



Forest Sector SDG Roadmap





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Foreword

It's now understood that business is key for the achievement of the Sustainable Development Goals (SDGs). The Business and Sustainable Development Commission's landmark [Better Business, Better World](#) report made a compelling case for companies to align with the SDGs, articulating how sustainable business models could unlock more than USD \$12 trillion in new market value and create up to 380 million jobs by 2030.

In addition to building support for the SDGs through individual company action and integration of the Goals into business strategy, the Commission emphasizes the critical role of sectoral partnerships to drive industry transformation on the road to 2030 and beyond.

As forward-looking business leaders, we want to work together with our sector peers and stakeholders to help the forest sector navigate the tremendous challenges that lie ahead and ensure that our industry continues to grow and thrive in line with the SDGs.

The forest sector is uniquely positioned to drive the transition to a low-carbon and circular future rooted in renewable, natural resources. We want to demonstrate leadership, apply our creativity, share our knowledge and provide innovative solutions to achieve a sustainable, resilient and inclusive future.

For these reasons, we have joined forces under the leadership of the WBCSD Forest Solutions Group (FSG) to chart a course towards collaboratively

maximizing our potential to contribute to the achievement of the SDGs and unlock the immense business opportunities that present themselves on this journey.

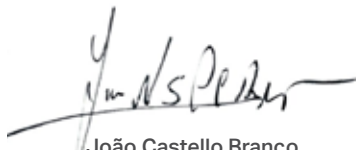
With this Roadmap we want to offer a framework for our sector and value chain partners with respect to the most impactful contributions the forest sector can make through process, product and partnership innovation while providing attainable pathways to help realize the ambitions that are set out within the SDGs.

We hope it will help guide, inform and influence decision-making and actions along the forest products value chain, serve as the basis for ongoing dialogue and inspire action-oriented collaboration among industry peers and beyond.

FSG Co-chairs:



Karl-Henrik Sundström
CEO, Stora Enso



João Castello Branco
CEO, The Navigator Company

Roadmap Co-chairs



Francisco Ruiz-Tagle
CEO, CMPC



Mark S. Sutton
Chairman and CEO, International Paper Company



Peter Oswald
CEO, Mondi Group

The SDGs are the blueprint to achieve a better and more sustainable future for all. The forest sector is contributing to the SDGs by providing low-carbon, bio-based solutions that are renewable and recyclable. This Roadmap provides us with a tool to maximize our positive impact.

Karl-Henrik Sundström
CEO, Stora Enso

The Forest Sector is in a strong position to influence the global response to many of the challenges that the SDGs aim to solve. We have come together to lead by example, share best practices and accelerate efforts to process, product and partnership innovation on the road to 2030 and beyond.

João Castello Branco
CEO, The Navigator Company

Partnerships are essential for achieving the SDGs. All businesses — including those in the forest sector — have a key role to play in mobilizing ambitious action to advance the Global Goals. The forest sector can make the biggest positive impact on the 2030 Agenda for Sustainable Development by taking a principles-based approach to their business.

Lise Kingo
CEO and Executive Director, United Nations Global Compact

Forest Solutions Group companies



Executive summary

Background

The Sustainable Development Goals (SDGs) present business with the opportunity to demonstrate leadership, apply its knowledge and creativity and provide innovative solutions that ensure a sustainable, resilient and inclusive future for all. Industry peers and value chain partners can leverage the universal framework of the SDGs to inform their actions, identify new forms of collaboration, unlock investment opportunities and accelerate the transition to 2030.

As a leading sector project of the World Business Council for Sustainable Development (WBCSD), the Forest Solutions Group (FSG) led the development of the Forest Sector SDG Roadmap (Roadmap). The FSG is the global platform for the forest sector value chain to build and share business solutions to lead sustainable development in the forest products sector. Its mission is to advance the bio-economy and a thriving forest sector that sustains healthy productive forests and people's well-being.

A broad array of forest products from paper, packaging and personal care to innovative bio-materials for the construction, chemical and textile sectors provides solutions for everyday needs. These products and the forests they come from capture and store carbon. This unique ability positions the forest sector at the center of the transition to a sustainable, low-carbon and circular future that is rooted in renewable, natural resources.

Purpose

The Roadmap articulates a joint vision with respect to the most impactful contributions the forest sector can make through process, product and partnership innovation and provides attainable pathways to help realize and achieve the ambitions that are set out within the SDGs.

The Roadmap describes the sector's current level of alignment with the SDGs and identifies key impact opportunities for the most material SDGs and targets, while recognizing the interconnections between them. It outlines tangible actions that the forest sector can take globally and regionally to catalyze lasting impact in the run up to 2030 and beyond.

With this Roadmap, the members of the FSG commit to implementing the actions described herein that are most relevant to their business and to monitor and report on progress in accordance with available reporting guidelines and standards. With a view to further evolve this work and to encourage concerted action, the group will seek out innovative forms of collaboration and partnerships.

Audience

This Roadmap is for forest sector companies to help guide, inform and influence decision-making and actions within their business. It also seeks to inspire and foster collaboration throughout the value chain and stimulate cross-sectoral cooperation to amplify SDG impact. In particular, it aims to provide a clear and transparent narrative to customers and consumers of forest products and wider stakeholder groups (such as NGOs, industry associations and governments) on the sector's most significant contributions to attaining the SDGs.

Method and approach

In this Roadmap, the FSG has followed the three-step framework described in the [WBCSD SDG Sector Roadmap Guidelines](#).¹ In doing so, participating companies have come together to establish a common understanding and position around several key factors, including:

- the sector's current level of alignment with the SDGs throughout the value chain;

- the sector's most significant opportunities for impact; and,
- key actions to deliver on the impact opportunities and achieve the SDGs.

Stakeholders relevant to the forest sector were consulted throughout the development of the Roadmap.

Focus on impact

While the forest sector interacts with all 17 SDGs and recognizes the many interconnections and potential trade-offs among the Goals, for the purpose of this Roadmap SDGs 6, 7, 8, 12, 13 and 15 were identified as core Goals where the sector and its value chain have the most potential to influence, create long-term value and drive sector transformation.

SDGs 1, 4, 5, 9 and 11 were identified as supportive Goals where the sector can also make a meaningful contribution by driving inclusive and sustainable economic growth through innovation, transparency and operational integrity.

Positive and negative interactions of the forest sector with all SDGs are described in Chapter 1.

Impact pathways

The Roadmap outlines eight impact opportunities with corresponding impact pathways to achieve them. These pathways include specific actions, key enablers and partners to engage with and are mapped against the SDG targets to which the actions most directly contribute. The impact pathways provide a comprehensive overview of actions that the forest sector can take to maximize its contribution to realizing the SDGs.

Core SDGs



Supportive SDGs



Introduction

The SDGs

Agreed upon unanimously in 2015 by all 193 member states of the United Nations, the 17 SDGs lay out a transformative agenda to tackle the world's most pressing social, environmental and economic challenges by 2030. The 17 Goals with 169 specific targets spell out concrete ambitions that need to be realized to ensure a sustainable, resilient and inclusive future in which no one is left behind. Success depends on collaborative engagement, bold action and innovation by governments, the private sector, civil society and individuals.

The role of business and benefits of SDG sector roadmaps

While the private sector is not expected to deliver the SDGs alone, it's well understood that business leadership and engagement is vital as a source of finance, a driver of innovation and technology, an enabler for inclusive development and an engine of economic growth. SDGs provide the private sector with a comprehensive framework and offer a new lens to manage risks, identify new business opportunities, demonstrate its social relevance, and to secure an enduring license to operate.

In its [Better Business, Better World](#) report,² the Business and Sustainable Development Commission identifies at least USD \$12 trillion of market opportunities, including job creation, innovation and access to capital, that could be unlocked by achieving the SDGs and emphasizes the urgent need for transformative and collaborative action at scale.

It advocates that players in all industries produce detailed roadmaps to guide their sector's shift to sustainable development in line with the SDGs.

By working with industry peers and partners in the value chain, companies can articulate a common vision and approach to achieving the SDGs, inform their individual actions and form innovative partnerships on high-priority goals and targets. This will help companies drive transformation, deliver more sustainable products and services, maximize positive impact and minimize negative impact.

With consumers, customers and investors looking to business to be more transparent and act on a range of issues that sit at the heart of the SDGs, the Roadmap provides practical pathways for the forest sector to optimize its contribution to a sustainable, resilient and inclusive future.

Approach

This Roadmap applies the framework of the [SDG Sector Roadmap Guidelines](#)³ that take companies of the same sector through a step-by-step process to explore, articulate and realize a common vision for their industry to contribute to the SDGs. This process includes the following three steps:

1. Establish the sector's current level of alignment with the SDGs throughout the value chain;
2. Identify the sector's most significant opportunities for impact; and
3. Outline key actions to realize the impact opportunities and identify means to track progress.

In addition, this Roadmap builds on the experience from [WBCSD's Chemical Sector SDG Roadmap](#)⁴ which was launched in July 2018.

The 18-month development process brought together experts from FSG member companies who led the development of the content for the Roadmap. Information, data and insights were collected through interviews, SDG mapping exercises, review of corporate disclosure and literature relevant to the sector, and further refined through a series of workshops.

To capture a broad range of perspectives and ensure the Roadmap is accurate and applicable, key stakeholders of the forest sector were consulted and provided input throughout its development.

The FSG and WBCSD thank: the Confederation of European Paper Industries (CEPI), the Forest Stewardship Council (FSC), the International Council of Forest and Paper Associations (ICFPA), the International Union for Conservation of Nature (IUCN), the International Union of Forest Research (IUFRO), The National Council for Air and Stream Improvement (NCASI), the Programme for the Endorsement of Forest Certification (PEFC), The Forests Dialogue (TFD), The Sustainable Forestry Initiative (SFI), The joint United Nations Economic Commission for Europe (UNECE)/ Food and Agriculture Organization's (FAO) Forestry and Timber Section, The Nature Conservancy (TNC), The World Resources Institute (WRI) and the World Wide Fund for Nature (WWF).

 **Creating value for all stakeholders for generations to come is at the core of our strategic framework – by sustaining forests, investing in people, improving the planet, creating innovative products and delivering inspired performance. This Roadmap will lead to continued sustainable development in the forest sector and help realize our unique potential for positive impact.**

Mark S. Sutton
Chairman and CEO, International Paper Company



Chapter I.

The forest sector and the SDGs



The forest sector

Overview of the forest sector

The forest sector is central to the ongoing transition to a low-carbon and circular future rooted in renewable, natural resources, also known as the bio-economy. With their ability to capture and store carbon, fiber-based materials feed into a broad array of renewable solutions that can substitute non-renewable and fossil-based materials in products we use every day. These range from traditional products such as paper, packaging and personal care products, to more innovative bio-fuels and bio-materials for the construction, chemical and textile sectors.

The growing demand for these products, in combination with a changing climate, put the world's forests under intense

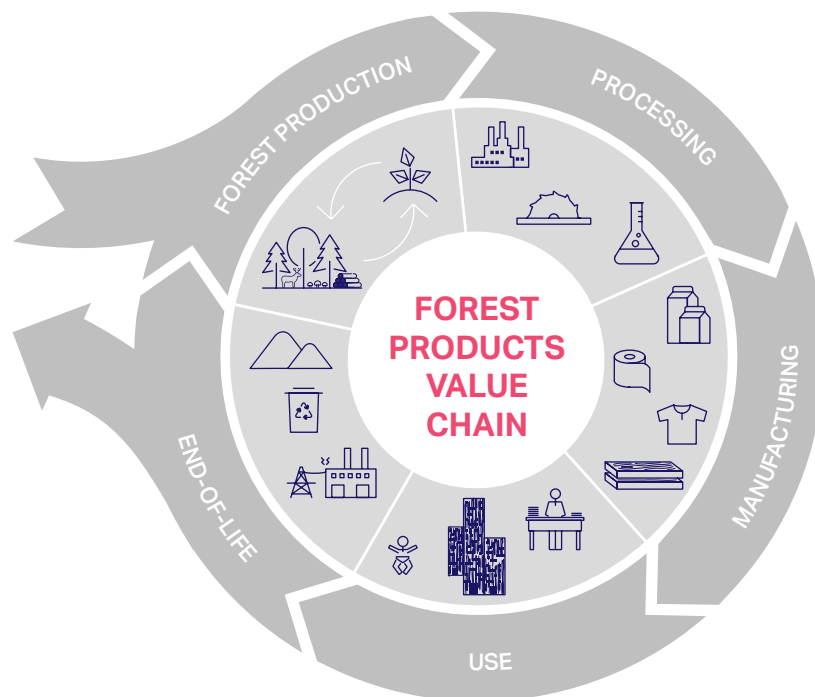
pressure to sustainably provide all the goods and services needed for people and planet to thrive. To meet a global need, forest products must be sourced from healthy, working forests that can continuously supply wood and fiber while providing multiple benefits such as carbon storage, clean air and water, natural habitat and livelihoods.

The forest sector value chain

Within the scope of this Roadmap, the forest sector includes all economic activities that generally depend on the production of goods and services from forests. It encompasses forest production (including nurseries), processing, manufacturing, use and end of life use stages of the value chain (see Figure 1).

The impact opportunities in this Roadmap primarily focus on the social and environmental issues related to productive or working forests (where forests are managed to provide physical goods for sale while maintaining ecosystem services and social values across the landscape) and wood fiber products (e.g. lumber, pulp, paper, packaging, personal care products and bio-products). The Roadmap also addresses opportunities in relation to forest conservation and restoration and can relate to non-wood fiber forest products (e.g. nuts, understory plants and cork).

Figure 1: The forest products value chain



The Roadmap is a powerful articulation of the forest sector's unique potential to deliver on multiple SDGs. It defines the key business leadership challenges for the forest sector worldwide.

Rod Taylor
Global Director Forests, World Resources Institute

The SDGs as a lens to respond to global megatrends

The forest sector is currently facing several disruptive and transformative challenges that strongly relate to a set of five societal and environmental megatrends that shape the relationship between business, people and the planet.

A world with a changing climate: related to the risks that climate change poses to business and society, as well as the opportunities it presents to the forest sector to lead the transition to a low-carbon and circular economy based on renewable, natural resources.

A world living beyond its means: related to the environmental impact and social costs of lifestyles in developed countries and aspirations towards similar lifestyles in emerging economies. These impacts affect people's well-being and shift consumer attitudes towards demanding more transparency about the products they consume and widespread scrutiny over single-use products.

Climate change is changing forest landscapes worldwide by affecting forests' diversity, health and resilience to pests, droughts and fires. At the same time societal and industrial demand on forests for wood, fiber, fuel and ecosystem services, such as provision of fresh water and carbon storage, are expected to increase significantly by 2030 and beyond. Climate change and competition over land for different uses influence the composition of forests and may determine where forests will continue to thrive and where they will return. While this can intensify challenges related to resource scarcity, the urgent and inevitable need to decarbonize the global economy and to capture carbon from the atmosphere can also create a favorable environment for renewable, natural resources such as wood fiber products. Both mega-trends emphasize the importance of sustainable land use to address climate change,

sustainable production and consumption, equality and other critical ambitions that sit at the heart of the SDGs.

A world on the move: the world is becoming increasingly urban and is experiencing significant demographic shifts, while centers of economic power are transitioning from west to east and societies are becoming widely digitally connected.

The forest sector is largely present in rural areas for forest production and processing, while supplying predominantly urban areas with products and services. Through globalization, the balance of economic power is shifting away from the global North to Asia as the new center of trade, playing an increasingly important role in the supply and demand for wood fiber products. In a world where consumption patterns evolve rapidly and people are becoming more digitally sophisticated, some traditional forest products such as paper are challenged, while the growth in e-commerce continues to drive the demand for packaging materials. Likewise, other technological innovations drive transparency throughout the forest sector. An increasing number of tools that help to monitor forests and their condition and trace the flow of wood and derived products from the forests to store shelves continue to be on the rise.

A world that wants to work: where challenges grow in terms of the quantity and quality of work, the nature of work and the very future of work itself.

While the sector continues to make significant improvements to the quality of work by upholding labor standards, health and safety regulations, the quantity and nature of available jobs is affected by emerging technological innovations, such as the automation of manufacturing processes. This trend is particularly dominant in rural areas where forest production and processing can sustain the livelihoods of entire communities.

In addition, the forest sector is also facing an increasingly aging workforce. Global shifts in demographics, in both young and aging populations, challenge the sector's ability to retain and attract new and diverse talent where skilled workers are urgently needed.

A world that is polarizing: where we see large discrepancies between people's access to human rights and basic needs, incomes within and among nations, political and societal participation, and levels of trust in institutions.

Despite significant improvements in the past decades, a large portion of the world's population lacks access to human rights and basic services, such as water, education, health, housing, energy and food – all of which are central themes of the SDGs and relate to the forest sector. With operations in rural areas, at times in countries that may lack political stability, regulation and law enforcement, the role of business in upholding and respecting human rights throughout operations is essential. This also underlines the interconnectedness of human rights and the SDGs and that business' respect of human rights is a key means to contributing to the achievement of the SDGs while strengthening the sector's social license to operate.

Although some of these trends can be disruptive, the forest sector has overcome periods of change in the past by transforming itself through innovation and is well-positioned today to significantly and positively influence the global response to these challenges. This is achieved through effective leadership, collaboration and by leveraging the power and versatility of the renewable wood fiber which the sector depends upon.

This Roadmap employs the SDGs to identify risks and opportunities along the forest products value chain and provides solution pathways through which the sector can minimize its negative impacts and strive to maximize its positive contributions to the SDGs through process, product and partnership innovation.

Sustainability milestones for the sector

Sustainability principles and processes have been core to the forest sector for well prior to the adoption of the SDGs in 2015. Over the past 20 years several key milestones have had far reaching and enduring influence on sustainable development within the sector:

- **Forest legality:** Forest governance and legal trade have always played a key role in the sector and are foundational elements to sustainability. Although illegal activities continue to undermine markets for responsible wood fiber products, harm the environment and people in parts of the world, several countries and regions have implemented action plans, enforcement mechanisms and regulation to improve forest management and governance to prevent illegal logging and trade. Some examples include:
 - o 2003: Forest Law Enforcement, Governance and Trade Action Plan (FLEGT);
 - o 2008: Amendment of the U.S. Lacey Act;
 - o 2012: Australia Illegal Logging Prohibition Act;

- o 2013: European Timber Regulation (EUTR); and
- o 2016: Japan Clean Wood Act.

- **Forests certification:** The years after Earth Summit in 1992 saw the creation and development of forest certification systems and standards in response to increasing public concern over the state of the world's forests related to ongoing deforestation and forest degradation, as well as vulnerability of forest-dependent communities and people. Demands for a system that could credibly identify well-managed forests as a source of responsibly produced forest products and that would encourage broader uptake of responsible practices became louder and persistent. Forest sector companies have been a key building block in the development and progress of certification to verify responsible forest management and sourcing practices. Forest certification has informed and influenced many other certification schemes that have since emerged, in particular for agricultural commodities.

The internationally recognized forest certification systems are: the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC), which includes the Sustainable Forestry Initiative (SFI). Examples of environmental, social and economic benefits of forest certification are listed in the appendix.

- **Forests and climate:** In the 2000s, the role that forests and forest products play in climate change mitigation and adaptation started to gain broader recognition internationally. In 2007, the [Fourth Assessment Report](#) of the Intergovernmental Panel on Climate Change (IPCC) first emphasized that: "In the long term, a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fiber or energy from the forest, will generate the largest sustained mitigation benefit." This has further evolved and translated into the implementation of the Paris Agreement (2015), with many countries including afforestation and reforestation programs as part of their Nationally Determined Contributions (NDCs). The IPCC's



[Fifth Assessment Report](#) (2014) and [Special Report](#) (2018) demonstrate the evolution of understanding how Agriculture, Forestry and other Land Uses (AFOLU) are intertwined with climate mitigation and adaptation – specifically limiting global warming to 1.5°C. IPCC finds that large scale deployment of AFOLU-related measures including sustainable forest management, afforestation, reforestation and restoration of natural ecosystems are key components to removing carbon dioxide from the atmosphere. It's also noted that AFOLU measures would provide co-benefits such as improved biodiversity, soil quality and local food security. In December 2018, the Ministerial Katowice Declaration on Forests for the Climate built on these findings and called for accelerated action so that the global contribution of forests and forest products to the long-term goals of the Paris Agreement are achieved. Moreover, various pledges and initiatives by business and other stakeholders (including the New York Declaration on Forests and the Tropical Forest Alliance 2020) have emerged to stop deforestation. These have contributed to a broader public awareness, have informed and influenced procurement and investment decisions and show some level of success to date.

- **Forest in the landscape:** Over the last decade, recognition has grown that the importance of sustainability is not limited to individual production sites and individual sectors. Risks related to water scarcity, biodiversity loss, ecosystem degradation, competition for natural resources and energy, or climate change are shared by various actors across productive areas or “landscapes”. To effectively address such risks, the concept of ‘landscape approaches’ emerged, requiring collective or shared efforts by business, policy makers, communities and other actors in the landscape.

The forest sector has engaged with platforms such as The Forests Dialogue and the New Generations Plantations Platform to advance dialogue, share knowledge and promote best practices.

- **Forests and recycling:** Paper was one of the first products to be widely recycled and with a global recycling rate of approximately 60% in 2017,⁸ it represents one of the greatest recycling success stories. While the history of recycling goes back centuries, great strides have been achieved since the 1980s with the growth of consumer environmental awareness and demand for recycled products leading to conducive public and private policies. Since 1990, the recovery rate for paper and paperboard doubled in North America, from 33.5% in 1990 to 68.1% in 2018.⁹ In Europe, the European Recovered Paper Council (ERPC) was set up in 2000 to monitor progress towards meeting the paper recycling targets set out in the European Declaration on Paper Recycling.¹⁰ Paper recycling in Europe reached 72.3% in 2017,¹¹ a rate approaching 80%, the maximum that can practically be achieved.¹² These developments, combined with other drivers, have advanced sustainability performance of the sector over the last decades. Nevertheless, challenges remain and hinder efforts to bringing more forests under sustainable management and to scale the use of wood fiber products in conventional and innovative applications.

On the forest side, challenges include land use competition, uncertainty over land tenure rights, deforestation and forest degradation. On the product side, there is a lack of awareness and understanding of the multiple benefits that wood fiber products provide compared to non-renewable and fossil-based product offerings. (To better understand the FSG's commitment to

sustainable forest management and responsible sourcing of wood fiber products, and recommendations to counter forces of deforestation, see on page 13).

In addition, despite legality regulations, illegal logging and trade continue to undermine legal wood fiber markets in some parts of the world. The sector is subject to scrutiny related to its air emissions, use of chemicals and waste management. While sustainable forest management often contributes to broader water stewardship efforts, the processing of wood fiber is water intensive and can influence water quantity and quality in nearby aquatic systems. The responsible use of water, particularly in water stressed regions, is a core focus area of the sector. Lastly, while there is widespread agreement among stakeholders that forest production needs to intensify to meet the growing demand for wood fiber products, the parameters of sustainable intensification remain a central topic of debate in various multi-stakeholder platforms, including forest certification systems.



With sustainability at the core of our business, we can create value for our customers, employees, business and society as a whole. Only by working transparently and collaboratively, we can accelerate and scale the forest sector's contribution to a resilient and inclusive future in line with the Sustainable Development Goals.

Peter Oswald
CEO, Mondi Group



Countering the forces of deforestation

Context

Forests are key to global sustainability and their destruction and unsustainable use undermines any efforts to socially, environmentally and economically sound development.

Deforestation continues to be a global concern because of its contribution to climate change, negative impacts on biodiversity, soil erosion and implications for forest-dependent communities. While data on global deforestation vary, around 10% of deforestation is linked to wood products,ⁱ which undermines the public perception of the forest industry and forest products value chains. Destructive forest practices also jeopardize the long-term ability of the forest sector to secure supply of responsible wood fiber and thereby impede sustainable sector growth.

SDG target 15.2 tasks constituents explicitly to "...halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally" by 2020. Therefore, the Forest Sector SDG Roadmap must address the need to end deforestation. Success in ending deforestation and forest degradation would reach far beyond SDG 15 and help realize the ambitions of many of the 17 Goals.

Commitment of the WBCSD Forest Solutions Group

With our forest operations, procurement supply chains, and products we aim to contribute to healthy and thriving forest landscapes which benefit people and the planet. By demonstrating, sharing and advocating for successful models of sustainable forest management and wood fiber procurement, we collectively work to counter the economic forces that drive deforestation and forest degradation.

We affirm our long-standing commitment to managing the forests we own, lease or manage sustainably, and to sourcing and producing wood fiber products that do not contribute to deforestation.

Recommendation and engagement

We share the concerns around the state of the world's forests, actively engage in the global discourse on deforestation, and help form recommendations for practical solutions.

To meet commitments related to deforestation, we recommend following a due diligence approach and using appropriate tools, such as the WRI & WBCSD [Sustainable Procurement Guide for Forest Products](#).ⁱⁱ The Guide provides information and resources to develop and implement sourcing policies following a risk-based approach, principally for purchasers of wood

fiber products. This approach includes three central elements:

- 1) Traceability;
- 2) Geographic risk-based assessment;
- 3) Supply chain risk assessment.

In addition, we support the goal of ensuring that natural forests are not compromised beyond levels that are aligned with credible and recognized management practices and standards, as well as national or regional policies. We support approaches to avoid sourcing and that impose conditions on products from converted forest areas, especially in tropical forests. We recommend comprehensive analysis of due diligence systems,ⁱⁱⁱ approaches and tools^{iv} available and appropriate for the geography and local context.

The most effective work to halt deforestation and prevent forest degradation will come from collaborative, multi-stakeholder initiatives to change the underlying drivers and help create more sustainable and resilient landscapes. This includes the establishment of forest management as a sustainable use of land, enhancing livelihoods by means of providing attractive jobs along the value chain and selling responsibly produced and sourced wood fiber products. This also includes the engagement in forest conservation and restoration, reforestation and afforestation, as part of a wider approach to diversify forest landscapes and production systems.

The forest sector and the SDGs

Key SDGs for the sector

To address the world's most pressing social, economic and environmental challenges, each of the 17 SDGs and 169 targets set out in the 2030 agenda require consideration and attention. The forest sector has the capacity to help advance each of the 17 Goals in a variety of ways. However, for the purpose of this Roadmap and to achieve maximum impact, it was important to identify the SDGs where the sector can have the most influence or ability to drive innovation, transformation and impact through leveraging its role in the value chain.

To do so, the FSG reviewed and assessed all SDGs and respective targets for the sector through a three-step process:

1. Review of general interactions with all 17 SDGs to determine those that are core and supportive;

2. Recognizing current positive and negative impacts along the forest products value chain; and
3. Articulating impact opportunities and actions to minimize negative impact and maximize positive impact in the short-, medium- and long-term.



Step 1 – Review of general interaction with all 17 SDG to determine those that are core and supportive:

With a view to better understand different perspectives on how the sector interacts with the SDGs and to identify where contributions could be most significant, various sources of information (see appendix) were reviewed and analyzed, including company insight and external sources:

- Insight from companies and external research clearly aligned on SDGs 6, 8, 13 and 15 with respect to the sector's interaction and role to contribute.
- Companies also identified SDGs 4, 7, 9, 11, 12 and 17 as relevant to the sector's potential to contribute to the SDGs.
- Sector specific literature that included an SDG focus and other data sources indicated SDGs 1, 2, 3 and 5 as relevant to the sector.

Figure 2: Identifying most material SDGs



Insight from companies
Interviews, analysis of SDG value chain mapping, corporate disclosure

External research
Literature review and other external information

This Roadmap articulates a common vision for the forest sector to help realize the ambitions that sit at the heart of the SDGs. We stand behind it and want to inspire and foster action-focused collaboration – globally, locally and throughout the value chain – that benefit people and the planet.

Francisco Ruiz-Tagle
CEO, CMPC

Step 2 – Recognizing current negative and positive impacts:

The most material SDGs were then further assessed by level of current negative and positive impact, and the potential of the sector to contribute to the realization of the SDGs, by either minimizing negative or by maximizing positive impacts.

Based on the sources analyzed and the assessment of potential to contribute, SDGs 6, 7, 8, 12, 13 and 15 were identified as the core SDGs where the sector can make the most significant and direct contribution by creating long-term value and driving sector transformation.

In recognition of regional differences in the relevance of specific SDGs and based on the understanding that interdependencies and tradeoffs exist, SDGs 1, 4, 5, 9 and 11 were identified as supportive SDGs. This is where the sector can leverage its influence to advance inclusive and sustainable economic growth through innovation, transparency and operational integrity.

It was recognized that the spirit of partnership and collaboration, as embodied in SDG 17, is a recurring theme throughout this Roadmap and that all impact opportunities and actions need partners to succeed.

The figures 3a and 4a aim to visualize the current positive and negative impacts on the SDGs that have been identified as core and supportive. This is based on the qualitative assessment of participating companies as well as the external research and insight received through interviews of stakeholders.

It's important to note that negative and positive impacts on the same SDG often sit at different stages of the value chain and can vary by region or geography. Negative and positive impacts are described in more detail in the section: how the sector interacts with the 17 SDGs.

Figure 3a: Current positive and negative impacts on core SDGs

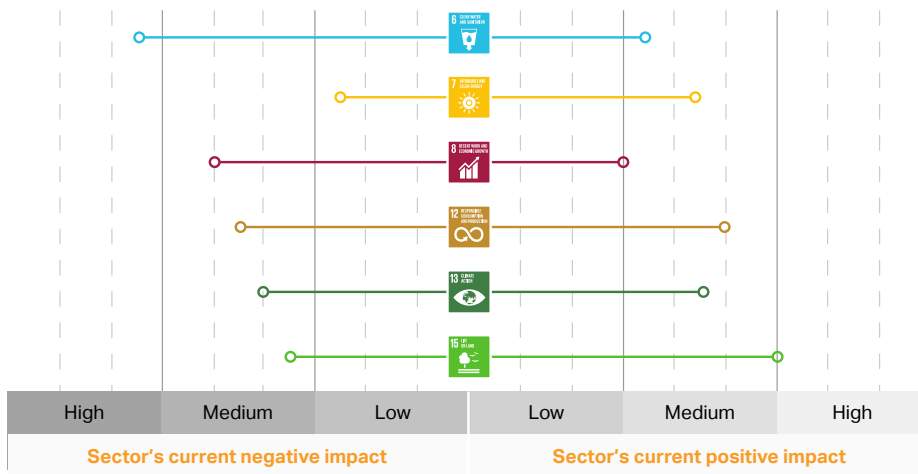
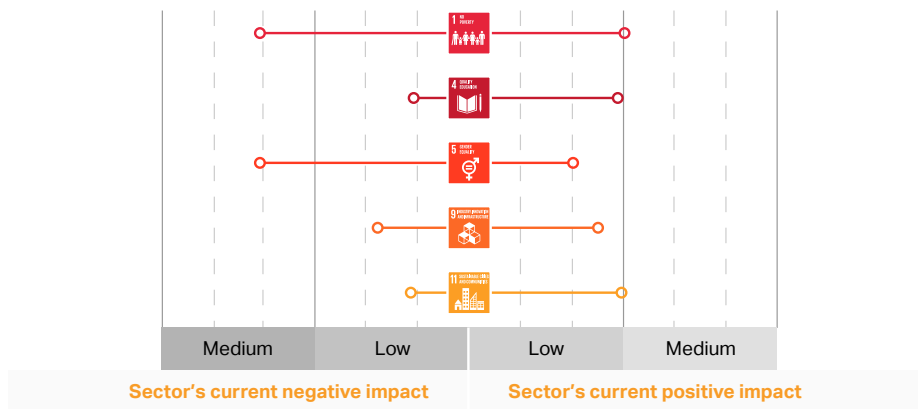


Figure 4a: Current positive and negative impact on supportive SDGs



Step 3 – Articulating impact pathways:

Chapter 2 of this Roadmap presents impact pathways, outlining a comprehensive overview of eight impact opportunities and possible actions that the forest sector can take to optimize its contribution to the SDGs that were identified as core and supportive. These actions aim to

bring positive impacts to scale and to address current negative impacts that the sector needs to mitigate. They are assessed by their level of impact on the SDGs, the sector’s level of contribution, the timeframe to reach impact, and are mapped against the SDG targets that are directly impacted. Enablers and key partners to engage with to reach scale were also identified.

The figures 3b and 4b aim to enhance the earlier figures by visualizing the level of ambition to shift impacts on core and supportive SDGs. The level of ambition was determined based on the assessment of the sector’s potential to contribute to the realization of the SDGs by implementing and scaling up the actions outlined in the impact pathways in Chapter 2.

Figure 3b: Ambition to reducing negative and scaling up positive impact on core SDGs

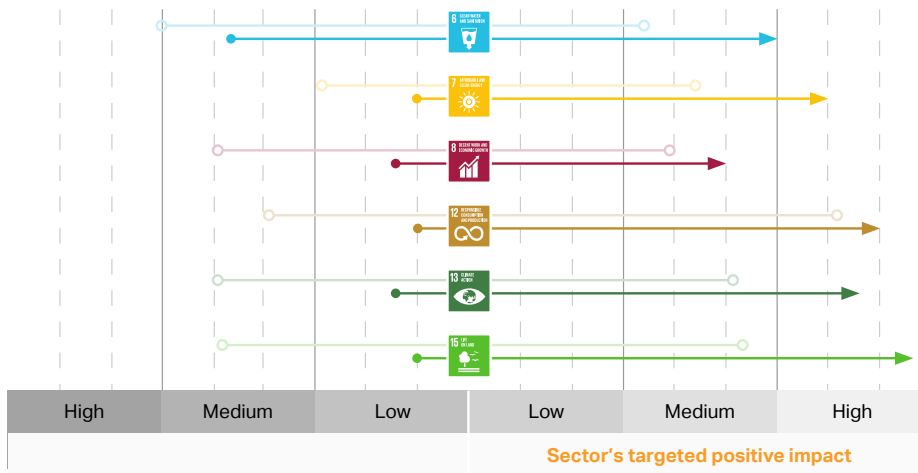
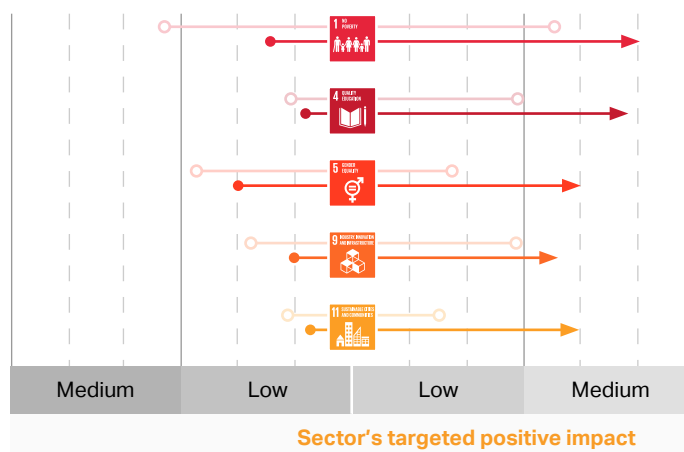


Figure 4b: Ambition to reducing negative and scaling up positive impact on supportive SDGs





How the forest sector interacts with the 17 SDGs

Sustainable forest management is a set of principles that can address many of the challenges that the SDGs aim to solve, including access to and use of land and water, climate change, consumption and production patterns, energy supply and inclusive development. Conversely, unsustainable practices in the forest sector have the potential to undermine the achievement of the SDGs and all that they stand for.

While the most immediate attention tends to fall on SDG 15 – Life on land – where sustainable forest management is explicitly addressed, it's important to note that the forest sector contributes to all 17 Goals, given the broad impacts forests and their products have on society, the economy and the environment.

The following section outlines how the sector at large interacts with the Goals, starting with SDG 17 and the six Goals that have been identified as core to the forest sector, followed by the five

supportive Goals and then the remaining SDG contributions by the sector. Within this context, regional differences of impacts as well as the distribution of impacts along the value chain need to be considered. Finally, impacts should be evaluated holistically, as resources to minimize negative impacts can be as significant in contributing to the SDGs as maximizing positive impacts.



Strengthen the means of implementation and revitalize the global partnership for sustainable development

None of the SDGs can be achieved in isolation. Partnerships at global, regional and local levels, are a key enabler to advance the 2030 Agenda for sustainable development and accelerate progress on all SDGs. The forest sector has a strong track record in working together with partners along the value chain on material sustainability issues.

As individual companies or through collaborative efforts, including forest certification, landscape approaches, policy advocacy and multi-stakeholder processes, the sector has broad experience working with local communities, with private and public landowners, regulators and policy makers, NGO groups or other sectors at a landscape level.

The Roadmap itself was developed in the spirit of collaboration between members of the FSG, and in consultation with key stakeholders of the forest sector. In recognition that partnerships are essential to deliver on the actions outlined in Chapter 2, suggested partners were listed for each action.



Core SDGs:

SDGs that provide opportunities for impact to create long-term value and drive sector transformation.



Ensure availability and sustainable management of water and sanitation for all

Water security and forest health are intrinsically linked. The FAO suggests that about 75% of the world's accessible freshwater, be it for domestic, industrial or commercial use, comes from forests.¹³ The forest sector is highly dependent on freshwater for forest production, primary processing and manufacturing. Responsible forest management is key to preserving ecosystem functions by implementing dedicated stewardship plans, including watershed management, particularly in regions that experience water stress and high competition for water use.

At the processing and manufacturing level, the production of wood fiber products is a water intensive process. Managing water impacts and dependencies are among the central sustainability priorities for the sector. If not managed appropriately, effluents from fiber processing can affect the quality and temperature of the surrounding aquatic environment. Given the dependency and impacts on water, the industry is taking action to use water more efficiently and responsibly. Today, on average, 90% of the water used in production facilities is safely returned to above ground water sources and each liter of water is used more than 10 times before being returned.¹⁴



Ensure access to affordable, reliable, sustainable, and modern energy for all

While the forest sector is an energy-intensive industry, the sector is also an important producer of renewable and affordable energy. Its energy intensity drives the sector's focus on improving energy efficiency throughout operations by using and generating renewable energy. Renewable energy from sustainably sourced biomass is derived from upcycling harvesting, processing and manufacturing wood fiber residues. Integrated paper and pulp mills often produce about half of their electricity needs through combined heat and power (CHP), primarily from wood residuals and black liquor.¹⁵ In addition to producing renewable energy for its own consumption, the sector sells the surplus externally, thereby contributing to the share of renewables in the energy mix. Energy from wood provides 40% of today's global renewable energy supply, as much as solar, hydroelectric and wind power combined.¹⁶ Municipal plants can benefit from the supply of logging and wood processing residues to produce renewable energy, as well as fuel biomass-based district heating systems for communities neighboring plants and mills.



Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

The forest sector is global by nature and makes a significant contribution to employment and economic growth in both developed and emerging economies. While the sector formally employs nearly 14 million people globally, the FAO and ILO estimate that indirect and induced effects of the sector are far greater, involving about 45 million jobs.^{17,18,19}

Accidents and fatalities throughout the forest products value chain are a risk that the sector has been addressing and will continue to make a top priority. Despite regional differences in the challenges that exist, providing a healthy and safe working environment, respecting human and labor rights are foundational to advancing sustainability within the sector. The same safe and equitable principles apply to the large number of contracted workers and temporary staff that are increasingly common in the forest sector.

The fast-evolving bio-economy fuels many of the opportunities in the sector in terms of new skills and competencies²⁰ and challenges companies to retain and attract talent. At the same time, the sector needs to carefully balance any trade-offs that result from process innovation, optimization and mechanization and potential workforce reductions. To ensure the provision of employment and economic growth in rural areas, or to bridge a shortage of available skilled workers, forest sector companies build partnerships with local academic institutions for vocational training or invest into small and medium sized enterprises within their supply chain.





Ensure sustainable consumption and production patterns

SDG 12 is pivotal because it requires balance between achieving the core ambitions of socially focused goals, which may lead to more consumption and potentially greater environmental impacts, and achieving environmentally focused goals, which demand a reduction in consumption.²¹

The production and uptake of renewable and sustainable wood fiber products is key in realizing SDG 12's ambition of sustainable use and management of natural resources. As the world's forests are coming under increased pressure to provide ecosystem services and sequester carbon from the atmosphere while supplying renewable raw materials for a low-carbon economy, the forest sector can only meet growing demand by providing wood fiber products that are sourced from sustainably managed working forests. Further down the supply chain, the sector strives to scale up circular business models by upcycling waste streams within its value chain for internal energy generation and by incorporating recycled content where possible. At the use stage of the value chain, the forest sector can contribute to reducing waste generation by designing products adapted to waste management options available locally and increasing the recycling rates of wood fiber products through consumer education and collaborative efforts with the waste disposal industry.

Moreover, the forest sector is well-positioned to break through the prevalent linear "take-make-dispose" economic model and drive the transition to a low-carbon and circular economy by virtue of the renewable and biodegradable nature of wood fiber. However, single-use fiber-based products, such as composite packaging, diapers, personal care and sanitary products pose a challenge for which solutions are needed to alleviate end of use impacts. For example, innovation in fiber-based packaging plays an increasingly important role in protecting food and preventing food loss and waste, while providing renewable alternatives to other single-use materials.



Take urgent action to combat climate change and its impacts

Forests capture and store carbon. The responsible use of wood fiber can expand this carbon sink beyond the forests to the products. The unique carbon sequestration potential of forests and forest products is gaining broad recognition, which elevates the role of forests and wood fiber products in addressing climate change. Some 120 countries have made commitments to climate change mitigation and adaptation that include action on forests.²² Sustainable forest management and investments in reforestation, afforestation, land restoration and conservation efforts are key to maintaining and growing healthy forests with stable and increasing carbon stocks. Nature-based climate solutions such as forests and peatlands can provide up to 37% of the emission reductions needed by 2030 to keep

global temperature increases under 2°C.²³ Sustainably managed forests play a critical role in addressing the environmental impacts of droughts, floods, storms and forest fires, all of which are expected to intensify as climate change progresses. In particular, forest fires contribute to climate change and pose an immense risk to the sector's ability to secure its wood fiber supply. Against this backdrop the forest sector works to evolve management practices and approaches to avoid forest fires, including through active engagement at policy levels.

A variety of techniques help the sector to reduce its energy intensity, be energy efficient and reduce carbon emissions by using renewable and sustainably sourced residual biomass energy. Moreover, wood fiber products from responsibly managed working forests provide low-carbon alternatives to many non-renewable and fossil-based materials, especially in construction, packaging, textile and chemical sectors.



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Through its influence on forest management practices, the forest sector has the most direct and substantial ability to drive positive change and make a significant contribution to SDG 15. Given the sector's undeniable dependence on natural resources, sustainable forest management and responsible sourcing practices that aim to preserve forests are fundamental prerequisites to the sector's ability to secure wood fiber supply and to behave with integrity throughout its value chain. Poor practices that cause harm to forests and forest-dependent people obstruct the sector's ability to realize this unique potential for positive impact.

Responsible forest sector companies contribute to SDG 15 by establishing forest management as a sustainable use of land, i.e. ensuring forests remain healthy and continue to thrive – providing wood fiber on a renewable basis and generating livelihoods for the people in and around the forests. Central to success are the sector's engagement across the landscape to improve and advance forest governance, policy instruments to prevent illegal activities, forest certification, efforts to sustainably intensify wood fiber production and working with customers and consumers to drive demand for sustainable wood fiber products. Regarding sustainable intensification, potential tradeoffs and negative impacts on biodiversity or water resources need to be carefully evaluated and addressed. This also includes the sector's involvement in broader landscape approaches and conservation efforts that accelerate land restoration, drive investments in reforestation and afforestation, and other approaches to diversify forest production systems, including agroforestry.



Supportive SDGs:

Driving inclusive and sustainable economic growth through innovation, transparency and operational integrity.



End poverty in all its forms everywhere

The forest sector contributes to livelihoods and economic growth across the full value chain, from people depending on forests for their livelihoods all the way to the consumers of wood fiber products. Forest production and primary processing often occur in remote areas with limited access to work, social support services or infrastructure. In this context, the forest sector often provides support and unique opportunities to bridge the gap by building resilience and enhancing the well-being of forest-dependent communities. This also includes to recognize rights of communities to traditional forest products and services such as food, wood fuel for cooking, or construction materials.



Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

As demographic shifts challenge the sector to retain and attract new talent, forest sector companies focus on ensuring a stable and capable workforce by investing in the training and development of their employees. Given the forest sectors' strong presence in rural areas, the same approach is extended to its supply chain and surrounding communities through initiatives aimed at building capacity or bridging a potential skill gap among contracted workers, smallholder farmers and local communities. In practice, this can be achieved through partnerships with local academic institutions for vocational training. The provision of affordable and accessible educational materials and stationery remain an important contribution despite fast evolving digitalization.



Achieve gender equality and empower all women and girls

At the forest production level, the forest sector is historically a sector where mostly men carried out tasks around harvesting, while women tended to occupy roles in tree nurseries or planting. On the business management side, in Europe, women still account for only 20% of the workforce in the forest sector and tend to be primarily employed in administrative and support roles, while women with a forestry background tend to occupy research roles or first-line junior management positions.²⁴ There is a clear opportunity to change this trend and increase the sector's diversity, competitiveness and inclusiveness. This includes efforts to support the participation and success of women throughout the industry with the implementation of programs and management approaches to advance gender equality, attract women to the sector and develop women leaders. The ongoing mechanization of the physically most challenging tasks can present an opportunity to support this change and encourage diversity. Beyond its own workforce, the sector may specifically target women through community investment initiatives in recognition of the economic rationale for greater gender equality and education, especially in developing countries where the spillover benefits for family households and communities are strongest.



Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

The forest sector influences the socio-economic development and well-being of people that depend on forest operations in rural and remote areas by providing basic infrastructure and services. Companies in the sector provide access to small and medium sized enterprises to be integrated into global value chains and markets. Technological advancements, innovation and digitalization strongly influence the manufacturing stage of the value chain. While there is a risk of replacing jobs through the mechanization of processes, these new developments also offer the opportunity to develop new skill sets and upgrade technological capabilities, drive efficiency, smarter manufacturing and enhance data management as described in the so-called "Industry 4.0 Revolution".



Make cities and human settlements inclusive, safe, resilient and sustainable

Wood today remains a simple, straightforward and widely affordable building material that provides housing and shelter for millions worldwide. Innovative wood-based technologies, such as cross-laminated timber (CLT), continue to gain ground and provide new low carbon solutions and possibilities for the construction of high-rise buildings, multi-family homes and other infrastructure developments that affect cities and communities. Moreover, the sector can influence the environmental impact of cities through its products. The demographic shift with more people living in cities affects where wood fiber products are consumed and disposed of. In addition, the sector's expertise in managing forests can play an important role in supporting efforts of urban forestry and peri-urban landscapes to provide ecosystem services and natural infrastructure, positively influence people's health and well-being and generate economic benefits.

Forest operations can be located near cultural and natural heritage sites. In this context, the forest sector plays a central role in protecting and safeguarding the values of these locations through appropriate forest management and conservation efforts.

Other SDGs:

The forest sector's interactions with the following SDGs is less direct and can be described as follows.



Reduce inequality within and among countries

Forest sector companies advocate for greater equality throughout the value chain, with greater urgency in emerging and developing economies. This includes to address land tenure issues and to adopt global standards and policies that ensure social protection, fair wages, safety and ethical standards, as well as fair and inclusive procurement activities that empower the disadvantaged and reduce inequality in the forest sector supply chain.



End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Food from forests such as mushrooms, nuts, berries or game make an important contribution to the food supply and nutritional quality of diets, especially in some of the world's most vulnerable regions. When managed for productive use, forests often directly compete with food production over increasingly scarce land. The forest sector, together with agriculture and other sectors, has a responsibility to carefully manage these trade-offs. If managed sustainably, the co-existence of forests and agriculture in healthy and sustainable landscapes can provide many co-benefits. For example, ecosystem services derived from sustainable forest management, such as improved soil and water management, can positively impact neighboring agricultural lands. Agroforestry systems, where trees are managed together with crops or animal husbandry, can provide an effective way of reconciling competing land uses.



Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Marine environments benefit from sustainable forest management upstream. Responsible practices at the landscape level avoid erosion and contribute to fixing nitrogen and other nutrients in the soil, thereby keeping it out of water streams that feed coastal areas. Circular water management and wastewater treatment are similarly important to preventing water pollution and runoffs. Mangrove forest plantations more specifically prevent coastal erosion and contribute to overall coastal resilience. Finally, substituting single-use plastics with renewable, recyclable and biodegradable fiber-based materials can contribute to halting marine pollution when combined with appropriate collection and waste management mechanisms.



Ensure healthy lives and promote well-being for all at all ages

By regulating the climate, providing clean air and purifying water, forests and trees play a significant role in mitigating negative health impacts that aggravate through climate change. Recreational benefits from forests are known to support physical and mental health through stress alleviation. Forest sector companies contribute to Goal 3 by managing forests sustainably and by supporting the health and well-being of surrounding communities through investments in community health systems. Through the provision of livelihood opportunities and investments in shared infrastructure, the sector indirectly influences the well-being of communities and enhances access to health care facilities. Furthermore, providing quality housing, appropriate working conditions, adhering to high health and safety standards, preventing road traffic accidents are essential to sector's contribution to this goal. On the product side, the industry indirectly contributes to improving hygiene standards through the provision of personal care products (e.g. sanitary towels or diapers) and ensuring food safety through fiber-based packaging.



Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

The forest sector is committed to maintaining high standards of ethical business conduct throughout the value chain. This is achieved through partnerships to reduce corruption and engagement with all stakeholders on societal structures, as well as forest legality frameworks to promote legal and responsible business practices. These standards include ensuring that strong anti-bribery and corruption controls and practices are in place for direct operations and through due diligence systems spanning supply chains. It also means contributing to and promoting business transparency and eliminating forced and child labor from supply chains through effective controls and remedies, as promoted by forest certification standards.



Chapter II.
Impact pathways



To accelerate action and drive impact on the challenges and opportunities outlined throughout the Roadmap, the following chapter presents eight impact opportunities for the forest sector to maximize its contribution to the SDGs:

(1) Working forests and (2) Bio-economy – which represent two mutually reinforcing pillars and encompass opportunities around (3) Climate, (4) Water, (5) Circularity, (6) Communities, (7) People and (8) Procurement.

To realize these impact opportunities, the impact pathways complement each opportunity with a series of short-, medium- and long-term actions. Each pathway also identifies the level of potential SDG impact, level of influence of the sector, key enablers and partners and links to SDG targets where there is a direct contribution.

The impact pathways provide a comprehensive overview of possible actions that the forest sector can take to maximize its contribution and impact towards the realization of the SDGs. This includes actions to minimize current negative impact and bringing positive impact to scale.

The impact pathways are highlighted in a series of tables across the following pages. In addition to identifying the SDGs and targets with which each opportunity and action most closely corresponds, short summaries of illustrative business examples from FSG members and stakeholders provide insight to concrete action already underway to deliver on the ambitions that sit at the heart of the SDGs. More detail on each example, as well as more case studies can be found here: <https://www.wbcsd.org/Sector-Projects/Forest-Solutions-Group/Forest-Sector-SDG-Roadmap>

Figure 5: Impact opportunities for the forest sector



Impact opportunity 1: Working forests

Bring more of the world's working forests under sustainable management

Actions	Level of impact on SDGs	Sector contribution to the action	Enablers (alphabetical order)	Key partners (alphabetical order)	Timeframe to reach impact	
	What is the level of impact if achieved (Low, Medium, High)?	Will the sector have a low, medium or high influence on the action?	What would enable success/scale?	Which partners are needed to bring this action to scale?	Short-term (by 2030) Long-term (beyond 2030)	Contribution to SDG targets
<p>1) Implement and promote sustainable forest management practices and expand sustainable working forests, while protecting and enhancing biodiversity and ecosystem services by:</p> <ul style="list-style-type: none"> Using forest certification standards that are based on third-party verification, independent accreditation, and transparent stakeholder engagement and supporting efforts to help improve effectiveness and impact of forest certification; Helping smallholders overcome barriers to obtaining and retaining certification; Applying practices and methods for sustainable intensification; Engaging with the finance sector to develop new financial mechanisms to accelerate investment into sustainable forest management; Supporting the development and implementation of new tools and approaches to measure, value and manage biodiversity and ecosystem services impacts and dependencies. 	(H)	(H)	<ul style="list-style-type: none"> Finance Knowledge exchange/dialogue Policy/regulation (e.g. public procurement requirements, forest codes, law enforcement) Technology Training 	<ul style="list-style-type: none"> Academia Certification schemes Customers Forest / Land owner associations Governments/ policy makers/ regulators Investors Non-governmental organizations (NGOs) 	Medium-term	1.4, 1.5 6.5, 6.6 8.4 11.4 12.2 13.1, 13.A 15.1, 15.2, 15.3, 15.5, 15.B
<p>2) Counter the forces that drive deforestation and forest degradation by demonstrating and promoting successful models for sustainable forest management and wood fiber procurement.</p>	(H)	(H)	<ul style="list-style-type: none"> Certification Consumer education Knowledge exchange/dialogue Policy/regulation (e.g. public procurement requirements, forest codes, law enforcement, jurisdictional landscape approaches) 	<ul style="list-style-type: none"> Certification schemes Communities Customers Governments/ policy makers/ regulators Multi-stakeholder initiatives NGOs Small and medium-sized enterprises (SMEs) Other sectors (e.g. agriculture) 	Short-term	1.4, 1.5 8.4 11.4 12.2 15.1, 15.2, 15.5
<p>3) Promote and engage in context-based landscape management approaches, including around forest fire prevention and watershed stewardship with the aims to enhance ecosystem services, improve resilience and help sustain forest production systems at local, regional and global levels.</p>	(H)	(M)	<ul style="list-style-type: none"> Finance Knowledge exchange/dialogue Science & research 	<ul style="list-style-type: none"> Certification schemes Communities Forest/ Land owner associations Governments/ policy makers/ regulators Multi-stakeholder initiatives NGOs SMEs Subnational governments Other land users 	Long-term	6.5, 6.6 9.1, 9.3 11.4 12.2 13.1 15.1, 15.3, 15.5

High (H) (H) Medium (M) (M) Low (L) (L)



New Forests: Mobilizing finance for sustainable forests and the climate

Forests and forest management are critical to climate change mitigation, yet only 3% of climate finance today goes to forests and land use. New Forests mobilizes institutional and impact capital to the forest sector through differentiated strategies targeting sustainable forestry market opportunities in three regions: United States, Southeast Asia and Australia/New Zealand. Since 2010, the company has developed assets and funds under management of more than USD \$ 3.5 billion covering nearly one million hectares of forestry and conservation finance investments.

New Forests reports on the climate impact of these investments and seeks to monetize carbon value where possible. For example, the company manages more than twenty forest carbon offset projects for the California carbon market and a forestry investment program that seeks to acquire high carbon value forests and optimize management for a sustainable supply of timber and carbon revenues. In Southeast Asia, New Forests designed a “blended finance” structure, using development finance and mission-driven funds to catalyze private investment and achieve higher levels of reforestation, restoration and climate mitigation alongside commercial plantation forestry.



New Generation Plantations (NGP)

In 2007, the WWF set up the New Generation Plantations (NGP) to promote a model of plantations that brings direct benefits to the environment and surrounding communities.

Through study tours, workshops and conferences, NGP brings together plantation companies and relevant government agencies to share best practices around plantation management. www.newgenerationplantations.org




The Forests Dialogue (TFD)

In 2000, The Forests Dialogue (TFD) was created to provide stakeholders in the forest sector with an ongoing, multi-stakeholder dialogue platform and process focused on: developing mutual trust, a shared understanding and collaborative solutions to challenges in achieving

sustainable forest management and forest conservation around the world. TFD uses results-driven, field-based stakeholder engagement processes to map out feasible impact pathways and collaborations toward tangible agreed upon change. <https://theforestdialogue.org/>

Impact opportunity 2: Bio-economy

Scale up the sector's contribution to a circular bio-economy

SDG impact						
						
Actions	Level of impact on SDGs	Sector contribution to the action	Enablers	Key partners	Timeframe to reach impact	Contribution to SDG targets
4) Invest in innovation and the widespread adoption of low carbon and circular wood fiber products that store carbon and substitute non-renewable and fossil-based materials, in particular in the packaging, construction, energy, chemical and textile sectors	H	H	<ul style="list-style-type: none"> • Consumer education • Finance • Policy/regulation (e.g. building codes; product specifications) • Science & research 	<ul style="list-style-type: none"> • Academia • Finance • Governments/policy makers/regulators • Industry Associations • Other sectors 	Medium-term	7.2 8.2, 8.4 12.2, 12.3, 12.5 13.A
5) Accelerate research and science to better understand the carbon impacts of forests and wood fiber products to build a clear, consistent and science-based narrative to inform customer procurement decisions, raise consumer awareness of the carbon storage and end of life benefits of wood fiber products over fossil-based and non-renewable alternatives	H	H	<ul style="list-style-type: none"> • Consumer education • Policy/regulation • Science & research 	<ul style="list-style-type: none"> • Academia • Certification schemes • Customers • Governments/policy makers/regulators • NGOs 	Medium-term	7.2 8.2, 8.4 12.2, 12.5

Business example



Stora Enso: How wood can help build a sustainable future

Demand for building materials is rapidly growing, driven largely by urbanization and economic growth in emerging economies and the need to retrofit and renovate existing buildings in developed countries.





Sustainable wood can meet this growing demand by substituting for existing building materials where possible. This can address climate change objectives by storing carbon in the building (beyond the forests) and lower material manufacturing and processing emissions.

To help reap these climate benefits and support the widespread adoption of sustainable buildings from engineered wood such as cross laminated timber (CLT) and laminated veneer lumber (LVL), Stora Enso develops open source "building concepts" (explained in manuals) that detail all phases from building design to maintenance for different types of buildings.

Stora Enso also helps to create so-called "ecosystems" where users, material providers, contractors and other value chain actors exchange their expertise and insight to improve the delivery process and the sustainability performance of a building.

Impact opportunity 3: Climate

Advance and strengthen the role of forests, wood fiber products and the forest sector in global climate change mitigation and adaptation

SDG impact						
Actions	Level of impact on SDGs	Sector contribution to the action	Enablers	Key partners	Timeframe to reach impact	Contribution to SDG targets
6) Support and invest in reforestation, afforestation, wider land restoration and conservation efforts, especially of unique forest values, in order to advance carbon dioxide removals to meet global climate goals and to enhance resilience to a changing climate	H	M	<ul style="list-style-type: none"> • Certification • Finance (esp. blended finance) • Knowledge exchange/ dialogue • Policy/ Regulation • Science & research 	<ul style="list-style-type: none"> • Academia • Certification schemes • Finance • Governments/ policy makers/ regulators • Industry Associations • Other sectors 	Medium-term	6.6 13.1, 13.2, 13.3, 13.A 15.1, 15.2, 15.3, 15.5, 15.A, 15.B
7) Reduce scope 1 and 2 GHG emissions across operations, for example, by improving manufacturing technology or increasing the resource efficient production and use of renewable energy	M	H	<ul style="list-style-type: none"> • Finance • Policy/ regulation (e.g. carbon pricing) • Science & research • Technology 	<ul style="list-style-type: none"> • Governments/ Policy makers/ Regulators • Investors • Sector peers • Suppliers 	Short-term	7.2, 7.3, 7.A 13.1, 13.2, 13.3, 13.A
8) Achieve scope 3 GHG emissions reductions across the supply chain, by working with suppliers to: <ul style="list-style-type: none"> • Optimize transportation and distribution logistics; • Increase the resource efficient production and use of renewable energy; • Further localize supply chains where possible. 	H	M	<ul style="list-style-type: none"> • Knowledge exchange/ dialogue • Policy/ regulation • Science & research • Supplier codes 	<ul style="list-style-type: none"> • Contractors/ Suppliers • Governments/ Policy makers/ Regulators • Sector peers • Other sectors 	Medium-term	7.2, 7.3, 7.A 13.1, 13.2, 13.3, 13.A
9) Support the development and implementation of new tools and approaches to measure, value and manage GHG emission avoidance through the substitution of fossil-based and other non-renewable materials with wood fiber products.	M	L	<ul style="list-style-type: none"> • Knowledge exchange/ dialogue • Science & research • Technology 	<ul style="list-style-type: none"> • Certification schemes • Governments/ Policy makers/ Regulators • Investors • NGOs • Sector peers • Other sectors 	Medium-term	7.2, 7.3, 7.A 13.1, 13.2, 13.3, 13.A

Business examples



Sumitomo Forestry: Contributing to the reduction of greenhouse gas emissions through renewable energy business

Promoting the use of renewable, green energy is central in the long-term strategy to reduce greenhouse gases (GHG) emissions. In Japan, Sumitomo Forestry is striving to increase the use of unused forest materials as fuel for wood biomass power generation plants, contributing to sustainably cut carbon emissions as well as to spur reforestation efforts.

Unused wood materials can be a valuable, renewable source of energy while advancing sustainable forest management. The company is operating four power generation facilities throughout the country primarily

fuelled by recycled chips using wood not suitable as a building material, thinning leftovers from forests and construction and demolition waste.

The underuse of forest resources remains a major challenge for Japan's forestry, despite a growing demand for wood products and biomass. In 2017, Sumitomo Forestry collected 754,000 tons of unused wood materials from Japan's forests supporting the effective use of wood, reductions in carbon emissions and the maintenance of local forest environments.



Campbell Global: Accelerating the pace and scale of forest restoration in Arizona

In the western United States, decades of fire suppression on public forests have created an urgent need for forest restoration. High-density forests are prone to widespread, intense wildfires resulting in the release of significant quantities of carbon into the atmosphere contributing to climate change.

In 2016, The Nature Conservancy (TNC), in partnership with Campbell Global (CG) and the United States Forest Service (USFS), launched the Future Forests Project in

Arizona, where approximately 25% of the historic ponderosa pine forest has been destroyed by wildfires over the last 20 years. The project is focused on accelerating the pace and scale of forest restoration on public lands, by working with key stakeholders to introduce new technologies and innovative approaches that improve the economics of restoration activities. Since the project's inception, more than 770 hectares have been restored.

Impact opportunity 4: Water

Expand context-based water stewardship approaches

SDG impact		6 CLEAN WATER AND SANITATION	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	15 LIFE ON LAND			
Actions	Level of impact on SDGs	Sector contribution to the action	Enablers	Key partners	Timeframe to reach impact	Contribution to SDG targets	
10) Identify and implement water use reductions, wastewater treatment and circular water management practices in manufacturing operations, focusing in particular on water-stressed regions	M	H	<ul style="list-style-type: none"> Finance Infrastructure Policy/regulation Science & research Technology 	<ul style="list-style-type: none"> Government/policy makers Industry associations Municipalities NGOs Sector peers 	Short-term	6.6 13.1, 13.2, 13.3, 13.A 15.1, 15.2, 15.3, 15.5, 15.A, 15.B	
11) Contribute to water stewardship science and research where forests are a key land use, and scale-up collaborative action through local multi-stakeholder initiatives, for example around watershed management	M	M	<ul style="list-style-type: none"> Finance Knowledge exchange/dialogue Science & research Training 	<ul style="list-style-type: none"> Academia Certification schemes Communities Forest/Land owner Associations Governments/Policy makers/Regulators Multi-stakeholder initiatives Municipalities NGOs Other land users Sector peers 	Medium-term	6.5 12.2 15.1	
12) Support the development and implementation of effective tools to value and manage water risks, impacts and dependencies along the full spectrum of the forest products value chain	L	L	<ul style="list-style-type: none"> Finance Knowledge exchange/dialogue Science & research Training 	<ul style="list-style-type: none"> Academia Multi-stakeholder initiatives NGOs Sector peers 	Medium-term	6.3, 6.4, 6.5 12.2 15.1	

Business example



Mondi: Promoting water stewardship in South Africa

South Africa is a water-stressed country and freshwater ecosystems are vital to people, wildlife and Mondi's business. Since 2014, the [WWF-Mondi Water Stewardship Partnership](#) (evolved from the WWF-Mondi Wetlands Program) has been promoting the landscape approach to water stewardship by catalyzing individual and collective action across entire water catchments.


What started out as wetlands management in Mondi's forestry plantations has now been extended to include the agricultural sector and other plantation forestry growers. The Partnership brings together key stakeholders who have a shared interest

in maintaining freshwater ecosystems and services at the water catchment level, including farmers, local government, value chain businesses and industry bodies in the forest, dairy, sugar and citrus sectors.

By employing an innovative social learning approach, the partnership demonstrates that isolated good practices by individual actors cannot address the complex challenges related to water resource management across catchments. It exemplifies that collaboration and knowledge exchange are essential to co-construct successful solutions.

Impact opportunity 5: Circularity

Bring resource efficient, bio-based and circular business models to scale

SDG impact						
						
Actions	Level of impact on SDGs	Sector contribution to the action	Enablers	Key partners	Timeframe to reach impact	Contribution to SDG targets
13) Innovate to enable effective and efficient upcycling of waste streams and processing residues within the value chain for energy generation and as a feedstock for other industries, such as the chemical and cement sectors	(H)	(H)	<ul style="list-style-type: none"> Infrastructure Policy/regulation Science & research 	<ul style="list-style-type: none"> Customers Governments/Policy makers/Regulators Sector peers Suppliers 	Short-term	7.2, 7.3 8.2, 8.4 11.6 12.2, 12.4, 12.5, 12.6
14) Further increase the global recovery rate of wood fiber products, by: <ul style="list-style-type: none"> Identifying and scaling-up new sustainable solutions to waste management and fiber recovery; Helping to spread best practice and innovative design to overcome end of life use bottlenecks, for example for long life engineered wood products in construction; Promoting and competitively positioning circular economy products to customers and consumers by driving behavioral change through consumer education and incentives 	(M)	(M)	<ul style="list-style-type: none"> Consumer education Knowledge exchange/dialogue Policy/regulation Science & research Training 	<ul style="list-style-type: none"> Customers Governments/Policy makers/regulators Industry associations Municipalities NGOs Waste management sector (e.g. waste collectors and waste disposal operators) 	Medium-term	7.3 8.4 11.6 12.2, 12.5, 12.6, 12.8
15) Improve and innovate business models and product design to provide end of life solutions for single-use fiber products, such as composite packaging, diapers, personal care and sanitary products.	(M)	(L)	<ul style="list-style-type: none"> Consumer education Finance Policy/regulation Science & research 	<ul style="list-style-type: none"> Academia Customers Governments/Policy makers/regulators SMEs/Start-ups 	Medium-term	7.3 8.2, 8.4 11.6 12.2, 12.3, 12.5, 12.6

Business example



CMPC: Partnerships with Chile's government in zero waste programs

A shift from a linear to a circular economy is a societal imperative and companies must lead the way through their operations and products. Two of CMPC's packaging subsidiaries have joined the "Zero Waste to Landfill Clean Production Agreement", launched in September 2018. It joins together government agencies, various actors from the waste management industry, waste generating businesses and WBCSD's Chilean Global Network partner (Acción Empresas).

The objective of the agreement is to reduce the volume of industrial solid waste sent to landfills through the implementation of circular economy practices such as waste valorization or waste avoidance. Businesses

work on the gradual implementation of the agreement in collaboration with the Chilean government's agency for sustainability and climate change.

The first phase generates an initial assessment of the company's waste generation status and capacity to reach the zero waste to landfill goal. The next phase will focus on the implementation of waste reduction and/or valorization practices throughout the manufacturing facilities, leading to the certification as a zero waste business upon completion and validation by an external auditor.

Impact opportunity 6: Communities

Enhance the livelihoods and support resilience of forest dependent communities and local economies

SDG impact		1 NO POVERTY	4 QUALITY EDUCATION	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	11 SUSTAINABLE CITIES AND COMMUNITIES
Actions	Level of impact on SDGs	Sector contribution to the action	Enablers	Key partners	Timeframe to reach impact	Contribution to SDG targets
16) Scale shared value business models that provide services, infrastructure, business support, skill development opportunities and other livelihood benefits to communities and enable improved governance.	M	H	<ul style="list-style-type: none"> • Certification • Finance • Infrastructure • Knowledge exchange/ dialogue • Training 	<ul style="list-style-type: none"> • Certification schemes • Communities • Multi-stakeholder initiatives • Municipalities • NGOs • SMEs 	Short-term	1.4, 1.5 4.3, 4.4 8.2, 8.3 9.1, 9.3 11.1, 11.3
17) Respect access and tenure rights of Indigenous Peoples and communities directly affected by forest operations, by: <ul style="list-style-type: none"> • Proactively seeking to resolve any disputes through appropriate grievance mechanisms, dialogue and independent mediation; • Implementing best practices such as participatory planning in line with the principles of Free Prior Informed Consent (FPIC) of Indigenous Peoples. 	M	M	<ul style="list-style-type: none"> • Knowledge exchange/ dialogue • Policy/ regulation 	<ul style="list-style-type: none"> • Certification schemes • Governments/ policy makers/ regulators • International organizations • Multi-stakeholder initiatives • NGOs 	Short-term	1.4 11.4

Business example



Smurfit Kappa: Technical, Agricultural, Livestock and Forestry Institutes in Colombia

Meeting quality education standards is a critical challenge for Colombia, especially in rural and remote areas where the situation is aggravated by the absence of tailored educational approaches, the persistence of illegally armed groups, insufficient access to roads and little state presence to provide appropriate basic education and health services.


Smurfit Kappa recognized these social issues as risks to its business operations. Since 1983 the Smurfit Kappa Colombia Foundation offers basic and intermediate secondary and technical schooling to

children and adolescents through three Technical, Agricultural, Livestock and Forestry Institutes (ITAFs) in the area of influence of the company. The tailored curriculum provides technical competencies alongside basic, citizenship, labor and entrepreneurial skills.

This program encourages students to be committed to their families and communities and supports their integration to the local labor market. It helps to lessen rural to urban migration and contributes to peacebuilding in the region by providing livelihood options to young people.

Impact opportunity 7: People

Enhance sector's attractiveness, diversity, inclusiveness and safety

SDG impact						
						
Actions	Level of impact on SDGs	Sector contribution to the action	Enablers	Key partners	Timeframe to reach impact	Contribution to SDG targets
18) Enhance quality and integrity of jobs through continuous improvements in health, safety (incl. road safety) and well-being for employees and contractors	(M)	(H)	<ul style="list-style-type: none"> • Certification • Finance • Infrastructure • Technology • Training 	<ul style="list-style-type: none"> • Certification schemes • Communities • Contractors • Governments/ Policy makers • Industry associations • Municipalities 	Short-term	8.3, 8.5, 8.8
19) Invest in human and social capital to attract and retain talent and enhance workforce diversity, by: <ul style="list-style-type: none"> • Providing access to capacity building and training opportunities for employees and contracted workers; • Strengthening policies that support workforce diversity and inclusion by setting goals, measuring and reporting progress 	(H)	(H)	<ul style="list-style-type: none"> • Consumer education • Knowledge exchange/ dialogue • Policy/ regulation • Science & research • Training 	<ul style="list-style-type: none"> • Academia • Communities • Contractors/ Suppliers • Governments/ Policy makers • Industry associations • Labor associations • Municipalities • Sector peers 	Medium-term	4.3, 4.4, 4.7, 5.1, 5.5, 5.B, 5.C, 8.3, 8.5, 8.8



The Navigator Company: Learn anytime, anywhere: a Learning Center to develop talent

Jobs in the pulp and paper industry require a very specific skillset. This can be a challenge for companies like The Navigator Company to find and attract talent with the adequate competencies.

To bridge this gap, build skills within its workforce, retain talent and prepare its future leaders, Navigator launched an innovative Learning Center in partnership with academic institutions in Portugal, offering formal in-class, digital, peer-to-peer and self-learning training. With its tailor-made, bilingual, digital training program, the learning center has earned its own brand

and identity and has become more flexible and accessible through computers, tablets and mobile phones. The online portal offers an inclusive solution, giving access to the same opportunities to all employees.

With its innovative training approach, the Learning Center helps Navigator to respond to challenges around human capital management and development, to drive innovation and to bridge the generational gaps. It's a solution to foster exponential performance of Navigator's workforce while strengthening the organizational culture.



Finnish Forest Industries Federation (FFIF): The Forest Ambassador campaign



The Finnish Forest Industries Federation (FFIF), in partnership with the Finnish Forest Association and nine leading forest industry companies – including Stora Enso – launched the "Forest Ambassador Campaign" in 2013.

This initiative aims to attract young talent to the forest sector by highlighting the merits of a career in forestry and sharing up-to-date information about the sector.

The need to recruit young skilled individuals is crucial to the forest industry because it is facing an increasingly aging workforce while being one of Finland's most significant employers and export industry. Every year, more than 300 schools across the country, reaching tens of thousands of adolescents, are visited by a forest ambassador. The campaign is welcomed by students and volunteers and has contributed to improving the sector's attractiveness to the youth.

Impact opportunity 8: Procurement

Strengthen and enhance responsible procurement practices, transparency and traceability throughout the value chain.

SDG impact		 					
Actions	Level of impact on SDGs	Sector contribution to the action	Enablers	Key partners	Timeframe to reach impact	Contribution to SDG targets	
20) Scale the use of best practices to increase the percentage of purchased wood fiber products from legal, controlled and environmentally and socially responsible sources (that includes to respect the rights of affected communities and Indigenous Peoples) by implementing a risk-based approach addressing traceability, geographic and supply chain risk-based assessment	(M)	(H)	<ul style="list-style-type: none"> • Certification • Consumer education • Infrastructure • Policy/regulation • Technology • Training 	<ul style="list-style-type: none"> • Certification schemes • Communities • Contractors/Suppliers • Customers • Governments/policy makers/regulators • NGOs 	Medium-term	8.4 12.6, 12.7, 12.8	
21) Improve traceability of materials and products by using up-to-date technology, transparent geo-localization of forest operations and applying approaches to measure and manage natural and social capital dependencies throughout the supply chain.	(H)	(M)	<ul style="list-style-type: none"> • Academia • Certification • Technology • Training 	<ul style="list-style-type: none"> • Certification schemes • Contractors/Suppliers • Governments/policy makers/regulators • NGOs 	Medium-term	8.4 12.6, 12.7, 12.8	
22) Enhance sustainable and responsible procurement practices globally for key non wood fiber raw materials and services such as chemicals and minerals through supplier collaboration, promotion and enforcement of supplier codes and other measures	(M)	(H)	<ul style="list-style-type: none"> • Certification • Policy/regulation • Technology • Training 	<ul style="list-style-type: none"> • Certification schemes • Contractors/Suppliers • Sector peers 	Medium-term	8.4 12.7	



International Paper: Responsible fiber procurement in the US: Mapping the forest landscape for supply chain impact

As a large packaging, pulp and paper manufacturer, International Paper's (IP) entire business depends on the sustainability of forests. Although the company was once a large landowner and manager in North America, its fiber supply operations now focus solely on procurement of wood from largely private landowners and suppliers. This means that IP's day-to-day procurement activities can impact large forested landscapes simply through responsible purchasing actions.

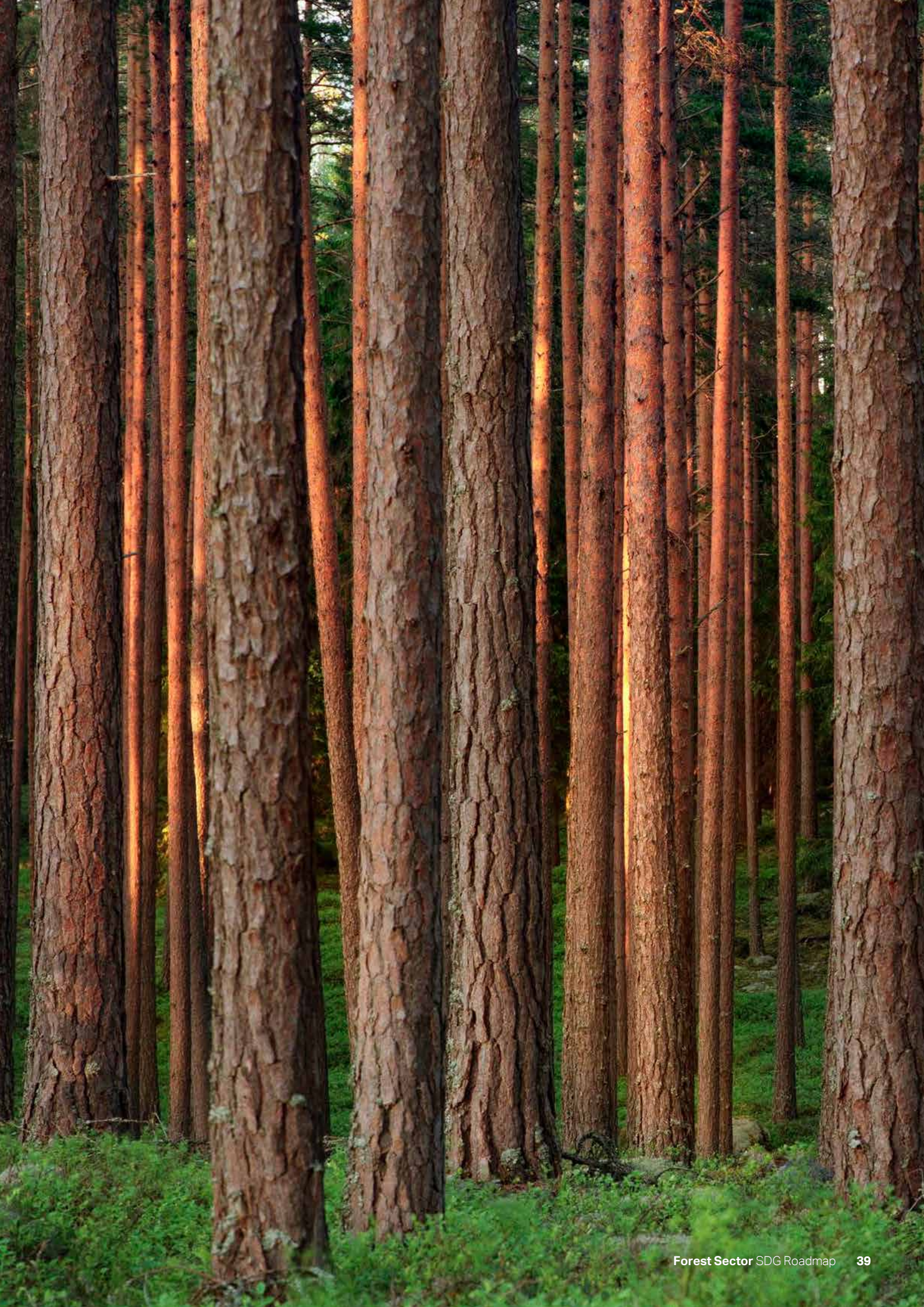
In 2018, IP piloted and launched an innovative risk based due diligence system in North America to ensure fiber procurement activities do not compromise the environmental values of the forests from

which the fiber is sourced. The effort uses 'IP ForestView', a Geographic Information System (GIS)-based mapping technology application to assess forest tracts for existence of important species or forest habitat values prior to harvest. The presence of such values will prompt a discussion between IP, the supplier or landowner about responsible forest management approaches to protect and/or enhance the attribute.

IP ForestView builds on the company's commitment to transparent procurement by opening the door to landowner and supplier outreach and education to advance forest stewardship throughout its north American supply chains.

Table 1: This table summarizes the SDG goal and target contributions of the impact opportunities and actions as described above.

	1. Working forests: Bring more of the world's working forests under sustainable management	2. Bio-economy: Scale-up the sector's contribution to a circular bio-economy	3. Climate: Advance and strengthen the role of forests, wood fiber products and the forest sector in global climate change mitigation and adaptation	4. Water: Expand context-based water stewardship approaches	5. Circularity: Bring resource efficient, bio-based and circular business models to scale	6. Communities: Enhance the livelihoods and build resilience of forest dependent communities and local economies	7. People: Enhance sector's attractiveness, diversity, inclusiveness and safety	8. Procurement: Strengthen and enhance responsible procurement practices, transparency and traceability throughout the value chain
	1.4 1.5					1.4 1.5		
						4.3 4.4	4.3 4.4 4.7	
							5.1 5.5 5.B-C	
	6.5 6.6		6.6	6.3 6.4 6.5				
		7.2	7.2 7.3 7.A		7.2 7.3			
	8.4	8.4 8.2			8.2 8.4	8.2 8.3	8.3 8.5 8.8	8.4
	9.1 9.3					9.1 9.3		
	11.4				11.6	11.1 11.3 11.4		
	12.2	12.2 12.3 12.5	12.2	12.2	12.2-6 12.8			12.6 12.7 12.8
	13.1 13.A	13.A	13.1 13.2 13.3 13.A					
	15.1-3 15.2 15.5 15.B		15.1-3 15.3 15.5 15.A-B	15.1				



Chapter III.
**Scaling collaborative
action towards 2030**



This Roadmap demonstrates how the forest sector interacts with the SDGs and shows how the sector can benefit from using the SDGs as a lens to respond to societal and environmental megatrends that are disrupting and transforming the sector.

This Roadmap presents a range of impact opportunities and tangible actions for scaling collaborative action towards 2030. The impact pathways are focused on where the sector together with partners can maximize positive impacts while minimizing negative effects through sharing of best practice and the acceleration of process, product and partnership innovation.

With the understanding that concerted action is indispensable for its success, this Roadmap invites sector peers to use the impact pathways to help guide, inform and influence decision-making and actions along the value chain. It is also an invitation to customers and consumers of forest products and wider stakeholder groups (such as NGOs, industry associations and governments) to come together to accelerate SDG action and leverage the unique potential that lies within the forest sector.



A catalyst for implementation

The Roadmap is only the start of continuous SDG engagement and its implementation is critical to realizing the sector's contribution to the SDGs. For its part, the FSG will:

- Implement and advance this Roadmap through its work program;
- Explore metrics and indicators to measure progress; and
- Act as a catalyst and advocate to encourage its peers and value chain partners to advance and leverage the Roadmap to drive action and enhance stakeholder dialogue.

FSG's work program

The Roadmap's impact opportunities are aligned with the FSG's work program, which is structured around sustainable working forests and the sustainable bio-economy. This work program will be used by the FSG to advance this Roadmap.

This also involves exploring and leveraging programs and projects underway within the WBCSD (e.g. Circular Economy and Food Reform for Sustainability and Health (FReSH)), where elements of this Roadmap can be taken forward.

Tracking progress

As a condition of FSG membership and as a sign of shared commitment, all members endorse and adhere to a set of membership principles and responsibilities and report annually on associated key performance indicators (KPIs) and collect supporting information to measure and prove progress.

In the months following the launch of this Roadmap, the FSG will review and begin to enhance the group's existing KPIs to align them to the impact pathways outlined in this Roadmap and work towards filling any potential gaps.

Results and progress will be disclosed on a regular basis.

This is grounded in the work that each individual company is conducting by publicly reporting on its sustainability performance in accordance with internationally recognized reporting practices and standards, thereby demonstrating leadership and commitment to sustainable development.

Stakeholder dialogue and advocacy

At group and individual company level, members will leverage the Roadmap across various engagement platforms to enhance dialogue and engagement and to explore and identify new partnerships that can help to consolidate forces to drive implementation.

Anticipating future developments

To ensure the sector's contribution to the SDG agenda remains relevant and partnerships continue to focus on the areas where action is most needed, implementation of the Roadmap requires monitoring of emerging trends and developments with respect to policy and other global efforts, which may influence the priorities outlined in this Roadmap.

This includes the developments in the lead up to COP 15 of the Convention on Biological Diversity (CBD) in 2020, where countries are in the process of negotiating a new global biodiversity framework, which has been called a "New Deal for Nature."

More information, contact details, latest updates on progress regarding the Roadmap's level of implementation and more detail on the business examples outlined in this Roadmap can be found at <https://www.wbcso.org/Sector-Projects/Forest-Solutions-Group>.

Appendix

Benefits of certification

Forest certification is a voluntary, market-focused mechanism based on multi-stakeholder engagement, which supports a broad range of social, environmental and economic objectives which underpin the objectives of the SDGs. Examples include:

Environmental	Social	Economic/market
<ul style="list-style-type: none"> Biodiversity conservation and preservation of ecosystem services Contribution to water stewardship, clean air and carbon sequestration Protection and restoration of degraded soils 	<ul style="list-style-type: none"> Safeguarding social values of forests Improving working conditions, health and safety requirements for workers Providing jobs, capacity building and training Community engagement and well-being Protecting rights of workers, Indigenous Peoples and forest- dependent communities 	<ul style="list-style-type: none"> Legal compliance Market access Third-party/independent verification of management practices Supply chain transparency from the forests to the product through chain-of-custody

List of SDGs and relevant targets

Goal	Targets
1. End poverty in all its forms everywhere	1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance
	1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
	4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
	4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development
6. Ensure availability and sustainable management of water and sanitation for all	6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
	6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
	6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
	6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
7. Ensure access to affordable, reliable, sustainable and modern energy for all	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
	7.3 By 2030, double the global rate of improvement in energy efficiency
	7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology

Goal	Targets
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors
	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services
	8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead
	8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value
	8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment
9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all
	9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets
11. Make cities and human settlements inclusive, safe, resilient and sustainable	11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
	11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries
	11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage
	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
12. Ensure sustainable consumption and production patterns	12.2 By 2030, achieve the sustainable management and efficient use of natural resources
	12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses
	12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
	12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle
	12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities
	12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and life-styles in harmony with nature

Goal	Targets
13. Take urgent action to combat climate change and its impacts	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
	13.2 Integrate climate change measures into national policies, strategies and planning
	13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
	13.A Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly USD \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and half biodiversity loss	15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements
	15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally
	15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world
	15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species
	15.A Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems
	15.B Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation

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Contributors:

Members of the Forest Solutions Group: Aditya Birla Group, Campbell Global, CMPC, Hancock Natural Resource Group, International Paper Company, Mondi Group, New Forests, Smurfit Kappa Group, Stora Enso, Sumitomo Forestry and The Navigator Company together with Mr. Diogo da Silveira, former CEO and FSG Co-chair from April 2016 to April 2019.

Coordination:

WBCSD: Angela Graham-Brown, Uta Jungermann, Florian Micco and Luis Rochartre

ERM: Tracey Draper, Linden Edgell and Bryan Hartlin

Contributing stakeholders:

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WBCSD's Forest Solutions Group (FSG) is the global platform for the forest sector value chain to build and share business solutions to lead sustainable development in the forest products sector. FSG's mission is to advance the bio-economy and a thriving forest sector that sustains healthy productive forests and people's well-being.

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**World Business Council
for Sustainable Development**

Maison de la Paix
Chemin Eugène-Rigot 2B
CP 2075, 1211 Geneva 1
Switzerland

www.wbcsd.org

