



Mitigation Action Plans & Scenarios

RESEARCH PAPER

## Equitable Access to Sustainable Development

Relevance to negotiations and actions on climate change

Issue 10



Developing  
countries exploring  
pathways to climate  
compatibility

# Equitable Access to Sustainable Development

## Relevance to negotiations and actions on climate change

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# 1. INTRODUCTION

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The effectiveness and stability of any agreement, whether at interpersonal, organisational, state-to-state or multilateral level, largely depends on the perception of its fairness by parties to the agreement. This is particularly the case if such an agreement is a basis for cooperative action – as it is in the implementation of climate actions that require cooperation under the United Nations Framework Convention on Climate Change (UNFCCC). It is for that reason that equity has received a lot of attention in the two decades of negotiations under the UNFCCC, albeit the success has been short of ground-breaking.

The ‘agreed outcome’ pursuant to the Bali Action Plan<sup>i</sup> which guides the implementation of the Convention in the coming eight years merely affirmed that efforts should be undertaken on the basis of equity and common but differentiated responsibilities and respective capabilities. However, it parameterised the consideration to include both mitigation and adaptation means of implementation (technology, finance and capacity building), equitable access to sustainable development, and the rights of Mother Earth. This can be interpreted as progress and maturity in the discussions as the previous equity effort, the MATCH<sup>1</sup> process had a mitigation focus (Honey, *et al.* 2007).<sup>ii</sup>

In the negotiations under the Ad hoc Group on the Durban Platform for Enhanced Action,<sup>iii</sup> the ADP, the relevance of equity was reiterated by many Parties, arguing on the premise that, the work of the ADP is under the Convention hence its principles and provisions apply. This raises a number of challenges for the negotiations on how equity will be reflected in form and substance in the future legal outcome to be concluded in 2015. Furthermore, the reconciliation of different approaches to equity, which range from metric-based quantitative approaches to philosophy-based qualitative approaches, will be central in delivering an effective and stable climate change regime.

This paper reflects on the basis and relevance of equitable access to sustainable development (EASD) in the UNFCCC negotiations and on the various perspectives and approaches to achieve fairness in the implementation of the Convention. It neither attempts to compare nor appraise the various approaches to equity, but rather analyses the key arguments presented by each approach. It concludes by presenting a perspective on an equity reference framework on the basis of which fair efforts can be based in the ADP outcome is explored, and considers how such a framework could form part of the 2015 agreement.

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<sup>1</sup> Adhoc group for the modelling and assessment of contributions to climate change.

## 2. EASD IN NEGOTIATIONS

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The Rio Declaration on Environment and Development was the first international instrument, in Principle 7,<sup>iv</sup> to specifically refer to the principle of common but differentiated responsibilities (CBDR). In the Rio Declaration, the basis for such differentiation is the contribution to environmental degradation and command of resources, technological and financial, towards the pursuit of sustainable development. In the UNFCCC, the first principle premises the achievement of the objective of the Convention on equity as a basis, and further qualifies both the objective and fairness according to CBDR&RC. It can therefore be argued that the CBDR&RC operationalizes the rather abstract principle of equity.

If Principle 7 of the Rio Declaration is considered in its four parts - the objective to “conserve, protect and restore the health and integrity of the Earth's ecosystem”; the responsibility of states based on contributions to the problem to make “different contributions to global environmental degradation”; the responsibility to act taking account of “the pressures their societies place on the global environment and of the technologies and financial resources they command”; with the context of the principle being the pursuit of sustainable development - then some corollaries and further interpretation of such consideration in the UNFCCC can be identified.

The objective of the UNFCCC is expressed in Article 2, calling on Parties to stabilise ‘greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system’, with a time constraint ‘sufficient to allow ecosystems to adapt naturally to climate change’. Such an objective is consistent with the environmental degradation objective of the Rio Declaration, interpreted with a specific focus on climate change. The UNFCCC further highlights the right to sustainable development<sup>v</sup> and the priority of economic, social development and poverty eradication in developing countries.<sup>vi</sup>

The UNFCCC further confers responsibility on the basis of contribution to the problem, the emissions of greenhouse gases over time, hence a common responsibility is captured in Article 4.1 as all Parties contribute to the problem. Climate change can only be addressed by collective action. However, the UNFCCC goes further in considering responsibility in that it notes a historical responsibility dimension in a preambular paragraph, and the Cancun decision further acknowledged that the largest share of historic global emissions of GHG emissions originates from developed countries, which should therefore take a lead in emission reductions because of that historical responsibility.<sup>vii</sup>

The inevitability in emission growth for developing countries in meeting social and development needs is recognised with Articles 3.4, 3.5 and 4.7 of the Convention bringing to effect that

understanding. The command of financial and technological resources by developed countries in the Rio declaration further requires developed countries to support global action towards sustainable development, with the UNFCCC specifically providing for developed countries to make available finance, support for adaptation, and technology transfer (in Articles 4.3, 4.4, 4.5 respectively). This therefore suggests that fairness in the climate change regime can be achieved through operationalization of CBDR&RC, expressed in how the regime progresses towards an agreed objective for reducing greenhouse gas emissions within a given time constraint; such that ecosystems can adapt naturally; that food production is not threatened; and enabling sustainable economic development rather than a restricting it. Effort is based on contribution to the problem, both current and historical; and developed countries are to provide financial and technological support to developing countries.

The concept of equitable access to sustainable development, EASD, emerged in Cancun, reflecting the continuing evolution of equity discussions. Its reflection emerged in the Shared Vision<sup>viii</sup> negotiations in the context of global peaking, effectively premising the agreement on global peaking on available science and EASD. The emergence of the concept was amid arguments that agreement on a peaking year effectively allocates development space and, as such, curtails sustainable development opportunities for developing countries, with no consideration of the concomitant means of implementation.

The Durban outcomes provided for workshops<sup>ix</sup> in 2012 to further interrogate the concept. The emergent approaches and views were captured in the workshop, and this paper largely draws on views expressed there. While the decision to launch the ADP did not explicitly refer to the shared vision as an element of the future legal agreement, it is inconceivable that equity-related issues will not be addressed in the negotiation of the future legal agreement. The work of the ADP and its outcome is under the Convention, there therefore the principles and provisions of the Convention apply, including equity and CBDR&RC.

## 3. EQUITY APPROACHES

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The equity discussion has drawn a diverse and divergent range of views in terms of approach, as well as on how to find expression in the Convention. Approaches range from philosophical to metric-based ones, while application has been limited to elements related to the overall objective and commitments by Parties under the Convention. With the Cancun Conference<sup>x</sup> having introduced the concept of EASD in the context of global peaking, the Durban Conference<sup>xi</sup> provided for the consideration of the concept through the 2012 workshop. While the workshop provided<sup>xii</sup> up-to-date insights into approaches and application of equity, there remains a need for a further engagement on the issue (see section 4.4).

### 3.1 Theoretical basis of approaches

All approaches to apportion responsibility of effort have a philosophical basis, and most hinge on either distributive or corrective justice. According to Lamont et al. (2013)<sup>xiii</sup> distributive justice provides for societal frameworks with a distribution of economic benefits and burdens across members of society in an environment of constant change across and within societies over time. Corrective justice, on the other hand, makes a case for a responsibility to repair as a duty arising from breaching a first order duty of not to injure, with wrongfulness dependent on the wrongdoer being morally to blame (Coleman, et al. 2013).<sup>xiv</sup>

In the climate change context, the historical responsibility argument is largely premised on corrective justice principles, whereas the evolving and dynamic nature of responsibility hinges on distributive justice. Reflecting on distributive justice and climate change, Gosseries (2012)<sup>xv</sup> argues for the appropriateness of distributive over corrective approaches to a global cap in emissions, citing the limitations of corrective approaches on four fronts. Firstly, corrective views are premised on a distributional view, which may not necessarily have been distributed fairly. Secondly, they cannot provide a firmer sense of duty if it depends on the moral strength of a distributive view. Thirdly, cross-generational rectification undermines collective responsibility, even in a responsibility-sensitive distributional view. Lastly, an egalitarian distributive view within a rectificatory regime granted the strong territorial rights might undermine ability to achieve the envisaged objective or cap in emissions.

The argument by Gosseries is, however, limited by a dichotomous perspective of distributive and corrective justice on the concept of fairness. Although the argument recognises the initial distributive basis of any rectificatory approach, it fails to acknowledge the corrective objective of any distributive

approach, primarily because distributive justice allocates benefits and burden in an environment that change over time. As such, fairness cannot be established on the basis of only current conditions but should rather be based on historical considerations, particularly in dealing with climate change objectives where there is a substantial time-lag between cause and effect. The benefits and burdens change over time, hence a historical perspective sufficiently captures the evolution and dynamic nature of fairness.

On the other hand, the argument against cross-generational considerations in both philosophical approaches to actually enhance the sense of common responsibility, does not acknowledge that current benefits or harm accrue to the present generation. As such, distributive considerations going forward are actually a rectification of previous accruals. One of the key dimensions in the Rio principle of CBDR is “contribution to environmental degradation” or emissions in the UNFCCC context, which can only be logically assessed from the past. It can be argued that the distributive premise of historical responsibility is fair if the associated state of the climate prior to industrialisation<sup>2</sup> is assumed as a basis.

The common basis of the two approaches is that of egalitarianism, with a strong interdependency, as distributive fairness cannot be seen outside a rectificatory context. That rectificatory context can only be analysed in the context of the objectives and guiding principles of the UNFCCC. Objectives include an emission reduction perspective within a set time frame, a response to unavoidable impacts of climate change in pursuit of sustainable development, recognising that the responsibility to acts varies from Party to Party based on their responsibility for the problem, ability to respond and sustainable development needs.

### 3.2 Expressed approaches

The more distributional non-metric approaches range<sup>3</sup> from the understanding of equity as being non-formulaic, but rather based on national circumstances and what individual Parties consider to be fair, as represented by A in Figure 1. This notion has been strongly advocated by Singapore on the basis of the country’s limited mitigation potential and, as such, opportunities to act. Closely linked to that spectrum of the argument, several countries, including the United States and Australia, also make a case for national circumstances, although they further argue for the evolving capabilities of developing countries, reflected as B in Figure 1. These latter countries do not support the binary

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<sup>2</sup> Article 2 of the UNFCCC specifically focuses on anthropogenic interference with the climate system; as a result a distributive unfairness prior to industrialisation cannot form part of the analysis of fairness.

<sup>3</sup> The continuum does not suggest that approaches are mutual exclusive, but rather reflects the fundamentals of the argument.



differentiation of Annex I and non-Annex I countries, a component which is, however, explained on economic metrics.

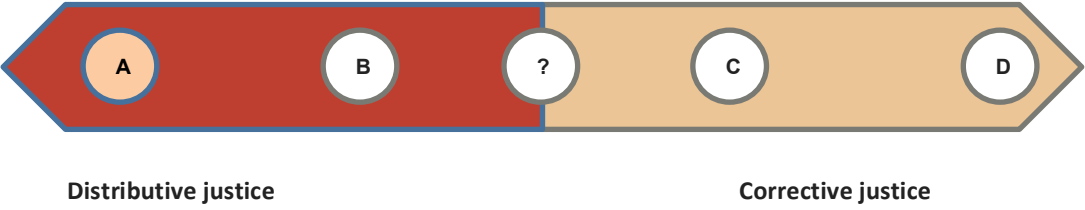


Figure 1 A continuum of relative positioning of approached to equity

The corrective justice metric-based approaches express a strong egalitarian bias, with Bolivia preferring a rights and obligations framework, which is more philosophical in nature, and hence shown as D, with some expression of carbon space as a consideration<sup>xvi</sup>. On the other hand, Switzerland espoused metric-related principles of “polluter pays” and ability to pay as central to equity, with Brazil making a case for historical responsibility as it is quantifiable and reflects capability and development; represented as C in Figure 1. Metric-based approaches have received significant attention in the Convention, with the Greenhouse Development Rights (GDR) framework of per capita convergence of historical emissions and GDP influencing a number of subsequent approaches.

An element of CBDR&RC that has not found expression in a number of approaches is how the concept of sustainable development is built into equity metrics. Several metrics including GDR provide for the historical and capability components of responsibility, but fail to address the “needs” dimension of the equation. The concept of over-occupation of the carbon space, and the balance of climate response with sustainable development was mentioned by China in the EASD workshop, but with no express articulation of how to balance the quantitative aspect of “space” with sustainable development.

Metric-based approaches that have made an attempt of explicitly reflect sustainable development include that of Winkler et al,<sup>xvii</sup> through incorporating non-economic dimensions of the Human Development Index, as well as the Oxford Capability Index<sup>xviii</sup> which corrects economic capability with a Poverty Index. Researchers from the Chinese Academy of Social Sciences have quantified the emissions needed for human development in detail (Pan, 2002).<sup>xix</sup> The balance of development and climate action can be summarised in this passage:

*It seems that developing countries are being pushed to a very difficult position of having to choose between letting their people die either from the adverse impacts of climate change due to inaction or from inappropriate policy decisions that would direct their resources to*



*mitigation rather than socio-economic development. These should not be the choices that developing countries are made to face. Their choices should instead be on choosing between the various policy decisions and international cooperation arrangements that would best help developing countries accelerate their sustainable development process and lift the lives of their people despite the adverse effects of climate change.<sup>xx</sup>*

The expressed approaches reflected above address the components of responsibility and capability, but fall short of a specific focus on fairness achieved in respect of achieving the objective of the Convention. The concept of fairness has been understood by some, including AOSIS and Africa, as the ability to “keep the world” safe, requiring both mitigation and adaptation. This argument suggests that even if fairness can be achieved across efforts by Parties, a regime cannot be fair if it does not achieve a robust temperature outcome that stabilises GHG concentrations and prevents dangerous climate change. This is a strong case against a national circumstances approach, as metric-based approaches can be premised on a temperature objective against which efforts of Parties can be assessed.

Distributive non-metric or corrective metric-based approaches exhibit pros and cons, where distributive non-metric-based approaches are not necessarily responsive to other fairness imperatives such as achieving the temperature goal. However they provide for an important element of international law, which is sovereignty of nations. The corrective metric-based approaches are challenged by choice of metrics and the underlying assumptions in describing the fair distributional state. Despite limitations, these approaches provide an evolving consideration of what is fair on the basis of objective criteria.

### **3.3 Application**

The divergent interpretations of what is fair lend themselves to various understandings of how to express fairness in implementing the Convention. It can, however, be argued that the application of the various approaches should at least address the GHG concentration and adaptation objectives, and the underlying commitments by Parties to deliver such objectives, which include finance and technology. Such commitment to action should be common for all Parties, with developed countries leading, premised on agreed measures and processes for fairness.

The UNFCCC negotiations have progressed in the reflection of the objectives for the Convention as 1/CP.16 acknowledged the scientifically required reduction of GHG emissions so as to constrain an

increase in global average temperature to below 2°C, with a view of reviewing that temperature target to 1.5°C. This, in turn, has been translated to pursuit of a global goal for emission reductions by 2050 as well as the associated peaking of emissions, which was not resolved in the Bali Action Plan<sup>xxi</sup> negotiations, with equitable access to sustainable development raised in the context of achieving the peaking objective. The climate change regime has accepted scientific attribution of the relationship between GHG concentrations and temperature, the caveat being the associated uncertainties.

The temperature-adaptation science of attribution has, however, not attained the necessary political convergence, even though there is a scientific logic behind attributing climate change impacts to temperature. For a given impact, the adaptation responses are still in many cases to be defined, and cost estimates have wide ranges. A probabilistic risk approach at different temperature scenarios for receiving domains, such as health, agriculture, water and disasters can be drawn from climate models to discriminate between natural and anthropogenic magnitudes of impact. Such risk probabilities can, therefore, be expressed over time to 2050, with the focus being the  $\Delta$  of different emission and temperature scenarios. Further scientific work is required to express the probabilistic risk, which can be a proxy for a global for adaptation. Such a proxy would quantify an important element of the ultimate objective of the Convention, and lay the basis for a discussion on fairness that includes both mitigation objectives impact on the adaptation needs.

The BASIC experts' report, however,<sup>xxii</sup> made a case for linking mitigation and adaptation in the equity-based reference framework, arguing that inability to meet a temperature goal due to an emissions and finance gap has a multiplier effect on costs of adaptation. They further identified infrastructure development as an integral part of adaptation. Developing infrastructure will use up some remaining carbon space, so that there is an integral linkage of adaptation and mitigation in dealing with questions of equity.

The application of equity should further find expression in the means of implementation and recognise the responsibility of all countries to act in line with their capabilities, as well as in the specific provisions for developed countries to support developing country action as provided for in Article 4.3. The provision refers to the "agreed" full incremental costs for climate change action by developing countries, which includes mitigation, adaptation, as well as transfer and access to environmentally sound technologies. In a context of an agreed temperature goal and the concomitant mitigation and adaptation goals, finance and technological needs can be derived from an understanding of the required mitigation effort, the corresponding adaptation needs and the associated costs of both.

With these elements, on the basis of which climate action can be defined, the equity challenge becomes: what is a fair effort and responsibility of various Parties in achieving the “interpreted” overall objectives of the Convention? How does one differentiate the responsibilities on the basis of contribution to the problem as well as the capability to respond to challenges emanating from the problem, in reflecting fair actions and commitments by various Parties?

### 3.4 Integration of approached and applications

The common egalitarian basis of distributive and corrective justice provides a sound starting point, recognising the interdependence of the two approaches rather than a dichotomous relationship. A corrective approach establishes a fair initial distribution, which in the case of climate change can be taken to be the situation prior to the industrial revolution. Furthermore, corrective metric-based approaches provide an objective basis for assessing fair efforts. However, non-metric-based approaches address questions of sovereignty, hence what is domestically deemed fair. Understanding that a philosophical discretionary perspective is not sufficient, but necessary as part of the equation, the question is at which stage to apply discretion - *ex ante* metric-based assessment or *ex post*.

The understanding of what constitutes fair efforts has to be applied to the objectives and commitments under the Convention. The required effort by all has to be clearly expressed, beginning with an understanding of what temperature increases are ‘acceptable’, followed by a computation of the implications for mitigation, adaptation and means of implementation. The established fair efforts therefore provide a reference framework against which declared efforts/ commitment can be assessed. The question becomes how to differentiate between developed and developing countries, given the nature of mitigation, adaptation, finance and technology obligations in line with Convention principles, as well as the process for capturing the dynamic nature of responsibility expressed in the reference framework. These are questions that need to be answered in the ADP negotiations in pursuit of fairness.

## 4. EQUITY REFERENCE FRAMEWORK

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The paper makes a case for an Equity Reference Framework (ERF) that seeks to cover a complex number of expressed considerations in the conceptual and operational approaches to equity. The Convention provides a structure for an approach to the objective, as well as commitments, but does not provide more than principles on how to achieve the objective. The concept of an ERF seeks to balance and address some of the chasms and contradictions between various approaches and application that have been proposed.

### 4.1 Approach to equity reference framework

The underlying philosophy for an ERF is the universal application of egalitarian principle to guide a distributive view that seeks to address historical, current, and potential inequities in respect of contribution to emissions, and as such is corrective in character, and distributive in approach. In respect of the metric/non-metric chasm, a stepwise consideration is proposed, where there is an *ex ante* assessment of fair effort in a non-binding framework, with binding commitments proposed by parties and therefore catering to national circumstances.

However, the process of inscribing such commitments includes a Party-driven process to assess the adequacy of proposed commitments against the computed fair efforts, and as such drive ambition whilst reconciling a top-down and bottom-up approach. An important characteristic of the output of the ERF is that it reflects a relative fair effort by a Party, without prescribing only a level of emission reduction, but expecting a total contribution that includes means of implementation, thereby providing flexibility in terms of the mix of commitments a Party can use to achieve its responsibility at any given temperature goal.

### 4.2 Process of application

The application of various metrics should seek to address inputs from models that express historical responsibility, current capabilities and future sustainable development needs, through an envelope of results from different approaches. In the choosing of ‘members of an envelope of approaches’, care should however be taken in achieving balance of metrics reflecting the historic, current and future dimensions. Secondly, it is plausible that a number of metrics will converge around relative efforts as there is a strong correlation between energy and emissions - energy and economic capability - economic capability and development needs. It can, however, be postulated that

development needs and emission correlation will become weaker over time as low-carbon technologies take root, even though the costs to development may be increasing.

Simultaneously, the analysis of adaptation and mitigation needs associated with a predefined temperature goal require analysis, where the corresponding emission reductions are computed and costed on the basis of a global marginal abatement cost curve (MACC) which integrates technological options and costs. Similarly adaptation needs associated with a temperature objective computed on the basis of a changing risk profile pathway to 2050, and 2100 is necessary. This can be achieved through quantification of climate change impacts through the discrimination of anthropogenic forcing from natural changes, and a computation of adaptation risk and cost curves (ARCC) based on adaptation actions and technologies for the pathway to 2050 (See Section 3.3). The sum of the two considerations therefore interprets the globally required action in response to the objective of the Convention in the form of an index.

The globally required action therefore provides an index or indices against which the fair efforts can be assessed, noting that, such efforts could be mitigation, adaptation, provision of finance and technology. This provides flexibility as to how Parties can reflect their contribution to the global effort, be it through realised mitigation, adaptation through domestic investments, or the provision of finance and technology in support of the international efforts. This, however, requires minimum thresholds for all types of commitments be they mitigation, adaptation, finance or technology, so as to balance domestic and international action, as well as a balance between mitigation and adaptation. The key aspect is not to have a prescriptive formula that only addresses expected mitigation by Parties, but to rather recognise action towards adaptation, as well as the responsibility of developed countries to support action in developing countries.

### **4.3 Structure**

The ERF is premised on maintaining the Convention structure of Annexes, as such an architectural and operational reflection of the principle of CBDR&RC where the commitments are differentiated according to type of commitment, compliance provisions and legal bindingness. The developed country commitments are reflected as a carbon budget for economy-wide emission reductions, finance and costed technology contribution to adaptation, as well as finance and technology support for mitigation, whereas developing countries deviate from BAU with a recognition of domestic investment in adaptation and mitigation investments.

This requires contribution by a new working group of the IPCC whose focus would be on developing methodologies and generating an “envelope” of relative responsibilities, as well as an envelope of

adaptation costs and needs based on various attribution methodologies. These outputs should be submitted to the Review Mechanism starting in 2013-2015 under the auspices of the permanent Subsidiary Bodies on Scientific and Technology Advice, and Implementation (SBSTA and SBI). The SB processes should assess the adequacy of declared commitments in relation to the global goal.

### 4.4 Integration in the negotiation of the ADP

The concept of an ERF can be integrated to the ADP negotiations under Workstream I in terms of paragraph 29 (a) and (c)<sup>xxiii</sup> in respect of “application of the principles of the Convention” and “the scope, structure and design of the 2015 agreement” submissions in 2013.

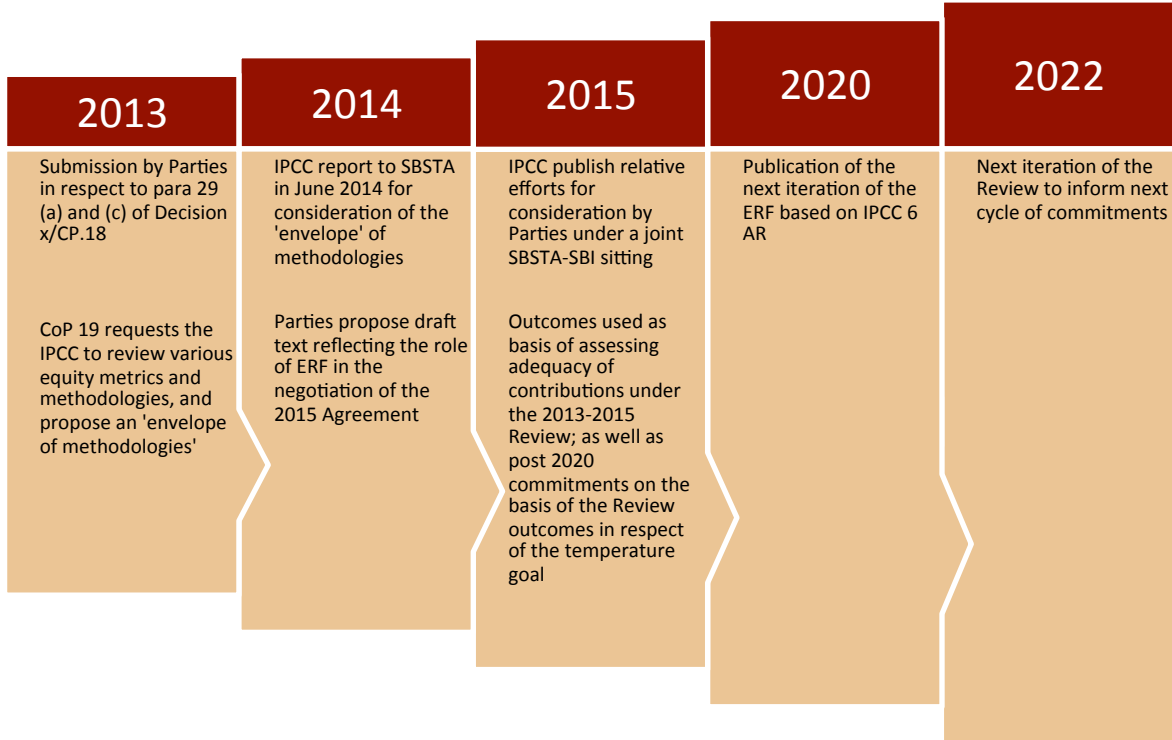


Figure 2 Timeline in the implementation of an ERF

As such the CoP as part of its CoP 19 decisions could request the IPCC to review methodologies for reflecting fair effort on the basis of 2°C and 1.5°C mitigation and adaptation scenarios and report to SBSTA in June 2014. The COP would request the SBSTA to draft decisions at its 39<sup>th</sup> session, including recommended methodologies for an ERF and consideration of an ERF as part of elements of the negotiation text as envisaged in paragraph 9 of Decision x/CP.18 on Advancing the Durban Platform. The final text would be adopted by the COP, at its 20<sup>th</sup> or 21<sup>st</sup> session.

In 2015 the IPCC can therefore develop and publish the relative fair efforts for consideration by Parties, with a view of assessing the adequacy of declared contributions for pre-2020 actions under

the Review, as well as post-2020 commitments presented as part of the ADP. In subsequent Reviews (the next scheduled for 2022) the outcomes of paragraph 79 (a)<sup>xxiv</sup> on the adequacy of the long-term global goal becomes the departure point for the ERF process, whilst “appropriate action”<sup>xxv</sup> by the Convention in terms of paragraph 79 (b) on adequacy of implementing the Convention becomes the assessment of proposed commitments by Parties with a view to enhancing the ambition of inscribed commitments. It would therefore be essential that an ERF is published two years prior to any Review, capturing the dynamic nature of historical responsibility, current capability, and development needs.



## 5. CONCLUSION

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The UNFCCC in its principles provide an adequate basis upon which fairness can be established, with a historical responsibility, capability and sustainable development central to equity considerations. With equity being, in terms of the ultimate objective of the Convention, a temperature goal, a time frame, mitigation and adaptation, means of implementation should find expression in operationalizing equity.

Responsibility is a central consideration in how global efforts against climate change are undertaken, with a combination of philosophical approaches and application of equity being critical elements. As such there is a case for having a reference framework against which fair efforts can be assessed whilst providing flexibility for countries to factor in their national circumstances in how they take on their responsibility.

A non-binding ERF that combines metric and non-metric based approaches provides an opportunity for facilitating ambition in the commitments by parties. Whilst preserving differentiation, the framework provides a platform for assessing adequacy of actions by all Parties as part of the agreed Review Mechanism. Time and space as part of the ADP negotiations is available for integrating such an approach in an attempt to operationalize equity.

## 6. LIST OF ENDNOTES

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<sup>i</sup> Decision x/CP.18

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<sup>iii</sup> Decision 1/CP.17

<sup>iv</sup> <http://www.un.org/cyberschoolbus/peace/earthsummit.htm>

<sup>v</sup> Article 3.4 of the UNFCCC

<sup>vi</sup> Article 4.7 of the UNFCCC

<sup>vii</sup> Preambular paragraph to nationally appropriate mitigation commitments or actions by developed country parties, Decision 1/CP.16

<sup>viii</sup> Decision 1/CP.16

<sup>ix</sup> Decision 2/CP.17

<sup>x</sup> 1/CP.16

<sup>xi</sup> 2/CP.17

<sup>xii</sup> FCCC/AWGLCA/2012/INF.3/Rev.1

<sup>xiii</sup> Lamont, Julian and Favor, Christi, "Distributive Justice", The Stanford Encyclopedia of Philosophy (Spring 2013 Edition), Edward N. Zalta (ed.) forthcoming URL = <<http://plato.stanford.edu/archives/spr2013/entries/justice-distributive/>>.

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<sup>xv</sup> Gosseries, A. 2012. Climate change and distributive justice. Equity workshop, Belgium/Sweden, Nov. 6, 2012, Brussels. <http://www.uclouvain.be/307994.html>

<sup>xvi</sup> [http://unfccc.int/files/kyoto\\_protocol/application/pdf/bolivia141209.pdf](http://unfccc.int/files/kyoto_protocol/application/pdf/bolivia141209.pdf)

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<sup>xviii</sup> Muller, B ., Mahadeva, L. 2012. The Oxford Framework: Operationalising the UNFCCC Principle of Respective Capabilities

<sup>xix</sup> Pan, J. 2002. Understanding human development potentials and demands for greenhouse gas emissions: with empirical analysis using time series and cross-sectional data. Beijing, Chinese Academy of Social Sciences

<sup>xx</sup> Vicente Yu, 2011. Personal communication

<sup>xxi</sup> Decision 1/CP.13

<sup>xxii</sup> BASIC experts, 2011. Equitable Access to Sustainable Development: Contribution to the body of scientific knowledge. BASIC expert group: Beijing, Brasilia, Cape Town and Mumbai

<sup>xxiii</sup> FCCC/ADP/2012/3

<sup>xxiv</sup> Agreed outcome Decision x/CP.18

<sup>xxv</sup> as envisaged in paragraph 139(c) of Decision 1/CP.16