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Project Acronym: POLIMP

Mobilizing and transferring knowledge
on post-2012
climate policy implications

***D3.4: Criteria for evaluating Climate Policy
scenarios***

Project Coordinator: **JIN**

Work Package **3** Leader Organization: **Ecologic Institute**

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Preface

POLIMP intends to facilitate a process to identify, for different policy and decision making levels, knowledge gaps about implications of possible directions of international and EU climate policies. The core objective is to cover these gaps with knowledge packages derived from a broad range of existing reports, research and climate policy decisions at, e.g., EU and UNFCCC levels. With these information packages, climate policy associated stakeholders will be better able to extract key policy conclusions. Through series of workshops these packages will be communicated with stakeholders and collect feedback. In addition, POLIMP will develop a knowledge platform for EU policy makers on climate policy implications.

Knowledge gaps will be identified for a range priority issues related to climate policy making in consultation with stakeholders, but as a starting point for discussion the following three (categories of) issues are suggested by the POLIMP partners:

- ⤴ What would different possible international climate policy scenarios entail for EU society, business, Member States and EU as a whole, in the terms of economic, social, and environmental impacts looking especially at likely reactions and resulting political acceptability for different groups such as those impacted by job losses and reductions in welfare as well as potential gains?
- ⤴ How can EU stakeholders deliberate in an evidence based manner about the advantages and disadvantages of these different scenarios?
- ⤴ How can EU and EU stakeholders learn from design and implementation of climate policies worldwide as well as share the experience the EU has gained in designing and implementing climate friendly actions?

Project Partners

N°	Participant name	Short Name	Country code
CO1	Joint Implementation Network	JIN	NL
CB2	Centre for European Policy Studies	CEPS	BE
CB3	University of Piraeus Research Center	UPRC	GR
CB4	Universitaet Graz	UNI GRAZ	AT
CB5	Ecologic Institut Gemeinnutzige GmbH	ECOLOGIC	DE
CB6	Climate Strategies	Climate Strategies	GB
CB7	Fundacja Naukowa Instytut Badan Strukturalnych	IBS	PL



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Executive Summary

The international community has come up with numerous and often complex suggestions for the design of a new climate agreement to be adopted during the 21st session of the Conference of the Parties (COP21) in Paris in 2015 ('2015 Agreement'). These design options are currently being discussed under Workstream 1 of the 'Ad-hoc Working Group on the Durban Platform for Enhanced Action' (ADP) by Parties to the UNFCCC.

Given the complexity of the different design options, policy makers and stakeholders need a manageable tool to reduce this complexity. This paper provides a practical criteria matrix to assist policy makers in evaluating and comparing different proposals for the 2015 Agreement.

A wide array of academic studies has already proposed requirements that a future international climate agreement, or climate policy more broadly, would need to meet. Among the most commonly proposed criteria are 'environmental effectiveness', 'level of ambition', 'participation and inclusiveness', 'cost-effectiveness and investment implications', 'equity', 'compliance', 'institutional feasibility', 'political acceptability' and 'systemic coherence'. However, the definitions of the proposed criteria often lack the necessary clarity to be a useful tool in practice. Even more importantly, many scholars conducted a mere academic exercise but failed to consider whether the criteria were embraced by the relevant decision-makers, i.e. Parties.

Criteria that are relevant for the design of the 2015 Agreement are first and foremost those that are embraced by Parties to the UNFCCC, given that these will need to reach consensus on the arrangements. This paper thus analyses to what extent the criteria proposed in literature find support among Parties, also identifying whether relevant criteria have been omitted in literature. The analysis is based on a screening of submissions by the main Party groups to the ADP – Workstream 1 and assesses whether Parties use specific keywords identified in the literature analysis, such as 'equity', for example. Additionally, submissions are read in the light of common 'codes' used by Parties in the climate negotiations and are interpreted accordingly.

Important results of the analysis of Parties' submissions are the following:

- Some of the criteria, for example 'political acceptability' or 'systemic coherence', regarded as crucial in literature are not reflected in Parties' submissions;
- Other criteria, including 'level of ambition' or 'participation' are widely reflected in the submissions and are defined similarly by Parties while other criteria such as 'equity' are often reflected in the submissions but with different underlying interpretations;
- Party submissions reveal additional criteria that are not reflected in the analysed literature. These additional criteria are: 'assisting the vulnerable', 'durability' and 'flexibility';
- Some criteria identified in literature are umbrella concepts rather than individual criteria. One and the same term, for example 'equity', can mean very different things to different Parties, signalling that the criterion might not be specific enough to guide the assessment of design options. Thus it is advisable to split up some of the discussed criteria;
- Several criteria are interconnected: Some criteria such as 'differentiation according to historical responsibility' and 'differentiation according to evolving responsibility' might be mutually

exclusive to a certain extent or involve trade-offs; Other criteria might be mutually enforcing: a high level of active participation, for example, might – in the view of some countries – contribute to a more equitable approach.

Based on these results, the paper suggests the following criteria matrix:

Suggested criteria matrix and criteria definitions

Criteria	Definition
Environmental effectiveness	
Level of ambition	Stringency of the sum of mitigation targets with respect to the ultimate objective of the UNFCCC to prevent dangerous anthropogenic interference with the climate system
Level of active participation	Number of Parties that commit to mitigate GHG emissions
Stringency of MRV system	Degree to which the regime ensures the provision of accurate and complete information on efforts undertaken by Parties
Stringency of compliance check and enforcement	Degree to which the regime checks, incentivises compliance and addresses cases of non-compliance
Equity/Fairness	
Differentiation according to historical responsibility	Degree to which the distribution of costs and benefits of mitigation and adaptation across countries takes into account historical responsibility for GHG emissions
Differentiation according to evolving responsibility	Degree to which the distribution of costs and benefits of mitigation and adaptation across countries takes into account the evolving responsibility for GHG emissions
Differentiation according to capacities and needs	Degree to which the distribution of costs and benefits of mitigation and adaptation takes into account the economic capacities, mitigation potentials, and adaptation needs of countries.
Assisting the vulnerable	Degree to which the regime supports those that are particularly vulnerable to the adverse effects of climate change in adapting
Other criteria	
Institutional feasibility	Degree to which institutions are capable of effectively implementing the provisions of the regime
Durability	Degree to which the regime is politically stable
Flexibility	Degree to which regime allows for the adjustment of and revision of commitments over time to respond to evolving scientific and socio-economic information
Cost-effectiveness	Degree to which the regime is able to prevent dangerous anthropogenic interference with the climate system at lower costs than other approaches

Design proposals for the 2015 Agreement can score low, medium or high for each individual criterion. Awarding a high score to one criterion does not necessarily imply that this is a good result.

In fact, such a judgement lies in the eyes of the beholder and his/her priorities and preferences. Overall, the listed criteria do not point to the optimal outcome but rather make the features or attributes of different design options more explicit. Applying this matrix to proposed governance frameworks can assist policy makers to compare the features of the proposal to their preferred negotiated outcome, and to identify common ground with other Parties' preferred options. In view of the advancing negotiations under the ADP and the short time frame until the expected adoption of an agreement in Paris in 2015, this matrix appears timely.

1 Introduction

In 2011, the international community agreed to launch a negotiation process under the United Nations Framework Convention on Climate Change (UNFCCC) that would lead to a new climate agreement to be adopted during the 21st session of the Conference of the Parties (COP21) in Paris in 2015 ('2015 Agreement'). While this step presents a new ray of hope for coordinated international action on climate change, at the point of writing countries are still far from agreeing on the essential elements of the 2015 Agreement. The positions of the main negotiating groups remain far apart from each other and only slow progress can be observed, given that much of the first two years of negotiations under the 'Ad-hoc Working Group of the Durban Platform on Enhanced Action' (ADP) was defined by procedural quarrels. As UNFCCC Parties are starting to enter into more substantive negotiations, different proposals for the design of the 2015 Agreement are being put on the table. Parties' proposals differ in many ways, such as regarding the legal character of the 2015 Agreement, the content and nature of contributions of Parties to the 2015 Agreement, the relative importance of different elements such as adaptation or mitigation, and the stringency or robustness of the regime. Additionally, civil society, business and academia add to the debate with their own proposals and ideas. Assessing the different options on the table thus becomes an increasingly complex task for negotiators and the broader society.

In this paper we thus aim to develop a practical framework for evaluating and comparing different scenarios for the 2015 Agreement. Drawing on lessons from earlier research, we propose a set of evaluation criteria that could assist policy makers reducing complexity to facilitate the assessment of different design options. The criteria will not point to the optimal outcome but rather make the features or attributes of different design options more explicit.

The first obstacle we encountered in the exercise was one of definitions. On most occasions, the term *criteria* is not defined in literature, or used interchangeably with 'objectives', 'goals', 'principles' or similar terms. The Center for International Forestry Research has established a useful hierarchical framework for principles, criteria, indicators and verifiers, also providing clear definitions for each of the concepts. Accordingly, 'principles' are "a fundamental truth or law as the basis of reasoning or action" and at the top of the vertical axis. A 'criterion', in contrast is "a standard that a thing is judged by" and that operationalises a principles. Criteria are also "the intermediate points to which the information provided by indicators can be integrated". In the proposed framework, an 'indicator' is "any variable or component of the [...] system used to infer the status of a particular criterion". Finally, 'verifiers' are the sources of information that are used for determining the condition of the indicator (CIFOR 2009: 7). In practice, it is often difficult to draw a clear line between criteria and objectives or principles. Some criteria might resemble principles and be a function of other criteria. Criteria might thus influence each other. For example, compliance with the provisions of a regime might enhance its environmental effectiveness – which could be regarded as a principle, enshrining the reasoning for action under the UNFCCC. However, environmental effectiveness could possibly also be a criterion on its own. For the purpose of the present study we attempt to develop criteria that are as close as possible to a standard that allows the judgment or evaluation of proposals for the 2015 Agreement. This also implies that the criteria need to be clear and specific.

A wide array of academic studies has already proposed requirements that a future international climate agreement, or climate policy more broadly, would need to meet, while not specifically

focussing on the negotiations of the 2015 Agreement. However, for a number of reasons, these studies fall short of providing an evaluation framework that would be of practical relevance to policy makers when designing the 2015 Agreement. First, many studies refer to the national or sub-national level and not to the international level of climate policy. Second, a number of studies date back to the pre-Copenhagen period or even to the period before the entry into force of the Kyoto Protocol. Third, on many occasions, the proposed criteria are vague and too broad to serve as a workable tool for policy makers. Lastly, and most importantly, many scholars conducted a mere academic exercise but failed to consider the political support of their proposals. The 2015 Agreement, however, will only materialise if Parties reach a consensus on a governance approach. Hence, the criteria that are relevant for the design of the 2015 Agreement are first and foremost those that are embraced by Parties. Identifying criteria that find support among most or even all Parties may also help to find common ground among Parties, as a basis for the negotiations on the road to Paris.

This study starts with a review of existing literature on evaluation criteria for climate governance in order to extract a preliminary list of possibly relevant criteria (chapter 3). In a second step, Parties' submissions under the ADP are analysed to evaluate the level of support for each of the criteria drawn from literature (chapter 4). Additionally criteria widely embraced by Parties, which however may not have found reflection in the literature, are identified. This will then finally allow establishing a new list of criteria that are not merely the result of an academic exercise but that are of practical relevance to Parties (chapter 5 and 6).

2 Background

More than 25 years have passed since the United Nations General Assembly declared in Resolution 43/53 that climate change is a “common concern of mankind” and that “timely action should be taken to deal with climate change within a global framework” (UN General Assembly 1988). The Intergovernmental Panel on Climate Change (IPCC), which was established by the same Resolution, stressed in its First Assessment Report in 1990 that climate change posed a serious risk and that “international negotiations on a framework convention should start as quickly as possible” (IPCC 1990). This strong signal to policy makers ultimately led to the establishment of a process for negotiating a global agreement on climate change. Only two years later, global leaders signed the United Nations Convention on Climate Change (UNFCCC) at the 1992 Rio Summit. The UNFCCC provides a framework for action aimed at stabilising atmospheric concentrations of greenhouse gases to avoid “dangerous anthropogenic interference” (Article 2 UNFCCC) with the climate system. Today, the UNFCCC enjoys universal participation, with 196 Parties.

However, given a strong division of positions between states that favoured legally binding emission reduction targets and those that favoured a ‘pledge and review’ process, the substantial commitments of the UNFCCC Parties remained vague. All Parties have the obligation to develop national emission inventories, and to formulate national programmes on mitigation and adaptation. In addition, the developed countries listed in Annex I of the UNFCCC commit to adopt national policies to mitigate climate change, demonstrating that these countries are taking the lead, and to report on their emissions and policies. Concrete mitigation targets were not included in the treaty (Michaelowa et al. 2013).

It is thus not surprising that the first Conference of Parties (COP)¹ to the UNFCCC noted in 1995 that the commitments established by the Convention were insufficient to tackle climate change and agreed to negotiate a protocol to the UNFCCC that would include more concrete action. The resulting Kyoto Protocol, adopted in 1997, contains quantitative emission (reduction and limitation) commitments for Annex I countries for the period 2008-2012. Developing countries may participate in generating emission credits but do not have specific individual mitigation commitments themselves. This distinction between actions by industrialised and developing countries presented a strong political obstacle for the United States of America – the largest emitter at that time - which in the end decided not to ratify the Kyoto Protocol (despite having helped to negotiate and adopt it) (Hovi et al. 2010). Given the strict threshold set for entry into force of the Kyoto Protocol, this decision delayed the Protocol’s formal entry into force until 2005, after Russia had acceded to the Protocol.

When Parties started in 2005 to negotiate the future of the regime for the period after 2012, industrialised countries clearly demanded mitigation efforts also from developing countries as a response to shifting emission patterns. The Bali Action Plan of 2007 set out a roadmap for negotiating “an agreed outcome” within the following two years that would address emission commitments by industrialised countries as well as “nationally appropriate mitigation actions” by developing countries (UNFCCC 2008, Decision 1/CP.13). Hopes were high that these negotiations would pave the way for the adoption of a new climate agreement in 2009. But the climate summit in

¹ The COPs take place on an annual basis.

2009 in Copenhagen turned out to be a disaster causing deep fissures in the international climate regime. The deal that was negotiated by a small group of heads of state and government behind closed doors to overcome the political divide was not adopted at the final plenary with other Parties criticising its lack of ambition and the non-inclusive process (e.g. IISD 2009).

In the following years, Parties slowly managed to overcome this atmosphere of mistrust. In this context, a decision that Parties took in Durban in 2011 was widely celebrated as a historical success: Parties agreed to start a second attempt to “develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention *applicable to all Parties*” to be adopted in 2015 (UNFCCC 2011, Decision 1/CP.17, emphasis added). Under the ‘Ad-hoc Working Group on the Durban Platform for Enhanced Action’ (ADP), Parties are currently negotiating under two tracks: Workstream 1 relates to the negotiations of the 2015 Agreement, Workstream 2 aims to enhance ambition until the 2015 Agreement is expected to enter into force, i.e. 2020. ²

The major dividing lines between industrialised countries and developing countries have, however, hardly changed and make an agreement, especially on mitigation efforts, very hard to reach. Since the start of the ADP in 2012, negotiations on the 2015 Agreement have progressed only very slowly and carefully, with the Copenhagen experience still casting its shadow over the process. Parties are still far from making concrete proposals for the 2015 Agreement, although recent talks in Bonn in June 2014 saw a shift to negotiations on more substantive issues (IISD 2014) – in contrast to lengthy procedural discussions in the first two years of the ADP process.

As to the substance, there is agreement that the ADP should work on mitigation, adaptation, finance, technology development and transfer, transparency of action and support, and capacity building, amongst others. Parties also agreed that the process should raise the level of ambition (UNFCCC 2011, Decision 1/CP.17). At the negotiations in Warsaw in late 2013, Parties further agreed that all countries would initiate the preparation of intended nationally determined contributions, and to communicate them “well in advance of” COP21, “in a manner that facilitates the clarity, transparency and understanding of the intended contributions” (UNFCCC 2013, Decision 1/CP.19). There is no agreement yet as to the legal character of contributions (or commitments)³ or their content, i.e. whether they target mitigation, adaptation, finance etc, or how any such contributions will be reflected in the 2015 Agreement. Convergence of views is also limited on other elements of the 2015 Agreement.

While the negotiations move at a slow pace, the scientific understanding of climate change is advancing further, and is pointing to the need for urgent action. The 5th Assessment Report of the IPCC shows that impacts of climate change are increasing and that there is only a short window of time to put the world on an emission pathway that would be consistent with keeping global temperature increase below 2°C (IPCC 2014). Furthermore, the so-called UNEP Gap Report shows that annual emissions need to be reduced to 44Gt CO₂ e by 2020 in order to put the world on a

² In addition, the Durban conference also decided to establish a Second Commitment Period for the Kyoto Protocol, to start in 2013.

³ Different terms are used in this context, including ‘commitments’ and ‘contributions’. This chapter will use the term ‘commitment’.

pathway that is likely to keep global warming below 2°C above pre-industrial levels. But corresponding policy action is missing, and the current emission reduction pledges rather point to emission levels of 53 Gt CO₂ e in 2020 (UNEP 2013).

3 Literature Review

Before proceeding to define a matrix of criteria for evaluating climate policy scenarios it is worth assessing existing research on the evaluation of domestic and international environmental governance. The selections of criteria from these studies serve as a useful starting point for our own analysis. We will draw from existing literature a list of preliminary criteria that we will then test against Parties' submissions in chapter 4.

Numerous authors have established lists of criteria for assessing climate policies, exhibiting a large spectrum of approaches. Neither the scope of the provided definitions nor the terms used are identical. Furthermore, it has even been held that criteria themselves should conform to certain principles, such as completeness or operational feasibility (Keeney and Raiffa 1993). The list of criteria found in relevant studies is annexed to this paper to demonstrate the diversity of potentially suitable criteria.

The most critical question is to decide which criteria to use from the plethora of possibilities. Authors of existing studies have come up with a variety of ways through which to decide on their specific set of criteria. Most authors determine the criteria used on the basis of political, practical or other arguments, but some fail to provide any reason at all why the respective criteria were chosen in the first place. One more elaborate approach taken was to include a semi-statistical element by asking a large number of experts to identify criteria that the national government should consider in evaluating the various actions and policy options for addressing climate change (United States Government Accountability Office 2008). However, drawing on this study's findings and criteria is not ideal for an analysis of international climate cooperation as it was a) based on the views of economists in particular (and not a wider set of experts from other disciplines) and b) the focus was on the domestic rather than the global level. Other reviewed studies and criteria are not sufficiently comprehensive or suitable for the purpose of the task or provide no explanation for why the respective criteria were chosen. Furthermore, some of the studies are not recent enough to consider the current developments regarding the post-Kyoto regime (Wicke 2005; Höhne et al. 2002; Philibert et al. 2001; Bodansky 2004; Aldy et al., 2003) or focus only on the national (Stavins 2008; Guglyuvatyy 2010) or EU level (Den Elzen et al. 2003). Others limit their studies to certain aspects and are thus not sufficiently comprehensive to be drawn upon (Bosetti et al. 2008; Hovi et al. 2013; Howarth 2000). Finally, some authors provide criteria that are too vague to actually allow for a thorough analysis of design proposals for international climate agreements. For the purpose of the present analysis, the following sections will focus on arguments and criteria found in recent research papers focusing on the international level only.

3.1 Criteria suggested by Klingefeld and Mehling

For the purpose of the task at hand, especially two studies by Klingefeld (2010) and Mehling (2011) provide relevant guidance for the determination of criteria for the classification of international climate change scenarios. Both offer and define a broad set of criteria, which focus exclusively on the international level. They derive their criteria from a comprehensive literature analysis, which covers a wide range of existing literature on the topic. Essentially, some of the chosen criteria resemble or are identical to those identified by the IPCC (IPCC 2007) and subsequently adopted by other authors (e.g. Sterk et al. 2013) but the studies go into more detail

as regards the criterion derivation and are thus of even greater practical relevance. In the following, we compare the criteria listed by Klingenfeld and Mehling to derive a preliminary criteria list that we use as a starting point for the subsequent analysis of Parties' submissions in chapter 4.

Daniel Klingenfeld's report "Evaluating Global Climate Policy – Taking Stock and Chartering a New Way Forward" (2010) analyses a selection of relevant publications that discuss criteria for the evaluation of climate regimes. On that basis, Klingenfeld suggests **six evaluation criteria** for climate policies:

1. Environmental effectiveness
2. Cost-effectiveness and investment implications
3. Equity
4. Institutional complexity and transaction costs
5. Enforcement of compliance and
6. Political acceptability

It is noteworthy that he classifies (1), (2) and (3) as "broad-based objectives of climate policy architectures", while (4) and (5) are held to "relate to the means of implementing the framework in practice". Criterion (6) is highlighted as "a critical yardstick for climate protection policy" and "relates back to the preceding categories" (Klingenfeld 2010).

On the basis of a literature review, Michael Mehling's study "Frameworks for International Climate Governance: Assessing the Alternatives" (2011) also identifies six criteria for the evaluation of different governance approaches:

1. Level of ambition,
2. Compliance facilitation and control,
3. Institutional capacity,
4. Participation and inclusiveness,
5. Systemic coherence, and
6. Political and economic feasibility

There is thus some convergence and overlap between the criteria used by Mehling and Klingenfeld (see Table 1 below). Four criteria are addressed in both articles that converge to a large degree. These are environmental effectiveness/level of ambition, enforcement of compliance/compliance facilitation and control, institutional complexity and transaction costs/institutional capacity, and political acceptability/political and economic feasibility. Cost-effectiveness and investment implications as well as equity are categorised as individual criteria by Klingenfeld. In contrast, Mehling additionally names participation and inclusiveness as well as systemic coherence as separate criteria. Table 1 provides an overview of the overlaps between the criteria used by both authors.

Table 1 Convergence and overlaps between the criteria introduced by Mehling and Klingenfled

Klingenfled	Mehling	Comments
Environmental effectiveness	Level of Ambition	Both essentially refer to the stabilisation of greenhouse gases as the overall objective of climate regimes. Environmental effectiveness concerns the impact of the regime, while level of ambition concerns the stringency of commitments.
Enforcement of compliance	Compliance facilitation and control	Both focus on similar issues.
Institutional complexity and transaction costs	Institutional capacity	While both address institutional elements, Klingenfled includes a cost element.
Political acceptability	Political and economic feasibility	Economic elements are not mentioned in the same context by Klingenfled
Cost-effectiveness and investment implications	-	While Mehling does not address cost issues as an individual criterion, he includes cost-relevant elements in the criterion 'political and economic feasibility'.
Equity	-	While Mehling does not address equity issues as an individual criterion, he emphasises it in the context of the criterion 'political and economic feasibility'.
-	Participation and inclusiveness	Klingenfled does not deal with participation as a separate criterion but addresses it in his discussion of a regime's political acceptability.
-	Systemic coherence	This criterion is not addressed by Klingenfled at all.

In the following the criteria will be addressed one by one to highlight the relevance the authors ascribe to them and to set out how the authors define the individual criteria. From this exercise we will derive the preliminary list of criteria for the next step in our analysis.

3.1.1 Environmental Effectiveness

Klingenfled defines **environmental effectiveness** "as the degree to which a specific emissions target, defined ex ante, will be achieved" and "to what degree global emissions are covered". In that context, he notes that "the level of ambition does matter and needs to be seen in light of the scientific recommendations of the IPCC for global greenhouse gas stabilization pathways" (Klingenfled 2010).

Unsurprisingly, most literature identifying criteria for climate governance address matters of environmental effectiveness. In fact, it has been emphasised that a climate regime's environmental effectiveness is the "principal criterion", that environmental effectiveness is "the first and most important objective of a climate treaty" (Bosetti et al. 2008) and the reduction of greenhouse gases is the "primary aim for a climate change policy" (Guglyuvatyy 2010). Specific definitions explain that "environmental effectiveness means that the policy implemented has the desired environmental result" (United States Government Accountability Office 2008), notably regardless of what the desired result was. More specifically in terms of the UNFCCC's ultimate objective environmental effectiveness has thus also been defined as "the ability to effectively control and eventually reduce global greenhouse gas emissions with the aim of stabilising GHG concentrations" (Den Elzen et al. 2003). Furthermore it has been noted that "effectiveness requires a reasonable level of compliance with rules, but also requires appropriate rules" (Keohane et al. 2010).

While the aim is essentially the same, the wording used varies slightly. Some authors refer explicitly to "environmental effectiveness" (United States Government Accountability Office 2008, Stavins 2008; Den Elzen et al. 2003; Bodansky; 2004, Philibert et al. 2001; Höhne et al. 2002), while others refer to "environmental performance" (Konidari 2007), "environmental outcome" (Aldy 2003), "climate effectiveness" (Bosetti et al. 2008), merely "effectiveness" (Keohane et al. 2010) or "climate sustainability" (Wicke 2005).

Broader approaches to environmental effectiveness note, for example, that it can depend on numerous factors, "such as (a) the level of participation of significant emitters; (b) the comprehensiveness of the regime with respect to the gases and sources covered, and (c) the stringency of the commitments adopted" (Den Elzen et al. 2003). Also the IPCC notes that "environmental effectiveness of any policy is contingent on its design, implementation, participation, stringency and compliance" (IPCC 2007). Some of these factors can, however, also be viewed as individual criteria, as the following chapters show.

Although 'environmental effectiveness' could also be considered an objective or principle rather than a criterion, we will include it in our preliminary list, especially due to the widespread support in the existing literature.

3.1.2 Ambition

In some cases, environmental effectiveness is not so much viewed as a criterion but rather as an objective or a goal. Whether or not environmental effectiveness is reached is determined by other factors, such as the respective level of ambition.

Mehling emphasises that the primary criterion for a regime is its suitability to contribute to the mitigation of climate change and the adaptation to its impacts. He cautions, however, that determining the expected impacts of a climate agreement, i.e. its environmental effectiveness, ex ante is "by necessity highly speculative" (Mehling 2011) as it depends on a variety of factors. Thus, he proposes to use "**level of ambition**" instead of 'environmental effectiveness' as a criterion to assess the impact of international climate governance. According to Mehling, 'level of ambition' determines "the ambition of objectives set out under a cooperative framework vis-à-vis accepted mitigation and adaptation imperatives" (Mehling 2011). While these objectives could be measures against agreed goals such as the decision to hold the increase in global average temperature below

2°C above preindustrial levels, Mehling suggests taking account of evolving scientific recommendations. It is also notable that Mehling not only focuses on mitigation but also on the ambition of adaptation actions.

Hence, both 'environmental effectiveness' and 'level of ambition' concern similar but not identical aspects. Level of ambition relates to the stringency of commitments under the agreement, while effectiveness addresses the actual impact of an agreement. Environmental effectiveness is thus the broader concept and a function of the level of ambition combined with other design options. Mehling thus points out that the level of ambition is a "first approximation surrogate for effectiveness" (Mehling 2011, citing Chayes et al. 1993). Given that 'level of ambition' might be the criterion that could be more suitable for analysing policy proposals *ex ante*, we consider it useful to include 'level of ambition' as a separate criterion in our preliminary list.

3.1.3 Participation and inclusiveness

Participation could be described as the number of countries that act collectively under an agreement. Mehling holds that **participation and inclusiveness** is an individual criterion, important to effectively mitigate global greenhouse gas emissions. Especially all major emitters would need to participate in cooperative efforts to ensure the long-term stabilisation of greenhouse gas concentrations (Mehling 2011). Mehling does, however, not elaborate on the definition of 'inclusiveness' and does not mention the term apart from in the name of the criterion.

Klingensfeld, however, essentially incorporates participative aspects in his approach to a system's political acceptability by highlighting the importance of a regime's acceptability to major emitters in particular for environmental effectiveness. Thus, Klingensfeld equally addresses participation but with a different focus and in a different context (Klingensfeld 2010).

Also other authors highlight that the level of participation is a central feature of an international agreement, it being an important factor for an agreement's overall effectiveness (see e.g. Barrett et al. 2010, Bausch et al. 2011, Aldy et al. 2003, IPCC 2014). The IPCC notes that especially for the area of climate change, global and collective action is required because of the public good nature of the problem. That is, that "no single individual or nation can determine the composition of the world's atmosphere" and that "even the largest emitting nation acting alone, can have only a small effect" (IPCC 2001). A higher number of countries participating in a climate agreement thus reduces the costs for individual parties and the risk of free-riding on positive externalities of mitigation action (Bernauer/Schaffer 2010). In determining the optimal response to global climate change, academics have thus looked into a variety of participation scenarios, ranging from no participation (i.e. no climate action) to full participation (IPCC 2001). Options include, for instance, unilateral participation (i.e. domestic measures only), OECD only, Annex I only, all major emitters, or all countries. Although the Kyoto Protocol was ratified by almost all countries, its design reflects more that of a partial participation model, namely 'Annex I only'. That is, only Annex I countries are committed to mitigation actions. In recent years, the focus of some proposals for partial agreements has shifted away from the OECD-only or Annex I-only logic to participation of the biggest emitters – reflecting the shift in global emission patterns.

The elaborations in literature on the 'participation' criterion underline that it is important to distinguish between a) the mere formal participation in the 2015 Agreement (i.e. being a Party to

the 2015 Agreement) and (b) active participation (i.e. assuming mitigation obligations under the 2015 Agreement). For instance, both the UNFCCC and the Kyoto Protocol enjoy nearly universal participation with 196 and 192 Parties respectively, but only few countries are obliged to take mitigation action under these instruments - and the USA which is among the highest emitters of GHG, is not a Party to the Kyoto Protocol. These agreements thus do only reduce costs of climate action to a very limited extent.

Since both Mehling and Klingenfied address 'participation' as a separate criterion or at least an aspect of the criterion, we consider it useful to incorporate this concept in our preliminary list. As to inclusiveness, neither Mehling nor Klingenfied nor other literature as analysed in the annex seem to consider this an important criterion.

3.1.4 Cost-effectiveness and investment implications

Cost-effectiveness is a criterion raised explicitly by Klingenfied, defined as the achievement of "any emissions target at least cost." Klingenfied distinguishes between static and dynamic efficiency. While static efficiency is held to aim "at lowering current marginal abatement cost for a given level of the cap", "dynamic efficiency is achieved if the costs of emissions mitigation over time are minimized for a given level of the cap" (Klingenfied 2010). Klingenfied also regards **investment implications** as relevant, mainly regarding the stability and level of carbon price signal (Klingenfied 2010). Mehling also addresses this issue, but discusses it in the context of a regime's overall political and economic feasibility rather than including it as a separate criterion. He notes that the "expected economic burden and the distribution of costs and benefits will have a strong influence on whether regime participant are willing to enter cooperative efforts in the first place" and that the "broader and more intuitive category of 'political and economic feasibility' [...] loosely incorporates the criteria of cost-effectiveness" (Mehling 2011).

Several authors comment on or define cost-effectiveness in the context of climate change. In some cases, the discussion of the criterion takes a more normative approach and includes a balancing of costs and benefits, including a balancing of burdens and benefits between generations (Howarth 2000). Others also differentiate static cost-effectiveness and dynamic cost-effectiveness (Görlach 2013; Konidari 2007). Generally, it is also noted that "relying on cost-effectiveness as an assessment criterion can lead to the identification of a low-cost way of doing something that is fundamentally not sensible in economic terms" (Aldy et al. 2003).

Cost-effectiveness elements are highlighted in the Convention itself. As a principle of the Convention, Article 3.3 UNFCCC notes that "where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost."

Given the high level of support for this criterion in the literature we consider 'cost-effectiveness' as a useful criterion for the preliminary criteria list. To ensure that the subsequent analysis of Parties' submissions will be precise, we will not merely subsume it under 'political and economic feasibility' but list it as a separate criterion.

3.1.5 Equity

Similarly, Mehling does not mention 'equity' as an individual criterion but within the package of what he refers to as political and economic feasibility (Mehling 2011). In contrast, Klingenfiedl regards **equity** as a criterion on its own, while he also sees a close link to the political acceptability of the policy and stresses that "perceived equity of a framework by the largest number of players will be key to its adoption and implementation". According to Klingenfiedl, equity is principally determined by the relationship between responsibility for causes of climate change and the damages resulting from these acts. Thus, he stresses that a system should allocate "the burdens and benefits resulting from carbon policies", noting that there are many different views on the right distributional approach. Klingenfiedl decides to base his analysis of equity on principles of common but differentiated responsibility (CBDR) and sustainable development, as enshrined in the UNFCCC (Klingenfiedl 2010).

Many authors mention 'equity' as a relevant criterion for climate agreements (Bodansky 2001; Moncel et al. 2011; Konidari 2007; Den Elzen 2002; Philibert et al. 2001; Höhne et al. 2002). Others chose slightly different wordings such as "fulfilment of fairness principles" (Wicke 2005), "equity and distributional impacts" (Bosetti et al. 2008), "comprehensiveness regarding equity principles" (Den Elzen et al. 2003) or "distributional equity" (Stavins 2008; Aldy et al. 2003), but essentially incorporate very similar ideas.

Equity is further a concept common to many international environmental treaties and also at the centre stage of the international negotiations on the 2015 Agreement. At the same time the definition and application of the concept is a highly contentious issue. The close link to the principle of common but differentiated responsibility and respective capabilities (CBDR/RC), and concepts of justice and fairness, does not simplify the matter. In fact, some scholars see CBDR/RC as the operationalisation of equity, while others believe these are two different concepts (Joffe et al. 2013). Others again use CBDR/RC interchangeably with fairness and equity (Kallbekken et al. 2014).

As Aldy et al. (2003) highlight, a number of factors can be used to determine equitable climate strategies. These include responsibility for accumulation of GHG in the atmosphere, ability to pay, and distribution of benefits of mitigation. Discussions around equity in the climate regime mostly focus on mitigation, and on how to distribute the burden of emission reductions, e.g. through differentiated mitigation commitments (Klingenfiedl 2010; Olmstead 2009; Bodansky 2004). But there might be also other dimensions to the concept, including adaptation, loss and damage, finance or sustainable development, as the burden for these areas raises similar distributional questions. Even inclusiveness of the regime and fair decision-making processes might play a role in equitable approaches to climate change. Furthermore, given the complexity and the long time-horizon of climate change, equity has also different geographical and temporal dimensions: international, intra-national and intergenerational (Aldy et al. 2003). As many authors have noted, it is unlikely that consensus on the weight of different equity factors will emerge (Haites et al. 2013). Joffe et al. (2013) thus provide a working definition for fairness "as any of a variety of modes used to achieve collective global objectives in ways that are fair" (emphasis added). Defining 'equity' as a clear criterion is thus rather complicated.

However, given the high level of support for 'equity' (or fairness) as a criterion for international climate policy, we consider it useful to incorporate it as a separate criterion in our preliminary list instead of subsuming it under 'political and economic feasibility', as suggested by Mehling.

3.1.6 Compliance

Compliance is a criterion raised by both authors. Klingenfeld notes that a system's capacity to **enforce compliance** "is a critical component to realize the theoretical potential of any climate framework in practice" and for ensuring "credibility that is necessary for the sustained operation of a system over several years to decades". Primary determinants for enforcing compliance are accurate measurement, reporting and verification (MRV) requirements and "the robustness of the cap", including credibility of sanctions in case of non-compliance (Klingenfeld 2010).

According to Mehling, "**compliance facilitation and control**" refers to "the clarity and determinacy of commitments, the robustness of incentives for compliance, the mechanisms - whether facilitative or coercive - to address noncompliance, as well as the provisions set out to ensure sufficient transparency of efforts undertaken by participants". In his view, the criterion also includes questions as to the legal nature of commitments and procedures (i.e. binding or voluntary), and capacity building (Mehling 2011).

Both authors thus see transparency or MRV provisions and compliance procedures as crucial to a regime.

Other authors list "High levels of participant compliance" (Barrett et al. 2010), "stringency for non-compliance and non-participation" (Konidari 2007), or "mechanisms to incentivize compliance" (Bausch et al. 2011) as criteria. It is often highlighted as an essential factor for the environmental effectiveness of the regime.

Many multilateral environmental agreements (MEAs) have adopted specific mechanisms to promote compliance. UNEP (2006) has categorised these mechanisms - which are often combined in MEAs - into:

- Performance review information (e.g. MRV systems) which provides the basic information to track compliance;
- Non-compliance procedures which "identify Parties' compliance difficulties and [...] facilitate better compliance in a non-adversarial manner";
- Non-compliance response measures in the form of support or sanctions; and
- Dispute settlement mechanisms (UNEP 2006).

Under the Kyoto Protocol, all four mechanisms are available, although the dispute settlement mechanism has not been used so far. The compliance system of the Kyoto Protocol is one of the most elaborate and strictest systems among existing MEAs, with a sophisticated MRV system and a compliance body which may apply not only facilitative measures but also enforcement measures (UNFCCC 2005, Decision 27/CMP.1).

One could make an argument that compliance is an important function of any multilateral regime in which specific objectives are being pursued and activities being committed to. However, for the purposes of evaluation purposes it may be that compliance is largely a contributory function to broader issues such as environmental effectiveness.

Since both authors identified compliance as a separate criterion, we will incorporate it in the preliminary list for the subsequent analysis, taking into account both transparency aspects and distinguished compliance provisions.

3.1.7 Institutional capacity, complexity and transaction costs

Klingensfeld's third criterion is similarly addressed by Mehling, albeit under a slightly different heading.

According to Klingensfeld, the criterion "**institutional complexity and transaction costs**" concerns "the administrative feasibility of a climate framework along with its compatibility with the existing institutional landscape." Klingensfeld notes that low transaction costs and lower institutional complexity are preferable. Thus making "use of existing structures will be easier and less costly to implement and will very likely also be politically more palatable" (Klingensfeld 2010). In addition, more durable institutions reduce transaction costs in the long term, according to Klingensfeld.

Mehling emphasises that climate cooperation increasingly "involves sophisticated responses and mechanisms" for which appropriate "**institutional capacity**" is required. This refers to the monitoring of implementation by participants, the performance of procedural functions, or the facilitation of the operation of regime elements, regime continuity and implementation (Mehling 2011).

Thus, while Klingensfeld focuses more on the characteristics of the regime, which should make its administration as easy as possible and on whether new institutions would be required, Mehling elaborates more on the functions that respective institutions would need to exercise. Both authors, however, recognise that an effective administration of the regime is essential.

Institutional issues are frequently addressed in literature and often analysed in depth and from different angles (Sterk 2013; Konidari 2007; Den Elzen et al. 2003; Wicke 2005). Given that the international climate regime is becoming increasingly complex, the importance of the institutional setting increases, too. The effectiveness and legitimacy of a regime largely depend on the institutions' capacity to foster implementation and compliance. This also concerns the interaction of provisions and mechanisms. In the discussion of new international agreements, an important question is whether new institutions will be required. Building on existing institutions is a commonly proposed approach. One argument is that the "use of existing structures will be easier and less costly to implement and will very likely also be politically more palatable" (Klingensfeld 2010). In addition it is noted that "[e]nvironmental policies that are well adapted to existing institutional constraints have a high degree of institutional feasibility" and that "instrument design and implementation must take political realities into account" (IPCC 2007). This can affect the technical and institutional feasibility of implementation, monitoring and enforcement.

Furthermore, a differentiation is made between the capacities of national and international institutions, noting, for example, that “any regime approach that implies monitoring and enforcement action from least developed countries will face major implementation problems” (Den Elzen et al. 2003).

Although with slightly different wordings and perspectives, both Mehling and Klingenfiedl consider institutional aspects as relevant for a new climate agreement. We will hence subsume their ideas under ‘institutional feasibility’ as a criterion for our preliminary list.

3.1.8 Political acceptability and feasibility

The last criterion similarly addressed by both, Klingenfiedl and Mehling, concerns a regime’s political acceptability or feasibility.

Klingenfiedl defines “**political acceptability**” as “a relative concept that evolves over time”. He lists several factors that influence a regime’s political acceptability, including the global distribution of costs and benefits, a regime’s “potential for international cooperation” determining “how well diverging interests are considered and brought into balance”, a regime’s impact on the economy, international competitiveness and distributional effects but also factors such as the lobbying power of interest groups. He notes that “a tension exists between what would be scientifically desirable and what appears to be the (current) limits of the politically feasible.” In addition, he stresses that a system must in particular be politically acceptable to the largest emitters in order to be environmentally effective (Klingenfiedl 2010). ‘Political acceptability’ thus seems to be for Klingenfiedl more of an umbrella concept that touches on economic aspects that are partly covered under “cost-effectiveness and investment implications” and distributional issues that are also reflected under the criterion ‘equity’. However, the criterion goes further in so far that it also addresses national implementation and distributional questions at national level.

Mehling’s evaluation criterion “**political and economic feasibility**” is also rather broad and loosely assembles equity and fairness elements, cost-effectiveness, dynamic efficiency, the expected economic burden and the distribution of costs and benefits that “have a strong influence on whether regime participants are willing to enter cooperative efforts in the first place and whether the regime is sustainable in the medium and long term” (Mehling 2011). He thus subsumes under this criterion aspects that are addressed separately by Klingenfiedl under ‘cost-effectiveness’ and ‘equity’.

Political acceptability or feasibility are criteria listed in a wide range of literature as criteria for climate policy, including in United States Government Accountability Office (2008); Guglyuvatyy (2010); Hovi et al. (2013); Konidari (2007); Den Elzen et al. (2003); Höhne et al. (2002); and Wicke (2005). However, most authors do not define the criterion.

Both Mehling and Klingenfiedl provide only vague definitions but their understanding of the criterion seems to overlap to a great extent, involving economic and distributional questions. We thus incorporate ‘political acceptability’ in the preliminary list of criteria for the 2015 Agreement for checking against Party submissions.

3.1.9 Systemic coherence

A criterion which most other examined studies, including Klingenfled's paper, do not mention is "**systemic coherence**". According to Mehling, this criterion refers to the "need to ensure some level of coordination between institutions" given that "[c]onflicts and tensions between different institutional arrangements can potentially compromise the effectiveness of cooperation" while "properly integrated regimes will ideally complement each other and leverage synergies". The inclusion of this criterion is based on the fact that concerns about potential interactions (e.g. an overlap of activities and mandates) are increasing. Mehling suggests the adoption of mandates specifying clear and separate responsibilities (Mehling 2011).

Although not mentioned in other literature that we examined, we will incorporate 'systemic coherence' in our preliminary criteria list since it could provide an added value for the comprehensiveness of our analysis.

3.2 Preliminary list of criteria for the 2015 Agreement

Drawing from the above analysis, the study of Parties' submissions in chapter 4 will start from the following preliminary list of criteria:

- Environmental Effectiveness;
- Level of Ambition;
- Participation and inclusiveness;
- Cost-effectiveness and investment implications;
- Equity;
- Compliance;
- Institutional feasibility;
- Political acceptability;
- Systemic coherence.

The identified criteria will be analysed in terms of their practical relevance to verify whether or not they constitute workable approaches for evaluating and comparing different scenarios for a future global climate change regime

4 CRITERIA FOR THE 2015 AGREEMENT IN ADP SUBMISSIONS

4.1 Methodology

The next section aims to verify whether the academic criteria drawn from Mehling's and Klingefeld's studies are of practical relevance (at this point in the negotiations). For this purpose, we assess whether the proposed criteria are (1) supported by Parties and (2) manageable, i.e. understandable and helpful to policy makers in assessing different design options for the 2015 Agreement.

4.1.1 Analysis of Parties' submissions

Our analysis is based on Parties' submissions to the ADP – Workstream 1. These submissions reflect the formal views of the Parties and provide important information in the run-up to the ADP Workstream 1 meetings. Given that most of the negotiation meetings under the ADP, where Parties might come forward with even more elaborate positions, are not recorded, the submissions currently represent the most comprehensive source for analysing Parties' views with respect to the 2015 Agreement.

For the purpose of assessing the level of support for the criteria proposed by Mehling and Klingefeld, we examine whether Parties refer to these criteria in their submissions. To that end, the actual text will be analysed, i.e. it will be assessed whether Parties use specific keywords identified in the literature analysis, such as 'equity', for example. Additionally, submissions are also read in the light of common 'codes' used by Parties in the climate negotiations and are interpreted accordingly. Thus, also submission statements that indirectly comment on criteria without actually using the same terminology (keywords) as Mehling and Klingefeld will be included in the analysis.

For assessing the usefulness of criteria to policy makers, we also analyse how far Parties views converge on the meaning of the proposed criteria. One and the same term, for example 'equity', can mean very different things to different Parties, signalling that the criterion might not be specific enough to guide the assessment of design options. We will thus consider how Parties define the criteria. The submission review will also interpret the statements in the light of the overall position of the respective Parties or group of Parties.

In addition, we look for criteria frequently highlighted by Parties, but which have not been mentioned by Klingefeld and Mehling. This list of additional criteria aims at completing the picture and identifying gaps in the literature.

4.1.2 Selection of Parties and Party Groupings

We analyse the most recent submissions by a set of individual Parties and main Party groups. These have been chosen to reflect the different interests and their respective positions. The focus is not so much on individual countries, but rather on including the diversity of interests. We have identified the following negotiating groups as the most relevant for this exercise (in alphabetical order):

- African Group of Negotiators (AGN)
- Alliance of Small Island States (AOSIS)

- Environmental Integrity Group (EIG)
- European Union (EU)
- Independent Alliance of Latin America and the Caribbean (AILAC)
- Least Developed Countries (LDC)
- Like-Minded Developing Countries (LMDC)
- Umbrella Group

The **African Group of Negotiators** (AGN) comprises all African countries and is the largest regional group and has become increasingly influential in the negotiations over the past few years (Dongo 2014).

The **Alliance of Small Island States** (AOSIS) is a coalition of low-lying and small island states that are particularly vulnerable to sea level rise (UNFCCC 2014). Despite their relatively low level of political clout, they have advocated their interests rather successfully (Betzold et al. 2012). AOSIS' submission is from March 2013 and, as many submissions from that point of negotiations, rather short and vague. The submission thus provides only limited information on the standpoints of the group regarding criteria for the 2015 Agreement. As to the individual countries that form part of AOSIS, only Saint Lucia has made a submission which addresses only the costs and opportunities of adaptation for specific technologies.

The **Environmental Integrity Group** (EIG) comprises Mexico, Liechtenstein, Monaco, the Republic of Korea and Switzerland. The group is a particularly interesting stakeholder as it includes both Annex I and non-annex I countries.

While the **European Union** (EU), as a regional economic integration organisation and Party to the UNFCCC and the Kyoto Protocol, does not have a separate vote from its members (UNFCCC 2014), it is an influential and important stakeholder in the climate negotiations and coordinates political positions among its member countries. Furthermore, the EU endeavours to be a leader in the negotiations (Michaelowa et al. 2013; Gupta and Grubb 2000; Oberthür 2009). In addition, the EU is currently among the three largest greenhouse gas emitters.

The **Independent Alliance of Latin America and the Caribbean** (AILAC) comprises a group of middle-income countries (Colombia, Costa Rica, Chile, Guatemala, Panama and Peru, with the support of the Dominican Republic) with a progressive approach in the climate negotiations. They favour binding mitigation obligations for all countries, thus giving up the strict division between Annex I and non-Annex I countries (Michaelowa et al. 2013).

The **Least Developed Countries** (LDC) group comprising the 50 least developed countries is linked on the basis of their common interest in, for example, articulating their specific vulnerability to climate change. Their special situation is also considered in Article 4.9 UNFCCC in the context of funding and technology transfer.

The **Like-Minded Developing Countries** (LMDCs), including Bolivia, China, Ecuador, Egypt, India, Malaysia, Nicaragua, Pakistan, Philippines, Saudi Arabia, Thailand and Venezuela, essentially oppose any commitments for developing countries (Michaelowa et al. 2013). The group's interests

contradict those of, for example, the EU, and the LMDCs have been accused of holding back the negotiation process (Economic Times 2013).

The **Umbrella Group** is a loose coalition of non-EU developed countries, normally covering, among others, Canada, Japan, New Zealand, Norway, and the USA. The Umbrella Group's submission (September 2013) only addresses adaptation, hence only gives few indications on criteria for the overall agreement. We thus also consider the submissions of individual Parties that form part of the groups, where these submissions provide useful information.

It is worth noting that the composition of some of the groups partially overlaps, for example, the African Group and the Least Developed Countries. However, given the structure of negotiating groups it is not possible to eliminate these overlaps in the analysis. In contrast, some negotiating groups are not represented at all in our analysis. Most importantly, this concerns G77+China, the largest group of developing countries. G77+China has made no joint submission under the ADP and the views of its members seem so diverging that we do not include them as a group in our analysis. However, their members are to a large extent represented in other groups such as the LMDCs, LDCs, AILAC, AOSIS or the AGN. Also BASIC (Brazil, China, India, and South Africa), a group of major emerging economies which cooperates since Copenhagen, has made no joint submissions to the ADP.

Parties have made submissions to the ADP both in the framework of their respective groups and individually. We include the individual submission of China and the USA in our analysis due to their importance in the negotiations, although they are also members of one of the groups (USA in the Umbrella Group, China in the LMDC).

China is an important stakeholder for different reasons. China is the world's most populous country and, according to current data, accounts for the largest share of global annual greenhouse gas emissions. Furthermore, China is a non-Annex I Party to the UNFCCC and aims to uphold the current division between Annex I and non-Annex I Parties and the principle of common but differentiated responsibilities.

The **United States of America (USA)** is also among the three largest greenhouse gas emitters and given its strong economic position, one of the most important actors. The USA declined to ratify the Kyoto Protocol in 2001 because it did not provide for mitigation requirements for developing countries, most importantly for China. A new global agreement will essentially depend on the USA's and China's willingness to fully participate in the regime. comprises all African countries and is the largest regional group and has become increasingly influential in the negotiations over the past few years (Dongo 2014).

4.2 Environmental effectiveness

4.2.1 Status of negotiations

Environmental effectiveness is the main rationale for negotiations towards a 2015 Agreement. Parties established the ADP process to design a new agreement with the aim to help fulfilling the ultimate objective of the Convention, namely "the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate

system" (Article 2 UNFCCC). Parties recognised in the context of establishing the ADP's mandate "that climate change [...] requires to be urgently addressed by all Parties, and [...] calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, with a view to accelerating the reduction of global greenhouse gas emissions" (UNFCCC 2011, Decision 1/CP.17). Environmental effectiveness is thus a criterion embraced by all Parties. Diverging views exist, however, with regard to the benchmark of what would constitute dangerous interference with the climate system, i.e. what level of temperature increase would need to be avoided if the 2015 Agreement was 'environmentally effective'. Parties recognised in 2010 that they should aim to meet the long-term global goal of holding temperature increase below 2°C, but acknowledged that a strengthening of this goal to 1.5°C could be necessary (UNFCCC 2010, 1/CP.16)

There are also different views on the means by which the environmental effectiveness of the 2015 Agreement could be ensured. A note by the ADP Co-Chairs summarises the views of some Parties that the "2015 agreement should enable participation by all Parties and ensure environmental effectiveness through: (a) Both enhanced national action and enhanced international cooperative action; (b) A variety of nationally determined enhanced actions under international rules and guided by the principles of the Convention; (c) A process for consulting, assessing and adjusting such actions in light of an assessment of the overall effect of enhanced actions; (d) Transparency and accountability for delivery; and (e) Incentives and support" (UNFCCC 2013). It could be argued that the content of the submissions as a whole are an expression of what Parties consider as means for achieving environmental effectiveness, given the overarching status of this criterion.

4.2.2 Parties' views

Only few Parties make explicit reference to 'environmental effectiveness' in their submissions, but indirect references are frequent.

Some Parties recall the overall objective of the Convention. **AILAC** emphasises that the 2015 Agreement "should aim at achieving the ultimate objective of the Convention" (AILAC 2014). Also the **LMDCs** recall in their submission that the ultimate objective of the 2015 Agreement is to achieve the stabilisation of GHG concentrations in the atmosphere (LMDC 2014). **China** also stresses that "the Durban Platform is to further enhance the full, effective and sustained implementation of the Convention and strengthen the multilateral rule-based regime under the Convention in order to achieve its ultimate objective" (China 2014).

Other Parties are more explicit on the benchmark that would determine environmental effectiveness of the 2015 Agreement. The **USA**, for instance, "supports a Paris agreement that reflects the seriousness and magnitude of what science demands" (USA 2013a).

Other Parties are more specific in setting explicit temperature goals. The **African Group** highlight that a future regime must ensure "the agreed temperature goal of keeping temperature increase well below 1.5°C from pre-industrial levels" (AGN 2014a). **AOSIS** stresses that the outcome of the process launched under the ADP should be based on science and ensure the survival of all small island developing states. According to AOSIS' submission, the goal should be to hold temperature rise below 2°C, or 1.5°C, but the group does not clearly indicate in the submission analysed here whether it supports a below 2°C or 1.5°C goal (AOSIS 2013). It is however well known from the

climate negotiations that AOSIS is among the main proponents of a 1.5°C goal. Also the **LDC** group underlines that the 2015 Agreement should “be consistent with the goal of keeping global average temperatures below 1.5 °C above pre-industrial levels” (LDC 2014).

In contrast, most Annex I countries favour a benchmark of 2 degrees. The **EIG** notes that the 2015 Agreement should “catalyze mitigation action to close any ambition gap in view of the 2 degrees goal” (EIG 2014). The **EU**’s position is that the 2015 Agreement should “enable us to limit global temperature increases to below 2°C relative to pre-industrial levels (the below 2°C objective)” (EU 2013c). The **Umbrella Group** does not specifically comment on environmental effectiveness in its joint submission. But Norway, for instance, highlights in its individual submission that the 2015 Agreement should aim “to meet the two degree target” (Norway 2014).

4.2.3 Interim conclusion

When establishing the ADP, all Parties agreed that the 2015 Agreement should help achieving the Convention’s ultimate objective of stabilizing GHG concentrations in the atmosphere. While explicit references to ‘environmental effectiveness’ in the submissions are rare, many Parties elaborate indirectly on this criterion. Some Parties make reference to the ultimate objective of the Convention. A range of Parties also express support for a temperature goal that the 2015 Agreement should aim to meet.

The frequency of references to environmental effectiveness in Parties’ submissions is summarised in Table 2.

Table 2 Reference to environmental effectiveness in the Parties' submissions.

	AGN	AILAC	AOSIS	CHINA	EIG	EU	LDCs	LMDC	UG	USA
Reference to environmental effectiveness	x	x	x	x	x	x	x	x	x	x

4.3 Level of ambition

4.3.1 Status of negotiations

The ADP process was established to design a new agreement that would raise the level of ambition and to address the gap between the aggregate of Parties’ mitigation pledges and emission pathways consistent with the below 2°C or 1.5°C temperature goal (UNFCCC 2011, Decision 1/CP.17). The level of ambition thus seems to be considered by Parties as one principal factor for ensuring the environmental effectiveness of the 2015 Agreement.

A note by the ADP Co-Chairs indicates that there is common ground among Parties in so far as ambition is viewed to be of central importance for the 2015 Agreement and needs to be reflected in all the elements, including mitigation, adaptation and means of implementation (UNFCCC 2014a). Furthermore it is noted that “pre-2020 action and post-2020 contributions reinforce each other and aim in the same direction of higher ambition”. Early action should be encouraged and a delay of action avoided (UNFCCC 2014b).

4.3.2 Parties' views

There seems to be wide consensus among Parties that increased ambition is required for the 2015 Agreement.

The **LDC Group** stresses that it is "committed to a strong outcome in Paris, which will ensure the protection of more than 1 billion vulnerable people that are projected to live in LDCs by 2020" (LDC 2014). The group also argues that early action should be taken "to enable the commitments and actions of Parties in the 2015 Agreement to be consistent with the goal of keeping global average temperatures below 1.5 °C above pre-industrial levels" (LDC 2014).

AOSIS urges "all Parties to work with an increased sense of urgency and purpose towards an ambitious, comprehensive and meaningful outcome" (AOSIS 2013).

AILAC highlights the need to increase the level of ambition if the ultimate objective of the Convention is to be achieved (AILAC 2013). The group calls for a regular update of the ambition of Parties' contributions "on the basis of science in the light of any possible future gap to achieve the global goal of keeping the increase of global temperature below 2°C or 1.5°C" (AILAC 2014).

The **EIG** notes that the 2015 Agreement should "catalyze mitigation action to close any ambition gap in view of the 2 degrees goal" (EIG 2014).

The **EU's** position is that the 2015 Agreement should be "durable and dynamic, capable of evolving and facilitating strengthened action over time to enable us to limit global temperature increases to below 2°C relative to pre-industrial levels (the below 2°C objective) and to enable countries to adapt to the changing climate" (EU 2013c). Furthermore, it "should aim to address 100% of global greenhouse gas emissions in order to stay on track to achieve the below 2°C objective" (EU 2014).

The **Umbrella Group** does not specifically comment on the level of ambition in its joint submission. In their individual submissions, New Zealand, Norway and Japan all highlight the need for ambitious action (New Zealand 2014; Norway 2014; Japan 2014). Norway, for instance, highlights that "the 2015 Agreement needs to capture and promote ambitious and broad participation for global climate change mitigation" (Norway 2014). New Zealand underlines the need to increase ambition over time and considers confidence among Parties as essential for their willingness to take ambitious action (New Zealand 2014).

The **USA** states that the 2015 Agreement "should be designed to promote ambitious efforts by a broad range of Parties" (USA 2014) and that "mitigation contributions would be expected from all Parties (with the possible exception of the least developed countries), because one cannot otherwise achieve the necessary level of ambition to address climate change." In addition, the USA's submission highlights that "ambition also demands transparency in terms of implementation" which "helps build the trust necessary for all Parties to continue their mitigation efforts" (USA 2013).

LMDCs calls on developed countries to "take the lead in modifying long-term trends in anthropogenic emissions through ambitious levels of emission reduction targets that would be consistent with what has been recommended by science" (LMDC 2013). Also China demands that

“developed countries shall undertake ambitious, legally-binding and economy-wide quantified emission reduction commitments [...] as demanded by science” (China 2013).

4.3.3 Interim conclusion

‘Environmental effectiveness’ and ‘ambition’ are frequently not separated accurately. This could be owed to the fact that the term ‘ambition’ is still in its infancy and not yet clearly defined. Overall, Parties stress that high ambition is essential for the 2015 Agreement.

The frequency of references to ‘ambition’ in Parties’ submissions is summarised in Table 3.

Table 3 Reference to level of ambition in the Parties' submissions

	AGN	AILAC	AOSIS	CHINA	EIG	EU	LDCs	LMDC	UG	USA
Reference to level of ambition		x	x	x	x	x	x	x	x	x

4.4 Participation and inclusiveness

4.4.1 Status of negotiations

Parties agreed at the COP17 in Durban (2011) that the 2015 Agreement should be “applicable to all Parties”. The preamble of the Durban decision also recognizes that “climate change [...] requires to be urgently addressed by all Parties, and [...] that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response”. The same phrasing is reflected in the Doha ADP decision (COP18), but not in the Warsaw decision on the ADP (COP19). However, Warsaw invites “all Parties to initiate or intensify domestic preparations for their intended nationally determined contributions”. In April 2014 the ADP Co-Chairs published a reflection note containing an annex titled “Landscape of issues identified by Parties”. While the listed issues do not reflect agreement between Parties, they give an indication or summary of ideas proposed by Parties. The annex sets out that the 2015 Agreement should “aim for and incentivize universal/broadest possible participation” (UNFCCC 2014a).

From the above it seems that different phrasings are used to describe the desired level of participation: ‘universal’, ‘all countries’, or ‘broadest possible’.

4.4.2 Parties’ views

Parties have agreed that the 2015 Agreement should be “applicable to all Parties” but there is no common view whether this implies active participation by all, i.e. mitigation commitments from all Parties. There are different views among Parties on what ‘applicability to all’ implies and how this concept would translate into obligations.

The **EU** aims for “broad and deep”, “global” participation and is committed to a 2015 Agreement that is applicable to all (EU 2013b). For the EU, this means that the 2015 Agreement “must be designed to ensure participation and ambitious mitigation by all Parties” and that all Parties should take on legally binding mitigation commitments (EU 2014). At the same time, the EU acknowledges

that “commitments must be formulated in accordance with Convention principles including common but differentiated responsibilities and respective capabilities, recognising that responsibilities and capabilities evolve over time” (EU 2013). The EU thus seems to accept that not all Parties will take on the same mitigation commitments or that there might be granted some leeway to Parties with fewer responsibilities and capabilities (see also section on equity).

AILAC advocates legally binding commitments “to ensure that the new agreement is actually applicable to all parties and will enhance ambition at the national level, and through this, at the global level” (AILAC 2014). The group also emphasises that the principles of the Convention allow for “a broad spectrum of differentiated commitments for all” (AILAC 2013), and that applicability to all does not mean uniformity..

AOSIS emphasises that the 2015 Agreement should be “applicable to all Parties”. For AOSIS this implies that it will “require universal participation and contributions from every Party”. At the same time they recall that they expect continued leadership of developed countries according to their differentiated responsibility (AOSIS 2013).

Also the **LDC Group** stresses that the 2015 Agreement “encompasses all Parties”, and expects contributions from all countries. The Group highlights that also “developing country Parties have an important mitigation role, while respecting their common but differentiated responsibilities and respective capabilities”. In the view of the LDCs, mitigation action by the most vulnerable countries should be voluntary and allow for a variety of approaches, while developed countries should not backslide from absolute economy-wide emission targets (LDC 2014).

In a similar vein, the **African Group** states that all Parties should commit to act in accordance with Article 4.1 of the Convention. They thus expect differentiated approaches for Annex I and non-Annex I countries “across all mitigation elements (form of commitment, counting, accounting, adequacy and fairness, compliance)” (AGN 2014b).

The **Environmental Integrity Group** calls for “comprehensive participation” because “an ambitious response to climate change will only be possible if everyone does its fair share” (EIG 2013). The group thus pleads for common bindingness and mitigation commitments for all (EIG 2012), and “a robust rules based system applicable to all Parties” (EIG 2014).

The **Umbrella Group** has made no joint submission commenting on the topic. However, the individual submissions of Umbrella Group Parties elaborate on participation in the 2015 Agreement. Japan considers it “indispensable that the future framework will be “applicable to all” Parties” (Japan 2013) and believes that the key to establishing such a framework is a “flexible hybrid system in which each Party submits its nationally-determined commitments (emission reduction target and all possible measures) under internationally common accounting rules” (Japan 2013a). For Canada, the term “applicable to all” means that “in practice, all Parties, particularly all major emitters, must take on meaningful mitigation commitments under the same agreement”, while clarifying that this would not mean having the same commitments for all Parties (Canada 2013). New Zealand called in earlier submissions for “maximum participation”, understood as “in particular [...] the active participation of all major developed and emerging economies” (New Zealand 2013). In its more recent submission, New Zealand suggests “a commitment by all Parties to a nationally determined commitment, MRV and an agreed ‘direction of travel’” (New Zealand 2014), and cautions that “the new agreement

needs to accommodate diverse national circumstances in order to ensure universal participation” (New Zealand 2013a).

The **United States** want the 2015 Agreement to “promote ambitious efforts by a broad range of Parties” (USA 2014) and underlines that “mitigation contributions would be expected from all Parties (with the possible exception of the least developed countries)” (USA 2013). For the USA, this also means that all Parties should be subject to the same reporting system (USA 2014).

The **LMDCs** in contrast emphasise that “[a]pplicability to all does not mean uniformity but differentiation in application according to the provisions and principles of the Convention. Universality does not mean uniformity” (LMDC 2014). According to the LMDCs the 2015 Agreement should be “applicable to all Parties” “in the same way that the Convention and COP decisions and related instruments developed under the Convention are applicable to all Parties” (LMDC 2013). Also **China** highlights that the 2015 Agreement should be “applicable to all parties”, “in the same manner as the Convention and its Kyoto Protocol, which shall by no means suggest or imply uniformity of responsibilities and obligations for all parties in terms of nature, content and magnitude” (China 2013). Accordingly, differentiation between developed and developing countries should be adequately reflected. In this sense, China argues that the 2015 Agreement should not restructure the Convention (China 2014). They thus expect legally binding emission reduction commitments from developed countries, and mitigation actions from developing countries, but subject to support from developed countries (China 2013).

An issue directly addressed only by the LMDCs is that of inclusiveness. The LMDCs highlight that “good faith participation, transparency, inclusiveness” should be a guiding principle of the 2015 Agreement (LMDC 2013a).

4.4.3 Interim conclusion

“Participation” as such is not sufficiently well defined as a criterion. The above analysis demonstrated that there is a need to differentiate between (a) the formal participation in an agreement (i.e. being a Party to an agreement) and (b) assuming (mitigation) obligations under an agreement. Parties have agreed in Durban that the 2015 Agreement should be “applicable to all”, and this is frequently quoted in submissions as a criterion for the 2015 Agreement. Most groups seem to equate ‘applicability’ with broad, maximum or universal active participation, while indicating that this still leaves room for differentiation of commitments. Only the LMDCs and China are less explicit here, suggesting that all Parties would mitigate but for developing countries, this would be conditional on support. Only the LMDCs additionally mention ‘inclusiveness’ as a guiding principle.

The frequency of references to ‘participation’ in Parties’ submissions is summarised in Table 4.

Table 4 Reference to participation in the Parties' submissions

	AGN	AILAC	AOSIS	CHINA	EIG	EU	LDCs	LMDC	UG	US
Reference to participation	x	x	x	x	x	x	x	x	x	x

4.5 Cost-effectiveness

4.5.1 Status of negotiations

The ADP Co-Chairs list among the issues identified by Parties as elements of a draft negotiating text the need for an adaptation assessment framework which should help “identifying the most cost-effective, ‘no regrets’ or win-win alternatives” (UNFCCC 2014a).

4.5.2 Parties’ views

In the reviewed submissions, neither **AOSIS, China** nor the **LDCs** comment explicitly on cost-effectiveness issues. The **African Group** addresses questions relating to costs but does not comment on cost-effectiveness in particular in its submission (AGN 2014a).

EIG notes that the 2015 Agreement should be “responsive to science, provide flexibility for national circumstances to ensure highest possible mitigation effort by all Parties, incentivize ambitious participation, *foster cost-effectiveness*, and ensure environmental integrity” (EIG 2013, emphasis added). In addition, EIG suggests considering a “cost-benefit analysis of those investments implementing adaptation actions in the medium and long term (EIG 2013).

The **Umbrella Group** addresses “costs, benefits and opportunities for adaptation under different drivers of climate change impacts, including the relationship between adaptation and mitigation under ADP workstream 1” in a separate submission (UG 2013). Japan holds that Parties should “monitor and report their effectiveness of adaptation efforts in the preparation and implementation of adaptation actions to climate change impacts, particularly regarding national adaptation strategies and plans, and international cooperation in a simple and cost-effective manner, as well as share such experience and lessons of the preparation and implementation of adaptation actions” (Japan 2014).

The **USA** notes that “many Parties are already looking across their economies at cost-effective mitigation opportunities” (USA 2013a). Furthermore, the USA indirectly comments on cost-effectiveness of adaptation by noting that “adaptation actions help the most vulnerable reduce their exposure and sensitivity to climate change, and improve their capacity to predict, prepare for, and avoid adverse impacts. The costs of preparedness and risk management, for instance, can be far less than the costs of disaster relief and recovery.” Furthermore, the USA notes that “in the post-2020 time frame, in order to effectively prepare for climate change impacts, Parties will need to enhance their efforts to: [...] understand the costs and benefits of adaptation at the local level” (USA 2013a).

The **EU** frequently comments on cost-effectiveness. The EU notes, for example, that “international market-based mechanisms are vital to facilitate cost effective and ambitious mitigation action and as such will need to be an important element of the 2015 Agreement” (EU 2013c). Regarding adaptation, the EU further indicates that “it is essential that the costs, benefits and opportunities of adaptation to the adverse effects of climate change are assessed from a systems perspective that recognises the complexity of interactions between stressors and that responses are integrated into the relevant decision making processes” (EU 2013b). In addition, the EU underlines that “the best

value adaptation is achieved through early, coherent, integrated planning and action at all levels” (EU 2013b).

AILAC focuses on cost-effectiveness of adaptation actions. AILAC states that “an adaptation assessment framework is to be established under the Convention, which must enhance the evidence-base that enables Parties to accurately assess and quantify levels of vulnerability and exposure, adaptation options, and the costs of adaptation actions with a view to identifying the most cost-effective, no-regret or win-win alternatives” (AILAC 2013a).

The **LMDCs** refer to Article 3.3 of the UNFCCC and note that it “recognizes, inter alia, the principles of cost-effectiveness and comprehensiveness with respect to policies and measures dealing with climate change” (LMDC 2014).

4.5.3 Interim conclusion

Cost-effectiveness of adaptation and mitigation activities are, in general, treated as different issues in the submissions. Cost-effectiveness of mitigation activities is only highlighted directly by the EU and EIG. This suggests that cost-effectiveness is addressed especially by those that need to take emission reduction measures. Both the EU and EIG also suggest an analysis of costs and benefits. The EU explicitly highlights that it considers market mechanisms to be a cost-effective means to achieve emission reduction by implementing relevant projects where they are least costly. The LMDCs indirectly address the cost-effectiveness of mitigation activities by referring to Article 3.3 of the UNFCCC. Cost-effectiveness of adaptation measures is addressed in many of the submissions.

The frequency of references to ‘cost-effectiveness’ in Parties’ submissions is summarised in Table 5.

Table 5 Reference to cost-effectiveness in the Parties’ submissions

	AGN	AILAC	AOSIS	CHINA	EIG	EU	LDCs	LMDC	UG	US
Reference to cost-effectiveness		x			x	x		x	x	x

4.6 Equity

4.6.1 Status of negotiations

It is the UNFCCC’s first guiding principle that “[t]he Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of *equity* and in accordance with their *common but differentiated responsibilities and respective capabilities*” (Article 3.1 UNFCCC, emphasis added). The meaning and implications of the principles are, however, contested. When negotiating the Convention, developed countries and most prominently the USA were strongly opposed to including a set of principles but argued for referring to them in the preamble as the rationale for action taken in the framework of the Convention. Developing countries in contrast wanted to include them in the body text so as to guide the future implementation and development of commitments under the Convention (Depledge et al. 2004).

The COP decisions on the ADP have not made any direct reference to equity or CBDR/RC. In fact, a reference was deliberately avoided in the Durban mandate (Haïtes et al. 2013). However, the ADP is mandated to negotiate a new instrument under the Convention. Some Parties have interpreted this mandate as meaning that the principles of the Convention also find application in the 2015 Agreement. This view seems to be supported by the preamble of the COP decision taken in Doha which states that “the work of the ADP shall be guided by the principles of the Convention” (UNFCCC 2012, Decision 1/CP.18). Parties express diverging views concerning how the principles should find application in the 2015 Agreement.

4.6.2 Parties’ views

Equity, CBDR/RC and fairness are often used interchangeably by Parties,

Under the heading “equity”, the **LDC group** states in its submission that it is “fundamental to consider the principles of equity and CBDR-RC referred to in Article 3.1 of the Convention in the context of the ADP and the 2015 Agreement [...] in a manner that will strengthen the regime and not undermine it” (LDC 2014). For the LDC group this implies that all Parties take “bold actions” on mitigation and adaptation, and that efforts of developed countries are comparable and subject to a MRV and compliance system. To define what is equitable, the LDCs suggest using a range of criteria “including, but not limited to historical responsibility, current capabilities, future sustainable needs, vulnerabilities, and potentialities” (LDC 2014).

AOSIS highlights “that Parties should protect the climate system for the benefit of present and future generations of humankind on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities”, and that a key for CBDR/RC “is the notion of historical responsibilities” (AOSIS 2013). Accordingly, AOSIS believes that developed countries should continue to take the lead, which suggests that they favour a differentiation of commitments. The group also highlights in this context, that the specific needs and circumstances of developing countries should be given full consideration.

For **AILAC**, “the way to ensure equity is the implementation of fair differentiation, where capacity and will towards the highest level of ambition possible are at the core” (AILAC 2014). According to AILAC, this differentiation of mitigation contributions should be based on “each country’s national context, capabilities, responsibility and challenges” (AILAC 2014). Accordingly, while they do see a leadership role for developed countries, AILAC countries also highlight their own leading role (AILAC 2014). They also see a need for differentiating commitments on means of implementation, reflecting also evolving responsibilities and vulnerability to climate change (AILAC 2013a). Similarly, AILAC underlines that a “key part of the equity concept centers in the right of our vulnerable communities to live and prosper without having their lives and livelihoods threatened and affected by impacts of climate change” (AILAC 2013).

The **African Group** considers equity as a key guiding element for the 2015 Agreement and proposed a “principle-based” reference framework for operationalising equity and science. This framework would assess differentiated commitments (mitigation, adaptation and support) against a “science imperative” (required global effort) and a “fairness imperative” (relative fair effort). The fairness factor would be based on “historical responsibility, current capability, and development needs through an ensemble of metrics for each dimension of contribution, culminating in a range of

relative contribution by each Party towards the global effort” (AGN 2013). The reference framework would allow establishing minimum thresholds for commitments of Annex I and Annex II countries, while allowing for flexibility for developing countries (AGN 2013). Hence, equity or fairness is for the African Group not only reflected in differentiated mitigation efforts, but also in contributions to adaptation and support, as well as in the flexibility provided for developing countries.

While the **LMDCs**’ perception of equity cuts across all elements of the 2015 Agreement, the differentiation of mitigation commitments seems to be cornerstone. The LMDCs highlight that all provisions of the 2015 Agreement should ensure equity, and note that “equity” is defined in the preamble of the Convention, and integrated in its provisions. In this context, they specifically highlight the historical responsibility of developed countries, the need for developing countries to increase emissions for purposes of meeting development needs, the stabilisation of emissions to enable sustainable development, the principle of CBDR/RC, the recognition of special needs of vulnerable countries, the right to sustainable development of developing countries, and the principle not to arbitrarily discriminate through mitigation measures. The LMDCs assume that a key to equity lies in Article 4.7 of the Convention, which states that implementation of developing countries’ commitments will depend on financial support from industrialised countries (LMDC 2014).

Likewise, for **China**, equity and CBDR/RC is mainly reflected in differentiated mitigation commitments. China is very explicit in stating that the “dichotomy between developed and developing countries is the very foundation of the Convention regime” and that the 2015 Agreement should fully mirror this approach. According to China, this would adequately reflect the historical responsibility of developed countries and the development stages of developing countries (China 2013).

The **EU** states that commitments should be “equitable” (EU 2013a) and “be formulated in accordance with Convention principles including common but differentiated responsibilities and respective capabilities, recognising that responsibilities and capabilities evolve over time” (EU 2013). The EU proposes that potential indicators for fairness of mitigation commitments could include “past, current and future emissions, mitigation costs, mitigation potential, GDP, population projections, poverty indexes and national circumstances” (EU 2014). It seems though that the EU recognises that agreement on indicators might be difficult to achieve, as they suggest that Parties should submit their own fairness indicators together with their intended nationally determined contributions.

EIG considers that “CBDR/RC, equity and the other principles of the Convention shall be seen as an enabler of action that will need to be operationalised across different elements of the 2015 Agreement”, mainly through differentiation (EIG 2013). The group highlights that the ADP “must deepen a common understanding on fair differentiation at international level, including through consideration of relevant factual information and self determined indicators” (EIG 2013). It is not clear from this whether they see the possibility to agree among Parties on a common set of differentiation indicators or whether these will only be “self-determined”. For EIG, differentiation implies that “the 2015 Agreement must be based on one common set of rules for all Parties but at different depths in terms of type, stringency, and timing”. (EIG 2014), and that “developed Parties and those in a position to do so, according to CBDR/RC and equity should support country-driven mitigation and adaptation actions in developing countries” (EIG 2013a).

The **Umbrella Group** does not refer to equity and CBDR/RC in its only joint submission under the ADP. However, Umbrella Group countries highlight in their individual submissions that CBDR/RC and equity needs to be interpreted in a dynamic manner, reflecting evolving realities instead of fixed categories (Canada 2013; New Zealand 2013a; Japan 2014; Norway 2013). Canada is of the view that each country's efforts should reflect capabilities and current responsibilities (Canada 2013). Also Norway pleads for differentiation in mitigation commitments and international support, based on national circumstances, responsibilities and capabilities (Norway 2013). New Zealand furthermore points to a conflict between "formulaic equity approaches" and what is political acceptable to Parties, and states "that the new agreement will succeed in delivering equity if all view their individual actions as fair in the context of what others are doing to enable them to commit to it" (New Zealand 2013a). Similarly to the EU they thus seem to doubt that agreement on one single equity approach is possible.

Also the **USA** acknowledges that CBDR/RC will play a role in actions taken under the Convention. In the context of the 2015 Agreement this implies that "national efforts will be differentiated across a broad continuum of all Parties based on a range of factors, including circumstances, level of development, mitigation opportunities, capabilities, etc.", but not along the lines of the Annex I/non-Annex I structure of the Convention (USA 2014). With respect to mitigation contributions, "self-identification of measures would result in self-differentiation consistent with national circumstances, capabilities, etc" (USA 2013). However, the main rationale provided for this "self-differentiation" does not centre around equity but on higher chances of high participation in the 2015 Agreement and effective implementation of commitments (USA 2013). According to the US, differentiation should also be reflected in reporting guidelines and in the review of implementation (USA 2014).

4.6.3 Interim conclusion

All Parties or Party groups refer in their submission to equity, CBDR/RC or fairness, as a guiding element for the 2015 Agreement. The distinction between these three notions is not clear and they are often used interchangeably. There is a tendency for industrialised countries to use the term 'fairness', as opposed to developing countries that more often point to 'equity' or 'CBDR/RC'.

All Parties seem to agree that differentiation across countries is an important element of operationalising equity. Mostly, equity, fairness and CBDR/RC are associated with distributing the burden of mitigation between countries. Some groups consider that equity is also reflected in a differentiation of adaptation and support contributions, or required for MRV or assessment provisions.

As criteria for this differentiation, groups point to historical responsibility, future emissions, capability, needs, vulnerability or mitigation potential. Especially industrialised countries highlight that equity and CBDR/RC should be interpreted in a dynamic manner that reflects the development of responsibilities and capabilities. In contrast, some developing countries argue for using established categories (Annex I and non-Annex I) as a basis for differentiation.

Some groups see equity as cutting across several elements of the 2015 Agreement, e.g. arguing that developing countries would only need to take mitigation action if adequate financial resources are provided by developed countries.

Noteworthy is the perception that there is no 'one-fits-all' equity approach but that equity is guaranteed if each individual party considers its own contribution as fair. Proposals that each party should highlight, when submitting its intended nationally determined contribution, its own fairness indicators, point in a similar direction.

Interestingly, unlike some of the literature on equity, the analysed submissions do not make reference in the direct context of equity to fair process, sustainable development, or intergenerational concepts, and only AILAC mentions the protection of vulnerable population as part of equity (see section below on 'assisting the vulnerable').

We only analysed those parts of submissions that directly referred to equity, CBDR/RC or fairness. Since some Parties identify 'equity' as a cross-cutting principle that should guide all elements of the 2015 Agreement, it is possible that the understanding of 'equity, CBDR/RC or fairness' is broader than what was identified here.

The frequency of references to 'equity, CBRD/RC or fairness' in Parties' submissions is summarised in Table 6.

Table 6 Reference to equity, CBRD/RC or fairness in the Parties' submissions

	AGN	AILAC	AOSIS	CHINA	EIG	EU	LDCs	LMDC	UG	USA
Reference to equity, CBDR/RC or fairness	x	x	x	x	x	x	x	x	x	x

4.7 Compliance

4.7.1 Status of negotiations

None of the COP decisions concerning the ADP specifically mention 'compliance'. However, transparency of action and support is one of the elements that the ADP is mandated to work on (UNFCCC 2011, Decision 1/CP.17). The ADP Co-Chairs summarised on this matter that "Parties converge on the crucial importance of transparency for mutual trust, comparability and accountability. They also agree on the need to take into account, and build on, the existing arrangements for measurement, reporting and verification, noting that many of these are just coming into effect and need to evolve. In this respect, discussions on transparency of action seem to be more advanced and concrete than those on transparency of support" (UNFCCC 2013a, Note by the Co-Chairs).

Furthermore, Parties recognised in the context of the ADP at COP18 that a "strengthening of the multilateral, rules-based regime" would be necessary to fulfil the Convention's objective (UNFCCC 2012, Decision 1/CP.18). It is not clearly established what the 'rules-based regime' comprises, but many Parties seem to see a robust MRV and accounting system, and possibly also a compliance system, as necessary elements of such a regime.

4.7.2 Parties' views

AILAC regards transparency of action and support, and a robust compliance mechanism as important elements of the 2015 Agreement because the group considers these elements central to building confidence and trust (AILAC 2014). They propose to build on existing transparency arrangements but they want to see a unified MRV system for all Parties (with differentiation built in it on the basis of capacity), and additional transparency rules on support. They also point to the need to establish “[o]perational provisions related to [...] the relationship of the compliance mechanism with the contributions of means of implementation, the MRV of support” (AILAC 2014).

Similarly, the **LDCs** envisage a robust MRV system that would include a compliance mechanism, to ensure environmental integrity and mutual confidence among Parties. They also see “a compliance mechanism for cases where Parties do not meet their obligations” as one of the essential elements of the negotiating text and state that the MRV system should not be weaker than under the Kyoto Protocol (LDC 2014). Among the submissions analysed here, the LDCs bring forward the most detailed ideas on compliance. For example, they call for an improved facilitative mechanism, consideration of adjustment measures and consequences for non-compliance (LDC 2013).

The **EU** also sees transparency of action and support as essential elements of the 2015 Agreement (EU 2013c). For promoting the environmental integrity of the regime and mutual trust among Parties, the EU calls for a “strong rules based system based on common, robust, transparent and legally binding MRV and accounting” (EU 2013c). The EU also sees the need for a compliance system “primarily based on transparency, international assessment and facilitation, while safeguarding environmental integrity” (EU 2013c).

The **African Group** suggests using international assessment and review (IAR) for both Annex I and non-Annex I countries. Additionally, they favour facilitative compliance arrangements, but only for Annex I countries, to address non-compliance issues regarding both mitigation and finance.

The **LMDCs** stress that “transparency of action and support will be a key element in the ADP outcome”, but also note that any MRV system should differentiate between developed and developing countries (LMDC 2014a). With regard to transparency of mitigation action, the LMDCs want to build on the processes already established under the Convention. The group sees, however, a need for enhancing transparency procedures for Annex I Parties and for establishing a MRV and accounting system for financial obligations of Annex II countries (LMDC 2014). This is also the position of **China**, which suggests that for developed countries, MRV of action and support should be “based on the National Communication, BR [biennial reports] and IAR as well as rules under the Kyoto Protocol”, while “developing country Parties [should] increase the transparency of their enhanced actions [...] in a manner that is non-intrusive, non-punitive and respecting national sovereignty” (China 2014). Neither the LMDCs nor China make any specific reference to a compliance system.

The **EIG** argues that an effective regime “must be sufficiently ambitious, have comprehensive participation, and ensure compliance” (EIG 2013). As a consequence, they suggest common rules for accounting and MRV (with CBDR/RC taken into account) and highlight that “such a rules-based regime will provide the certainty to the Parties to act collectively and, thus, foster trust and ambition” (EIG 2013). The group does not, however, comment on a compliance system.

The joint **Umbrella Group** submission does not refer to transparency or compliance provisions. However, the Umbrella Group countries elaborate on their views regarding transparency in their individual submissions. Canada sees “increased transparency and accountability” based on a robust MRV system (Canada 2013), as crucial for the 2015 Agreement. As one of the main elements of the 2015 Agreement, Japan names an “[e]x-post international evaluation and review of the performance” for all Parties that would allow “other Parties to estimate the progress in global emission reduction” (Japan 2014). For this process, Japan proposes regular reporting, a technical assessment, opinions from third parties and a review session for each Party (Japan 2013a). New Zealand argues that mutual confidence and one common rules-based regime is key for ambitious action, and states that “full transparency and a review process are cornerstones for ensuring compliance with agreed rules and individualised commitments” (New Zealand 2014). Hence, New Zealand calls for MRV and accounting rules for all Parties to track progress on commitments (New Zealand 2013a; 2014). The country, however, has the view that “punitive measures to ensure compliance are not always effective” (New Zealand 2013a; 2014).

The **USA** underlines that ambition requires transparency of implementation. For that purpose, they want to see reporting and accounting obligations for all Parties on their respective commitment (“schedule”), based on a single reporting system. Similarly, there should be a review system that assesses Parties’ implementation of their commitments. For both systems, the USA envisages “appropriate differentiation provided for based on capabilities and circumstances”.

AOSIS does not elaborate on the group’s views on compliance in its submission.

4.7.3 Interim conclusion

Parties agree that it is crucial for building trust and for the effectiveness of the 2015 Agreement to ensure compliance with its provisions. There is also broad agreement that transparency of mitigation action is an important means for ensuring compliance, and that the existing MRV and accounting provisions under the Convention provide a good starting point. Views are, however, more diverging on the need for transparency of support. There is also no agreement as to whether a compliance mechanism is needed.

The frequency of references to ‘compliance’ in Parties’ submissions is summarised in Table 7.

Table 7 Reference to compliance in the Parties’ submissions

	AGN	AILAC	AOSIS	CHINA	EIG	EU	LDCs	LMDC	UG	USA
Reference to compliance	x	x		x	x	x	x	x	x	x

4.8 Institutional feasibility

4.8.1 Status of negotiations

In the ADP Co-Chairs’ Reflection notes of May 2013 it is suggested that the Parties should discuss issues such as “enhancing adaptation through the 2015 Agreement, including ways to strengthen existing institutions, arrangements and support” and “linkages with existing arrangements, including

concrete ways on how the 2015 Agreement will be linked with existing institutions and how it will build on the technical and methodological foundations of the Convention and its Kyoto Protocol" (UNFCCC 2013). The ADP Co-Chairs' also listed a "landscape of issues identified by Parties", which also include proposals on institutional arrangements. Most of the more specific proposals refer to institutions for adaptation.

It is probable that the discussion on appropriate institutional arrangements will be postponed until there is consensus among Parties on the substance of the 2015 Agreement.

4.8.2 Parties' views

The analysed submissions by the **LDCs** and **AOSIS** do not comment specifically on institutional matters.

In view of the scope, structure and design of the 2015 Agreement, **AILAC** highlights the need for a "discussion of what issues require to be embedded in the agreement, how they will be embedded and what elements can be addressed by existing institutional arrangements established in previous decisions by the Conference of the Parties, in particular in the context of the AWG-LCA [Ad Hoc Working Group on Long-term Cooperative Action under the Convention]" (AILAC 2013).

The **African Group** mentions institutions in the context of capacity building and notes that a mechanism for capacity building under the Convention should include "institutional arrangements such as a Capacity Building Committee to provide normative guidance to the Convention on capacity related issues, as such informs other mechanisms under the Convention" (AGN 2014a).

The **LMDCs** highlight that "existing adaptation-related institutions under the Convention should be strengthened and fully financed" (LMDC 2014). Equally, "national and regional institutional arrangements need to be strengthened to address the specific context and needs of developing countries" (LMDC 2014). In addition, the LMDCs request the "quantitative increases in the ability of adaptation financing institutions" (LMDC 2013b) and an "immediate operationalisation of the mechanisms and institutions, in particular the Green Climate Fund" (LMDC 2013). **China** suggests that institutional arrangements resulting from the Bali process, namely arrangements on adaptation, technology, capacity building and finance, should be further elaborated. More specifically, China proposes that the 2015 Agreement should improve collaboration between the GCF and Convention mechanism on adaptation, technology transfer and capacity building (China 2014).

The **EIG** notes that the 2015 Agreement should be "mindful of the institutions and processes already established by the international community to ensure effectiveness and overall functionality of the international climate regime" (EIG 2013).

According to the **EU**, the 2015 Agreement should build on and add value to "the work ongoing in the subsidiary bodies and within existing institutional arrangements" (EU 2013b). Generally, "the 2015 Agreement should build on existing institutions and processes and avoid inefficient duplication of efforts" (EU 2014) and "promote the effective operation of existing institutions" (EU 2013b). Regarding adaptation in particular, the EU notes that "progress has been made to facilitate the efforts of Parties through the establishment of different bodies that serve to enhance efforts on different aspects relevant to adaptation to climate change" (EU 2013c). Furthermore it is stressed

that existing “institutions and processes aim to catalyse and enable adaptation action, by focusing on, inter alia, the following types of work: adaptation planning, science and sharing knowledge, engaging stakeholders, communication, improving coherence, capacity building and financial support. The 2015 package should therefore build on, and add value to, this work” (EU 2013c).

The **Umbrella Group**’s submission does not address institutional feasibility. However, Japan notes that “in order to ensure the continuity and avoid duplication of actions, the existing arrangements and institutions [...] should be effectively utilized in the 2015 agreement taking into consideration the discussions and development within these bodies” (Japan 2014). Canada notes in more general terms that “the 2015 agreement should also acknowledge the importance of relevant UNFCCC institutions, bodies and mechanisms, and describe their application to a future climate regime” (Canada 2014). Furthermore, it “should recognize and promote cooperation among relevant institutions” (Canada 2014). New Zealand highlights that “provisions confirming the importance of adaptation, finance, technology transfer and capacity building and establishing the relationship with existing institutions and mechanisms” (New Zealand 2014) are essential.

The **USA** holds the opinion that “there will need to be various provisions regarding institutions servicing the new agreement [that] could generally mirror the institutional provisions of the Kyoto Protocol with respect to the COP, secretariat, and subsidiary bodies (SBSTA and SBI)” (USA 2014). The USA further underlines that they “will continue to build and strengthen the climate finance institutions and processes we have put in place in recent years, including the Green Climate Fund, the Standing Committee, and processes for transparency of finance, as well as the significant complementary institutions and processes that lie outside of the UNFCCC” (USA 2013a).

4.8.3 Interim conclusion

Where Parties comment in their submissions on institutions, they mainly focus on dealing with and strengthening existing institutions. Different institutional bodies are distinguished, highlighting issues on, for example, financing and capacity-building institutions, climate finance institutions or institutions that serve to enhance efforts on different aspects relevant to adaptation to climate change. Certain groups also call for additional institutions. The African Group, for example, specifically calls for a Capacity Building Committee.

The frequency of references to ‘institutional capacity’ in Parties’ submissions is summarised in Table 8.

Table 8 Reference to institutional capacity in the Parties' submissions

	AGN	AILAC	AOSIS	CHINA	EIG	EU	LDCs	LMDC	UG	USA
Reference to institutional capacity	x	x		x	x	x		x	x	x

4.9 Political acceptability

Political acceptability/feasibility is often held to be an individual criterion. However, whether an agreement is politically acceptable to an individual party ultimately depends on the extent to which

the agreement reflects the party's desired outcome. In that respect, it is linked to all other criteria discussed. For instance it is held to encompass or evaluate cost-effectiveness, dynamic cost efficiency, competitiveness, equity, flexibility, stringency for non-compliance and non-participation. The political acceptability of an agreement is a prerequisite for its adoption in the first place and influences the likelihood of whether or not the instrument will be successful. Given that Parties' positions differ considerably, an outcome on a climate change regime that is politically acceptable to all Parties of the UNFCCC will be a compromise, trying to balance the diverging interests.

Every party submission is essentially a summary and reflection of what that particular party – or group of Parties – finds politically desirable. The submissions thus describe the subjectively ideal outcome, rather than the outcome possibly acceptable to all. It therefore does not come as a surprise that Parties do not elaborate on 'political acceptability' as a separate criterion.

4.10 Systemic coherence

Generally speaking, systemic coherence refers to cooperation of and coordination between institutions and bodies, both UN and non-UN, to create synergies, specify responsibilities and the integration of systems. At the global level, it is held to be problematic: "There is a multitude of overlapping mandates and unclear divisions of labor within the UN system's work, particularly in the fields of environment and development. It is necessary to better equip the agencies that manage the process to meet needs as they arise" (Perry 2012). And, as noted by Mehling, "[c]onflicts and tensions between different institutional arrangements can potentially compromise the effectiveness of cooperation" (Mehling 2011). UNFCCC Parties have on several occasions addressed coordination of efforts with institutions outside the Convention, for example as regards adaptation or loss and damage (UNFCCC 2011, Decision 1/CP.17; UNFCCC 2013, Decision 1/CP.19). However, systemic coherence is not mentioned explicitly as a comprehensive problem in the reviewed party submissions and will thus not be pursued in this paper as an individual criterion for assessing options for the 2015 Agreement.⁴

4.11 Additional criteria

The following section addresses a number of additional criteria which surfaced during the review of party and country group submissions. Not all criteria are highlighted by all Parties but they nonetheless appear to be relevant or at least worth highlighting briefly.

4.11.1 Assisting the vulnerable

In several submissions, the situation of those countries that are particularly vulnerable to climate change and its effects is addressed as a separate issue that requires attention in the 2015 Agreement. The issue may well be seen as part of an equitable approach to climate change, but goes beyond the differentiation of commitments Assisting particularly vulnerable people in adapting

⁴ Only Japan addresses systemic coherence in the context of the ADP, but only regarding adaptation. The Japanese submission states that "it is also important to strengthen and promote synergy with relevant institutions outside the Convention which have experience and knowledge relating adaptation projects, programs and policies" (Japan 2014).

to the impacts of climate change may rather relate to a global and common duty to ensure the well-being and survival of others, given that the warming of the climate system is unequivocal. Notably, Article 3.2 UNFCCC holds that “[t]he specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden under the Convention, should be given full consideration.” In the context of the ADP, the COP emphasized in Warsaw that “enhanced action and international cooperation on adaptation is urgently required to enable and support the implementation of adaptation actions aimed at reducing vulnerability and building resilience in developing country Parties, taking into account the urgent and immediate needs of those developing countries that are particularly vulnerable” (1/CP.19).

The special attention that should be given to vulnerable countries is mainly stressed by developing countries. AOSIS highlights that the 2015 Agreement should ensure the survival of all Small Island Developing States (SIDS) (AOSIS 2013). The LDCs emphasise their own vulnerability to the adverse effects of climate change: “[...] considering the enormous threats and future risks that climate change is posing, *particularly to the LDCs*, bold actions are required from all Parties based on their CBDR-RC” (LDC 2014, emphasis added). The LMDCs elaborate on the concept of loss and damage and note that “[a]t the heart of the challenge of loss and damage is addressing the needs and aspirations of communities and people, who have contributed least to the causes of climate change, yet are among its first and worst victims” (LMDC 2013). Furthermore, the LMDCs state that “[t]he duty of States to abide by the ‘no-harm’ rule applies to the harm caused from the historical accumulation of greenhouse gases and this duty is not exonerated by the vulnerability of those affected, especially when some of those vulnerabilities are due to uncontrollable or historical circumstances, such as geophysical conditions, global unfair economic conditions, structural conditions created under colonialism, etc” (LMDC 2013). AILAC holds that the concept of equity covers ensuring the rights of those most vulnerable: “A key part of the equity concept centers in the right of our vulnerable communities to live and prosper without having their lives and livelihoods threatened and affected by impacts of climate change” (AILAC 2013).

Some of the developed countries also comment on the protection of the most vulnerable. EIG stresses in its submission on means of implementation as one principal aspect the “consideration of the urgent and immediate needs of developing countries which are particularly vulnerable to the adverse effects of climate change” (EIG 2013a). As to the Umbrella Group, Japan notes that “[t]he 2015 agreement should emphasize the importance of enhancing international cooperation among all Parties to share information and knowledge regarding the experience, lessons and good practices, including on integrating adaptation into national development strategies and plans as well as facilitating mobilization of support to developing country Parties, especially those that are *particularly vulnerable to the adverse effects of climate change*, with a view to strengthening resilience and adaptive capacity” (Japan 2014). In the context of highlighting the provision of finance, Japan also defines its interpretation of particularly vulnerable countries so as to include in particular SIDS, African countries and LDCs (Japan 2014). Canada also recognizes the “ongoing need for support to adapt to the impacts of a changing climate” of the poorest and most vulnerable countries (Canada 2014). The USA affirms that it “will continue to provide significant support post-2020 to the most vulnerable countries and communities as a key component of our broader climate support efforts” (USA 2013a). Also the EU emphasizes that “particularly the most vulnerable

countries” should be assisted in adapting to the consequences of climate change and increasing their resilience (EU 2014).

The frequency of references to ‘assistance to the vulnerable’ in Parties’ submissions is summarised in Table 9.

Table 9 Reference to the provision of assistance to the vulnerable in the Parties' submissions

	AGN	AILAC	AOSIS	CHINA	EIG	EU	LDCs	LMDC	UG	USA
Assisting the vulnerable		x	x		x	x	x	x	x	x

4.11.2 Durability

The review of the submissions showed that Parties often highlight that the 2015 Agreement should be ‘durable’. According to Canada, “the agreement must provide a durable framework for action and cooperation that ensures provisions are not subject to continual negotiations” (Canada 2014). The EU also highlights that the 2015 Agreement “will need to endure well beyond 2020” (EU 2014). Similarly, the USA requests that “the agreement itself will contain core provisions that are designed to stand the test of time” (USA 2013a) and that “the agreement per se should be built to last, for example, so that it does not have to be amended every time there are refinements to the details of reporting” (USA 2014). Norway is of the opinion that the international community should “build an ambitious and durable agreement” (Norway 2014). These Parties thus seem to favour an agreement that does not require constant renegotiations but contains enduring elements.

Some Parties suggest that the inclusion of flexible elements could increase the durability of the 2015 Agreement as a whole. New Zealand, for example, holds that “the legally binding agreement must focus on those aspects that can stand the test of time. This will minimise the legal and political hurdles to an effective regime and ensure that the more dynamic elements of the agreement can be updated when required” (New Zealand 2014). Japan’s submission similarly stresses that “the 2015 agreement should be durable by appropriately reflecting current and future evolutions of the international community” (Japan 2014). Also the EU highlights that the 2015 Agreement should “be durable and dynamic” (EU 2013c). Parties have different understandings as to how the 2015 Agreement should be made ‘dynamic’ or ‘flexible’ (see chapter 4.11.3).

The frequency of references to ‘durability’ in Parties’ submissions is summarised in Table 10.

Table 10 Reference to durability in the Parties' submissions

	AGN	AILAC	AOSIS	CHINA	EIG	EU	LDCs	LMDC	UG	USA
Durability						x	x		x	x

4.11.3 Flexibility

‘Flexibility’ (or ‘dynamic’) are terms often found in the submissions. The term is mainly used to suggest that the 2015 Agreement should reflect evolving scientific understanding of climate change,

changing socio-economic circumstances or mitigation potentials, e.g. by adjusting mitigation commitments.

The **EIG** suggests a “dynamic and flexible framework for the participation of all Parties is necessary for allowing increase of ambition and development in differentiation reflecting the changing economic realities, national circumstances, common but differentiated responsibilities and respective capabilities” (EIG 2013). EIG further notes that the 2015 Agreement should “provide flexibility for national circumstances to ensure highest possible mitigation effort by all Parties” (EIG 2013). According to the **EU**, an outcome should be “flexible and sensitive to national circumstances” (EU 2013b). The EU notes that the 2015 Agreement “should [...] be[...] dynamic, capable of evolving and facilitating strengthened action over time” (EU 2013c) and ensure that “all Parties participate over time in accordance with their evolving responsibilities and capabilities” (EU 2013c).

Some Parties are more explicit suggesting that ‘flexibility’ could be reflected in the 2015 Agreement through the regular adjustment of commitments. The EU thus proposes a “process for regular assessment and, if necessary, upward adjustment of individual and collective mitigation commitments” (EU 2014), but does not specify the modalities of such assessments and adjustments.

Also **AILAC** supports a review mechanism for commitments “that would allow for ambition to be updated on the basis of science in the light of any possible future gap to achieve the global goal of keeping the increase of global temperature below 2°C or 1.5°C” (AILAC 2013).

The **African Group** proposes that the review under the Convention should provide “a basis from which a review mechanism under the 2015 Agreement should be premised, with the objective of assessing the adequacy of the long term global goal, as well as the progress towards achieving, hence general aggregate commitments under the 2015 Agreement” (AGN 2014). Furthermore, the African Group submission notes that “[w]ith Parties having submitted initial commitments for mitigation, finance and technology support, an adjustment based on the realisable temperature scenario, where ring-fenced finance and technology support for adaptation will be decided for a commitment period, with the process forming part of the periodic Review agreed to in Decision 1.CP/16 for subsequent commitment periods” (AGN 2013).

The **LDCs** hold that “commitments should be made for only five years (2020-2024), with a clear process to define the subsequent five-year periods built into the 2015 Agreement and linked to IPCC assessments [...]” (LDC 2014). The LDCs further support a periodic review that should be “firmly embedded in the scientific assessment of the adequacy of commitments in meeting the long-term global goal” (LDC 2014).

None of these groups does, however, specify whether the adjustment of commitments would involve a process of renegotiation (which could undermine calls for ‘durability’, see chapter 4.11.2) or would essentially avoid such renegotiations.

In some instances, ‘flexibility’ may also be used to describe a differentiation of commitments (see also section 3.1.5).

The frequency of references to ‘flexibility’ in Parties’ submissions is summarised in Table 11.

Table 11 Reference to flexibility in the Parties' submissions

	AGN	AILAC	AOSIS	CHINA	EIG	EU	LDCs	LMDC	UG	USA
Reference to flexibility	x	x			x	x	x		x	x

5 Discussion of Results

5.1 Limits of the analysis

The above analysis shows that some of the criteria regarded as crucial in literature are not widely reflected in Parties' submissions. This, however, does not need to imply that Parties do not support these criteria or that the criteria are not relevant. We are aware that Parties might not mention specific criteria even though they do support these and consider them as relevant. There are manifold reasons why Parties might chose to omit mentioning certain aspects at a specific point in time, although they would possibly support them. First, negotiations of the 2015 Agreement are still in an early stage, and Parties' submissions consequently do not yet cover all potential parts of the 2015 Agreement. Some groups have only made a very limited number of submissions so far, which do not shed much light on their positions. Second, Parties might choose to elaborate only on those criteria that they want to put particular emphasis on. While academic articles aim for comprehensiveness, the Parties' and groups' submissions have the purpose of highlighting and protecting individual interests. To pursue these national and group-specific interests it may be necessary to leave out certain issues to underline others. Third, there may be strategic reasons for omitting relevant aspects at a given point in time, as the negotiations are a highly political process. Parties may keep ideas for a later stage of negotiations in order not to 'burn' their proposals. They might consider it too early to express their views, given that necessary ground work needs to be done first. For example, it might be too early to elaborate on a possible compliance mechanism, if Parties have not yet agreed on the legal nature of the commitments. Similarly, talking about appropriate institutions might be premature given that the functions of the 2015 Agreement are still open to discussion.

5.2 Summary of reference to criteria from literature

Despite the limits of the analysis of the country submissions, some interesting outcomes can be highlighted. The criteria drawn from Mehling and Klingenfeld, enjoy very different levels of support among Parties, as Table 12 shows.

Table 12 Submissions referring to criteria suggested by Mehling and Klingenfeld

	AGN	AILAC	AOSIS	China	EIG	EU	LDCs	LMDC	UG	USA	Overall support
Environmental effectiveness	x	x	x	x	x	x	x	x	x	x	High
Level of ambition		x	x	x	x	x	x	x	x	x	High
Participation	x	x	x	x	x	x	x	x	x	x	High
Cost-effectiveness		x			x	x		x	x	x	Medium
Reference to equity, CBDR/RC or fairness	x	x	x	x	x	x	x	x	x	x	High

Ensure compliance	x	x	x	x	x	x	x	x	x	High
Institutional capacity or complexity	x	x	x	x	x	x	x	x	x	High
Political acceptability										-
Systemic coherence										-

Based on the frequency of references to criteria across Parties' submissions we extract those criteria that seem to be especially relevant to Parties. For some criteria, Parties provide quite detailed interpretations or ideas for operationalising the criteria, and – in some occasions – these elaborations reveal very diverging understandings. This might indicate that these criteria are possibly not well defined and specific enough. We thus propose for these cases to split criteria into several sub-criteria, thus making diverging understandings more explicit.

It is noteworthy that Parties have not mentioned **political acceptability** and **systemic coherence** as criteria for the 2015 Agreement in the submissions that we analysed. In the end, political acceptability is the result of the various functions of any regime design reflecting the interests of all main negotiating groups, which requires that they see elements included that are of particular importance to them. With political acceptability being a moving target in any negotiation process and ultimately the result of compromise brokering, it is hard to measure this criterion. Any actual 2015 Agreement will, in the end, need to be politically acceptable to all Parties, since this is the prerequisite for its adoption by the COP. Systemic coherence, in turn, concerns the coordination between different institutional arrangements. It is thus rather a criterion that would apply to the overall landscape of regimes devoted to climate cooperation, but not to one individual regime. We thus do not consider political acceptability or systemic coherence as practicable criteria for the 2015 Agreement.

Both **environmental effectiveness** and **level of ambition** are criteria mentioned by (almost) all Parties. Environmental effectiveness is the overarching criterion, or even the objective, of the 2015 Agreement, which has been embraced by all Parties. Many Parties propose specific benchmarks in the form of a temperature goal to measure the environmental effectiveness. The vast majority of Parties also recognise that increased ambition is an essential criterion to achieve environmental effectiveness. Ambition is thus one element of environmental effectiveness and could be considered a sub-criterion. Given the high frequency of references to these criteria, they should both be reflected in the design of the 2015 Agreement.

Participation is mentioned frequently as one of the criteria for the 2015 Agreement and the big majority of Parties seem to understand participation as 'active participation', i.e. committing to action under the 2015 Agreement. It might thus be useful to be more explicit in the terminology, to distinguish 'active participation' from mere 'formal participation' (i.e. being a Party to an agreement).

Cost-effectiveness as a criterion for the 2015 Agreement is mentioned mainly among developed countries (and AILAC). While few elaborate how cost-effectiveness could be guaranteed, it still seems to be a criterion that should be considered in the design of the 2015 Agreement given the frequency of it being referred to.

Regarding **institutional capacity or complexity**, many Parties mention the need for appropriate institutions but are not very specific on their views. The reasons for this may be that the substantive characteristics of the 2015 Agreement have not been decided upon yet. This would make it difficult to elaborate which institutional settings would be appropriate. However, institutional capacity and complexity still seems to be a criterion policy makers should pay attention to when evaluating a design proposal for the 2015 Agreement. To capture both dimensions, reference should be made to 'institutional feasibility'.

Compliance is frequently mentioned by Parties but there are very diverging views as to whether this should be promoted through transparency provisions (for mitigation and/or support) only or through a dedicated compliance mechanism (with facilitative and/or enforcement means). To capture these diverging understandings it could be useful to split 'compliance' into two sub-criteria, 'stringency of MRV system' and 'stringency of compliance check and enforcement'.

The frequency of references to either 'compliance mechanisms' or 'MRV' in Parties' submissions is summarised in Table 13.

Table 13 Parties' submissions with reference to compliance mechanisms and/or MRV

	AGN	AILAC	AOSIS	CHINA	EIG	EU	LDCs	LMDC	UG	USA
Compliance mechanisms	x	x				x	x			
MRV	x	x		x	x	x	x	x	x	x

All Parties embrace **equity, CBDR/RC and fairness** as important criteria the 2015 Agreement should fulfil, and that differentiation is an essential aspect of operationalising this criterion. However, are highly diverging as to the lines for differentiation. For making the criterion more manageable, it might be advisable splitting it into different aspects of equity: differentiation by responsibility; differentiation by capacity and needs; and whether or not the terms of differentiation should reflect evolving responsibilities. There might be other dimensions to equity, such as support to those particularly vulnerable to climate change, but only AOSIS mentions this in the direct connection to equity.

The frequency of references to these different equity aspects in Parties' submissions is summarised in Table 14.

Table 14 Different approaches to the differentiation of responsibilities under the equity concept

	AGN	AILAC	AOSIS	CHINA	EIG	EU	LDCs	LMDC	UG	USA
Differentiation reflects historical	x	x	x	x		x	x	x	x	

responsibility											
Differentiation reflects national circumstances	x	x				x	x			x	x
Differentiation reflects evolving responsibility					x	x				x	

5.3 Summary of support for other criteria

Apart from the above-mentioned criteria, we have identified a list of additional criteria that found frequent mentioning in the submissions we analysed. The extent to which these were referenced by Parties is summarised in the Table 15.

Table 15 Additional criteria identified in the Submissions

	AGN	AILAC	AOSIS	CHINA	EIG	EU	LDCs	LMDC	UG	USA	Overall support
Assisting the vulnerable		x	x		x	x	x	x	x	x	High
Durability						x	x		x	x	Medium
Flexibility	x	x			x	x	x		x	x	Medium

Particularly high support was observed for '**assisting the vulnerable**'. Almost all Parties mention that the 2015 Agreement should ensure that special attention is given to the needs of particularly vulnerable countries or people when it comes to adapting to the impacts of climate change. Especially given the increased relevance of adaptation in the negotiations, this additional dimension seems to be a useful criterion for the 2015 Agreement. This social aspect could be a means of broadening the scope of understanding and capturing the equity dimension of an agreement.

There are also many Parties that highlight the need for **flexibility** in the 2015 Agreement. While the term is sometimes used as a synonym for differentiation of types of commitments, there is another flexibility dimension that Parties often stress: the 2015 Agreement should be capable of evolving over time and reflecting changing circumstances. Specific proposals are already being made concerning review mechanisms that could contribute to the evolution of the system. Often, this flexibility is also regarded as a means to enhance the **durability** of the 2015 Agreement. Both criteria are of high practical relevance and aim to make the 2015 Agreement workable over an extended period of time without giving up flexibility needs. Thus these criteria should be considered when negotiating the 2015 Agreement.

6 Criteria for the 2015 Agreement

Based on the above analysis, we propose the following criteria matrix that could be of practical relevance to Parties in negotiating the 2015 Agreement. These criteria are (1) reflected in the submissions of a wide range of Parties, a possible indicator for a high level of political support, and (2) are specific enough to be workable in practice.

6.1 Preliminary remarks

The analysis has demonstrated the fact that several criteria are interconnected: Some criteria might be mutually exclusive to a certain extent or involve trade-offs. For example, it would not be possible that both differentiation according to historical responsibility and differentiation according to evolving responsibility have a high score. However, both types of responsibility could be reflected to a certain extent in a design proposal. In that case, both criteria would receive low to medium scores.

Other criteria might be mutually enforcing. For example, a high level of active participation might – in the view of some countries – contribute to a more equitable approach. Where an approach is perceived to be equitable, more countries might be willing to actively participate. To give some more examples: compliance/MRV provisions influence the level of ambition Parties are willing to take; the ambition level also impacts whether the 2015 Agreement is considered fair (towards the vulnerable and towards future generations); the institutional capacity of an agreement impacts compliance and hence also environmental effectiveness. This implies a functional chain among criteria but not necessarily a hierarchy.

Figure 1 shows possible interactions of criteria.

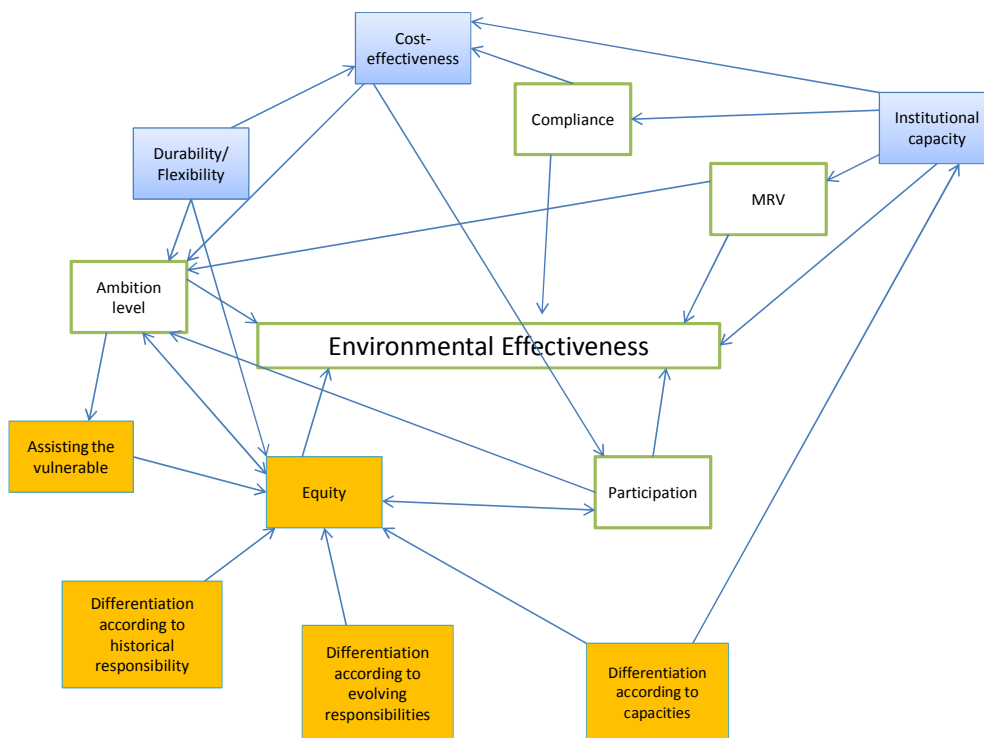


Figure 1: Interactions of criteria

Some criteria identified in literature are umbrella concepts rather than individual criteria. As such, they are not practically usable and entail too many diverging understandings. We have thus split them into their individual elements to offer more specific criteria. Nonetheless, to facilitate their understanding, we have grouped them under their respective umbrella concepts, e.g. environmental effectiveness or equity. One needs to bear in mind, however, that the sub-criteria under one umbrella term can also be in conflict with each other.

The criteria matrix aims to facilitate the understanding and evaluation of design proposals for the 2015 Agreement. For a specific proposal, different criteria might score high or low. The performance level describes the degree to which a proposal reflects or fulfils a criterion. It is important to note that the performance level of a criterion for a specific design proposal is not based on a value judgement. If the score of a criterion is high this does not imply that the design proposal is 'better' than any other proposal. Such a judgement depends on the set of values that the respective policy maker applies to the criteria matrix. For example, a certain country might prefer to reach an Agreement in which only few countries actively participate. A lower value for this criterion might thus be better from that country's perspective. The criteria matrix offers policy makers a raster to identify the parameters of a design proposal for the 2015 Agreement according to the preferences.

6.2 Criteria matrix

6.2.1 Criteria relating to environmental effectiveness

Environmental effectiveness describes the degree to which the 2015 Agreement meets its set objective, namely preventing dangerous anthropogenic interference with the climate system. It is the principal justification for the negotiations of the 2015 Agreement. There is a set of criteria that influence the overall environmental effectiveness of the regime. These include the level of ambition, the level of active participation, the stringency of the MRV system and the stringency of compliance check and enforcement.

Level of ambition

The level of ambition can be defined as the stringency of the sum of mitigation targets with respect to the ultimate objective of the UNFCCC to prevent dangerous anthropogenic interference with the climate system. In other words, how much emission reductions can be expected from the commitments of Parties.

The level of ambition could range from a very low level of mitigation targets to a very high level of mitigation targets.

Level of active participation

The level of active participation describes the number of Parties that commit to mitigate GHG emissions, in form of policies or targets. Commitments could result in absolute emission reductions compared to a base year, following the approach of the Kyoto Protocol. But also other mitigation commitments, e.g. sectoral targets, carbon intensity targets, renewable energy policies, could be an indicator that a Party is actively participating in the regime. Active participation needs to be contrasted to the mere formal participation which *per se* does not give rise to any substantive mitigation obligations. Hence, merely ratifying the 2015 Agreement but not committing to reduce or limit GHG emissions, does not suffice to qualify as 'active' participation.

The level of active participation could range from a very limited number of Parties to active participation by all Parties.

Stringency of the MRV system

This criterion defines the degree to which the regime ensures the provision of accurate and complete information on mitigation efforts undertaken by Parties. Reviewing the individual and collective performance of Parties provides information for assessing the progress with respect to the overall objective of the 2015 Agreement and to for enhancing mutual confidence among Parties that individual commitments are being fulfilled. Accurate and complete information is a prerequisite for checking compliance. The criterion is thus closely linked to the next criterion which addresses the assessment compliance more specifically.

The stringency of the MRV system could range from no international rules on MRV, to a strict, binding system which includes not only provisions on monitoring and reporting of emissions, but also on the review of these reports ('verification').

Stringency of compliance check and enforcement

Based on the information provided by an MRV system, the new regime might contain non-compliance procedures which identify Parties' compliance and respond to cases of non-compliance with support or sanctions. This criterion defines the degree to which the regime checks, incentivises compliance and addresses cases of non-compliance.

Options range from no compliance system to a strict compliance system that is not only facilitative but also able to enforce compliance, i.e. apply sanctions.

6.2.2 Criteria relating to Equity and Fairness

Equity and fairness are concepts often invoked by Parties as key principles to consider for the 2015 Agreement. However, they do not stand the test of being practicable criteria since the understanding of what they mean varies considerably among Parties. This is especially striking when it comes to differentiation, which for many Parties is a key feature of an equitable approach. There is a set of very different indicators that are proposed by Parties as a basis for determining differentiation. For the purpose of the criteria matrix established here, we thus split 'equity and fairness' into the different elements that could possibly contribute to an equitable approach. These elements, or criteria, are differentiation according to historical responsibility, differentiation according to evolving responsibility, differentiation according to capacities and needs, and assisting the vulnerable.

Differentiation according to historical responsibility

This criterion describes the degree to which the distribution of costs and benefits of mitigation and adaptation across countries takes into account historical responsibility for GHG emissions. Differentiation of mitigation commitments, i.e. different countries assume different commitments, is most commonly invoked. The commitments could, for instance, vary in types or ambition levels. But differentiation could also relate to different reporting and verification provisions, compliance provisions, or provisions on the provision of climate finance, for different countries.

One approach to determine which country is to assume which obligations under the 2015 Agreement is to use historical responsibility as an indicator. Historical responsibility is understood here as a country's past contribution to accumulated GHG in the atmosphere. There are many different ways for measuring historical responsibility. For example, it could be determined on the basis of a country's share in global emissions, or on a per capita basis. There are also different ideas as to how far back the responsibility should be tracked, e.g. starting from 1850 or starting from 1990. However, this criterion does not prejudge how the historical responsibility would be determined but rather to what extent it is taken into account.

The value of the criterion could range from low (i.e. no consideration of historical responsibility) to high (i.e. all obligations for Parties are based on historical responsibility).

Differentiation according to evolving responsibility

This criterion equally concerns the differentiation across Parties but is based on a different concept. It describes the degree to which the distribution of costs and benefits of mitigation and adaptation

across countries takes into account the evolving responsibility for GHG emissions. Evolving responsibility is understood here as country's current and future contribution to accumulated GHG in the atmosphere. Just like for historical responsibility, there are different approaches to measuring the contribution, e.g. according to the share of global emissions or on an emissions per capita basis.

The value of the criterion could range from low (i.e. no consideration of evolving responsibility) to high (i.e. all obligations for Parties are based on evolving responsibility).

Differentiation according to capacities and needs

A third differentiation criterion that possibly impacts equity is the degree to which the distribution of costs and benefits of mitigation and adaptation takes into account the economic capacities, mitigation potentials, and adaptation needs of countries.

The criterion recognises the fact that global circumstances vary considerably and affect Parties' climate resilience.

Whether or not a regime differentiates according to capacities and needs has an impact on how well Parties will be able to implement commitments, i.e. compliance.

Differentiation can range from low recognition of differing capacities and needs to high recognition of capacities and needs.

Assisting the vulnerable

Another equity-related criterion is the degree to which the regime supports those that are particularly vulnerable to the adverse effects of climate change in adapting. There is increasing indication from science that climate change is already irreversible and that even with ambitious mitigation action that could hold temperature increase below 2°C above pre-industrial levels, impacts of climate change will pose high risks to human and natural systems. The higher the magnitude of temperature increase, the higher is the likelihood of severe and irreversible impacts. There is thus a link between this criterion and the level of ambition when determining what would consider an equitable approach.

The risks associated with climate impacts can be partly reduced by reducing vulnerability and by adaptation, but poverty and limited financial and human resources, among others, hamper the possibilities of many countries. Even when overcoming these constraints, there is limits to adaptation and a residual risks remains.

Whether the 2015 Agreement will be perceived as equitable might thus also depend on the extent to which it takes account of and offers assistance to those particularly vulnerable to the impacts of climate change. This could potentially be in the form of support for reducing vulnerability and for adaptation, through finance, technological assistance of capacity building. But this criterion might also include the handling of those impacts that occur despite mitigation and adaptation, often framed as 'loss and damage'.

6.2.3 Other criteria

There are further relevant criteria in addition to those criteria covered by the umbrella concepts environmental effectiveness and equity/fairness. All have demonstrated a high level of political support and are workable in practice.

Institutional feasibility

Institutional feasibility describes the degree to which institutions are capable of effectively implementing the provisions of the regime. The institutional feasibility mainly depends on how complex the regime is, and on how far institutions are prepared to exercise the resulting tasks.

Hence, a regime that is relatively easy to administer in combination with adequately equipped institutions would score high for this criterion. In contrast, a very complex regime that requires a high level of administration, paired with weak institutions, would score low.

This criterion is particularly difficult to measure, especially before implementation of the 2015 Agreement starts. For example, the complexity of tasks may only become apparent once institutions have started their work.

Institutional feasibility might have a significant impact on the system's ability to implement compliance and MRV provisions, and thus on the overall environmental effectiveness of the 2015 Agreement.

Durability

Durability describes the degree to which the regime is politically stable so as to provide a reliable and predictable framework for several years. To stand the test of time, the regime needs to ensure that it does not necessitate frequent revisions or lengthy re-negotiations while still ensuring it effectively contributes to its objectives. Hence, an agreement that only lingers on on paper but is essentially void, would not be considered durable.

The durability of the agreement could range from low (e.g. expiration of the agreement or commitments after few years) to high (e.g. agreement ensures ambitious climate action for several decades).

Flexibility

Flexibility describes the degree to which regime is able to respond to evolving scientific information and socio-economic circumstances. One option to induce flexibility into an agreement is to establish short commitment periods and a process for determining subsequent commitments. Also, flexibility can be provided if Parties are allowed to adjust their commitments during commitment periods. While it may, arguably, contribute to a certain degree of uncertainty, it could have a positive impact on a regime's overall durability. However, a high degree of flexibility could also be detrimental to the durability and effectiveness of the agreement, especially if Parties were allowed to reduce the stringency of their commitments.

The flexibility of an agreement could range from low (i.e. no revision or adjustment of commitments) to high (frequent revision of commitments).

Cost-effectiveness

Cost-effectiveness describes the degree to which the regime is able to prevent dangerous anthropogenic interference with the climate system at lower costs than other approaches

It covers both adaptation and mitigation, although for the purpose of this chapter, mitigation is more relevant due to the fact that it does not matter for mitigation targets where and how these targets are pursued and achieved while adaptation needs, in contrast, are context specific. Whether or not an adaptation measure is cost effective depends to a great extent on the specific case and setting.

6.2.4 Summary

The criteria matrix laid out in Table 16 presents the provided definitions of criteria under the respective umbrella concepts. When assessing a design proposal for the 2015 Agreement, the performance level for each individual criterion can be scored.

Table 16 Criteria matrix and criteria definitions

Criteria	Definition	Performance level		
Environmental effectiveness				
Level of ambition	Stringency of the sum of mitigation targets with respect to the ultimate objective of the UNFCCC to prevent dangerous anthropogenic interference with the climate system	Low	Medium	High
Level of active participation	Number of Parties that commit to mitigate GHG emissions	Low	Medium	High
Stringency of MRV system	Degree to which the regime ensures the provision of accurate and complete information on efforts undertaken by Parties	Low	Medium	High
Stringency of compliance check and enforcement	Degree to which the regime checks, incentivises compliance and addresses cases of non-compliance	Low	Medium	High
Equity/Fairness				
Differentiation according to historical responsibility	Degree to which the distribution of costs and benefits of mitigation and adaptation across countries takes into account historical responsibility for GHG emissions	Low	Medium	High
Differentiation according to	Degree to which the distribution	Low	Medium	High

evolving responsibility	of costs and benefits of mitigation and adaptation across countries takes into account the evolving responsibility for GHG emissions			
Differentiation according to capacities and needs	Degree to which the distribution of costs and benefits of mitigation and adaptation takes into account the economic capacities, mitigation potentials, and adaptation needs of countries.	Low	Medium	High
Assisting the vulnerable	Degree to which the regime supports those that are particularly vulnerable to the adverse effects of climate change in adapting	Low	Medium	High
Other criteria				
Institutional feasibility	Degree to which institutions are capable of effectively implementing the provisions of the regime	Low	Medium	High
Durability	Degree to which the regime is politically stable	Low	Medium	High
Flexibility	Degree to which regime allows for the adjustment of and revision of commitments over time to respond to evolving scientific and socio-economic information	Low	Medium	High
Cost-effectiveness	Degree to which the regime is able to prevent dangerous anthropogenic interference with the climate system at lower costs than other approaches	Low	Medium	High

6.3 Example: Application of the criteria matrix to the Kyoto Protocol

To exemplify how the criteria matrix could be used in practice, we apply the matrix to the Kyoto Protocol.

Level of ambition: The Kyoto Protocol scores low given that the average emission reduction level of Parties with a target was only 5% below 1990 levels by 2008-2012, and 18% by 2013-2020 (Article 3.1 Kyoto Protocol). This is very modest given that the IPCC considered that emission reductions of 25-40% by 2020 will be necessary. In addition, emissions for a number of Annex I countries were known to be well below their 2008-12 targets when the Protocol was adopted in 1997.

Level of active participation: The Kyoto Protocol scores low given that only 37 countries out of 192 Parties took on an emission target in the first commitment period, and only 37 did so in the second commitment period. While one can acknowledge that many other countries have undertaken

measures that have a mitigation impact, these were not part of specific commitments under the Protocol.

Stringency of MRV system and stringency of compliance check and enforcement: The Kyoto Protocol scores high on both criteria given that a strict MRV system is in place and it has a compliance mechanism which may avail itself of enforcement measures.

Differentiation according to historical responsibility: the Kyoto Protocol scores medium given that it is mainly those countries that have quantified emission limitation or reduction commitments that also have a high historical responsibility for greenhouse gas emissions. However, the stringency of commitments does not reflect the responsibility of countries, and one of the countries with highest responsibility at the time of negotiations, namely the US, never joined the Kyoto Protocol.

Differentiation according to evolving responsibility: the Kyoto Protocol only requires mitigation action from Parties included in Annex I of the Convention, which contains a fixed list of countries and is not adjusted regularly to reflect evolving responsibilities, The Protocol only took into account the historically specific situation of the Economies in transition, which had experienced significant economic transformation in the ten years prior to 1997. The Kyoto Protocol still scores low on this criterion.

Differentiation according to capacities and needs: The Kyoto Protocol scores medium regarding the differentiation according to capacities and needs. Commitments are expected from Annex I countries, i.e. OECD members (in 1992) and economies in transition, and are differentiated between those sets of countries in principle (and in the setting of their emission targets). However, this group did not necessarily reflect the income levels at that time, but even excluded some of the countries with highest income levels worldwide.

Assisting the vulnerable: There are limited mechanisms in the Kyoto Protocol that pay attention to the situation of those most vulnerable to climate impacts. A specific fund for adaptation was established but does not receive many resources anymore. The Kyoto Protocol thus scores low on this criterion.

Institutional feasibility: The Kyoto Protocol scores medium because the regime is quite complex, especially as regards the system of flexibility mechanisms, which required a cumbersome learning process of the institutions involved in the implementation. However, a considerable degree of institutional learning has taken place over time, additional entities have been created and processes reviewed and adapted in places (e.g.CDM Executive Board).

Durability: The Kyoto Protocol has no long-term target and does not stand the test of time. Thus it scores low in terms of its durability.

Flexibility: Commitments are only established for a certain time period and renewed afterwards. Under the amended Kyoto Protocol, it is also possible to ratchet up commitment during the second commitment period. However, the Kyoto Protocol is caught in the logic of fixed annexes which does not reflect evolving socio-economic circumstances. The Kyoto Protocol thus scores medium for this criterion.

Cost-effectiveness: The Kyoto Protocol contains specific flexibility mechanisms that aim to ensure its cost-effectiveness. However, given that the low rate of active participation reduces possibilities to use lowest cost mitigation options, and given the flaws in the flexibility mechanism, the Kyoto Protocol only scores medium. Table 17 summarises the results of this exercise.

Table 17 Application of the criteria matrix to the Kyoto Protocol

Criteria	Performance level		
Environmental effectiveness			
Level of ambition	Low	Medium	High
Level of active participation	Low	Medium	High
Stringency of MRV system	Low	Medium	High
Stringency of compliance check and enforcement	Low	Medium	High
Equity/Fairness			
Differentiation according to historical responsibility	Low	Medium	High
Differentiation according to evolving responsibility	Low	Medium	High
Differentiation according to capacities and needs	Low	Medium	High
Assisting the vulnerable	Low	Medium	High
Other criteria			
Institutional feasibility	Low	Medium	High
Durability	Low	Medium	High
Flexibility	Low	Medium	High
Cost-effectiveness	Low	Medium	High

The results of any evaluation using these criteria must always be one of discussion of the interaction of the various elements; they do not show one single assessment. A simple reliance on low being a bad and high a good score is also not correct. What the performance against the criteria actually means, lies in the eyes of the beholder and his/her priorities and preferences.

For the Kyoto Protocol, the sub-criteria do not result in a straight-forward assessment for the overarching categories of environmental effectiveness or equity/fairness. On the former, goals and active participation score low overall and thus the strong MRV and compliance systems do not allow a robust assessment of the effectiveness of the Kyoto Protocol overall. Regarding the latter, the performance levels are low to medium. It is also to note that the sub-criteria cannot easily be scored high at the same time, but have the potential to be in conflict with each other. Regarding the other criteria, the Kyoto Protocol shows medium scores in most instances.

7 Conclusion

Criteria are a tool to make the features of policy options explicit. They can help policy makers to identify to what extent a policy proposal reflects their priorities. Especially for the variety of options that are being proposed for the 2015 Agreement, a matrix of criteria can be a useful instrument for evaluation.

The abundant existing literature on criteria for climate policy provides a useful starting point for defining a criteria matrix of practical relevance, but exhibits some important shortcomings. Most importantly, scholars did not sufficiently consider whether and to what extent the criteria proposed were embraced by the relevant decision-makers, i.e. Parties.

An analysis of Parties' submissions to the ADP showed that there was a high degree of convergence for some criteria that were listed in relevant literature, most importantly 'ambition', 'participation', 'compliance' and 'equity or fairness'. In contrast, other criteria, such as 'systemic coherence' did not find mentioning at all in the submissions we analysed. Our analysis further identified criteria that were not reflected in the relevant literature but widely embraced by Parties in their ADP submissions, such as 'assisting the vulnerable', 'durability' or 'flexibility'. Finally, analysing the submissions revealed that some criteria from literature were apparently too vague and broad, subsuming a wide range of interpretations that might better be reflected in distinct criteria. This concerns first and foremost the concept of 'equity or fairness'.

Drawing from these results, we propose a new criteria matrix which incorporates criteria that are widely reflected in Parties' submissions, and precise and specific enough to facilitate the evaluation of design proposals for the 2015 Agreement. The proposed matrix includes criteria relating to environmental effectiveness (level of ambition, level of active participation, stringency of MRV system, stringency of compliance check and enforcement), equity-related criteria (differentiation according to historical responsibility, differentiation according to evolving responsibility, differentiation according to capacities and needs, assisting the vulnerable) and other criteria (institutional feasibility, durability, flexibility, cost-effectiveness).

Applying this matrix to proposed governance frameworks can assist policy makers to compare the features of the proposal to their preferred negotiated outcome, and to identify common ground with other Parties' preferred options. In view of the advancing negotiations under the ADP and the short time frame until the expected adoption of an agreement in Paris in 2015, this matrix appears timely.

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AGN (2014b): Submission by the African Group on Mitigation, 8 June 2014

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Norway (2013): Norway, Views on the work of the ADP, Workstream 1, March 2013

Norway (2014): Norway's Submission to the ADP. Building the 2015 agreement – mitigation and transparency elements, 6 March 2014

USA

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USA (2013a): Submission on the 2015 Agreement, 17 October 2013

USA (2014): U.S. Submission on Elements of the 2015 Agreement, 12 February 2014

Appendix

Source	Selected Criteria	Comments
Mehling (2011)	<ul style="list-style-type: none"> Level of Ambition Compliance facilitation and control Institutional capacity Participation and inclusiveness Systemic coherence Political and economic feasibility 	The author analyses criteria used in literature and subsequently develops a set of own criteria
Klingensfeld (2010)	<ul style="list-style-type: none"> Environmental effectiveness Cost-effectiveness and investment implications Equity Institutional complexity and transaction costs Enforcement of compliance Political acceptability 	The report compares classification systems for climate policy, proposes evaluation metrics for climate policy and subsequently evaluates global frameworks on the basis of the criteria
IPCC (2007)	<ul style="list-style-type: none"> Environmental effectiveness Cost-effectiveness Meets distributional considerations Institutional feasibility 	The report refers to "four principal criteria for evaluating environmental policy instruments" that "are reported in the literature".
Barrett et al. (2010)	<ul style="list-style-type: none"> High level of global participation High levels of participant compliance Substantial reductions in global emissions 	Article focuses on the effectiveness of a climate change agreement.
United States Government Accountability Office (2008)	<ul style="list-style-type: none"> Cost-effectiveness Political feasibility Flexibility to allow decision makers to adapt the actions/policies based on new information Economic efficiency Environmental effectiveness Predictability/regulatory certainty information Positive effect on international negotiations or actions by other countries Effect on technology development or deployment Transparency Administrative ease/simplicity Implementation costs associated with the action or policy Risk and uncertainty associated with thresholds or abrupt changes Minimize rent seeking Independence from political influence Minimize emissions leakage Distribution of benefits and costs across income groups in the U.S. Distribution of benefits and costs across countries Distribution of benefits and costs across U.S. economic sectors Distribution of benefits and costs across generations Distribution of benefits and costs across income groups in 	The criteria were first established by experts – most of them economists – and subsequently rated.

	<p>different countries Distribution of benefits and costs across income groups in different generations</p>	
Guglyuvatyy (2010)	<p>Environmental effectiveness Cost-effectiveness Correct price signal Competitiveness issues Administrative costs Compliance costs Predictability/regulatory certainty Effect on technology development Minimise rent-seeking International harmonisation Flexibility of the policy Political acceptability Transparency Distribution of benefits and costs across income groups Public acceptability Distribution of benefits and costs across generations</p>	<p>The author analyses criteria used in literature and subsequently develops a set of own criteria for the purpose of determining which of the two instruments – emission trading or carbon tax – would be more suitable to reduce GHG emissions specifically in Australia.</p>
Hovi et al. (2013)	<p>Simply to require that the negotiators reach an agreement Include commitments for emissions reductions or limitations by at least some member countries Agreement's design must make ratification politically feasible in all major countries Agreement must be effective</p>	<p>The criteria are specifically defined as “success criteria”.</p>
Howarth (2000)	<p>Cost-benefit analysis Classical utilitarianism Precautionary principle</p>	<p>The author focuses on what he calls “normative criteria”.</p>
Konidari (2007)	<p>Environmental performance Direct contribution to reduction of GHG emissions Indirect environmental effects Political acceptability Cost-effectiveness Dynamic cost efficiency Competitiveness Equity Flexibility Stringency for non-compliance and non-participation Feasibility of implementation (or enforcement) Implementation network capacity Administrative feasibility Financial feasibility</p>	<p>The authors develop a criteria-tree, composed of three criteria and a number of sub-criteria.</p>
Stavins (2008)	<p>Environmental effectiveness Cost-effectiveness Distributional equity</p>	<p>The author highlights three criteria he assumes to stand out as particularly important for the assessment of a <i>domestic</i> climate change</p>

		policy.
Sterk et al. (2013)	Environmental effectiveness Cost-effectiveness Distributional consideration Institutional feasibility	The author uses the IPCC's criteria.
Den Elzen et al. (2003)	<p>Environmental criteria</p> <p>Environmental effectiveness Incentives for developing countries to take action Ability to adjust to more stringent targets Inducing technological change</p> <p>Political criteria</p> <p>Comprehensiveness regarding equity principles Acceptability for major countries Supportive to trust building Room for negotiation</p> <p>Economic criteria</p> <p>Cost-effectiveness Certainty about costs Accounting for different national circumstances Minimizing adverse (economic) effects Avoiding disproportional or abnormal burdens</p> <p>Technical and institutional criteria</p> <p>Compatibility with the Kyoto Protocol and UNFCCC Simplicity of the negotiation process Technical and institutional feasibility of implementation Monitoring and enforcement</p> <p>General policy criteria</p> <p>Regime stability or robustness Internal consistency or compatibility Linkage to national policy concerns</p>	To define evaluation criteria, the authors had a discussion with the national Ministry of the Environment and analysed existing literature.
Bausch et al. (2011)	<p>All major current and future emitters are participants;</p> <p>It has sufficient resources, time and expertise to deal with the complex issues at hand;</p> <p>It is able to ensure transparency, both procedurally, but also with regard to efforts and emissions;</p> <p>It can facilitate agreement on mitigation (including commitments or pledges) and take relevant decisions (such as mechanisms to incentivize compliance);</p> <p>It has a firm political will to act swiftly to achieve the 2 °C goal; and</p> <p>It reflects a common vision on how this should be achieved</p>	The article focuses in particular on criteria that need to be met from a practical point of view to successfully tackle climate change mitigation.
Den Elzen (2002)	<p>Environmental effectiveness</p> <p>Economic efficiency</p> <p>Equity</p> <p>Flexibility</p> <p>Simplicity and operational requirements</p>	The article focuses on the evaluation of post-Kyoto climate regimes.
Aldy et al. (2003)	<p>Environmental outcome</p> <p>Dynamic efficiency</p>	The authors employ six criteria

	<p>Dynamic cost-effectiveness Distributional equity (both cross-sectional and intertemporal) Flexibility in the presence of new information Participation and compliance</p>	<p>to evaluate the Kyoto Protocol and thirteen alternative policy architectures for addressing the threat of global climate change.</p>
<p>Bodansky (2004)</p>	<p>Policy Criteria Environmental Effectiveness Cost-Effectiveness Equity Dynamic Flexibility Complementarity Political Criteria Continuity with the UNFCCC and Kyoto Protocol Economic Predictability Compatibility with Development Goals</p>	<p>The authors explain a rather large number of proposals for international climate efforts beyond 2012 and emphasise criteria one should “bear in mind” when evaluating the proposals.</p>
<p>Bosetti et al. (2008)</p>	<p>Climate effectiveness Economic efficiency Equity and distributional impacts Enforceability and feasibility</p>	<p>The article assesses possible successors/alternatives to the Kyoto Protocol according to the four mentioned criteria.</p>
<p>Keohane et al. (2010)</p>	<p>Coherence Accountability Effectiveness Determinacy Sustainability Epistemic quality</p>	<p>The article aims to identify key design elements of a post-2012 international policy architecture for global climate change.</p>
<p>Moncel et al. (2011)</p>	<p>Adequacy Equity Implementation</p>	<p>The authors provide a survey and analysis of approaches on the basis of the mentioned set of criteria.</p>
<p>Philibert et al. (2001)</p>	<p>Environmental effectiveness Cost-effectiveness Contribution to economic growth and sustainable development Equity</p>	<p>The authors assess five targets (fixed, binding targets; dynamic targets; nonbinding targets; sectoral targets; policies and measures) according to the mentioned criteria.</p>
<p>Höhne et al. (2002)</p>	<p>Environmental criteria Environmental effectiveness Encouragement of early action Political criteria Equity principles: Agreement with fundamental positions of all major constituencies Economic criteria Accounting for structural differences between countries Minimizing adverse economical effects Technical criteria</p>	<p>The article assesses the eight most prominent approaches to commitments with respect to “common assessment criteria” to test their suitability for the international negotiation process.</p>

	<p>Compatibility with the structure of the UNFCCC and the Kyoto Protocol</p> <p>Moderate political and technical requirements of the negotiation process</p>	
Stavins (2004)	<p>Scientifically sound</p> <p>Economically rational</p> <p>Politically pragmatic</p>	<p>The author proposes a "three-part policy architecture" designed "to be scientifically sound, economically rational, and politically pragmatic."</p>
Wicke (2005)	<p>Climate sustainability</p> <p>(a) General incentive to reduce the increase in CO₂ in developing countries</p> <p>(b) Incentive for fast, substantial reductions in industrialized nations</p> <p>(c) Fastest possible involvement of developing countries</p> <p>(d) Financing emission reductions in developing countries</p> <p>(e) Favoring "early actions" world-wide</p> <p>(f) Avoidance of emissions shifting (leakage) effects</p> <p>(g) Permanent interest in climate-friendly behavior world-wide</p> <p>(h) Quantified climate protection aim of the climate system</p> <p>(i) Avoidance of "hot air" world-wide</p> <p>Economic efficiency</p> <p>(a) Cost-effectiveness: minimizing global costs (b) Flexibility during national implementation (minimizing national costs) and financial assistance for developing countries</p> <p>(c) Considering structural differences in climate-related requirements</p> <p>(d) Positive economic (growth) impetus</p> <p>Technical applicability</p> <p>(a) Ability to fit into the international climate protection system and the negotiation process</p> <p>(b) Easy applicability and control capability in order to ensure practical functioning</p> <p>Political acceptance</p> <p>(a) Fulfillment of the fairness principles</p> <p>(i) Promotion/non-prevention if sustainable development</p> <p>(ii) Stronger burden on industrialized nations bearing main responsibility and capable of bearing more burdens</p> <p>(b) Political acceptability</p> <p>(i) Acceptance by all key players (groups of players)</p> <p>(ii) Acceptance by the largest possible percentage of all contracting states</p>	<p>The author combines previously suggested criteria with additional evaluation criteria and also suggests a weighting approach.</p>