1. INTRODUCTION

Parties to the United Nations Framework Convention on Climate Change (UNFCCC) have recognized the need for global average temperature not to rise above 2°C compared with pre-industrial temperatures. In an effort to limit warming to this level, Parties to the Convention have adopted commitments and are now negotiating a new international agreement, to be adopted by 2015, for the post-2020 period. In November 2013, Parties will meet in Warsaw, Poland to continue negotiations on the 2015 agreement.

A central component of the new agreement will be national mitigation commitments undertaken by Parties after 2020, and a number of views have been submitted to the UNFCCC on this topic. While views are diverse, several have converged around the idea that mitigation commitments should be nationally determined, rather than negotiated, in order to encourage participation by all Parties and lead to greater overall reductions in greenhouse gas (GHG) emissions.

At the Warsaw negotiations, Parties will discuss the process for submitting, as well as the form of, mitigation commitments. This paper aims to inform these discussions by: (1) outlining and describing the "menu" of national mitigation commitment types that Parties could undertake; and (2) assessing each commitment type based on how it drives measurable emissions reductions. Measurable emissions reductions are emissions reductions that can be measured,
reported, and verified (MRV) in a transparent, consistent, comparable, complete, and accurate manner. The objective of this paper is to help inform Parties of the advantages and disadvantages of different commitment types from the perspective of measurement, reporting, and verification (MRV) of emissions and emissions reductions in order to facilitate the design of commitments that achieve measurable emissions reductions.

1.1 Importance of MRV

MRV is critical at various points of the commitment design and implementation process:

- **Before implementation:** MRV facilitates an understanding of the future emissions reductions and target year emissions levels associated with achieving the commitment. This process of ex-ante clarification builds trust among Parties and enables them to understand whether their collective action is consistent with what scientists suggest is necessary to avoid the worst impacts of climate change.

- **During implementation:** MRV facilitates the tracking of progress—nationally and globally—and builds confidence and accountability that commitments are actually being implemented.

- **After implementation:** MRV facilitates a robust assessment of whether national commitments were achieved.

To determine national mitigation commitments, Parties will likely consider a range of factors beyond MRV, such as political feasibility, cost, mitigation potential, and trends in emissions drivers. However, the ease with which emissions and emissions reductions associated with mitigation commitments can be measured, reported, and verified is critical for enhancing transparency, accountability, comparability, domestic GHG management, and accurate tracking of global emissions reductions under the new agreement.

- **Transparency** can lower the risk of inaccurate assessment of emissions reductions, facilitate understanding, and build trust. Inaccurate assessment of Parties’ commitments could lead to GHG reduction outcomes that are understated or exaggerated. Also, transparency enables Parties and other stakeholders to understand emissions levels and emissions reductions associated with one another’s commitments, which can build trust.

- **Accountability** enables relevant stakeholders to hold Parties responsible for implementing and achieving their mitigation commitments. Parties may agree to high-level political commitments to reduce emissions, but without implementation, such commitments may not be achieved. Reliable MRV-related data are needed to assess Parties’ progress toward their commitments and track implementation.

- **Comparability** is important for ensuring that estimates of GHG emissions and removals are calculated using methods and practices that are sufficiently similar across Parties and time periods. Comparability allows for the meaningful comparison of one Party’s emissions reductions estimates and mitigation commitment with those of other Parties. Comparability also builds trust among Parties by allowing them to understand how the design and magnitude of emissions reductions associated with their commitment compares to those of other Parties. Such an understanding can foster a sense of fairness. Most importantly, comparability can lead to increased emissions reductions, as Parties gain confidence that their peers are acting, ideally providing enough confidence to catalyze a race to the top.

- **Domestic GHG management** practices are enhanced by reliable and accurate emissions data. Without such information, it is difficult for national policymakers to understand where emissions reductions are occurring and where additional mitigation potential might lie. In addition, without accurate data, it is difficult to know which policies are achieving reductions and which are underperforming.

- **Global emissions reductions need to be assessed and tracked** to understand future emissions levels and determine whether they are in line with emissions pathways consistent with limiting warming to 2°C. Without robust MRV, sufficient and accurate emissions information will be unavailable to undertake this fundamental analysis.

Thus, measurable emissions reductions are essential for achieving the overall goal of the Convention. However, because of a variety of GHG accounting characteristics, some commitment types better facilitate measurable reductions than others. A discussion of how each type of commitment facilitates measurability is presented below.
1.2 Structure of the Paper

After discussing the limitations of our analysis, we define each of the four types of national commitments: economy-wide goals, sectoral goals, policies, and projects. We further disaggregate economy-wide and sectoral goals into four goal types: base year, baseline scenario, intensity, and fixed level. We also discuss three timeframes of commitments depending on whether they aim to reduce emissions (1) at a single point in time (as in the 2020 commitments commonly put forward under the Copenhagen Accord), (2) over a period of several years (as in the commitment periods under the Kyoto Protocol), or (3) by allowing absolute emissions to increase until a certain year after which they would decline, which we refer to as a “peak-and-decline pathway.” We then assess the measurability—in terms of advantages and disadvantages—of each commitment type and timeframe. The paper ends with recommendations to Parties on the types of national mitigation commitments that can drive measurable emissions reductions, which should be considered for adoption under the new international agreement for the post-2020 period.

1.3 Limitations

A key limitation of this paper is that we focus on commitment type but cannot focus on overall ambition, or the magnitude of emissions reductions (determined by the level of emissions reductions in high-emitting sectors, among other features), without more knowledge of Parties’ post-2020 offers. We also do not comment on the question of differentiation, or which countries should take on which types of commitments.

Additionally, although this paper does discuss some aspects of GHG emissions accounting, we do not offer a comprehensive discussion of what GHG emissions accounting rules for the post-2020 period could or should look like. For example, we leave aside discussions on the use of transferable emissions units (carbon credits and tradable allowances) or treatment of the land-use sector. However, measurability will depend, in part, on such rules. For further information on GHG accounting for mitigation commitments, see WRI’s forthcoming *GHG Protocol Mitigation Goals Accounting and Reporting Standard*. Also see WRI’s forthcoming *GHG Protocol Policy and Action Accounting and Reporting Standard* for standardized guidance on how to assess the emissions impacts of policies and actions.

Lastly, we recognize that the new international agreement will likely contain commitments on a range of non-mitigation issues, such as finance and adaptation; however, discussing these topics is beyond the scope of this paper. Instead, we focus exclusively on national mitigation commitments.

2. OPTIONS

National mitigation commitments can be categorized as economy-wide goals, sectoral goals, policies, or projects. Within these categories, there are further subcategories. For example, there are several types of economy-wide and sectoral goals, including goals framed as a reduction from a base year or baseline scenario and in terms of absolute or relative emissions reductions or increases.

Under the Kyoto Protocol, all Annex I Parties adopted base year goals, with some leading to emissions reductions and others to controlled emissions increases relative to a 1990 base year. Under the Copenhagen Accord, all Annex I Parties brought forward base year goals again, while non-Annex I Parties put forward a diversity of nationally appropriate mitigation actions (NAMAs), including a diversity of economy-wide goals, policies, and projects (see Table 1 on page 4).

It remains to be seen which types of mitigation commitments will be adopted in the post-2020 period, but the same categories of commitments are likely relevant. Below we define each mitigation commitment type and offer an assessment of its measurability.

2.1 Economy-wide and Sectoral Goals

**Economy-wide Goals**

Commitments framed as economy-wide goals are emissions reduction goals applied to a Party’s entire jurisdictional boundary and may include all sectors, ranging from energy to land use.

*Assessment of measurability:* Assessing progress toward economy-wide mitigation goals can largely be done using a Party’s GHG inventory, which Parties develop as part of reporting requirements under the UNFCCC. To be sure, Parties would also have to account and report any transfers (sales and purchases, as well as any banking and borrowing) of emissions units (e.g., credits and allowances) and emissions reductions from the land-use sector, which can make comparability more complex if methods differ. Also, as the subsections below describe in greater detail,
### EXAMPLES OF ECONOMY-WIDE GOALS

<table>
<thead>
<tr>
<th>Country</th>
<th>Goal Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Union</td>
<td>20-30% reduction below 1990 levels by 2020</td>
</tr>
<tr>
<td>Japan</td>
<td>25% reduction below 1990 levels by 2020</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>40% reduction below 1990 levels by 2020</td>
</tr>
<tr>
<td>United States</td>
<td>17% reduction below 2005 levels by 2020</td>
</tr>
</tbody>
</table>

### BASE YEAR GOALS

<table>
<thead>
<tr>
<th>Country</th>
<th>Goal Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Union</td>
<td>20-30% reduction below 1990 levels by 2020</td>
</tr>
<tr>
<td>Japan</td>
<td>25% reduction below 1990 levels by 2020</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>40% reduction below 1990 levels by 2020</td>
</tr>
<tr>
<td>United States</td>
<td>17% reduction below 2005 levels by 2020</td>
</tr>
</tbody>
</table>

### INTENSITY GOALS

<table>
<thead>
<tr>
<th>Country</th>
<th>Goal Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>Reduce intensity 40-45% by 2020 compared with 2005 level</td>
</tr>
<tr>
<td>India</td>
<td>Reduce intensity 20-25% by 2020 compared with 2005 level</td>
</tr>
</tbody>
</table>

### BASELINE SCENARIO GOALS

<table>
<thead>
<tr>
<th>Country</th>
<th>Goal Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>Between 36.1% and 38.9% below projected emissions in 2020</td>
</tr>
<tr>
<td>Chile</td>
<td>20% below business-as-usual emissions by 2020</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>30% below business-as-usual emissions by 2020</td>
</tr>
<tr>
<td>South Africa</td>
<td>34% deviation below business-as-usual emissions by 2020</td>
</tr>
</tbody>
</table>

### FIXED LEVEL GOALS

<table>
<thead>
<tr>
<th>Country</th>
<th>Goal Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhutan</td>
<td>Carbon neutrality by 2020</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>Carbon neutrality by 2021</td>
</tr>
<tr>
<td>Maldives</td>
<td>Carbon neutrality by 2020</td>
</tr>
</tbody>
</table>

### EXAMPLES OF SECTORAL GOALS

While some Parties have stated emissions reductions to be achieved in sectors as a result of sectoral policies and projects or in certain ecosystems (e.g., Brazil’s deforestation goals in the Amazon and Cerrado), there have been no explicit sectoral goals (e.g., in the form of a base year, intensity, baseline scenario, or fixed level goal) under the Copenhagen Accord.
Designing National Commitments to Drive Measurable Emissions Reductions after 2020

comparability could be challenging with some goal types (e.g., intensity and baseline goals). Nevertheless, in general, if common accounting rules are advanced, measurability is maximized with economy-wide goals as opposed to the other commitment types (sectoral goals, policies, and projects).

**Sectoral Goals**

Sectoral goals are emissions reduction goals that apply to one sector and are often put forward as a way to focus mitigation effort and resources on the highest-emitting sector.

Assessment of measurability: In general, sectoral goals lend themselves less to measurability than economy-wide goals because differences in sectoral definitions can pose challenges to comparability. There can also be leakage of emissions to other sectors in the economy within the national boundary. Thus, while measurability of emissions reductions may be straightforward in the covered sector, it can be more difficult to estimate emissions reductions ex-ante beyond the sector and across a Party’s entire jurisdictional boundary.

2.1.1 Types of Economy-wide and Sectoral Goals

Four goal types—base year, intensity, baseline scenario, and fixed level—will likely be considered for the post-2020 period, and apply to both economy-wide and sectoral goals.

**BASE YEAR GOALS**

A base year goal is a commitment to reduce, or control the increase of, emissions by a specified quantity relative to a base year (e.g., 1990 or 2005).

Assessment of measurability: In general, base year goals, like fixed level goals (see below), best facilitate measurability, in terms of both emissions reductions and emissions levels in the target year associated with meeting the goal. This is because no non-GHG data are involved, for which there are varying sources (as in the case of intensity and baseline scenario goals), and because no models have to be used for projections (as in the case of baseline scenario goals). Furthermore, as long as sufficient data exist for calculating base year emissions, it is straightforward to estimate the emissions level associated with the target year.
ex-ante, track progress during the goal period, and evaluate whether the goal has been achieved. Comparability among base year goals is also relatively straightforward because goals can be translated to various base years.

**INTENSITY GOALS**
An intensity goal is a commitment to reduce, or control the increase of, emissions intensity (emissions per unit of output) by a specified quantity relative to a base year. Examples of units of output include gross domestic product (GDP), population, and energy use.

**Assessment of measurability:** Intensity goals are more difficult to measure, report, and verify than base year goals because the unit of output needs to be estimated and measured, which adds another layer of uncertainty. It is especially difficult to accurately estimate the unit of output ex-ante, since it requires projections of how the unit of output will change in the target year. Comparability among Parties with intensity goals could be maximized if the same data sources and methods are used for estimating, measuring, and projecting the unit of output. However, typically domestic data sources and methods are used, which vary and contribute to a lack of comparability among Parties.

**BASELINE SCENARIO GOALS**
A baseline scenario goal is a commitment to reduce, or control the increase of, emissions by a specific quantity relative to an emissions baseline scenario. A baseline scenario is a set of reasonable assumptions and data that best describe future changes in emissions most likely to occur in the absence of activities taken to meet a mitigation goal. These goals are sometimes also referred to as “business-as-usual” goals, especially when they include the GHG effects of existing policies.

Baseline scenarios may be static or dynamic. A static baseline is a fixed reference level developed at the start of the goal period, against which a goal is set and progress is tracked, but which may deviate from a business-as-usual scenario. In contrast, a dynamic baseline scenario is not fixed, but rather updated throughout the goal period to reflect changes in emissions drivers (e.g., GDP or energy prices). Dynamic baseline scenarios are intended to represent a business-as-usual scenario since they can account for observed changes in emissions drivers, as opposed to using only projected values (as is the case with static baseline scenarios).

**Assessment of measurability:** More challenges are associated with measuring emissions levels and emissions reductions associated with baseline scenario goals compared with base year and intensity goals. Whereas intensity goals require assumptions about one variable (i.e., the unit of output) in addition to emissions, baseline scenario goals require projections, based on assumptions, for a range of emissions drivers and depend on modeling techniques, which can range from simple to complex. Therefore, there is considerable divergence in practice regarding the development of baseline scenarios, which presents hurdles to comparability and makes understanding baseline scenarios difficult without significant transparency requirements.

With baseline scenario goals, Parties may also vary with regard to their inclusion of implemented, adopted, and planned policies, as well as the methods for estimating their effects, posing additional challenges to comparability.

Because all baseline scenarios are descriptions of future events, it is unlikely that they will be completely accurate. Baseline scenarios are not predictions of the future but rather estimated emissions pathways given certain assumptions and methodologies. Therefore, the development of baseline scenarios is subject to large uncertainties, especially related to future changes in emissions drivers. Also, if baselines are not fixed ex-ante, the emissions level associated with meeting the goal cannot be calculated at the start of the goal period since it may change as the baseline scenario is updated. From limited experience with baseline goals thus far, it appears that some Parties are indeed planning to update their baseline scenarios over time.

**FIXED LEVEL GOALS**
Fixed level goals are commitments to reduce, or control the increase of, emissions to an absolute emissions level in a target year. For example, a fixed level goal could be to achieve emissions of 200 million metric tons of CO₂ equivalent (Mt CO₂e) by 2020. The most common type of fixed level goal is a carbon neutrality goal, which is designed to reach zero net emissions by a certain date. Fixed level goals are expressed in terms of emissions, and therefore do not include a reference to a base year or baseline scenario.

**Assessment of measurability:** Similar to base year goals, it is relatively straightforward to estimate the emissions level associated with the target year, as it is defined by the goal itself. Also, fixed level goals are much easier to measure, report, and verify than baseline and intensity goals because no non-GHG data are involved nor do
models have to be used for projections. Furthermore, comparability among fixed level goals is also relatively straightforward because goals by different Parties can be translated to reductions from a similar base year and compared.

2.1.2 Timeframes of Economy-wide and Sectoral Goals
In addition to various goal types, there are three choices for goal timeframe: single year, multi-year, and a peak-and-decline pathway.

SINGLE YEAR GOALS
Single year goals aim to reduce emissions by a single target year (see Figure 1). Under the Copenhagen Accord, most Parties’ pledges take the form of single year goals.

Assessment of measurability: While it is possible to understand the emissions level in the target year, track progress toward the goal, and evaluate whether a single year goal was met, it is very difficult to understand the cumulative emissions pathway ex-ante associated with a single year goal. The Intergovernmental Panel on Climate Change’s (IPCC) Fifth Assessment Report (AR5) has recently stated that cumulative carbon dioxide emissions related to human activities need to be limited to 1 trillion metric tons of carbon (1000 PgC) since the beginning of the industrial revolution if we are to have a likely chance of limiting warming to 2°C. Single year goals only limit emissions levels in a single year (e.g., 2030) without committing to limit the overall amount of emissions that build up in the intervening years. Therefore, a significant risk associated with single year goals is that emissions can increase during the goal period and then be reduced only shortly before the target year, which would result in a larger amount of cumulative emissions than if emissions were capped in each intervening year by a multi-year goal (see below). Accordingly, single year goals are less measurable than multi-year goals when it comes to understanding cumulative emissions over a longer time period. There are also challenges with regard to tracking unit transfers with a single year goal, especially if older vintages of units are retired in the target year.

MULTI-YEAR GOALS
Multi-year goals aim to reduce emissions each year over a defined target period (see Figure 2). For example, a single year goal might aim to reduce emissions by 2025, whereas a multi-year goal would aim to reduce emissions in each of the five years from 2021 to 2025. Under the Kyoto Protocol, multi-year targets were embraced for the first and second commitment periods.

Assessment of measurability: Multi-year goals lend themselves to greater measurability than single year goals because they enable an understanding of emissions levels throughout multiple years rather than just the single target year. This information provides more clarity about the emissions pathway and reveals whether cumulative emissions reductions are sufficient to meet temperature targets. It also facilitates comparability because longer emissions pathways can be compared across countries, as opposed to emissions in a single year only, which provides greater assurance of the commitment’s overall level of ambition.
A peak-and-decline pathway specifies a year (or range of years) in which absolute emissions must peak and a year (or range of years) in which they must decline. A peak-and-decline pathway can accommodate emissions trajectories in developing countries, where emissions will likely continue to grow as countries pursue development objectives. For example, South Africa has adopted a peak, plateau, and decline strategy that specifies that the country’s emissions should peak in the period between 2020 and 2025, remain stable for around a decade, and then decline in absolute terms.22 See Figure 3 for a simplified pathway.

It should be noted that major scientific assessments23 state that global emissions need to peak by 2020 for a likely chance of limiting warming to 2°C. By 2030 global emissions must be roughly 35 gigatonnes of CO₂ equivalent (GtCO₂e)—below the level of emissions in 1990—for a likely chance of meeting the 2°C target.24 Peak-and-decline pathways may be able to meet these emissions levels, depending on which Parties’ emissions peak before 2020 and which peak in a later year.

Assessment of measurability: A peak-and-decline pathway provides more information than a single year goal because it incorporates one or more interim targets before the target year, and the cumulative emissions reductions can be better estimated than with a single year goal (assuming a linear extrapolation between target years). Unlike multi-year goals, however, peak-and-decline pathways may not specify the emissions level for a period of consecutive years. To enhance measurability, peak-and-decline pathways should specify the peak, decline, and target year, and also the emissions levels in the peak year and target year.

### 2.2 Policies

Policies include laws, regulations, and standards; economic instruments, such as taxes, charges, subsidies and incentives; information instruments; voluntary agreements; implementation of new technologies, processes, or practices; and public or private sector financing and investment, among others, intended to reduce emissions.25 Parties may adopt commitments that include one or more policies. Moreover, Parties could decide to collectively advance the same policy (e.g., implement a carbon tax via an international climate initiative) or Parties could separately take on a diversity of policies. Unlike goals, policies may not be explicitly framed in terms of emissions reductions, but can instead be framed in terms of a policy objective (e.g., eliminate fossil fuel subsidies, increase renewable energy, or achieve a specified amount of energy savings).

Assessment of measurability: The GHG impacts of policies (ex-ante and ex-post) are, in general, more difficult to assess than those of mitigation goals. Estimating the emissions impacts of policies requires that Parties attribute changes in emissions to particular policy interventions, which is a complex process that has the potential to result
in less accurate assessments depending on the quality of data used, methods, and a Party’s technical capacity. Guidance exists, such as the draft WRI GHG Protocol Policy and Action Accounting and Reporting Standard, but standardized methods have yet to be adopted by the UNFCCC.

Similarly, because the assessment of policies can vary widely between (and within) countries due to differences in data availability, methods, and the diversity of policy commitments, the results of such assessments cannot be easily compared across countries. Also, as mentioned, policies may not always be framed in terms of emissions reductions, but rather as broad policy-related goals that aim to achieve a given outcome (e.g., increase renewable energy generation by 20 percent by 2025), which further complicates comparability. Assessing the GHG effects of such policies is especially difficult without knowing the underlying policy mechanisms (e.g., the nature of the legislation and regulations) intended to achieve the outcome.26

2.3 Projects
A project is a specific activity or set of activities intended to reduce GHG emissions,27 and, unlike a policy, is not necessarily undertaken or mandated by a government. A GHG project may be a stand-alone project or a component of a larger non-GHG project. Projects are also typically smaller in scope than policies. For example, a project may aim to reduce emissions at one coal power plant, while a policy could be an instrument that leads to the phase out of coal across the country.

Assessment of measurability: As with policies, the emissions reductions associated with projects are more difficult to measure than those associated with goals given the diversity of methods, data sources, and project types. Under the Kyoto Protocol, there are standardized methods for assessing project-level emissions reductions through the Clean Development Mechanism. However, under the Copenhagen Accord there are no common accounting rules for project-level emissions reductions (e.g., for projects submitted as NAMAs). Also, similar to policies, projects may not be framed explicitly in terms of emissions reductions, but could instead be framed in terms of a desired outcome (e.g., increased efficiency of a technology), posing challenges to measuring, reporting, and verifying emissions reductions.

3. DISCUSSION AND RECOMMENDATIONS
This paper has assessed design issues related to the next set of national mitigation commitments based on the criterion of measurability, which includes considerations such as transparency, accountability, comparability, domestic GHG management, and accurate tracking of global emissions reductions. While the analysis seeks to inform high-level decisions regarding the types of post-2020 national
mitigation commitments undertaken by Parties, assessment of commitments cannot be definitive without decisions on the underlying accounting rules and assumptions. Therefore, in parallel, Parties should negotiate GHG emissions accounting rules for the post-2020 period (e.g., global warming potential values, treatment of land-use sector emissions and removals, quantity and quality of transferable emissions units, coverage of greenhouse gases and sectors, and assessment of GHG impacts of policies and projects, among others).

Nevertheless, reflecting on the assessment of measurability described above, the following conclusions emerge:

- Economy-wide goals are more measurable than sectoral goals, policies, and projects, all else being equal. If measurability is to be maximized, Parties should embrace economy-wide goals.
- At the very least, those Parties that put forward an economy-wide goal for the pre-2020 period should put forward one for the post-2020 period. Parties with pre-2020 economy-wide goals include most major emitters, including all Annex I Parties, Brazil, Mexico, South Africa, and South Korea, among others.
- For similar reasons, sectoral goals are more measurable than policies and projects, all else being equal. If a Party chooses to put forward a sectoral goal, it should target the highest-emitting sector and achieve meaningful emissions reductions in that sector.
- For both economy-wide and sectoral goals, base year and fixed level goals are more measurable than intensity and baseline scenario goals.
- All Parties should consider undertaking base year or fixed level goals. For those Parties that need to accommodate short-term emissions increases, base year or fixed level goals should still be adopted, even if they are framed as an increase in emissions from a base year (as opposed to a reduction from a base year).

- If intensity and baseline scenario goals are under consideration, intensity goals should be adopted rather than baseline scenario goals given the many challenges related to measuring, reporting, and verifying baseline scenario goals. Over time (e.g., from 2030 onward) Parties with relative goals should take on absolute goals that are framed as a reduction from a base year or a fixed level goal.
- Multi-year goals and peak-and-decline pathways are more measurable than single year goals.
- All Parties with economy-wide and sectoral goal commitments should take on multi-year goals instead of single year goals.
- If emissions growth is necessary for a short period, peak-and-decline pathways are preferable because the overall emissions trajectory is made transparent, and cumulative emissions can be more easily assessed. Peak-and-decline pathways should be designed to ensure that global emissions peak by 2020 and are reduced below 1990 levels by 2030 for a likely chance of limiting warming to 2°C.
- Given the challenges inherent in measurability of policies and projects, Parties should undertake efforts to:
  - Adopt standardized methods to attribute and report changes in emissions to individual policies and projects;
  - Assess and report leakage from policies and projects, where relevant; and
  - Adopt policies that facilitate long-term transformation, leading to significant emissions reductions in the most carbon-intensive sectors.

The next set of national mitigation commitments for the post-2020 period will determine whether the world is on track toward a low-carbon economy. Our hope is that this paper has identified a set of options for national commitments that can be embedded in an international agreement that results in trust, accountability, and measurable ambition, and that the next set of commitments delivers the emissions reductions needed to meet the goals of the Convention.
Designing National Commitments to Drive Measurable Emissions Reductions after 2020

ENDNOTES

1. A review will be conducted by 2015 on whether this objective needs to be strengthened, including whether it should be 1.5°C.


4. At the seventeenth Conference of the Parties (COP) to the UNFCCC in Durban, South Africa, Parties agreed to establish the A1 Hoc Working Group on the Durban Platform for Enhanced Action (ADP) to develop “a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties.” The ADP is tasked to complete its work by the end of 2015, at the latest. Decision 1/CP.17, para 2, of UNFCCC, 2012, “Action Taken by the Conference of Parties at its Seventeenth Session.”


6. For examples, see submissions by South Africa, New Zealand, Nepal on behalf of Least Developed Countries Group, the Environmental Integrity Group, Japan and the United States in UNFCCC, “Submissions from Parties to the ADP.” accessed October 30, 2013, http:// unfccc.int/bodies/avw/items/7398.php.

7. UNFCCC, 2012, “Action Taken by the Conference of Parties at its Seventeenth Session.”

8. For example, a number of developed country targets for the pre-2020 period are expressed as ranges, including those of Australia, the European Union, Iceland, Liechtenstein, New Zealand, Norway, the Russian Federation, and Switzerland. Some of these Parties, such as Australia, the European Union, Iceland, Liechtenstein, New Zealand, and Switzerland, are explicit that any increase of their ambition is conditional on other developed countries’ undertaking comparable emission reductions. See UNFCCC, 2012, “Quantified Economy-wide Emission Reduction Targets by Developed Country Parties to the Convention: Assumptions, Conditions, Commonalities and Difference in Approaches and Comparison of the Level of Emission Reduction Efforts,” FCCC/TP/2012/2, http:// unfccc.int/resource/docs/2012/tp/02.pdf.


11. Leakage refers to a shift of emissions from covered sources to uncovered sources outside the commitment boundary.

12. For more information see WRI, forthcoming, GHG Protocol Mitigation Goals Accounting and Reporting Standard.

13. This assumes, however, that underlying accounting methodologies and assumptions are transparent.


15. Assuming similar treatment of other accounting issues (e.g. transferable units, land-use accounting).

16. For transparency and reporting requirements for baseline scenarios see WRI, forthcoming, GHG Protocol Mitigation Goals Accounting and Reporting Standard.


18. Assuming common accounting rules for the land-use sector and transferable units, among others.


20. Under the first and second commitment periods, Kyoto Protocol Parties adopted targets framed in terms of a percent reduction from a base year and translated them into quantified emission limitation and reduction objectives (QELROs).

21. It should be noted that it could be challenging to compare emissions reductions associated with multi-year goals with that of single year targets ex-ante, without accurate knowledge of how emissions will change in the intervening years between the base year and target year for single year goals. However, comparability could be performed with the final target year alone.


26. For example, to assess the policy outcome—increase renewable energy generation by 20 percent by 2025—information is required on the actual policy mechanisms that will be implemented to achieve this outcome, which could include subsidies, incentives, research and development programs, etc.


28. Assuming that data and methods for assessing goals, policies, and projects are of equally sufficient quality.

29. Assuming that data and methods for assessing goals, policies, and projects are of equally sufficient quality.

30. These types of goals should be designed to ensure that global emissions reductions still peak by 2020 and reduce below 1990 global emissions levels by 2030. See UNEP, 2013, The Emissions Gap Report 2013.


32. For example, see WRI, forthcoming, GHG Protocol Policy and Action Accounting and Reporting Standard.
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WRI focuses on the intersection of the environment and socio-economic development. We go beyond research to put ideas into action, working globally with governments, business, and civil society to build transformative solutions that protect the earth and improve people’s lives.

**Solutions to Urgent Sustainability Challenges**
WRI’s transformative ideas protect the earth, promote development, and advance social equity because sustainability is essential to meeting human needs today, and fulfilling human aspirations tomorrow.

**Practical Strategies for Change**
WRI spurs progress by providing practical strategies for change and effective tools to implement them. We measure our success in the form of new policies, products, and practices that shift the ways governments work, businesses operate, and people act.

**Global Action**
We operate globally because today’s problems know no boundaries. We are avid communicators because people everywhere are inspired by ideas, empowered by knowledge, and moved to change by greater understanding. We provide innovative paths to a sustainable planet through work that is accurate, fair, and independent.