009	130	Countries
Refrigerants, Naturally!	RN	Reducing emissions from fluorinated greenhouse gases	2004	108	Companies
Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants	CCAC	Reducing Short-Lived Climate Pollutants	2012	31 + 29	Countries + organizations
Low Carbon Vehicle Partnership	LowCVP	Transport	2003	200	Organizations
Collaborative Partnership on Forests	CPF	Land use	2001	14	IO
Global Methane Initiative	GMI	Waste	2010	16	Countries

The remainder of this section describes each initiative and its function in global climate change governance.

G20 – The Group of Twenty (G20) consists of 19 major economies and the European Union (EU) representing almost 70 % of the world population, 85 % of the GDP and over 80 % of world trade. It has effectively replaced the Group of Eight (G8) to become the new permanent council for international economic cooperation. While climate-related issues have continuously been on the G20’s agenda, its most tangible work on climate change has been on the phase-out of fossil fuel subsidies, which are considered to distort price-mechanisms on the fuel markets (Barbier, 2010; Kim and Chung, 2012; Van de Graaf and Westphal, 2011).

Clean Energy Ministerial – The Clean Energy Ministerial (CEM) is a forum of energy ministers from 23 major economies, representing over 90 % of global energy investment and 80 % of emissions. Its goal is to catalyse energy efficiency and access to clean energy. CEM has been called a ‘spin-off’ of the Major Economies Forum (MEF) (Bausch and Mehling, 2013, p. 122) and operates through 13 technology initiatives spread across the topics of energy efficiency, clean energy, integration, and human capacity. The focus lies on technological advancement rather than political agreements (Pershing, 2013). CEM operates via high-level dialogues, technical cooperation, and engaging the private sector and other stakeholders.

Regions of Climate Action – Regions of Climate Action (R20) was initiated by the former governor of California Arnold Schwarzenegger with the aim to match regional public authorities with technology developers and finance providers to catalyse climate action and clean energy projects (e.g. cool roofs, buildings efficiency, LED street light, sub-national climate reporting). Members of the R20 sign a charter confirming their support of the R20 goal of showing that ‘75 percent of global greenhouse gas emissions reductions needed by 2020 to limit the increase in world average temperature to 2 degrees Celsius can be achieved at no net cost’. Currently the R20 counts 560 members.

International Renewable Energy Agency – The International Renewable Energy Agency (IRENA) was created in 2009 to become the institutional home for renewable energies (RE) in global affairs. It facilitates and supports knowledge-gathering, capacity-building, technical expertise, data collection and analysis of world wide RE supply. As of May 2014, IRENA counts 130 member countries that have signed the IRENA Statute and 37 other countries in an accession phase. Its membership covers the vast majority of the world’s energy producers and consumers but excluding a few large countries, notably Canada and Russia. IRENA has aligned itself with the goal of the SE4ALL initiative, which is to double global renewable energy capacity by 2030, currently about 15 % of the global energy mix.

Refrigerants, Naturally! – Refrigerants, Naturally! (RN) is a partnership between the Coca-Cola Company, Unilever, Red Bull, PepsiCo, United Nations Environmental Programme (UNEP) and Greenpeace, aiming at the substitution of fluorinated gases (CFCs, HCFCs and HFCs) with natural refrigerants such as CO₂ or hydrocarbons (e.g. propane). Participants in the initiative commit to reducing their own use of fluorinated gases, while sharing the results and practices with external stakeholders. RN limits its action to “point-of-sale” cooling applications, which potentially entails the whole retail infrastructure but excludes manufacturing and distribution.

Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants – The Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants (CCAC) has grown from seven partners at its inception in 2012 to over 80 state and non-state partners in mid-2014. Their primary goal is to tackle short-lived climate pollutants (SLCPs) of which black carbon in particular is considered a promising option for mitigating climate change in the short term (Ramanathan and Carmichael, 2008). CCAC comprises the world’s richest countries, including the G8 (Department Of State, 2013), and has attracted high-level politicians to its meetings (CCAC, 2013). While the CCAC’s core function is to track SLCPs and create inventories (CCAC, 2012), it also implements concrete initiatives on reducing SLCPs from heavy duty diesel vehicles and engines, agriculture, household cooking and domestic heating.

Low Carbon Vehicle Partnership – The Low Carbon Vehicle Partnership (LowCVP) is a partnership trying to accelerate the uptake of low carbon vehicles in the United Kingdom (UK). Its members consist of approximately 200 domestic organizations ranging from the automobile industry to environmental NGOs and public authorities. Its main activities involves the information sharing through writing reports, instigate behavioural change by a labelling scheme (LowCVP, 2014), creating tool-kits and collecting best practices, holding conferences, giving out prizes outstanding achievements and advocacy. LowCVP was created in 2003 after the UK government declared a partnership an important part of its strategy on future vehicles.

Collaborative Partnership on Forests – The Collaborative Partnership on Forests (CPF) is a partnership between 14 International Organizations and treaty secretariats working on forest related issues. It was created in 2001 following a decision (2000/35) by the UN’s Economic and Social Council

(ECOSOC) to form a collaborative partnership on forest to increase the effectiveness of international forest governance by improving coordination between bodies working on forestry (Rametsteiner, 2009). The goal of the CPF is to foster collaboration between member organizations and to support the UN’s Forum on Forests (UNFF). It engages in streamlining reporting on forest data, financing, outreach and information sharing. In terms of climate change, besides having the UNFCCC as a partner, the most publicly visible contribution of CPF is perhaps the Forest Day which is regularly organized during the UNFCCC COPs.

Global Methane Initiative – The Global Methane Initiative (GMI) consists of 38 governments, the European Commission, the Asian Development Bank and the Inter-American Development Bank. It is a government-driven ‘technology partnership’ (Bäckstrand, 2008, p. 93) and aims at reducing and recovering methane emissions, which is a potent GHG. GMI is a continuation of the earlier US-lead Methane to Markets initiative that began in 2004. The US Environmental Protection Agency (EPA) continues to lead the partnership by chairing the steering committee and participation in several of GMI’s subcommittees.

5. Discussion

The results of applying our analytical framework to nine selected ICIs (from the overall sample of currently 45 international cooperative initiatives listed on the UNFCCC homepage) are shown in table 3. We discuss these findings in more detail along the main indicators of effectiveness, legitimacy and institutional fit. Detailed scores for each case can be found in Annex 1.

Table 3 Results from scoring

	Name	Effectiveness		Legitimacy		Institutional fit	
		Actors	Resources	Inclusiveness	Access to information	Institutional fit	Demand-driven
1	G20	••••	•••••	••	••	•••	•••••
2	CEM	••••	•••••	••••	•••	••••	•••••
3	R20	•••	••••	•••••	-	•••	•••
4	IRENA	•••	••••	••	••••	•	••
5	RN	••	•••••	••	••	•••	••••
6	CCAC	•••	••••	••••	•••••	•••	••••
7	LowCV P	•	•	-	-	-	•
8	CPF	•••••	••	•••	••••	•••••	•••••
9	GMI	••••	••••	••••	•••	•••	•••

Note 1: the dots represents, in descending order from positive (max five dots) to negative (min one dot), answers to the questions posed in table 1.

Note 2: Annex 1 provides a detailed description the criteria and scoring of each cell.

Effectiveness

The overall potential effectiveness of the ICIs in our random sample is fairly high. Looking at individual ICIs, the actors involved are generally representative for the problem they intend to solve. For instance, G20 and CEM both include countries that account for nearly 80 % of global energy

related GHG emissions, the GMI represents about 70 % of global methane emissions and the CPF includes all forest-related relevant UN. Moreover, several of the ICIs in our sample have increased their membership numbers significantly over the last few years. GMI, for example, started with 14 members in 2004 and grew to 41 in 2011 (Burger et al., 2013), the CCAC grew from seven partners at its inception in 2012 to over 80 state and non-state partners in 2014, and IRENA has grown rapidly to include 130 members and 38 states in an accession stage. While the growth and number of members are impressive, some ICIs lack key players. For example, Brazil, although among the world's top producers and consumers of biofuels and hydropower, is not member of IRENA; and the CCAC has failed to attract China as a member, despite air pollution being a widespread and urgent challenge in China. The two lowest scores on actors are given to RN, which excludes large global food and beverage companies such as Nestlé and Heineken, and the LowCVP because it includes exclusively domestic actors and therefore cannot be considered an international initiative, highlighting our claim that minimum criteria for defining an *international* cooperative initiative are urgently needed. A second observation related to actors involved in ICIs is the large heterogeneity in actor-constellations. Membership comes in all shapes and forms; the G20, IRENA and CEM for example, exclusively include states, while GMI and CCAC work closely with non-state partners, and the CPF and RN both lack direct state involvement.

The ICIs in our sample also score well on the second criterion, available resources. The member countries in the CEM, for example, account for nearly 90 % of global clean energy investments, which should provide the group with the necessary leverage to fulfil its missions to 'promote policies and programs that advance clean energy technology, to share lessons learned and best practices, and to encourage the transition to a global clean energy economy.' (CEM, 2014) However, CEM's mission statement at the same time illustrates how ICI's are prone to avoid quantifiable targets, which makes it difficult to assess whether their resources match their needs. Only CPF and LowCVP score low on resources. According to self-reporting, the CPF structurally lacks the resources and capacity to fulfil its mission. Again, LowCVP lacks the resources and capacity to act across borders.

To conceptualize effectiveness as the potential of an organization to meet its goals has one main caveat. If goals are weak and/or poorly quantified, an initiative could score well on effectiveness measured against its own targets but perhaps not against an independent target such as the required contribution to bridging the emission gap. For example, RN has been successful in creating a shift towards using more natural refrigerants in the food and beverage industry by setting up time-tables for phasing out the use of fluorinated gases and installing climate friendly technology in new cooling applications. This success, however, constitutes only a tiny fraction of what is needed to close the emissions gap. According to one estimate, meeting half of the technical potential available to reduce fluorinated gases originating from refrigeration, air-conditioning and industrial processes could lead to a reduction of 0.3 Gt CO₂e by 2020 (Blok et al., 2012). RN has so far reported 3 million HFC-free refrigerant units, corresponding to prevented emissions of 1.2 million tons of CO₂ (Becker, 2014), i.e. 0.4 % of the total technical potential estimated by Blok and colleagues (2012).

Legitimacy

While the scores for effectiveness were overall high, the scores for legitimacy are both lower on average and more varied. Three general observations can be made.

First, several ICIs have an open and inclusive approach to membership. CEM, R20, CCAC, and GMI all invite new members to join their efforts, provided they adhere to the principles and goals of the initiative. However, a more in-depth analysis reveals that the ICIs in the sample are heavily dominated by states, which is perhaps unsurprising given that the UNFCCC's repository of ICIs is based mainly on submissions by countries with an incentive to promote their own actions. Membership comes in many different forms and non-state actors are generally included as 'partners' (CEM and R20), 'observers', or part the 'Project Network' (GMI). A common configuration is that of a "partnership" between states, companies and NGOs, which suggests shared authority between state and non-state actors. However, states tend to retain veto power by excluding non-state actors from voting on core functions and decisions of the ICI. In the CCAC, for example, states have veto power over who will be granted partner status in the organization and thus decide who can attend the high-level Assembly as observers. States also hold exclusive voting power in the Steering Committee that provides oversight, support and recommendations to the Assembly (Lode, 2013). Hence, even if non-state partners are invited to participate in several of the CCAC's bodies, states are cautiously guarding who will have a final say on important decisions. This suggests that promoting ICI's as a 'bottom-up' approach to global climate governance should not be confused with an increase of civil society or business authority, but rather states trying to find new paths to further their interests.

Second, by definition, the sub-criteria inclusiveness is of limited use for those organizations where the rationale is based on exclusivity. The G20, for example, has characteristics of a club-like organization (Keohane and Victor, 2011; Weischer, Morgan and Patel, 2012). It holds closed meetings, agendas are set by the hosting nations, and there is no formal way for non-state actors to be included in the deliberations. It therefore scores low on both inclusiveness and access to information. However, several observers have noted that club-like arrangements can increase the potential for effective solutions by creating 'club-goods' within a small group to generate co-benefits in forms of GHG reductions (Victor, 2006; Stewart, Oppenheimer and Rudyk, 2013; Weischer, Morgan and Patel, 2012). For example, smaller groups of countries or companies that share technology for renewable energy could keep the gains from the exchange within the group whereas their wider application could yield co-benefits for society by reducing GHG emissions.

Institutional fit

The indicator institutional fit analyses the nature of the ICI's relation to the broader climate governance architecture. By looking at the goals, member and functions, we can establish what the ICI's relation is to the UNFCCC on the one hand, and other ICIs on the other. Three main observations stand out.

First, there is little direct conflicting fragmentation between the ICIs and the UNFCCC. Nearly all ICIs in our sample are highly explicit in their support to the UNFCCC. For example, GMI works in concert with international agreements, including the UNFCCC' (GMI, 2014), the R20 has internalized the 2 degree target – agreed upon under the UNFCCC – in its charter, and the CPF plans its most public event of the year, the Forest Day, as a side-event to the UNFCCC COPs. RN submits statements ahead of the COPs, IRENA engages in providing advice on renewable energy during the COPs, and the G20 repeatedly confirms their commitment to the UNFCCC. The results are corroborated by previous research on climate clubs where researchers found that novel initiatives, by and large, 'are not challenging the current governance architecture, and some are more conducive than others' (Widerberg and Engström Stenson, 2013, p. 40).

Second, the ICIs role vis-à-vis each other is more problematic due to numerous overlaps in function and membership between various initiatives. The CCAC and the GMI, for example, both focus on technology-driven approaches to mitigate methane emissions leading to functional overlaps and need for coordination. They also share several members including the USA, Australia, Germany and Russia. Another example is the many ICIs targeting renewable energy and energy efficiency. For instance, CEM shares the same goals as other ICIs such as SE4ALL, Energy+ and REN21. Also here, several states, such as the USA, Denmark, Brazil, Germany and France, are participating in multiple initiatives with very similar functions and goals. These observations hint at political rather than functional motives for starting and joining ICIs since the institutional overlaps are likely to result in dispersed political attention. Some organizations contribute to both fragmentation and coherence within the governance architecture of climate change. For instance, Hirschl argues that before the establishment of IRENA, renewable energy did not have an institutional home and was thus part of a fragmented landscape including the IEA, the UNFCCC, the CSD, UN-Energy, SE4ALL and a number of global partnerships, initiatives and forums (2009). It also explicitly aims to cooperate with like-minded organizations and partnerships such as CEM, REN21 and the IEA (Roehrkaster and Westphal, 2014). In this sense, IRENA creates a hub where the scattered initiatives can gather, exchange information and generate synergies. On the other hand, IRENA clearly has institutional overlaps with already established institutions, in particular the International Energy Agency (IEA) (Van de Graaf, 2013).

Third, while some functional overlaps exist, we argue that most ICIs in our sample have been demand-driven upon creation and fill important governance niches. For example, both the G20 and the CCAC have responded to developments in the social and natural sciences. The G20 focuses on reducing fossil fuel subsidies after several studies have shown how national fossil fuel subsidies distort global fuel markets by keeping prices artificially low, which in turn is likely to have detrimental effects for both the economy and the environment (Ellis, 2010). The CCAC targets SLCPs, which only recently have become understood as important climate forcers (Ramanathan and Carmichael, 2008).

Finally, the impact of the degree of institutional fit on effectiveness and legitimacy in global climate governance is contested. While authors such as Victor and Keohane argue that the situation can allow for more flexibility and adaptation in the system (2011) others such as Biermann and colleagues highlight the risks of 'conflictive fragmentation', including lowering ambitions, reduced inclusiveness, and a 'race-to-the-bottom' (2009). Some ICIs are even created to manage overlapping institutions. IRENA, for example, maintains a joint database with the International Energy Agency (IEA). However, from a perspective of creating efficiency in the governance architecture, one could question the use of several organizations with overlapping and fragmented memberships, separate decision-making procedures and administrative apparatus demanding political and financial resources from both state and non-state members. This fragmentation is a daunting challenge for countries and non-state actors with limited capacity to keep a breast with developments, negotiations and procedures in multiple parallel forums at the same time.

The main policy problem arising from institutional fragmentation is the question of 'additionality' and whether ICIs have the potential to close the emissions gap. The reasoning behind the 'wedging the gap' discourse is that ICIs are accounted for as additional to the already existing pledges. Consequently, if one accepts the assumptions made in Blok and colleagues' article on the emission's

gap, then states would have to reach their pledges without counting on the emission reductions made by ICIs.

6. Conclusions

Inadequate national ambitions to mitigate GHG emissions have put the world on an emission trajectory unlikely to reach the commonly agreed goal to limit global warming to 2 degrees Celsius. Consequently, an emissions gap of 8 – 12 Gt CO₂ eq has occurred between the national pledges and the GHG reduction levels necessary to keep climate change within safe limits. Several observers have suggested that ICIs could help to fill this gap and called for more integration of ICIs into the UNFCCC. We set out to critically assess the governance aspects of this proposal by creating an assessment framework consisting of three variables; effectiveness, legitimacy and institutional fit, and apply it to nine case studies.

Our analysis showed that the majority of ICIs in our sample have a high degree of potential effectiveness, while legitimacy and institutional fit vary considerably. Three overarching observations stand out. First, the list of ICIs on the UNFCCC homepage is compiled without any guiding principles, resulting in an interpretation of ‘cooperative action’ to include all kinds of action related to climate change at any level with any type of actor. This is reflected in our sample by the vast spread in type, function, membership, decision-making rules, and inclusiveness, information sharing and institutional fit. For example, while some ICIs, such as the CCAC and the GMI score overall high on all criteria, others such as the LowCVP are purely national initiatives and should not have been included in a list of international cooperative initiatives.

Second, the heterogeneity makes any single one-dimensional approach incomplete and comparison between the ICIs difficult. Instead, a multi-dimensional assessment framework seems more appropriate. One important conclusion we draw here is that *minimum standards* defining ICIs are needed. For example, actors should come from different countries and the objectives should be to engage in cross-border problem-solving. The criterion on institutional fit also highlights that ICIs should be checked against the goals and norms of the UNFCCC and other ICIs to ensure that actions are conducive and not conflictive to the global climate governance goals.

Finally, the proposition that ICIs could contribute to wedging the emissions gap assumes that they produce additional emission reduction above the already pledged national mitigation targets. This raises salient question on additionality, double-counting, attribution, monitoring and reporting. If the achieved mitigation of ICIs 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. For example, is it plausible to assume that a country engages in an ICI without perceiving it as a means to reach its already pledged goals? Moreover, it is unclear what role ICIs will play in a future climate regime. The UNFCCC is a framework instrument and was created to encourage national action and establish an infrastructure of institutions and decision-making mechanisms. To fulfil these goals, it seems natural that ICIs would be accommodated into the Convention.

In the remainder of this conclusion, we highlight a number of key recommendations derived from the three criteria in our analysis with a view to improve the effectiveness (recommendations 1 and 2), legitimacy (recommendation 3) and institutional fit of ICIs (recommendations 4 and 5).

ICIs should set quantifiable targets expressed in terms of GHG reductions. The current set of ICIs is quite heterogeneous when it comes to goals and targets. Any evaluation of the ICI's contribution to filling the emissions gap, for example, is cumbersome due to the difficult task of quantifying their actual emissions reductions. For instance, how can we establish a causal link between the CPF's work on forestry and output in terms of mitigating GHG emissions? Consequently, ICIs should communicate their goals in terms of concrete and measurable emission reduction targets.

The international community should safeguard the 'additionality' of ICIs. During recent ADP sessions, delegates have pointed out the risks of double-counting the effects of mitigation (UNFCCC, 2013b). Our research corroborates this view, since even the most technically oriented ICIs in our sample lacks open and transparent monitoring and reporting processes. It is also plausible to think that any reduction in GHG emissions resulting from sub-national action, such as through the R20, would be incorporated into the national accounts, i.e. removing the additionally of ICIs and undermining the idea that ICIs could be enlisted to wedge the emission gap. This is particularly important when it comes to action by regions and cities which are increasingly being perceived as important actors in climate mitigation (UNFCCC, 2014b; Betsill and Bulkeley, 2006).

ICIs should be encouraged to have open and transparent goals, procedures and reporting. Measures to improve the legitimacy of an ICI are likely to be conducive to their acceptance among more sceptical countries in the UNFCCC process and other relevant stakeholders. For example, by having inclusive goal-setting processes or making their achievements and methods publicly available, they are more open to scrutiny and less vulnerable to mistrust and competition.

The UNFCCC Secretariat should be mandated to develop minimum standards for defining ICIs, screen the current registry for compatibility, and make a new request for submissions of ICIs according to the new criteria. Minimum standards for officially acknowledging ICIs would ensure that only initiatives with a clear and verifiable mitigation potential are considered International Cooperative Initiatives. The role of the UNFCCC's Secretariat could be crucial. Hale and Roger (2013) have proposed that the UNFCCC takes on an 'orchestrating' role meaning that it could create, support, steer and coordinate non-state actors and institutions to achieve policy goals (Abbott and Snidal 2010). The UNFCCC's role in creating new ICIs, however, might be limited since it currently lacks the mandate to start its own ICIs and has historically been kept on a short leash by the member states. During the 2012 Bonn meeting, parties noted that most of the ICIs listed on the UNFCCC homepage already had governing bodies, processes and agreements in place, therefore the UNFCCC should rather focus on information-sharing, capacity building and identifying potential synergies (UNFCCC, 2012).

The scientific community should undertake a comprehensive review of the lessons learned from previous partnership experiences and other alternative governance arrangements to avoid preventable mistakes. Integrating alternative governance arrangements, such as ICIs, into an existing multilateral environmental agreement could benefit from previous studies. Lessons learned from the so-called Type II Partnerships coming out of the Johannesburg World Summit on Sustainable Development (WSSD) – later renamed to Partnerships for Sustainable Development – could teach us much about the do's and don'ts for how to organize the work of the UNFCCC and the Secretariat regarding ICIs, in particular how to avoid green and blue washing practice.

In sum, we need to recognize that there is a delicate balance between the key benefits of additional climate action, including voluntarism, flexibility, adaptability, the creation of club-goods, and informality, and the need to integrate them into the UNCCC architecture in order to safeguard basic norms and principles of accountability, equity and fairness.

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