Withdrawal of the United States from the Paris Agreement: Time for a Level Playing Field & A Fair Framework?

Part 3. A Problem-Solving Pathway for Procedural Fairness

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In announcing the United States withdrawal from the Paris Agreement in June 2017, ***President Donald Trump referred to a future goal***: For America to remain the world's leader on environmental issues. But, the goal was subject to two conditions:

> "*A* ***framework that was fair*** *and where the burdens and* ***responsibilities were equally shared*** *among the many nations all around the world".*

If this goal could be achieved, would this be sufficient for the United States to return as a Party to the Paris Agreement and climate change negotiations?

This article outlines a pathway that address these two conditions as they relate to ***Nationally Determined Contributions*** ("NDCs"), under the Paris Agreement that came into force in November 2016: *Whether obligations imposed under Paris were fair for all countries that had ratified it? And, can a level playing field for NDC emission reduction targets be achieved?*

The pathway proposed is based on ***sustainable development, equity*** and the principle of ***common but differentiated responsibilities.*** They arise as legal obligations imposed following ratification of the Paris Agreement.

These obligations are interdependent
and mutually supporting.
They are the cornerstones for
managing the risk of global warming and its impacts
under a level playing field.
The "elephant-in -the-room"
is the extent that NDCs resonate with the Paris obligations?

The Paris Agreement Temperature Goals & Global Temperature Rise

To significantly reduce the risks and impacts of climate change, the Paris Agreement's temperature goals are to hold the increase in global temperature rise to well below 2°C above pre-industrial levels; and to pursue efforts to limit the increase to 1.5°C.

A research study posted by ***NASA*** on 18 January 2017 titled, "*NASA, NOAA Data Show 2016 Warmest Year on Record Globally*", reported that the planet's ***average surface temperature has increased by about 1.1°C from the late 19th century to 2016***. That most of the warming has occurred in the past 35 years; with 16 of the 17 warmest years on record occurring since 2001.

Identifying the key drivers for future climate, beyond the Paris Agreement, become an essential complement to the NASA study.

The ***IPCC Fifth Assessment Report*** identified cumulative post-2015 CO_2 emissions as largely determining global mean surface warming by the late 21st century and beyond.

The Kyoto Protocol and Binding Emission Reduction Targets

Global emission reduction targets were first set as binding commitments under the ***Kyoto Protocol*** - but they only applied to some Parties**.**

Kyoto recognized that developed countries were principally responsible for the then current high levels of GHG emissions in the atmosphere because of more than 150 years of industrial activity. In its application of the CBDR principle, Kyoto placed a heavier burden on developed countries[1].

There were two emission reduction commitment periods under Kyoto.

During the *1st Kyoto Commitment Period (2008-2012),* 37 industrialized countries and the European Community had legally binding commitments to reduce GHG emissions to an average of 5% against 1990 levels.

During the *2nd Kyoto Commitment Period (2013-2020),* the Parties were committed to reduce GHG emissions by at least 18% below 1990 levels. But, the composition of Parties for the *1st and 2nd Commitment Periods* differed.

The *2nd Commitment Period* bridged the gap between the end of the 1st Kyoto period and entry into force of the Paris Agreement (4 November 2016).

The effectiveness of the binding emission reduction targets set by each of these industrialised countries, for both Kyoto Commitment Periods, need to be evaluated over an agreed baseline period.

Effectiveness would be derived as a percentage: The actual contribution to global temperature rise of each Party to the average surface temperature increase over the baseline period.

This is also a pre-condition for achieving a level playing field.

Information Conflicts & The Paris Agreement Temperature Goals

Any problem-solving pathway to achieve the Paris Agreement's temperature goals - under a ***level playing field*** *and a* ***framework that is fair*** *- must manage and resolve the following* ***information conflicts****:*

- *The scope of equity and its applications under the Paris Agreement;*
- *Effectiveness of, and equality in, each country's NDCs emission reduction targets to meet the Paris Agreement's temperature goals;*
- *Interpretation and integration of the Paris Agreement's Article 2.2 obligations for "Equity" and the "CBDR Principle";*
- *Effectiveness of the* ***UN's 2030 Agenda's*** *"Sustainable Development Goal 13 & its Targets for Climate Action" to guide decision-making?*

Equity & Its Applications Under the Paris Agreement

Implementation of Article 2, Paris Agreement is required *"to reflect equity"* and to strengthen global response "*in the context of sustainable development*".

At the core of the concern over inequality between countries, when setting NDC emission reduction targets, is the meaning of *"equity*" – a term not defined in the Climate Change Treaties**.**

But, the ***plain*** *and* ***legal*** *meanings of* ***'equity'***

are similar:

"*fairness*", "*justice*".

This meaning should be applied to address the concern, raised by the United States, over inequality and shared responsibility.

Given the wider meaning of equity *["fairness", "justice"],* consideration of the concept of ***climate justice*** under the Paris Agreement is justified.

The rationale for justification is that the ***Preamble of the Paris Agreement*** '*notes the importance for some of the concept of "**climate justice**", when taking action to address climate change*'.

The concept of climate justice has its origins in the 1990s, when the United States' EPA introduced its policy for ***environmental justice***. ***Equity*** is a cornerstone of the **"*fair treatment*"** element of environmental justice.

Applying ***equity/fair treatment*** to achieve *climate justice* under the Paris Agreement should mean that no country that has ratified the Agreement should bear a disproportionate share of the negative environmental consequences – *ecological*, *economic, social, cultural* - resulting from actions and measures taken to manage the risk of global temperature rise and its impacts.

The ***advantages*** of adopting this interpretation for *equity and climate justice* - based on '*fair treatment' and 'environmental justice'* – is that climate justice adds a significant dimension to the ***central aim of the Paris Agreement***.

In particular, *"to bring all nations into a common cause to undertake ambitious efforts to combat climate change".*

Effectiveness, Equality & the Paris Agreement's Temperature Goals

Concern over inequality and competitive advantage
between countries,
when setting NDC emission reduction targets,
contributed to the United States
withdrawing from the Paris Agreement.
And, in turn, to call for the need for a "fair framework".

One source of concern is the ***effectiveness*** of ***NDCs*** to achieve the temperature goals under the Paris Agreement.

It is not in dispute that ***evaluating all NDCs collectively*** – irrespective whether reliance is placed on *"percentage reductions in CO_2 emissions*', *"tonnes*

of CO_2 emissions", carbon budgets...- are invaluable for any analysis of the ***overall effectiveness*** of the Paris Agreement to meet its temperature goals.

The limitation of the collective approach to evaluate all NDCs
is that it does not consider
whether the emission reduction target in the NDC
for each country is equitable:
Paris Article 2.2 will not be complied with
if implementing the NDC
does not reflect equity.

The foundation for resolving ***concerns over effectiveness, equity and NDCs*** requires an estimate of a country's contribution to historic global temperature rise over a defined "baseline" period e.g. *the late 19th Century – 2016 ("The NASA Study")*. The "baseline" period serves as a reference point.

The following **Case Study** illustrates how this problem-solving approach would resonate with assessing individual NDCs, in terms of equity.

Kyoto Protocol Case Study: Effectiveness & Equity

Climate scientist, Professor Roger Jones, from Australia's Victoria University, calculated that if the rest of the world took no action and Australia reduced emissions through to 2020 – and then did nothing else – Australia's 5% emission reduction target under Kyoto would, at best, cut global temperature rise by 0.0038^{0}C by 2100.

The *Canadian research study* of Matthews et al., (2014) estimated Australia's contribution to global temperature rise over the baseline period of 1800 to 2005 was 0.006^{0}C. That is, Australia's emission reduction target under Kyoto, at best, would result in only a 63% reduction of its historic contribution to global temperature rise from 1800-2005.

- ***Clearly, Australia's 5% emission reduction target would not be considered effective; and***
- ***Whether the 63% reduction in Australia's historic contribution to global temperature rise over the baseline period was equitable ("fair") could only be assessed by a relative comparison of the percentage reduction achieved by other countries over the same baseline period?***

The methodology of the *Canadian research study of Matthews et al. (2014)* provides a modelling framework for estimating the *individual contribution of each country to historic global temperature rise*[2].

Their study estimated global temperature rise arising from CO_2 emissions from fossil fuel use and land-use change – as well as non-GHG emissions – over the baseline period, 1800 – 2005.

The top 20 ranked countries that contributed to historic global warming accounted for about 82% of the global temperature rise from 1800 – 2005.

Temperature Goals of the Paris Agreement & A Level Playing Field
The Role of Equity & CBDR

Article 2.2 requires the implementation of the Paris Agreement "*to reflect* ***equity*** **["fairness"]** *and the principle of* ***common but different responsibilities*** *and respective capabilities, in the light of different national circumstances".*

The application of these two obligations under the Paris Agreement has become problematic: How the ***responsibility*** for action for climate change, a problem created by developed countries, is to be ***equitably shared***, between all countries?

This problem has polarised opinion causing ***information conflicts*** over ***fairness and inequality***; as well as calls for the need for a ***level playing field.***

These information conflicts will persist if the meaning applied to the Article 2.2 obligations are open to different interpretations.

It is important to recognize that the application of Article 2.2 will be problematic if decision-making fails to give effect to the ***linkage between equity and CBDR****; and, instead, applies* ***CBDR and equity as alternatives.***

The reason for this is that under Paris Article 2.2, '***equity***' and '***CBDR***' are joined by the ***coordinating conjunction "and"– which adds equity to CBDR***.

The principle of CBDR
has been described as "one of the
most contentious aspects of the regime
since its inception".
Information conflicts over inequality and competitive advantage
have arisen as a consequence.

But, a ***far greater omission*** has been the **failure to consider equity and CBDR, together,** under Paris Article 2.2, as cornerstones for achieving a ***level playing field.***

The challenge for problem-solving - to link equity and CBDR under the Paris Agreement - is not only to lead to an outcome for a global environment where all countries enjoy the same degree of environmental protection.

It should also provide a procedurally fair framework for decision-making - one that facilitates outcomes that do not result in competitive advantages for any Party.

In the light of more recent relevant and reliable climate science, there is a case to justify some re-assessment when considering "*differentiated responsibilities*" and its linkage to *equity*, under the Paris Agreement: -

- There have been significant changes in the historical growth in global CO_2 emissions, over time, as is evident from the following summary by the ***World Resources Institute*** ("*The History of CO_2 Emissions*", 2014): -
  1850-1960*: Industrialized countries dominated emissions.*
  1960-2011: *New top emitters emerged while the United States kept its place as the top CO_2 emitter until 2005. Asian countries also started to emerge* [led by China, then India and Japan].
  1990s-2011: *The rise of Asia.*
  2007: *Developing nations surpass industrialized countries' emissions.*
- Obligations under the Paris Agreement commit all countries to prepare, communicate and review emission reduction targets in their NDCs***: Non-binding targets, set by themselves, that represent their best efforts they intend to take.*** All countries must now undertake measures for managing the risks and impacts of global temperature rise.

- *Most of the global warming has occurred in the past 35 years, with **16 of the 17 warmest years on record** having occurred since 2001;*
- ***Cumulative post-2015 CO_2 emissions** will largely determine global mean surface warming by the late 21st century and beyond;*
- *The 10 largest producers of **energy-related CO_2 emissions in 2016**[3] were both "developed" and "developing" countries. They contributed 67.6% of global energy-related CO_2 emissions. China was the largest emitter of CO_2 in 2016 (around 28% of global CO_2 emissions); and*
- *From the time of the UNFCCC there has been no agreed meaning or listing for **"developed" and "developing"** countries. This creates uncertainty for defining countries who should take the lead for undertaking economy-wide emission reduction targets under Paris Agreement obligations?*

A problem-based pathway for a *level playing field* under a *framework that is fair* is outlined. It is based on the *linkage between equity and CBDR*.

The framework has two dimensions in time to address global temperature rise arising from cumulative CO_2 emissions from "*Fossil fuel use*" and "*Land use, land use change and forestry*" ('***LULUCF***'): *Historical Responsibility* and *Current/Future Responsibility*. Only Historical Responsibility is discussed in this article - notwithstanding both dimensions in time share common elements.

Historical Responsibility

Achieving a level playing field for *Historical Responsibility for cumulative CO_2 emissions* requires the effectiveness and equality of efforts to reduce global temperature rise to be evaluated: -

(i) The global temperature rise arising from CO_2 emissions from fossil fuel use and LULUCF must be estimated for a defined baseline period. The question for COP is who should undertake such a study[4]?

The baseline period must be reached by *consensus agreement* by Parties that have ratified the Paris Agreement. It could commence from pre-industrial or the late 19th century *(when **systematic observations of the weather** were being made in almost all inhabited areas of the world*) and to end in 2016 *(when the Paris Agreement entered into force)*.

(ii) Each country's efforts to reduce CO_2 emissions over the baseline period would be evaluated, individually, to determine the extent it offsets their actual contribution to historic global temperature rise[5].

A relative comparison of the percentage reduction in global temperature rise achieved by each country, over the same baseline period, enables conclusions to be made whether each individual contribution was *equitable ("fairness")*.

(iii) The assessment of Historic Responsibility for CO_2 emissions would include the emission reductions in both the *1st and 2nd Kyoto Commitment Periods* – as well as NDCs beyond Paris. These contributions will reflect different Climate Treaty Obligations over time.

Industrialized countries that had binding CO_2 emissions commitments imposed on them under Kyoto would have their contributions, commencing in 2008, evaluated together with their NDC emission reduction targets beyond Paris.

All other countries would only have their commitments in their NDC emission targets beyond Paris evaluated.

(iv) The timeline for complying with the baseline period temperature goal should be determined by COP.

(v) A level playing field would be created where the outcome achieved by all Parties was effective through *sharing responsibility, equitably*. That is, global temperature rise over the baseline period had been offset by implementing shared contributions that reflected equity.

The ***advantages*** of this problem-based pathway for environmental decision-making for achieving the temperature goals of the Paris Agreement, are:

- ☑ CBDR responsibility is shared by "developed" and "developing" countries – but only to the extent to *offset each country's actual contribution to historic global temperature rise* over the baseline period*;*
- ☑ The pathway enables a relative comparison of the percentage reduction in global temperature achieved by all countries, through their individual commitments made over the same baseline period, to be evaluated.
- ☑ The pathway ensures *clarity and transparency* in terms of compliance with the Paris Article 2.2 obligation, "*implementation to reflect equity*".

- ☑ *Shared responsibility* complies with Paris Article 2.2 by giving effect to the linkage between equity and CBDR.
- ☑ Achieving a level playing field for the baseline period would result, at the very least, offsetting 1°C of the average surface temperature increase.
- ☑ Countries that should take the lead to undertake economy-wide absolute emission reduction targets would be based, objectively, on their rankings for contributing to global temperature rise.

The Paris Agreement & the UN's 2030 Agenda: *Sustainable Development Goal 13 for Climate Action*

Article 2.1 of the Paris Agreement aims to strengthen the global response to the threat of climate change, in the context of "***sustainable development*** *and efforts to eradicate poverty*".

Transitioning to a low carbon economy under Paris – especially where coal-generated power remains a part of the global energy mix – and ultimately to a decarbonisation of the global economy - are classic sustainable development problems to resolve.

One issue that led to the ***United States*** withdrawing from the Paris Agreement was that "[The deal was] *less about the climate and more about other countries gaining an advantage over the United States... The Paris Agreement, as it stands, would make it "very hard" for the US "to compete with the rest of the world "... leaving it would save 2.7 million jobs, primarily in manufacturing*.

This statement resonates with the following ***guiding principles for sustainable development*** as it raises *economic* (*GDP*), *social* (*employment*) as well as *environmental* (*Paris temperature goals*) considerations:

- ☑ *"Decision-making processes should effectively integrate both long and short-term* ***economic, environmental, social, cultural and equity considerations****"*.
- ☑ *"The need to develop a* ***strong, growing and diversified economy*** *which can enhance the capacity for* ***environmental protection****"; and*
- ☑ *"The need to* ***maintain and enhance international competitiveness*** *in an* ***environmentally sound*** *manner"*.

But, what must not be overlooked is the role of ***equity*** as a key consideration for achieving ***sustainable development*** for climate change.

Equity ensures a sustainable solution
is not a solution weighted
in favour of only one consideration e.g. economics?
Equity requires the multiple and competing considerations for
sustainable development, ecological, economic, social and cultural,
to be counter-balanced fairly,
to secure as much available value as possible for all Parties.

The aim of the UN Framework - "*Transforming our World*: *2030 Agenda for Sustainable Development*" **-** adopted in September 2015, is to wipe out poverty, fight inequality and to tackle climate change over the next 15 years.

One of its 17 interrelated, *Sustainable Development Goals* ["SDGs"] is ***SDG 13, "Climate Action":*** Achieving this Goal will be guided by its five ***Targets***.

The log-in-the-road, at present, is the information conflict over the methodology for objectively evaluating *SDG 13 of the UN 2030 Agenda*.

Whether ***SDG 13 and its Targets*** will effectively guide ***decision-making processes on sustainable development*** within the scientific evidentiary boundaries set by the Targets appears problematic at this stage.

This problem arises because the SDG 13 framework under the *UN 2030 Agenda* is quite different from the accepted environmental and planning methodology for multi-objective decision-making, when the environment is in issue.

TAGS: Paris Agreement; carbon dioxide; LULUCF; equity; fairness; climate justice; CBDR; shared responsibility; sustainable development; guiding principles; UN 2030 Agenda; SDG 13 Climate Action; sustainable development targets

End Notes

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[1] **The Kyoto Protocol introduced a divide between 'developed' and 'developing' countries by placing legally binding emissions commitments on "Annex I" Parties ['developed countries'] to the UNFCCC and essentially excluding all other Parties from any new commitments.**

[2] **Contribution to global temperature change for the top 20 ranked countries from fossil fuel and land-use CO_2 emissions & non-GHG emissions, 1800-2005: *Matthews et al., 2014*: -**
***1. USA* 0.151^{0}C; 2. *PR China* 0.063^{0}C; 3. *Russian Federation* 0.059^{0}C; 4. *Brazil* 0.049^{0}C;**
5. *India* 0.047^{0}C; 6. *Germany* 0.033^{0}C; 7. *UK* 0.032^{0}C 8. *France* 0.016^{0}C;
9. *Indonesia* 0.015^{0}C; 10. *Canada* 0.013^{0}C; 11. *Japan* 0.013^{0}C; 12. *Mexico* 0.010^{0}C;
13. *Thailand* 0.009^{0}C; 14. *Columbia* 0.009^{0}C 15. *Argentina* 0.009^{0}C; 16. *Poland* 0.007^{0}C;
17. *Nigeria* 0.007^{0}C; 18. *Venezuela* 0.007^{0}C; 19. *Australia* 0.006^{0}C; 20. *Netherlands* 0.006^{0}C.

[3] **For 2016, the top 10 countries, based on their *global contributions of CO_2 emissions*, were:**
1. *PR China* (28.2%); 2. *USA* (16%); 3. *India* (6.2%); 4. *Russia* (4.5%); 5. *Japan* (3.7%);
6. *Germany* (2.2%); 7. *Korea* (1.7%); 8. *Iran* (1.7%); 9. *Canada* (1.7%);
10. *Saudi Arabia* (1.5%).

[4] **At the international level, the *IPCC Task Force on National Greenhouse Gas Inventories* is responsible for assessing and developing inventory methods and practices which are scientifically sound and relevant to all countries. It would be the appropriate body to undertake this study based on all relevant and reliable climate science.**

In this case, it should commence with a review of the methodology that is to be adopted: To ensure that it has widespread acceptance within the scientific community by being consistent with the standards and criteria of science.

[5] **Kyoto commitments and NDCs would also be evaluated *collectively* to determine their overall effectiveness for achieving the Paris temperature goals.**