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POLICY dialogue BRIEF

Enhancing Ambition on Forests to Achieve the 1.5°C Goal

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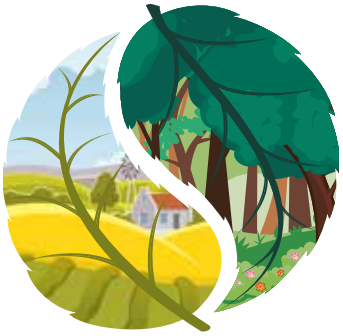

To avoid the worst impacts of climate change, the 195 nations that adopted the Paris Agreement set a very ambitious goal: to hold the rise in global temperature to "well below 2° C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels."[1] Parties to the agreement submitted nationally determined contributions (NDCs)—national climate action plans that reflect each country's ambition for reducing emissions—aware that carbon emissions must plateau and then fall to zero at an unprecedented rate. Having put forth their emissions-reductions targets and strategies, parties are now shifting their focus to implementing their NDCs.

Enhancing ambition on forests is essential to achieving the 1.5°C goal. Given that an estimated 15 percent of all greenhouse gas (GHG) emissions are directly caused by deforestation, reducing deforestation and promoting the conservation, expansion, and management of forests is pivotal.[2] A recent report indicates that natural climate solutions (NCSs)—which include conserving, restoring, and/or improving land-management actions to increase carbon storage and/or avoid GHG emissions across global forests—can provide over one-third of the cost-effective CO_2 mitigation needed between now and 2030 to keep warming below 2° C.[3] In fact, tropical forests alone can provide up to 30 percent of the climate-change mitigation needed to meet the objectives of the Paris Agreement.[4] In addition to sequestering 40 percent of aboveground forest carbon, intact forests provide innumerable nonclimate benefits, including maintaining the integrity of local hydrological systems, enhancing biodiversity, and supporting the cultural integrity of forest-dwelling communities.[5]

With 2020 fast approaching, countries need to begin thinking about how to enhance ambition and drive climate action on forests. Many parties (80 percent) have acknowledged the importance of forests by including forestry, land use, and land-use change in their NDCs but have yet to decide how to

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April 3–5, 2018

Smithsonian Tropical Research Institute, Panama

actually reach these targets and achieve the goals of the Paris Agreement.[6] Borrowing from the Talanoa Dialogue, when contemplating how to amplify the importance of forests for climate action it is essential to take stock of where we are, where we want to go, how we want to get there, and by when.[7] This brief does that by explaining the current state of forests and NDCs in light of the 1.5°C goal, the goals to achieve and challenges to overcome in the forest sector, potential solutions and tools available, and coming opportunities to elevate the importance of forests for climate action. Each of these pieces is essential to ascertaining how to align and catalyze global efforts in the forest sector toward the 1.5°C goal.

Where Are We?

In determining how to enhance ambition on forests to achieve the 1.5°C goal, it is imperative to understand the current state of global forests and NDCs, which are both essential to meeting the goals set out in the Paris Agreement.

Forests

Worldwide, forests cover roughly one-third of the planet's landmass. Ten countries—the top five of which are the Russian Federation, Brazil, Canada, the United States, and China—hold two-thirds of the world's forest.[8] Estimates indicate that intact forests total around 11.8 million square kilometers, which is about a quarter of the planet's total forest area.[9] Forests provide important climate and nonclimate benefits. In addition to sequestering large amounts of carbon, forests also help protect permafrost in boreal regions, stabilize weather locally and regionally, sustain immense biodiversity, and support the livelihoods of millions of people.

But forests are in jeopardy. The clearing of forests for agriculture accounts for the majority of forest loss. From 2000 to 2012, commercial agriculture accounted for an estimated 71 percent of global tropical deforestation.[10] When coupled with higher demands for food, energy, and raw materials; expansion of infrastructure; and increased migration of populations into forested areas, the impacts are devastating. As of 1990, the equivalent of 1,000 football fields of forests has been lost every hour; in other words, since 1990, the world has lost more forest area than the size of South Africa.[11] Forest loss is most drastic in tropical regions. From 1990 to 2015, the most forest loss occurred in South America, the Caribbean, and sub-Saharan Africa.[12] Furthermore, intact forests have decreased by 7 percent since 2000. If left unabated and unreversed, these losses in forest cover could derail efforts to mitigate climate change.[13]

Nationally Determined Contributions

A symbol of international cooperation and national ambition, NDCs reflect each party's contribution to emission reductions. Collectively, however, the carbon reductions pledged by parties are severely insufficient. Even if all countries fulfill their pledges, their efforts would only account for roughly one-third of the emission reductions needed to stay below 2° C, and fulfilling those pledges would set the world on a 3° C rise trajectory. Thus, there is a large gap between the NDC trajectory and what is needed to stay in line with least-cost pathways to achieve 2° C and 1.5°C. For full implementation of unconditional and conditional NDCs under the 2° C and 1.5°C pathways, the emissions gap is 11 to 13.5 $GtCO_2e$ (gigatonnes carbon dioxide equivalent) and 16 to 19 $GtCO_2e$, respectively.[14]

Despite these shortcomings, there is an opportunity to close the gap before 2030 using cost-effective technologies and approaches that already exist, such as reducing deforestation, increasing reforestation and afforestation, and enhancing sustainable management of forests. In the lead-up to 2020, countries have the opportunity to not only consider how to implement measures to meet their NDCs but also how to enhance their ambition to get even closer to staying within the 1.5°C trajectory. Forests could play an essential role in achieving both goals.

Where Do We Want to Go? How Do We Get There?

To truly enhance the role of forests in achieving the 1.5°C goal, the importance of forests as a climate-mitigation solution needs to be elevated at individual, subnational, national, and international levels. It is not sufficient to simply recognize the potential contribution of forests to reducing GHG emissions. Identifying what goals need to be achieved and how to reach them is essential to driving and heightening climate action on forests in aligned and synergistic ways.

Goal 1: Increase Forest Area

Achieving the 1.5°C goal is challenging, and it will not be realized without action in the forest sector. Not only must gross deforestation quickly approach zero, but forest expansion must accelerate globally and at scale.[15] The scale of the mitigation potential of reforestation alone dwarfs that of every other NCS; even when you add all mitigation potential of solutions with carbon capture and storage, you cannot achieve the 1.5°C pathway without reforestation. To limit the increase in global temperature to 1.5°C, the world's terrestrial sink needs to be doubled by 2050 by protecting the current reduction of 10 $GtCO_2e$ per year and adding 10 $GtCO_2e$ per year. This potential pathway would entail a 25 percent increase in forest area, or about 1 billion hectares of reforestation. Increasing afforestation in addition to reforestation would further increase forest area. But to reach this scale of forest area, forests need to be made more valuable, relevant, and inclusive.

Making Forests Valuable

Enacting transformational change in all sectors of the economy related to emissions is necessary to achieve the 1.5°C goal. Such a transition could be facilitated by a

Forest Dialogue participants tour Agua Salud, a reforested area within the Panama Canal Watershed Project.

carbon price high enough to change behaviors and shift investments toward cleaner energy. This transformational carbon price will need to range from $40 to $80 per ton of CO_2 by 2020 and would need to rise to $50 to $100 per ton by 2030.[16] In addition to leading to economic and behavioral changes, a high enough carbon price would make standing forests much more valuable. Since this transformational carbon price does not yet exist, however, forests need to be integrated into the "real economy" to create an impetus to increase reforestation and afforestation. But how do you integrate forests into the real economy to the extent that they are valued as being fundamental to growth and development? This can be done by:

- **Linking forests to other sectors.** To be more highly and broadly valued, forests need to be important beyond the environmental agenda. One way to do this is to articulate the importance of forests in a way that connects with other mainstream priorities, such as economic and social development. In many agriculture-intensive countries, for example, forests are often cut down to expand the production of commodities like beef and soy. Rampant deforestation, however, can result in soil erosion, decreased rainfall, and higher temperatures on a local scale.[17] All of these factors can significantly hinder agricultural production in the long term; forests, therefore, are necessary to ensure long-term agricultural production. Reforestation and afforestation need to be perceived as advancing the traditional economy. Until fundamental connections between the health of forests and societal growth are made, forests will remain on the fringes of the economy. We can no longer afford to view forests as marginalized cobenefits.
- **Making forests politically relevant.** Politicians and members of the government are crucial to elevating the role of forests in climate-change mitigation by creating and enforcing policies that promote conserving, expanding, and sustainably managing forests. To make this a reality, however, forests need to be politically relevant. People, not trees, vote for elected officials. Therefore, constituents need to view forests as integral to their well-being. Once connections are made between forests and job growth, improvement of livelihoods, and sustainable development, people will begin caring about forests and generate the political will to prioritize them. Without new forest-conservation policies, estimates suggest that 289 million hectares of tropical forest will be cleared from 2016 to 2050, releasing 169 $GtCO_2$ into the atmosphere.[18] To enhance ambition on forests, they need to be politically relevant.
- **Emphasizing nonclimate benefits of forests.** For climate change advocates, forests are typically valued

A concerted effort also needs to be made to include groups that are often at the periphery of these discussions, including indigenous peoples, forest-dwelling peoples, and smallholders.

for their ability to sequester carbon. As mentioned, intact forests sequester about 40 percent of aboveground forest carbon, making them extremely important for GHG emission reductions.[19] But the carbon-sequestration potential of forests is not the highest priority for many people. To be truly valued and make forest expansion a compelling solution, the nonclimate benefits of forests need to be emphasized. For example, forests can generate many water-related benefits, like filtration and maintaining the integrity of local watershed systems. Emphasizing the importance of reforestation for providing clean water could have wider appeal and prove more compelling. Similarly, if viewed as integral to promoting biodiversity, cultural preservation, adaptation, and food security, forests could be prioritized to a greater extent. The carbon benefits of forests need to be integrated with other types of benefits and services that are more widely valued.

- **Generating "proofs of concept" for forests.** Unlike in the energy sector, the business case for forests is not always evident. That's because the results of forest action are not always as tangible or easy to access; monitoring and evaluating the results of action on forests is difficult; there are no set metrics of what constitutes success in action on forests; and the returns of action on forests are not as readily apparent as they are for other sectors. All these factors send discouraging signals to potential investors, precluding many commitments. Rather than focusing on making reforestation, afforestation, sustainable management, or reduced deforestation more lucrative or creating a new business case for those actions, more effort should be made to clarify the existing business case to investors. In the absence of a high carbon price that would make forest-based solutions more lucrative in the eyes of the financial sector, more work should be done to generate reliable and useful data to corroborate that action on forests is profitable.
- **Making forests the most compelling option.** Standing forest needs to be perceived as the best use of land by those who actually own the land in order to change behavior. Land owners need to believe in the "right tree, in the right place, at the right time, for the right reasons." Determining how to propagate that message requires understanding what the priorities of land owners are and how to tie forests to those priorities. Providing incentives is a potential approach to making deforestation less valuable and standing forests more valuable to these individuals. Landowners also need to be assured that standing forests will continue to be valued. Developing decision-support tools to reach better climate outcomes through informed land-management decisions that go beyond carbon benefits could help change land-use decisions as well. Additionally, there needs to be proof that the tradeoffs and opportunity costs associated with large-scale reforestation and afforestation, which can impact other sectors, have been identified and assessed to address potential challenges associated with land-use change. Reforestation and afforestation need to be done in a way that does not infringe on food security, rights, biodiversity, or other ecosystem services.

Making Forests More Inclusive

Integrating forests into the real economy, as discussed above, is but one approach to heightening ambition of forests in climate action. More needs to be done to broaden and make more inclusive the discussions about ambition on forests and the importance of forests for climate action, such as:

- **Inviting more people to the table.** Currently, conversations surrounding climate action on forests are very disaggregated. Partially the result of differing opinions, approaches, and perspectives, this disjointedness is also a consequence of the fact that these conversations are often held in silos. Forest experts usually speak among forest experts, politicians speak among politicians, economists speak among economists, and so on. These barriers need to be broken down to

facilitate more fluid conversations where individuals can share their priorities, concerns, and ideas as they relate to climate action and ambition on forests. A concerted effort also needs to be made to include groups that are often at the periphery of these discussions, including indigenous peoples, forest-dwelling peoples, and smallholders. These people are directly impacted by and directly impact forests and so have valuable and insightful contributions that need to be considered when setting forest ambition. This could entail including indigenous peoples and smallholders in conversations about NDC implementation and new environmental policies.

- **Focusing on convergence rather than divergence.** Even among forest experts, there is substantial disagreement when it comes to how best to incorporate forests into climate-change mitigation. Debates around the value of intact versus managed forests can create divisive lines that prevent any progress, for example. These disagreements are likely to be exacerbated as discussions are broadened beyond the forest sector. It is, therefore, imperative that stakeholders begin focusing on convergence rather than spending the majority of their time on the little they do not agree on.
- **Creating a common vision.** Perhaps one way to focus on convergence is to create a collective vision of what future we want for forests in 2050. When envisioning this future, great attention should be paid to the importance of forests. This vision should be compelling, informed by all at the table, and expressed in plain language so it is understandable to political leaders and others. If people envision a role for forests in the future that is tightly integrated with the presence of humans, that could go a long way in promoting forests as a priority. Such a unifying aspiration could eventually translate into higher forest ambition and action.

Goal 2: Enhancing Ambition by Elevating the Role of Forests

Over the past several years, players at the international, national, and subnational levels have set ambitions to reduce GHG emissions and mitigate the impacts of climate through action on forests and other approaches. The ambition motivating this momentum has been codified in everything ranging from NDCs to corporate environmental sustainability policies to local legislation. But every decade that passes, the ambition we are trying to achieve with respect to climate change is greater because goals are left unmet and the problem worsens. Current levels of ambition are not enough. More needs to be done not to increase ambition but to enhance and achieve ambition by elevating the role of forests.

Enhancing International Ambition

The goals set by the Paris Agreement represent the ambition of 195 nations. While the agreement does not stipulate how those goals will be achieved, the guidance it does provide could increase the ability and will of parties to enhance their

Soberania National Park provided the setting for a breakout session on NDCs and forests.

National governments should not only recognize subnational action on forests but seek to encourage and catalyze it, especially in light of NDC commitments and the 1.5°C goal.

own ambitions by, for example, providing opportunities to enhance the role of forests. When establishing the Paris Agreement rule book, parties could consider including language that would enable the inclusion of forests to take advantage of the climate benefits that actions like reforestation and reduced deforestation can offer.[20] The Paris Agreement can also facilitate enhancement of collaboration by encouraging countries to collectively find solutions to overcome potential barriers or challenges related to action on forests. Identifying which countries could benefit from such a collaboration will be possible once the transparency framework of the Paris Agreement is put into place.

Another way to enhance the role of forests at the international level is to identify which countries have the greatest mitigation potential from forests. For countries where the potential for NCSs like reforestation and improved forest management is highest, international incentives for these activities could represent a significant economic development opportunity. These opportunities could motivate key countries to focus their efforts on developing national policies and incentives to encourage reforestation and forest management. However, these opportunities for more concerted forest action are dispersed among many countries, which will require coordination, synergistic strategies, and investments. Countries that are interested in enhancing the role of forests in mitigation and that are able to do so should consider initiating high-level conversations among each other and with the international community and begin exploring ways to focus their NDC action around forests. It is also important to engage those forest countries that may have a small impact globally. Despite the fact that the mitigation potential of these countries may not be as high, engaging enough of them could result in a crowding effect without significant additional effort. Identifying those countries with high mitigation potential from forests and those with a strong will and desire to act on forests could propel international ambition.

Enhancing National Ambition

NDCs are the primary means by which national governments can communicate internationally their plans to address climate change within their countries. Formulated in the context of national priorities, circumstances, and capabilities, NDCs encapsulate parties' levels of ambition. As stated in previous sections, collectively, NDC ambitions fall short of what is needed to achieve the 1.5°C goal, meaning more needs to be done to enhance individual NDC ambition. This is not to say that countries should start from scratch; country contributions as they were initially proposed need to be recognized as a step in the right direction. Rather, the ambition and strategies that are already in place need to be reinforced and built upon to keep momentum going.

As mentioned, a majority of countries (80 percent) included forestry, land use, and land-use change in their targets, recognizing the importance of these activities to mitigating the impacts of climate change. It is imperative to elevate the role of forests in achieving NDCs as countries begin considering how they will implement their NDCs and as countries gear up for 2020, when they can submit revisions of their NDCs. Although many countries may not make substantive changes to their NDCs in the lead-up to 2020, the idea that NDC ambition can be enhanced in the short term should not be dismissed. Approaches to enhancing NDC ambition and the role of forests in achieving ambition include:

- **Framing solutions as positive.** Climate actions should not be viewed as a penalty. In the case of REDD+, for example, the policy approach was viewed as a positive opportunity from the outset.[21] The initial proposal and messaging focused on positive incentives to stimulate action and was perceived as an initiative that was trying to do good rather than penalize. This positivity ushered in the success of REDD+. A similar approach could be used when discussing and proposing reforestation, for example. Although addressing potential opportunity costs and tradeoffs of reforestation is necessary, it is

Forest Dialogue participants discuss the potential of forests in meeting the 1.5°C target.

also important to focus on all the potential benefits that reforestation can yield in order to frame reforestation as a viable climate-change-mitigation strategy.

- **Encouraging creativity.** NDCs can be revised or enhanced in ways that do not require legislative approval. Countries can further expand on what was initially proposed or provide additional clarity on targets or goals. Parties can also add activities to the scope of NDCs as additional components, which will not change numerical targets but could lead to more ambition by including new activities or approaches to advance and facilitate implementation.
- **Filling out conditionality of commitments.** Meeting the conditionality requirements that some countries included in their NDCs could unlock potentially impactful action that is contingent on receipt of support. Often, conditional commitments are more ambitious, so enabling these commitments to be executed could prove highly effective in reducing emissions faster and more broadly.
- **Emphasizing subnational priorities.** Tying NDC ambition to the growth of the rural economy, new job opportunities, improved livelihoods, and other subnational priorities could appeal to key audiences and garner more support for enhanced ambition and climate action on forests. Furthermore, emphasizing the concept that forests are integral to the success of the real economy and subnational priorities could promote the importance of forests to enhancing NDC ambition on forests.
- **Framing NDCs as flexible.** NDCs are but one tool to frame country ambition on climate-change mitigation. Parties may revise their NDCs every five years, but in the interim they can introduce new activities or approaches, in the forest sector for example, to meet NDC targets. Actual implementation of NDCs is fluid, and this flexibility can provide for the enhancement of NDC ambition in the face of changing circumstances and new opportunities.
- **Obtaining information key to clarifying and understanding land use.** Confusion and uncertainty over how to account for emissions reductions from the land sector seem to discourage parties from considering and prioritizing the land sector as a prominent mitigation solution. Providing and disseminating information key to clarifying these uncertainties surrounding the mitigation potential of the land sector could elevate the role of forests in NDCs. As will be discussed below, such information can be generated as more technological and research advancements arise.

Enhancing Subnational Ambition

Climate action is not the responsibility of national governments alone. In terms of climate action on forests, subnational action, at the level of states or jurisdictions, can be and has been integral to mobilizing more action. In Acre, Brazil, protection of the rainforest has been viewed as an agenda priority for the past 20 years. In an effort to reduce deforestation while increasing GDP growth, the state government designed an incentive system for environmental services (SISA). Due to the fact that Brazil did not have a national REDD+ registry at the time, SISA was developed according to a nested approach, with the idea of how to align what was happening in Acre with Brazil's NDC.[22] This is but one example of an early-mover subnational initiative.

In addition to being able to mobilize more rapidly, subnational action can also be an effective means of tackling the underlying drivers of deforestation. This is pivotal in countries where rampant illegal deforestation is occurring, perhaps due to leakage, limited government oversight, and insufficient enforcement, among various other factors. Unless collaboration with subnational governments occurs, these limitations will continue to emerge. Now more than ever, there is a need to resolve underlying governance problems, which are more manageable at subnational scales.

In many countries, however, early-mover subnational action is not recognized, no matter how impactful it has been in reducing emissions from deforestation and in generating momentum. National governments should not only

recognize subnational action on forests but seek to encourage and catalyze it, especially in light of NDC commitments and the 1.5°C goal. The nesting approach, in which results of subnational action would ultimately be accounted for at the national level, is one pathway for subnational inclusion in national government efforts. Subnational governments and federal governments should establish dialogue to keep each other apprised of actions the others are taking. Collaboration is key.

Enhancing Nonstate Actor Ambition

The onus of achieving NDC targets does not fall solely on governments. It is up to all entities—state and nonstate—to strive to reach NDC targets. In fact, the Paris Agreement explicitly "welcomes the efforts of non-party stakeholders to scale up their climate actions" and encourages them to articulate their contributions.[23] Nonstate actors have the potential to catalyze critical action on forests to push climate ambition, but few countries have begun thinking about how to incorporate and encourage nonstate actor contributions.

Finance for forests in deforestation countries accounts for just over 1 percent of global mitigation-related development funding.

The private sector in particular is ideally positioned to have a significant impact on forests and propel NDC ambition. Many companies have been making strides to address deforestation, aware that the production of key commodities like soy, palm oil, beef, and timber is linked to deforestation. A recent study conducted by CDP (formerly Carbon Disclosure Project) found that 87 percent of companies reporting to CDP identified risks from deforestation, while 73 percent reported a commitment to reducing or eliminating deforestation.[24] The Soy Moratorium, a voluntary zero-deforestation agreement to reduce deforestation from the production of soy formed in 2006 by companies that control 90 percent of soy trade in the Brazilian Amazon, represents a notable example of the potential and capability of the private sector to make an impact on deforestation reduction. After implementation of the moratorium, the expansion of soy into forests fell from 30 percent of expansion two years before the moratorium to 1 percent in the Amazon by 2014.[25] While many commitments have been made, few have been implemented. A two-way collaboration between governments and companies could change this by maximizing efficacy, minimizing costs, and increasing scale. Companies and governments can collaborate on:

- **Monitoring.** To reduce and eliminate the risk of deforestation from their supply chains, companies are using technology to increase the transparency and traceability of their operations. Likewise, governments are using sophisticated satellites and surveying systems to calculate rates of deforestation and the extent of forest cover. The private sector can engage with the public sector to generate complementing sets of data, which both entities can use to tackle deforestation. By covering more forest area and at different scales, these data sets can help both sectors reduce deforestation more effectively and perhaps at a lower cost.
- **Disclosure.** In jurisdictions where reducing deforestation and protecting forests is a top agenda item, governments can work with companies to make sure they are providing open and accessible data throughout their supply chains. Similarly, companies can request that data and information related to forest cover and environmental policies be publicly accessible so it can be used in their monitoring systems. Information about land titling and legal compliance, for example, could help companies distinguish the bad actors from the good ones and determine where to conduct business and with whom.
- **Regulation.** Since deforestation is a producer- and consumer-country issue, legislation and regulation that is conducive to forest protection should be in place and enforced in producer and consumer countries. This is one way to hold companies along supply and transaction chains accountable. Companies

intent on eliminating deforestation from their supply chains will benefit from enforcement of environmental regulations, which can help prevent leakage, discourage bad actors, and eliminate deforestation from their operations. Some examples of effective international regulations include the United States' Lacey Act and the European Union's timber regulations.

- **Definition.** Many companies and governments still grapple with defining key concepts. Discussions continue over what constitutes legal versus illegal deforestation, net-zero versus zero deforestation, and other topics. The public and private sectors can help each other arrive at definitions that make the most sense in the local context, considering one another's priorities, goals, and capacities.

Goal 3: Catalyzing the Drivers Influencing Forest Policy

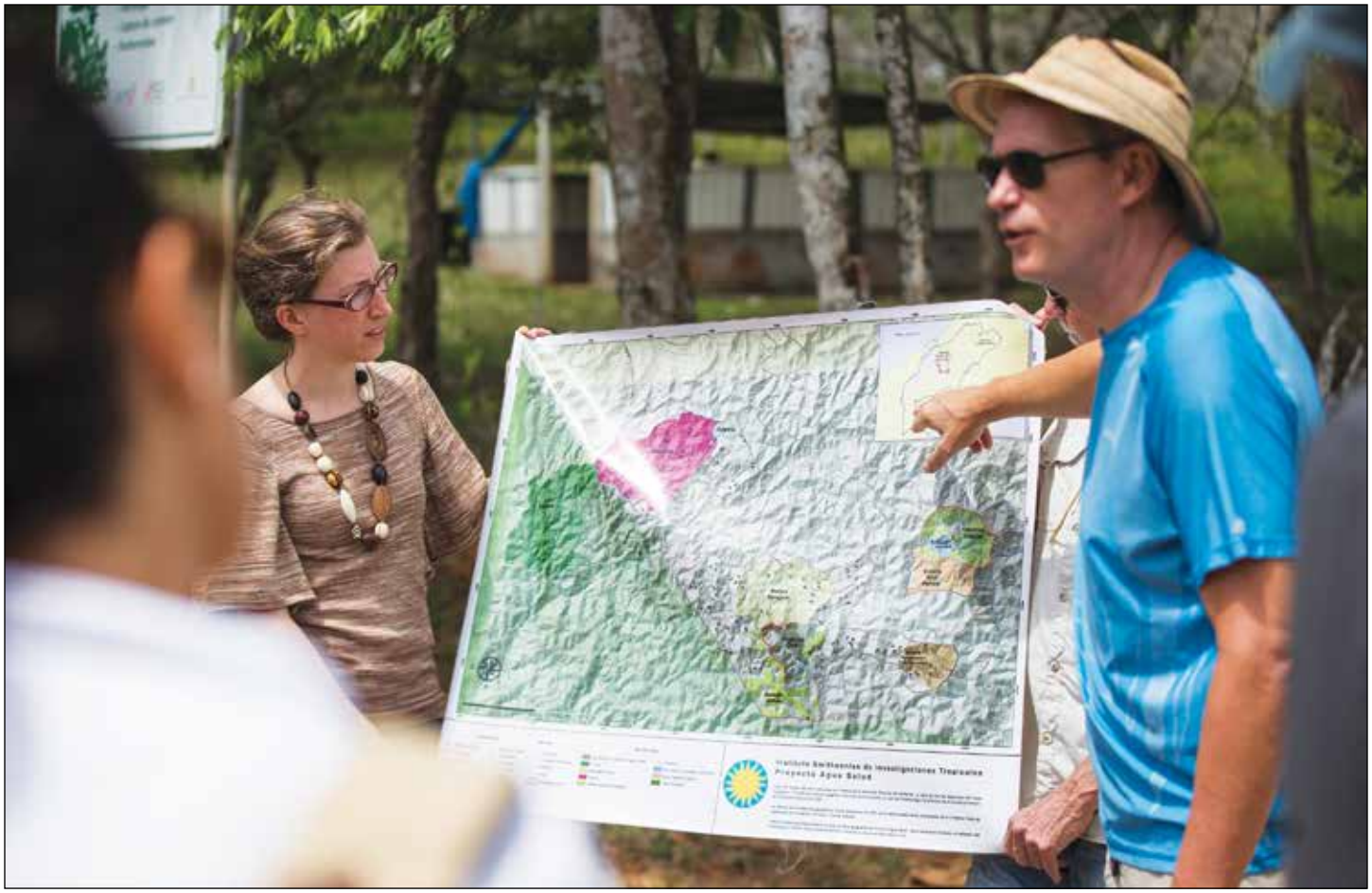
While NDCs are arguably the most influential drivers of international climate and forest policy, other factors drive not only NDC ambition but also forest-policy ambition at national and subnational scales. These tools can help nudge, unlock, and push NDCs and forest policies forward by creating new sources of finance and support, contributing to the formulation of targets and strategies, and facilitating implementation of NDCs and action strategies. While not an exhaustive list, below are some policy drivers that are influencing ambition and could do so to a greater extent if these tools are amplified, improved, and utilized on a greater scale.

Sources of Forest Finance

Last year, an assessment of forest finance conducted by the New York Declaration on Forests (NYDF) found that finance for forests is insufficient. Although tropical forests can provide up to 30 percent of the climate-change mitigation necessary to meet the Paris Agreement objectives, finance for forests in deforestation countries accounts for just over 1 percent of global mitigation-related development funding.[26] These figures indicate that the amount of finance available for forests fails to reflect the importance of forests as part of the climate solution. It is essential to diversify and ramp up financial flows to the forest sector in order to scale reforestation and reduce deforestation.

Bilateral and Multilateral Funds

Although public sector finance accounts for a majority of financial flows to forests, bilateral and multilateral funds are also important. Bilateral agreements between donor countries, like Norway and Germany, and tropical forest



Smithsonian Tropical Research Institute experts provide an overview of different areas within the Panama Canal Watershed Project.

countries, like Brazil and Indonesia, are helping support efforts to reduce emissions from deforestation by building capacity and developing strategies and action plans. Multilateral sources of funding like the Forest Carbon Partnership Facility (FCPF), the UN-REDD Program, and the Green Climate Fund are providing money for everything from developing forest reference emissions levels and setting up monitoring, reporting, and verification systems to facilitating policy reform and paying for verified emissions reductions.

While these sources of finance have enabled many countries and jurisdictions to take action on forests, donor requirements can make it complicated for countries to apply for and access funds. Those countries unable to provide baselines that meet all the criteria that donors set out, for example, will be excluded from the funding pool and unable to carry out their forest action plans. Additionally, the donor specifications of what activities are eligible to be funded may not reflect national or local circumstances and fail to capture what is most needed by countries. This misalignment of donor requirements and country needs could result in lost opportunities for meaningful action and unmet priorities. Another issue with these sources of finance is that they are not the most sustainable. Most allotments are provided in set amounts over a set amount of time and for specific actions. While these funds are sufficient in some cases, when it comes to capacity building, for example, a long-term investment is needed to ensure that these skills are retained and perpetuated. To rectify some of these concerns, donors and applicants need to communicate more often and in a more transparent way, and perhaps collaborate to tailor donor requirements and specifications to local realities.

Capacity building is fundamental to essentially all efforts to reduce deforestation, increase reforestation, or enhance sustainable management of forests.

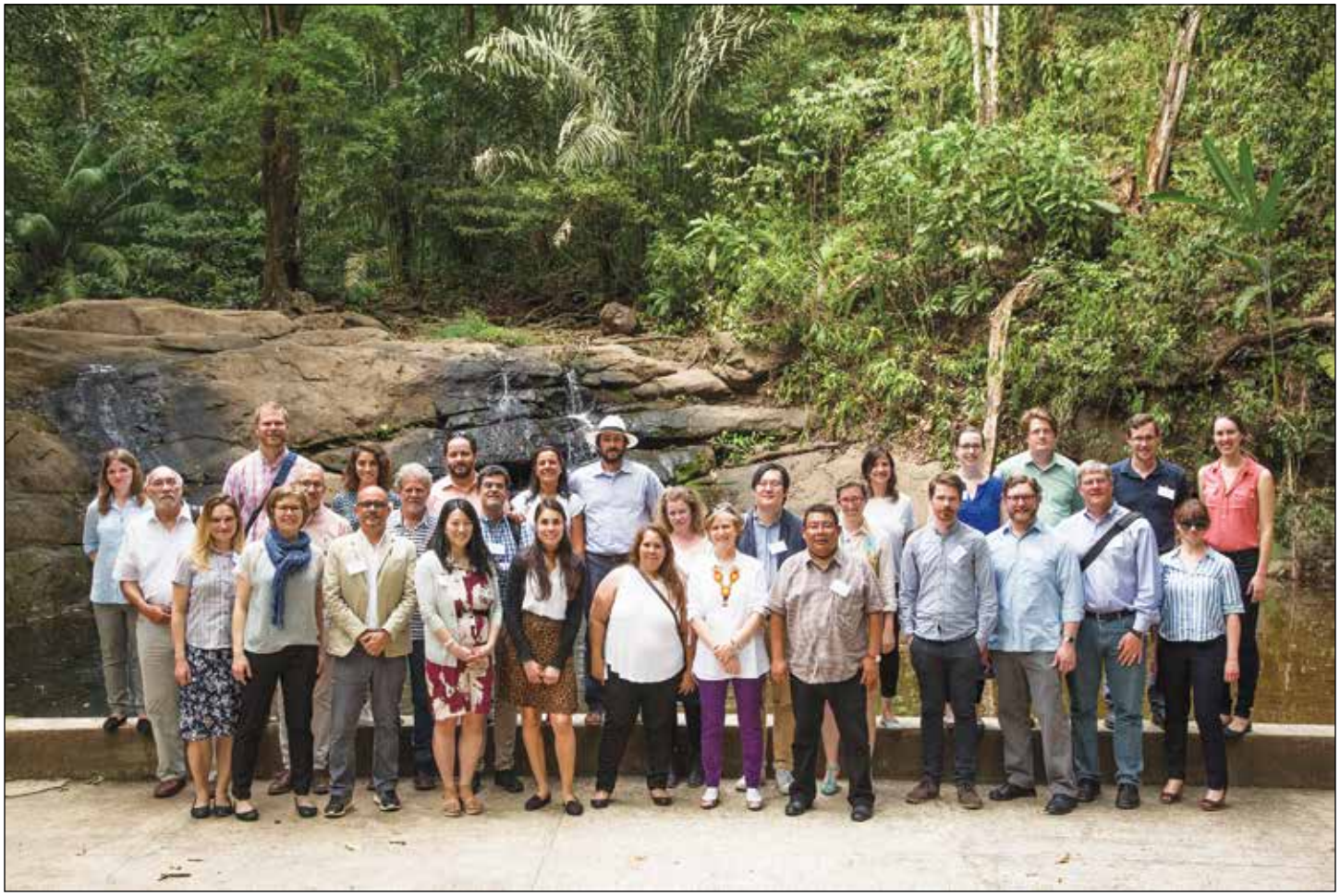
Private Sector Finance

Some private sector corporations are contributing financial resources to support actions that can lead to emissions reductions from the forest sector. In addition to acting to eliminate deforestation from their commodity supply chains, these entities are also committing funds to project-scale payments for carbon offsets through the voluntary carbon market and to intensifying production on already cleared lands. Governments should explore how to leverage public funds to access larger amounts of finance for action on forests, especially through public-private partnerships, like those at the heart of platforms like the Tropical Forest Alliance 2020 (TFA 2020) and the NYDF, which will be discussed in greater detail below.

Increased interest from investors and other financial institutions could also help enhance NDC ambition and elevate the importance of forests for climate action. A recent report, however, found that total flows of "grey finance"—which has an unclear but potentially negative impact on forests and can subsidize key deforestation drivers and agriculture—for the land sector totals $777 billion, while "green finance" aligned with forest and climate goals totals $20 billion.[27] To facilitate a shift from grey to green finance, investors need assurance that forests will generate a return. An adequate carbon price could facilitate that shift, but one does not exist now. As a result, there is a kind of chicken-or-egg scenario: investors are not willing to invest in reducing deforestation or increasing reforestation until those strategies are proven to be profitable, whereas governments and other actors cannot reduce deforestation or reforest at scale and prove their profitability without more financial support. In the meantime, this grey-to-green finance transition can be accelerated by good governance, proactive and ambitious action, and credible monitoring, recording, and verifying of results. These actions can help increase the confidence that investors and financial institutions need in order to invest in forests.

Markets

Both voluntary and potential future compliance markets for carbon could serve as viable sources of sustainable funding for action on forests. As mentioned, some private sector entities are already engaging with voluntary compliance markets for



Forest Dialogue participants in Soberania National Park.

carbon. Some private actors are voluntarily offsetting their GHG emissions by purchasing carbon credits to demonstrate climate ambition or uphold commitments to corporate social responsibility, while others are engaging in voluntary markets in anticipation of future compliance markets.

The Paris Agreement and the International Civil Aviation Organization (ICAO) could also provide potential sources of funding for climate action in the forest sector. Article 6 of the Paris Agreement indicates that collaborative market transactions between parties, via internationally transferred mitigation outcomes (ITMOs), could help parties meet their NDC targets. Although the rules and guidelines for this article have yet to be codified, this represents an important and promising opportunity for a potential new source of funding for action on forests. Similarly, ICAO's market-based mechanism known as the Carbon Offsetting Scheme for International Aviation (CORSIA) could provide another potential source of funding for climate action in the forest sector.

International and Multinational Platforms

Platforms like the TFA 2020, NYDF, and the Governors' Climate and Forests Taskforce can complement private sector and public sector action by providing goals, support, and resources. The NYDF, a voluntary and nonlegally binding political declaration, encapsulates the intention of governments, companies, and civil society to halve global deforestation by 2020 and establish goals for reforestation and zero deforestation supply chains. Similarly, the TFA 2020 focuses on establishing public-private partnerships to create zero deforestation supply chains for soy, beef, and pulp and paper. Platforms like these emphasize multilateral and cross-sectoral collaboration to reach deforestation, reforestation, and forest-conservation goals. Companies can draw on the support of governments and input of civil society. Civil society can partner with governments and companies to help both achieve their goals and hold them accountable to their commitments. Governments can leverage public funds to access larger amounts of private sector finance and support to advance forest action. These initiatives can serve as platforms to enhance the climate and forest ambition of companies, civil society, and government alike.

Technology

Innovative methodologies for tracking supply chains in order to increase transparency and reduce commodity-driven deforestation are coming to the fore. This is especially true in the tropical forest commodity supply chain arena, where tools like Trase and BovControl—aimed at greater supply-chain-operations transparency to reduce and eliminate the

risk of deforestation—are being used by companies intent on meeting their environmental and sustainability commitments. Similarly, tools like Global Forest Watch are using sophisticated satellite technology to enhance the ability to not only track deforestation rates globally but to also provide alerts for deforestation in near real time. These kinds of systems are improving coverage and visualization of the world's forests, providing for more direct and effective interventions in areas with high forest potential and high deforestation risk.

More research and development is needed not only to improve preexisting tools but also to explore newer, more-innovative technological solutions. Being able to monitor forest cover tree by tree, for example, would provide more-reliable and precise data that could greatly improve the creation of forest reference levels and, consequently, improve the calculation of emissions reductions. Technological advances could also enable more-sophisticated monitoring, reporting, and verification methodologies. This type of improved data would be useful for many donors that rely on verifiable forest reference baselines to determine whether fund recipients are in fact reducing deforestation, or increasing reforestation, for example. Similarly, potential investors from the private sector need reliable and up-to-date data to ascertain whether potential investment opportunities are worthwhile.

Creating momentum around 2020 could help to urge countries to enhance their NDC ambitions by proposing specific numbers, targets, and concrete action in the forest sector.

Capacity Building

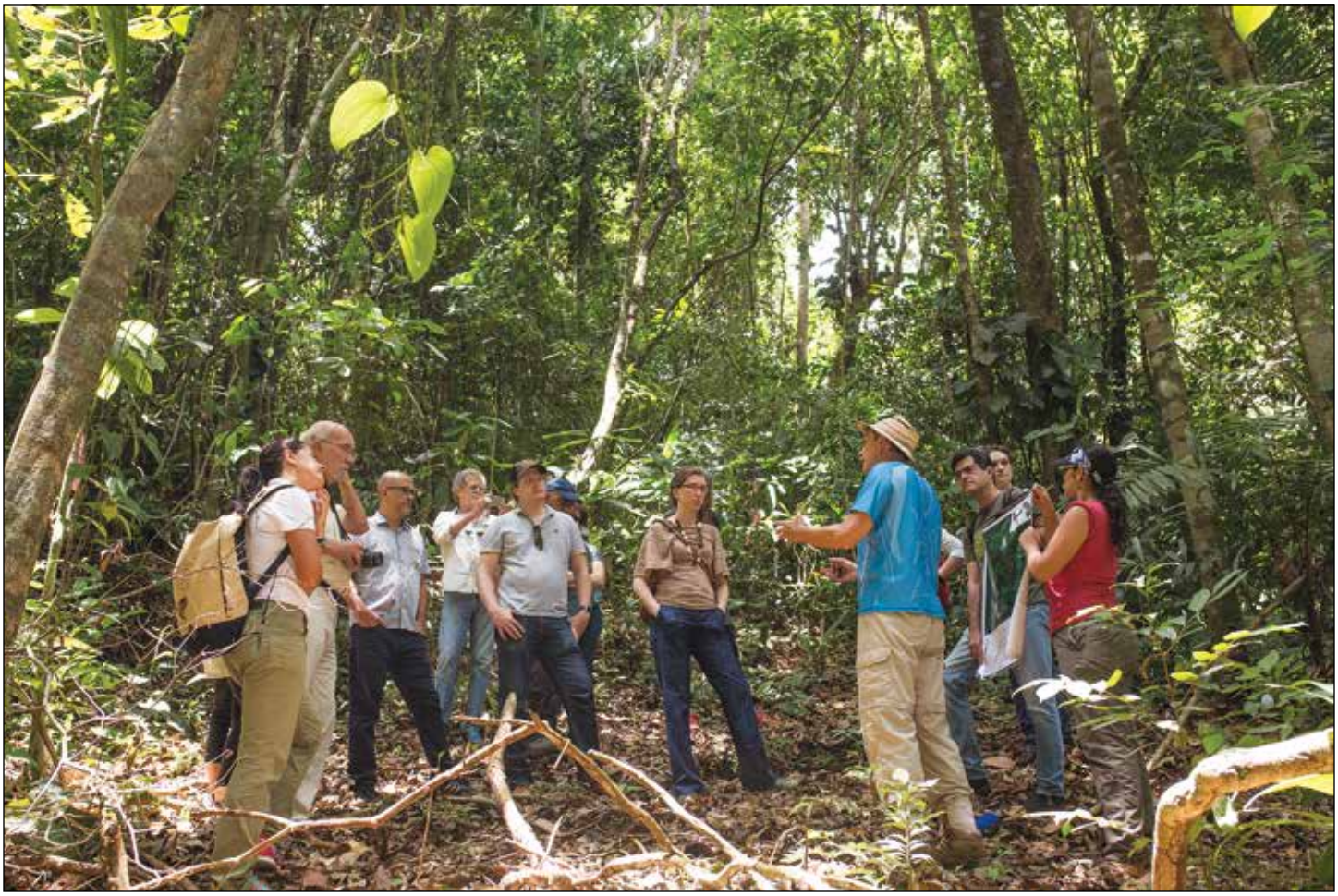
Capacity building is fundamental to essentially all efforts to reduce deforestation, increase reforestation, or enhance sustainable management of forests. For this reason, capacity building forms the foundation of policies like REDD+ and is a pillar of donor investment. But capacity is severely lacking in some areas where resources and personnel are limited. People leave vulnerable areas due to brain drain and more-promising opportunities elsewhere. Local institutions are plagued by financial problems, so there is greater reliance on external donors.

To increase and prevent the loss of capacity, efforts need to be inclusive and continuous. Some ways to do this are to work with national mechanisms, universities, research institutions, and foreign groups and establish links between them. Improvements in the sophistication of and access to global positioning system (GPS) and mapping technologies could also help increase local capacity. Such tools could enable locals, such as indigenous peoples and other forest-dwelling peoples, to take monitoring into their own hands and own the interventions being undertaken within their forests. Providing individuals with these technologies and training them in their use will provide for the long-term sustainability of capacity. Prioritizing capacity building is essential to achieving any goals related to climate action in forests.

When Do We Need to Get There?

To avoid passing critical tipping points by staying on a pathway consistent with limiting warming to 1.5°C, crucial climate action is needed now. To peak global GHG emissions by 2020, reduce total global CO_2 emissions by 2050, and reduce total global GHG emissions to zero by 2065, emissions in all sectors will need to be reduced. Achieving this will not only require radical energy and economic transformation but mitigation efforts on a broader scale. As discussed, forests have the potential to contribute significantly to climate-change mitigation. Eliminating deforestation alone could reduce GHG emissions by 15 percent. Coupled with increasing reforestation at a rapid and broad scale to bolster sequestration potential, forests can provide up to a third of the climate-change mitigation needed to meet the goals of the Paris Agreement.

Reaching the point at which forests are viewed as a viable and cost-effective mitigation solution will also require economic and societal change. Integrating forests into the real economy so they are valued not only as carbon sinks but as



Smithsonian Tropical Research Institute tour of secondary growth forest in Agua Salud.

fundamental to promoting economic growth and societal well-being is essential. Concentrating efforts to generate political, societal, and economic drivers to bring value to forests will be pivotal to transforming the forest and land-use sector. There are several key opportunities to promote the importance of forests in achieving the 1.5°C goal and help usher in much needed sectoral transitions.

Individuals in the forest and land-use spheres can coordinate a response to the Intergovernmental Panel on Climate Change (IPCC) Special Report on 1.5°C that emphasizes the importance of forests as a good solution to reduce emissions. The report may frame some pathways identified to reach the 1.5°C goal as dangerous or infeasible, which could impact the way reforestation and afforestation are treated because of concerns about land-use trade-offs, safeguards, biodiversity, and food security. It is important, therefore, to use this opportunity to fill out the understanding of and generate traction for the idea of developing an industry around protecting, expanding, and managing forests in a responsible and cost-effective way to provide immediate emissions reductions while other technologies are being developed.

Parties are expected to finalize the Paris rule book this year to guide implementation of the Paris Agreement. There is opportunity through the articles of the rule book to codify the role of forests as a mitigation solution. High-ambition countries with high reforestation potential, for example, might consider pushing for the inclusion or allowance of forest-based solutions to climate change.

The two-year window before 2020 could be opportune to enhance and accelerate ambition. Platforms like TFA 2020, which aims to help partners achieve their deforestation-free commitments, and Mission 2020 have helped emphasize the importance of acting to curb emissions by 2020. Many companies have pledged to reduce deforestation in their supply chains by 2020. The year 2020 is also when parties can submit revisions of their NDCs. Creating momentum around 2020 could help to urge countries to enhance their NDC ambitions by proposing specific numbers, targets, and concrete action in the forest sector.

The Talanoa Dialogue could also provide a platform to promote the importance of forests for climate-change mitigation. Many parties, groups, and organizations have already sent in their submissions answering three key questions: "Where are we?" "Where do we want to go?" and "How do we get there?" In responding to the last question, entities can emphasize forests as a potential solution to achieve desired climate goals. Furthermore, if the

Talanoa Dialogue reflects the shortcomings of current NDC ambitions in relation to meeting the 1.5°C goal, this could inspire countries to enhance their ambitions using forests.

The Global Climate Action Summit taking place in September is also a prime opportunity to showcase the importance of forests for combatting climate change. The forest-sector community, private sector, governments, and civil society will be able to express a commitment to climate action on forests. This could come in the form of new partnership announcements, action declarations, and policies revolving around protecting, expanding, and managing forests.

Although from a climate perspective forests are pivotal, that is not necessarily the case in other spheres. This needs to change. The opportunity costs and tradeoffs of reforestation and afforestation, and other forest-based actions, need to be adequately assessed to begin much-needed dialogue between the forest sector and others. Forests also need to be integrated into the real economy to be valued outside of the forest sector. And the importance of forests for facilitating real, actionable, and feasible climate action needs to be captured in ambition at all levels. We can no longer afford to keep forests on the margins of climate action.

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