

Forest Sector SDG Roadmap

Implementation report



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Foreword

Launched in July 2019 at the United Nations High-Level Political Forum, the [Forest Sector SDG Roadmap](#) was set in a very different global environment. Since then, the COVID-19 pandemic continues to disrupt lives and livelihoods. The health crisis simultaneously impedes progress on achieving the Sustainable Development Goals (SDGs) while making it more urgent and necessary to achieve them. These new circumstances reinforce the importance of 2020 as the beginning of the “Decade of Action” to accelerate efforts to deliver on the SDGs by 2030.

For business, this means tying meaningful action to measurable outcomes. With this first Forest Sector SDG Roadmap Implementation Report, we, the members of WBCSD’s Forest Solutions Group (FSG), are holding ourselves accountable in driving progress on the commitments made in the Forest Sector SDG Roadmap. Thus, we have translated the joint vision into meaningful actions within eight impact areas, such as Working Forests, Climate, the Bioeconomy or Communities. We have tied these actions to key performance indicators, allowing us and our stakeholders to take stock of the status of implementation and set a baseline to track progress over time.

By communicating openly on our strengths and vulnerabilities, we are living up to our commitment to transparency and disclosure. By the nature of our business in the forest sector, we find ourselves in a key position to scale up positive impact in some areas, such as climate change mitigation through carbon storage in our forests and products, as well as biodiversity and ecosystems conservation within the 10 million hectares of

forests that we cumulatively own, manage or lease. Other areas, such as water management, call for diligent risk management approaches to minimize or eliminate negative impacts at local and catchment levels.

In the coming decade, we will continue to drive progress within our companies with the support of the FSG project to enable and amplify our work. We will also continue to track and disclose our progress annually and maintain the flexibility to leverage and adapt to changing trends and circumstances along the way.

FSG Co-Chairs



Annika Bresky
President and CEO, Stora Enso

A handwritten signature in blue ink, appearing to read 'Annika Bresky'.



Andrew King
CEO, Mondi Group

A handwritten signature in black ink, appearing to read 'Andrew King'.

① Introduction



① Introduction

BACKGROUND

In July 2019, the Forest Solutions Group (FSG) launched the [Forest Sector SDG Roadmap](#) at the United Nations High-Level Political Forum in New York. The SDG Roadmap articulates a joint vision of the most impactful contributions the forest sector can make through process, product and partnership innovation to help realize the Sustainable Development Goals (SDGs) by 2030. In the Roadmap, FSG members and key forest stakeholders have come together to chart a pathway for the forest sector to maximize its contributions to the SDGs and unlock the business opportunities intrinsic to this journey. The SDG Roadmap aims to guide, inform and influence decision-making and actions

along the forest products value chain, serve as the basis for ongoing stakeholder dialogue, and inspire action-oriented collaboration among industry peers and beyond.

The SDG Roadmap marks the first step in a continuous and prolonged engagement with the SDGs, until 2030. Therefore, it contains our commitment to implement the actions outlined, as individual companies and through the FSG work program, and to explore metrics and indicators to measure progress.

In response to this commitment made in 2019, the Forest Sector SDG Roadmap Implementation Report provides a solid foundation on which to build and report on our continuous engagement with the SDGs.

OBJECTIVES

As part of the journey to 2030, this is the first of two roadmap implementation reports that we will publish at regular intervals to track progress on the implementation of the Roadmap.

The specific objectives of this first report are to:

- Provide evidence of our commitment to implementing the actions in the Roadmap;
- Take stock of the status of implementation of the different actions among FSG members;
- Set a baseline against which to track progress over time.



METHODOLOGY

As a condition of membership in the Forest Solutions Group (FSG) and as a sign of our shared commitment, all FSG members adhere to a set of membership principles and responsibilities, and report annually on associated key performance indicators (KPIs). The fact that we have been doing this since 2015 and the membership has changed over the years will account for variations in some of the numbers.

In the months following the launch of the SDG Roadmap, we reviewed this set of KPIs and aligned them with the actions outlined in the report. To complete the picture and try to cover all 22 actions in the SDG Roadmap, we also adopted additional, mostly process, KPIs. The numerical and process KPIs both provided the material for this report.

It is important to note that FSG has two different types of members: *core members*, with their core business in pulp, paper, packaging and other forest products, and *associate members* who operate in the forest sector value chain as

customers, suppliers or service providers. In 2019, FSG's membership included eight core members and four associate members. While reporting on the KPIs is a condition of FSG membership for core members of the group, it remains a voluntary exercise for associate members. See Figure 5: Members of the Forest Solutions Group.

KEY FEATURES OF THE FOREST SECTOR SDG ROADMAP

The Forest Sector SDG Roadmap is based on a framework applicable to all [SDG sector roadmaps](#) developed by WBCSD members. These roadmaps 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 Sustainable Development Goals (SDGs). This process includes 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.

FSG member companies led the development of the Forest Sector SDG Roadmap content over a period of 18 months. We collected information, data and insights through interviews, SDG mapping exercises, reviews of corporate disclosures and literature, and further refined it through a series of workshops. To capture a broad range of perspectives and ensure the Roadmap is accurate and applicable, we consulted a dozen key forest sector stakeholders who provided input throughout the development.

We identified eight impact areas for the forest sector to maximize its contributions to the SDGs. Working forests (1) and the bioeconomy (2) represent the two mutually reinforcing pillars of the FSG strategy and encompass opportunities for climate (3), water (4), circularity (5), communities (6), people (7) and procurement (8).

In each of these impact areas, the SDG Roadmap outlines a series of short-, medium- and long-term actions for business to take in the forest products value chain. There are 22 actions in total; for each of these a pathway to 2030 outlines 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 contributions to and impacts on the realization of the SDGs. This includes actions to minimize current negative impacts and bring positive impacts to scale.

Figure 1: Eight impact areas for the forest sector



② FSG member contributions to the SDG Roadmap



② FSG member contributions to the SDG Roadmap



WORKING FORESTS

OUR COMMITMENT



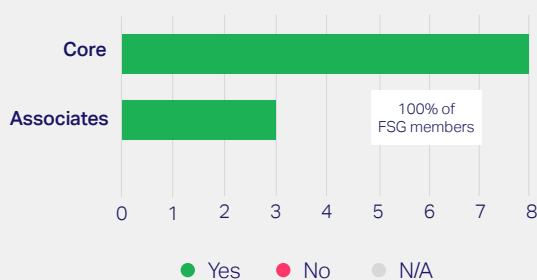
Bring more of the world's working forest under sustainable management

- Implement and promote **sustainable forest management practices and expand sustainable working forests**, while protecting and enhancing biodiversity and ecosystem services by:
 - Using forest certification standards that are based on third-party verification;
 - Helping smallholders overcome barriers to obtaining and retaining certification;
 - Applying practices and methods for sustainable intensification;
- Counter the forces that drive **deforestation and forest degradation** by demonstrating
 - Engaging with the finance sector to develop new financial mechanisms to accelerate investments in sustainable forest management;
 - Supporting the development and implementation of new tools and approaches to measure, value and manage biodiversity and ecosystem service impacts and dependencies.
- Promote and engage in **context-based landscape management approaches**, including on forest fire prevention and watershed stewardship, with the aim of enhancing ecosystem services, improving resilience and helping sustain forest production systems at local, regional and global levels.
 - and promoting successful models for sustainable forest management and wood fiber procurement.

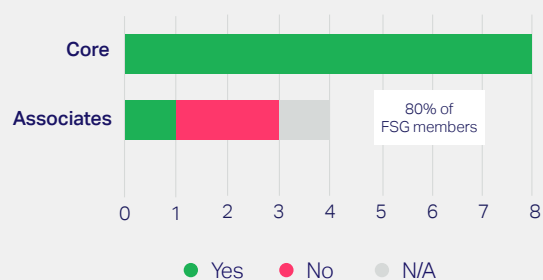
KPI RESULTS

Owned, leased and managed forests certified (%) (weighted average)	2019	CAGR (2015-2019)
	96% 8 core + 2 associates	+1%

Does your company invest in long-term biodiversity and ecosystem conservation programs?



Does your company engage with smallholders to help overcome barriers to obtaining and retaining certification?





As of today, about 30% of the 4 billion hectares of forest worldwide are used primarily for production.¹ When managed sustainably, these working forests continuously supply renewable materials for the bioeconomy while providing multiple benefits for people and the planet, such as carbon sequestration, clean water, habitat and livelihoods. It is predicted that by 2050, growing populations and demand, as well as an increase in use of wood for bioenergy, will triple global demand for wood.² Deforestation and forest degradation remain a global concern; and the estimated 10% of global deforestation linked to wood products³ undermines the public's positive perception of the forest sector. Society's undeniable dependence on forests for natural resources calls for the forest sector to act as responsible stewards of these working forests to secure a continuous supply of sustainable materials and products. Over the past 20 years, forest certification has grown to cover approximately 11% of the total forest area and has become the reference to verify responsible forest management and sourcing practices. But to meet the growing demand for wood, more of the world's productive forest needs to be brought under sustainable management.

FSG members own, lease or manage a total of approximately 10 million hectares of forests. This gives us leverage to drive positive change. In the SDG Roadmap, we commit to countering the forces that drive deforestation and forest degradation by promoting successful sustainable forest management and wood fiber

procurement models that protect and enhance biodiversity. This starts with a firm commitment to deforestation-free operations and supply chains (see the SDG Roadmap for our position on deforestation). Engagement with the finance sector to accelerate investments in sustainable forest management is another important lever to counter deforestation. Indeed, driving up the economic value of sustainable working forests for investors is a proven way to prevent its conversion to alternative forms of land use. The increasing monetization of ecosystem services such as carbon sequestration and watershed protections is expected to further drive up the value of sustainable working forests in the future.⁴

1. Investment in long term biodiversity and ecosystem conservation

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Global Assessment Report has found that around 1 million animal and plant species are now threatened with extinction, many within decades.⁵ As forests are home to over 80% of terrestrial biodiversity,⁶ biodiversity protection and

enhancement is high on our sustainability agenda. **All FSG members report investing in long-term biodiversity and ecosystem conservation programs.**

We operate under the national and regional forest regulatory frameworks applicable to our areas of operation or provenance of our wood supplies. These provide a minimum standard, such as the designation of an area of land to manage for conservation or restoration of natural forests. Many of us have set ambitious company-level targets going beyond these legal requirements. For example, in 2012 in Chile, **CMPC** entered an agreement with the Forest Stewardship Council (FSC) and other NGOs to recover up to 8,738 hectares of native forest areas previously converted to plantations. As part of this broader effort, one initiative alone looks to restore 458 hectares of native forest in a catchment area supplying water to a nearby city.





Based on sustainable forest management practices, forest certification provides an effective tool for biodiversity and ecosystem conservation. Certification schemes operate under internationally defined biodiversity regulatory frameworks, such as the Convention on Biological Diversity, the Bonn Convention or Natura 2000. **Some 96% of the working forests FSG members directly manage are independent third-party certified.** To reach the forests that we do not directly own, we work with third-party suppliers to uphold these same requirements.

FSG members operate in different types of forests, from managed natural and semi-natural forests in the Global North, to plantation forests in the Global South. In (semi)-natural forests, typical forest management practices adopted to conserve and restore biodiversity include identifying and protecting valuable ecosystems, maintaining decaying wood, ensuring variation in the forest structure to preserve the habitats of a wide variety of forest species (for instance birds, lizards, invertebrates, lichens, mosses), and establishing woodland buffer zones bordering watercourses to maintain a suitable environment for aquatic and riparian species (such as fish, reptiles, weeds, algae).

Plantation forests currently account for about 3% of the world's forests⁷ and their higher yield contributes to meeting the growing global demand for fiber-based solutions. But productivity should not come at the expense of the conservation, protection

and enhancement of natural ecosystems. Thus, in the SDG Roadmap, we commit to applying practices and methods for sustainable intensification. We predominantly establish forest plantations on degraded land and design them to protect valuable ecosystems; and recognized forest certification schemes systems generally do not allow the conversion of natural forest into plantations.

2. Context-based landscape management approaches

The management of shared resources such as biodiversity, ecosystems or watersheds spans property boundaries and requires context-based landscape management approaches to deliver meaningful outcomes at scale. For this reason, companies seeking to engage in landscape management may contribute by sharing their know-how and resources through coordinated, multi-stakeholder action at the landscape level. Integrated landscapes include certain areas dedicated to wood production, while setting aside valuable ecosystems for conservation and restoration of key species, including native animals and trees. For example, **Hancock Natural Resource Group**, through its Sensitive Lands Program, has protected over 190,000 hectares of critical habitat for sensitive or endangered species or lands with high scenic, historical, cultural or recreational values. In these landscapes multiple land uses

coexist, such as cattle grazing or beekeeping, and the company closely monitors the quality of the habitats and ecosystems.

Effective fire prevention and management is another example where business may apply a coordinated approach at the landscape level. The increasing frequency and severity of wildfires poses a growing threat to biodiversity, ecosystems, people and climate change mitigation efforts. In addition, for businesses in the forest products value chain, fire presents a direct risk to their forest assets; thus, they manage it with great care. Preventive forest management measures such as clearing vegetation or controlled burning are an integral part of sustainable forest management practices in areas at risk. And recognizing that effective prevention and fire management extends beyond property lines, those of us that operate in areas at risk contribute technology, resources and know-how to local and national fire departments, and participate in collaborative fire prevention and response measures. For example, **New Forests** has developed a landscape-scale fire management program at its rubber plantation investment in West Kalimantan, Indonesia, that seeks to manage fire risk across the region by bringing together companies, communities and governments for a coordinated fire risk assessment and management strategy.

3. Engagement with forest smallholders

Engagement with forest smallholders is another important lever of our commitment to bringing more of the world’s productive forests under sustainable management to meet the growing demand for wood without straining forests. Only 30% of total industrial roundwood production worldwide is certified.⁹ Certifications schemes have difficulties reaching the 20% of global forests currently under private ownership due to high costs, substantial administrative procedures, and a lack of market incentives and capacity to manage requirements. Therefore, reaching forest smallholders is a necessary hurdle to overcome to increase the availability of sustainable wood globally.

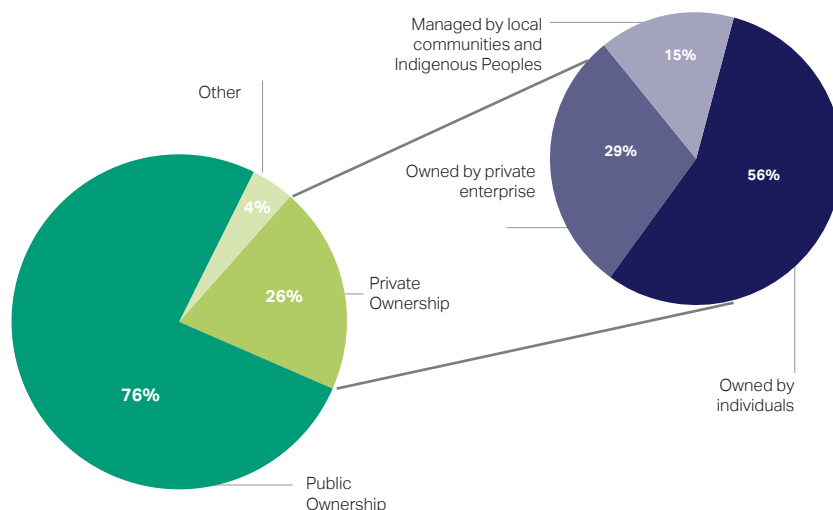
The characteristics of forest smallholders vary widely across countries and regions. Of the 20% of forests under private ownership worldwide, individuals own 56%, private enterprises own 29% and local communities and Indigenous Peoples manage 15%.¹⁰ In regions such as Europe and North America, individuals and families own most forests. In this model, the areas of land tend to be larger and represent an ancillary source of income for private forestland owners. In the Global South, collective ownership of forests is also significant in some areas, with local communities and Indigenous Peoples relying on relatively small landholdings, family labor and limited technology to meet their livelihood needs.¹¹

Driven in part by customer demand for certified wood, access to certification is a conduit to greater market access and stable income for forest smallholders. But high costs and administrative requirements are important barriers preventing many from accessing certification. In an increasingly competitive market, we rely heavily on forest smallholders as a source of sustainable wood, while others seek to engage with smallholders to promote community develop in their areas of operation. Some **80% of FSG members report engaging with forest smallholders to help them overcome barriers to obtaining certification.** To support forest smallholders in the development of sustainable and effective forestry practices and their capacity to obtain and retain certification, we typically contribute practical guidelines, technical support and training on sustainable forest management, conservation, and sometimes

other sources of income such as agroforestry. Working with recognized forest certification schemes, like the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC), as well as international NGOs and other local stakeholders, we help forest smallholders organize themselves as a collective, sharing the costs and administration procedures to obtain a certificate. For example, in Russia, **Mondi** has a partnership with Silver Taiga Foundation, which develops practical guidelines and training materials for small and medium-sized enterprises to become certified or to successfully implement and maintain certification requirements.


In alignment with WBCSD’s membership criteria, we commit to setting ambitious, science-informed, short and mid-term environmental goals that contribute to nature and biodiversity recovery by 2050.

Figure 2: Breackdown of global forest ownership



Definition: Forest smallholder
 Anyone who owns, manages or uses forests which are considered ‘small’ in relation to others in their region, and those who apply low intensity harvesting practices to timber and/or non-timber forest products.⁸

OUR COMMITMENT

SDG impact


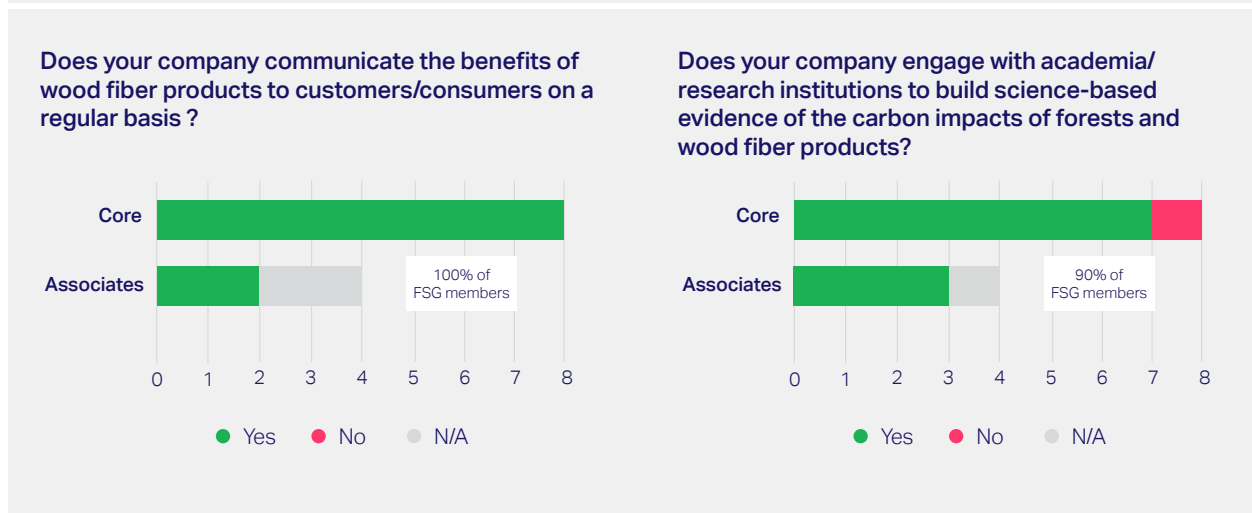
Scale up the sector's contributions to a circular bioeconomy

1. 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.

2. **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 and raise consumer awareness of the carbon storage and end-of-life benefits of wood fiber products over fossil-based and non-renewable alternatives.

KPI RESULTS

<p>R&D intensity: R&D expenditure/total revenue (%) (weighted average)</p>	<p>2019 0.41% 8 core</p>
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By 2050, the global population will reach almost 10 billion, leading to an increasingly resource-constrained world if societies continue to use linear “take-make-dispose” economic models. A radical shift away from fossil-based materials combined with the removal of carbon dioxide from the atmosphere and material reuse are essential. The forest sector lies at the heart of this transition to a low-carbon circular economy due to the ability of forest products to capture and store carbon. These can effectively substitute for and complement fossil-based materials in sectors such as packaging, construction materials, textiles, bioenergy, pharmaceuticals or even vehicle components. To scale up a circular bioeconomy, companies face considerable hurdles related to costs, technology, policy and consumer perception. In the SDG Roadmap, in addition to investing in our individual R&D capacity, we commit to jointly tackling the barrier of consumer perception by driving the widespread adoption of fiber-based products through clear, consistent and science-based communication.

The forest sector is facing a unique opportunity to tap into the fast-growing circular bioeconomy market, estimated at USD \$7.7 trillion.¹³ **In 2019, on average, FSG members invested 0.41% of total revenues into R&D.** As this R&D intensity figure is relatively low, the pace of innovation across the sector will accelerate in the coming years to bring to market innovative bio-based solutions that offer

alternatives to plastics, concrete, glass, metal and other non-renewable materials. By doing so, the forest sector is accelerating the decarbonization of several industries.¹⁴ For example, **Stora Enso** is developing a technology that uses dry lignin from wood to manufacture a replacement material for lithium-ion batteries for applications in the consumer electronics and automotive industries, among others. **Birla Cellulose** is tapping into the growing sustainable fashion market by offering wood fiber-based textiles as an alternative to fossil-based textiles that currently account for more than 60% of textile fabrics.

1. Communicating the benefits of wood fiber products

To inform customers and raise consumer awareness of the sustainability benefits of fiber-based products all FSG members communicate on a regular basis with customers

and consumers depending on their placement in the forest products value chain. Our corporate messaging typically describes the benefits of fiber-based products by highlighting their renewable, recyclable and biodegradable nature, as well as their health benefits and contributions to climate change mitigation through carbon storage. We often support messaging on forest product capacity to complement and substitute for non-renewable and fossil-based materials with quantitative evidence of the low-carbon and circular impacts as provided by product life cycle assessments and environmental product certificates or labels.

Typical communication channels used to reach customers and consumers are exhibitions and fairs, company websites, sustainability reports, social media channels, as well as the product’s packaging.



Definition: Circular bioeconomy

The bioeconomy is the use of biological resources to produce food and feed, products and energy. In a circular bioeconomy, biological resources are renewable, sustainably managed, recovered and reused as much as possible.¹²

Standardized platforms such as Sedex and Ecovadis or disclosure platforms such as the Carbon Disclosure Project (CDP) or Dow Jones Sustainability Indices (DJSI) also help channel sustainability data to customers. As an example of collaborating to communicate the benefits of the bioeconomy, investments made by **New Forests** support the Ultimate Renewable Campaign, a mass media campaign that promotes the benefits of wood and timber products to Australian consumers.

2. Build a science-based narrative

Sustainably managed forests absorb carbon dioxide from the atmosphere. When the trees are harvested, the carbon remains in the fiber as it is made into products and for the duration of its lifetime, even through recycling. Research to date clearly demonstrates that forest-based

products, particularly building materials, provide long-term greenhouse gas (GHG) mitigation benefits when substituted for more GHG-intensive alternatives.¹⁵

While we are increasingly understanding and documenting the benefits of the circular bioeconomy for a low-carbon future, the quantification of the climate benefits of the bioeconomy is still lacking. The absence of standard guidance on how to account for the carbon stored in forest assets and products hinders the sector's ability to credibly communicate the strategic opportunity to stakeholders by reporting the emissions avoided as a result of use of the products they sell.

In recognition of the importance of grounding the message in a robust science-based narrative, **90% of FSG members work in partnership with global**

and national academic and science institutions, such as the World Resources Institute (WRI), National Council for Air and Stream Improvement (NCASI), International Union of Forest Research Organizations (IUFRO), international NGOs, such as The Nature Conservancy (TNC) and WWF, and local industry associations, to advance innovation and research on the carbon and climate impacts of forests and wood fiber products. Many of us participate in the development of accounting methods, such as the Greenhouse Gas Protocol, that should lead to a globally accepted emissions accounting standard to quantify the carbon impacts of forests and wood fiber products. The development of science-based targets also helps stimulate interactions with customers on the climate benefits of forest products.





OUR COMMITMENT

SDG impact

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

1. Support and invest in **reforestation, afforestation, wider land restoration and conservation** efforts, especially of unique forest values.
2. **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.
3. **Achieve scope 3 GHG emissions reductions across the supply chain** by working with suppliers to optimize transportation and distribution logistics, increase the resource-efficient production and use of renewable energy and further localize supply chains where possible.
4. Support the **development and implementation of new tools and approaches to measure, value and manage GHG emissions avoidance** by substituting fossil-based and other non-renewable materials with wood fiber products.

KPI RESULTS



Renewable energy consumed on total energy consumed (%) (weighted average)	2019 63% 8 core	CAGR (2015-2019) 0%
Total renewable energy sold externally annually (GWh) (aggregated sum)	11,840 GWh 8 core	(enough to power over 1 million US homes for a year)

The science is clear on the need for ambitious climate action to keep the global temperature increase at a maximum of 1.5°C above pre-industrial levels to avoid devastating impacts on people and nature. To achieve this goal, it is necessary to both drastically reduce emissions and to draw carbon dioxide out of the atmosphere. Estimates show that natural climate solutions such as forests and peatlands can provide up to 37% of the emissions reductions needed by 2030 to keep global temperature increases within safe limits.¹⁷ The responsible use of wood fiber can expand this carbon sink beyond the forests to the products, where the product stores carbon for the duration of the product's lifetime. Action aimed at leveraging the carbon-absorbing effects of forests and forest products should not displace ambitions to halt deforestation, which currently contributes to approximately 10% of global warming emissions.¹⁸

The forest sector can play a key role in the climate agenda by promoting successful sustainable forest management models and investing in reforestation, afforestation, conservation and land restoration efforts to grow healthy forests with stable and increasing carbon stocks. The sector should carry out actions in forest management in parallel with interventions further down the forest products value chain to reduce emissions, improve energy efficiency and increase the use of renewable forest products while promoting their longevity and circularity.

1. Sustainable working forests and climate

The role that forests and forest products play in climate change mitigation is gaining increased global recognition: some 120 countries have made commitments to climate change mitigation and adaptation that include action through and within forests.¹⁹ Nevertheless, debates about the type of forests that should form part of these commitments continue. We operate in different types of forests, from managed natural and semi-natural forests in the Global North, to plantations in the Global South. Mitigating climate change requires all types of forests. While managed natural and semi-natural forests tend to have more carbon storage capacity, it can take up to a century for the trees planted to reach their full carbon-absorbing effects. Forest plantations are comparatively less effective at storing carbon, but their carbon-absorbing effects can occur more rapidly due to the shorter rotation periods.

Regardless of the type of forests, studies show that sustainable forest management practices contribute to maximizing the carbon abatement potential of forests. The 2019 Intergovernmental Panel on Climate Change (IPCC) Special Report on Climate Change and Land states that sustainable working forests can contribute to climate change mitigation by maintaining or enhancing forest carbon stocks. They can also contribute to climate change mitigation by preventing and reducing land degradation,

maintaining land productivity, and sometimes reversing the adverse impacts of climate change on land degradation.²⁰

2. Investment in reforestation, afforestation, wider land restoration and conservation

By the nature of our business, we grow and plant a striking number of trees every year just to regenerate forests harvested for their wood supply in the 10 million hectares of forests that we directly own, manage or lease. This contributes to a great pool of resources and expertise that **all FSG members then contribute to reforestation, afforestation and wider land restoration and conservation efforts in their respective regions of operation.** Where commercially used species are not indigenous to the area, we can grow indigenous or endangered species in nurseries alongside species for commercial use. We then use these seedlings for reforestation and afforestation efforts in the region, led by us or by others, such as local authorities, NGOs, landowners or local communities. For example, in Brazil, **Stora Enso's** joint operation, Veracel, has restored 6,600 hectares of the Atlantic rainforest since 1994, 95% of which farmers had converted to cattle pasture prior to the company's operations. To meet the need for some 1.8 million seedlings of diverse species on a yearly basis, the company helped set up 20 community-run tree nurseries, thereby providing important income in rural areas where jobs are scarce.

Definition: Natural climate solutions

Conservation, restoration and improved land management actions that increase carbon storage or avoid greenhouse gas emissions in landscapes and wetlands across the globe.¹⁶

3. Emissions reductions and improved resource efficiency

The private sector has a crucial role to play in climate change mitigation by reducing GHG emissions along the value chain and improving resource efficiency. This starts by matching the company-level climate ambitions with robust strategies. As some segments of the forest products sector are energy intensive, we are responding to this call to action and are working on reducing emissions along the value chain. Some **60% of FSG members have set time-bound and verified CO₂ reduction targets using the GHG Protocol and aligned with climate science. The remaining 40% are currently working towards that goal.** The Task Force on Climate-related Financial Disclosure (TCFD) and the Science Based Targets (SBT) initiative are the global climate initiatives that we most commonly support to achieve this goal.

We strive to improve energy efficiency throughout our operations, mainly through investments in technology upgrades or the use of renewable energy. **In 2019, FSG members consumed on average 33,858 GWh of energy, of which 63% came from renewable sources.** This percentage is high relative to other industries and is due largely to the use of woody biomass derived from upcycling harvesting, processing and manufacturing wood fiber residues.²² With regards to

the use of woody biomass for energy, we uphold the principle of cascading use of wood. Due to this abundant access to woody biomass, in addition to producing renewable energy for our own consumption, we also sell the surplus externally, thereby contributing to the share of renewables in the energy mix. **In 2019, FSG members sold a total of 11,840 GWh of renewable energy externally.** This is enough to power over 1 million US homes for one year. In Japan, **Sumitomo Forestry** is striving to increase the use of unused forest materials as fuel for wood biomass to feed power generation facilities throughout the country primarily employing chips of wood not suitable for use as a building material, thinning leftovers from forests and construction and demolition waste.

No ambitious carbon reduction strategy can be achieved without addressing the indirect emissions that occur both upstream and downstream in the value chain, known as scope 3 GHG emissions. In the forest

sector an important part of these emissions comes from product transportation and distribution, as well as the additional processing of products further down the supply chain or emissions associated with end-of-life management. We work closely with suppliers to drive down these emissions, especially for transportation and logistics.

In alignment with WBCSD's membership criteria, we all commit to setting an ambition to reach net-zero GHG emissions no later than 2050 and to having a science-informed plan to achieve it, which can include natural climate solutions and other carbon removal solutions. GHG emissions include scopes 1 and 2 and the most relevant and influenceable elements of scope 3.



Credits: Stora Enso

Definition: Cascading use of wood

This strategy uses raw materials such as wood or other biomass in chronologically sequential steps as long, often and efficiently as possible for materials and only to recover energy from them at the end of the product life cycle.²¹



OUR COMMITMENT

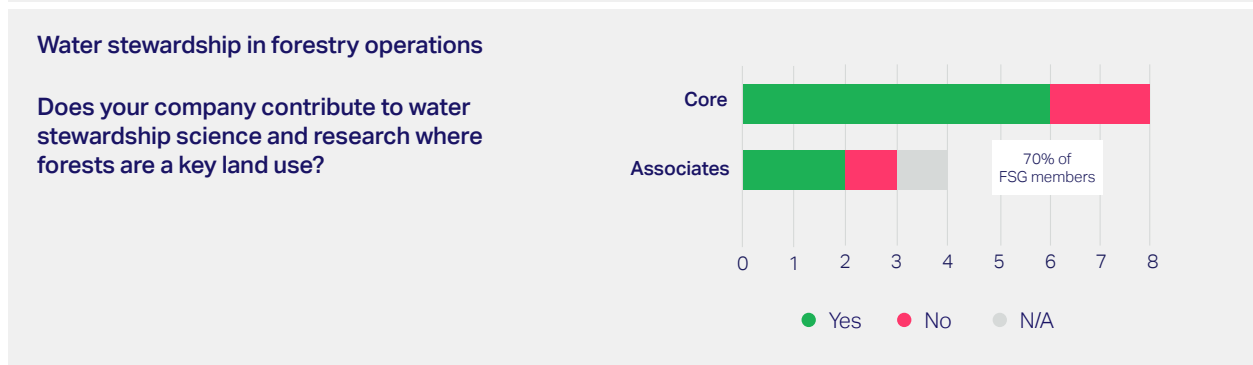
SDG impact

Expand context-based water stewardship approaches

1. Identify and implement water-use reductions, wastewater treatment and circular **water management practices in manufacturing operations**, focusing in particular on water-stressed regions.
2. 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 on watershed management.
3. 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.

KPI RESULTS

Water stewardship in manufacturing	2019	CAGR (2015-2019)
Water use: average amount of water returned to the water source/supply/third parties for reuse (%) (weighted average)	92.4% 7 core	0%
Water quality: chemical oxygen demand (COD) per ton of sellable production (kg) (weighted average)	7.1kg 6 core	+1%



Water security and forest health are intrinsically linked. The Food and Agriculture Organization of the United Nations (FAO) suggests that about 75% of the world's accessible freshwater for domestic, industrial or agriculture use comes from forests.²³ Forest plantations, pulp and paper mills, and even paper recycling operations use large amounts of water. Managing water impacts and dependencies is therefore a key sustainability priority for the sector. Failure to do so could bring harmful environmental impacts and physical, regulatory, financial and reputational risks for business. In the SDG Roadmap, we commit to water stewardship in our manufacturing operations and in forestry, focusing in particular on water stressed regions. We also commit to supporting the development of improved tools and methodologies to better value and manage water.

1. Water stewardship in manufacturing operations

Water is a critical input in all stages of manufacturing operations. We use it mostly to pulp the wood and recover fiber, to make paper and generate power. Mills generally use surface water as their primary source and discharge treated wastewater to receiving streams. Water is location specific; for some mills it is an abundant resource, for others it is scarce. Failing to manage this heavy dependency on water in manufacturing can cause considerable risk to the

business, as some mills have seen their water supply restricted due to overdrafting of aquifers or climate change effects. It can also have undesirable impacts on neighboring communities.

In manufacturing, water use is largely non-consumptive, which means that the forest sector returns, on average, 90% of the water used in production facilities to water sources. **In 2019, FSG members returned on average 92.4% of water to water sources, supplies or third parties for reuse.** Reuse of water in facilities is common, with sites in North America reusing water up to 10 times before returning it to the source.²⁴ When investing in wastewater treatment, it is important to consider the energy source and processes to minimize GHG emissions. We also rigorously monitor the quality of water returned by tracking and reporting on the water chemical oxygen demand (COD). **In 2019, FSG members reported an average of 7.1 Kg COD per ton of sellable production.** Both figures have remained stable over the last five years, as local regulation and technological improvements largely drive them.

2. Water stewardship in forestry

In recognition that most of the available freshwater in the world originates in forests, water stewardship in forestry starts with the promotion of responsible forest management practices such as establishing forest buffer zones bordering

watercourses, the conservation of forest landscapes as important watersheds, and the restoration of valuable ecosystems for water quantity and quality such as wetlands. We implement dedicated water stewardship plans, particularly in regions that experience water stress and high competition for water use.

Some 70% of FSG members contribute to water stewardship science and research by working directly with universities or research institutions such as NCASI on water-related topics ranging from the development of guidelines on forest management planning at the water-catchment level to the long-term effects of plantations on water balance.

Water is a common good and therefore calls for a collective response at the local and global levels. As part of our various water stewardship strategies, many of us participate in multi-stakeholder alliances, such as the Water Stewardship Alliance or WRI's Aqueduct Alliance, to exchange on best practices and conduct research on water stewardship. In South Africa, in collaboration with WWF, **Mondi** has established a partnership initially focused on wetland restoration that is now working to promote a landscape-level approach to maintaining freshwater ecosystems by engaging with the main land users (such as agricultural users, the dairy sector, small forest growers, etc.) across entire water catchments to improve their water stewardship practices.

OUR COMMITMENT

SDG impact



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

- 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.
- Further increase the **global recovery rate of wood fiber products** by:
 - Identifying and scaling up new sustainable solutions to waste management and fiber recovery;
 - Helping to spread best practices and innovative designs 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 behavior change through consumer education and incentives.
- 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.

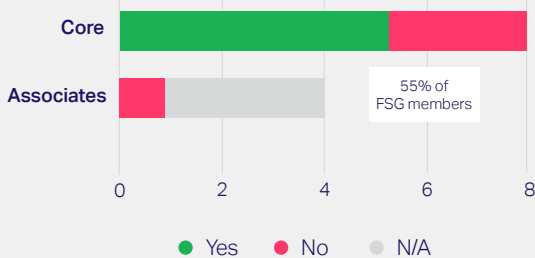
KPI RESULTS

Solid waste sent to landfill on total waste (%)
(weighted average)

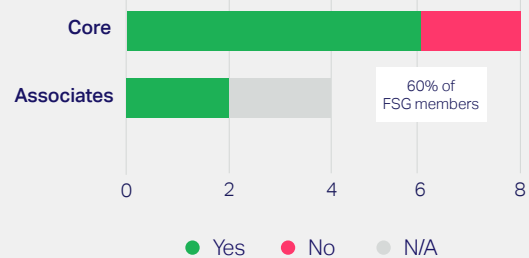
2019
37%
8 core

CAGR (2015-2019)
+10%

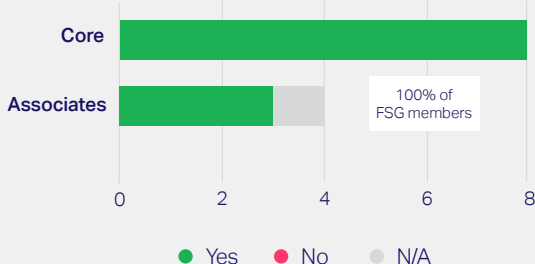
Does your company source according circular principles?



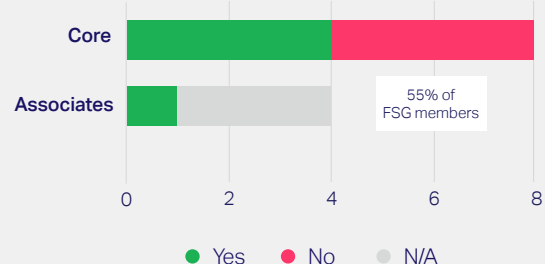
Does your company design products to maximize their recovery potential?



Does your company actively engage in increasing upcycling of waste streams within the value chain or as feedstock for other industries?



Does your company engage in improving the global recovery rate of wood fiber products?



Despite the increasing awareness of the need for circular economies, the world is currently only 8.6% circular.²⁶ Due to the renewable, recyclable and biodegradable nature of wood fiber products, the forest sector is well positioned to bring efficient, bio-based, circular business models to scale. To achieve this, in the SDG Roadmap we commit to action at every stage of the forest product value chain: sourcing raw materials, designing products to improve the recovery potential, repurposing the 2 billion tons of waste generated each year by the sector,²⁷ and working on improving the global recovery rate of wood fiber products.

1. Sourcing based on circular principles

Wood fiber is the predominant material inflow for forest products, followed by non-wood fiber materials such as chemicals. Most forest products combine virgin and recycled fiber derived from recovered paper. As wood fiber is a renewable material, we use certification and other tools to ensure the sustainability of each part of the forest management cycle. In addition to the certification of their input wood fiber intake, **55% of FSG members systematically apply circularity principles to their sourcing strategy.** Among others, this means that we strive to increase the amount of recycled materials in products

without compromising product safety or quality. We can do this by setting specific targets for the percentage of virgin to recycled fiber flowing into the product. But this virgin and recycled fiber combination is not possible for products such as some food packaging, toys, pharmaceuticals or premium paper that require the almost exclusive use of virgin fiber for safety or technical reasons. Also, for fiber to reach its full recycling capacity (around 7 times), the input of virgin fiber is necessary at each cycle.

2. Design products to maximize recovery potential

By leveraging the sustainability attributes of wood fiber, the forest sector is in a strong position to develop more sustainable alternatives to products already on the market. But to meet product requirements, the sector often combines wood fiber with other materials such as plastics or coatings that can compromise their recovery potential. Single-use fiber products such as composite packaging, diapers, personal care and sanitary products are a key area of concern and action for us regardless of

whether we have direct control over their manufacturing.

Some 60% of FSG members systematically apply circular design principles to maximize the recovery potential of their products.

To reach key stakeholders and customers, some of us have joined or launched collective initiatives. For example, **Smurfit Kappa's** Better Planet Packaging Initiative seeks to reduce packaging waste and litter by creating more sustainable packaging solutions through design, innovation and recycling capabilities. Others invest in equipment upgrades. For example, **Birla Cellulose** recently invested over USD \$170 million in upgrading to cutting-edge technology for a closed-loop production process that maximizes recovery potential and enables the upcycling of waste textiles into fresh fiber for one of its product lines.



Definition: Circular economy

The circular economy consists of a move away from the traditional “take – make – dispose” economic model to one that is regenerative by design. The goal is to retain as much value as possible from resources, products, parts and materials to create a system that allows for long life, optimal reuse, refurbishment, remanufacturing and recycling.²⁵

3. Upcycling of waste streams

With about 2 billion tons of waste generated each year, mostly as wastewater and sludge, the forest sector is constantly looking for innovative ways to reuse this waste either as raw material input in its own value chain or as a feedstock for other industries such as chemicals or cement.

In 2019, FSG members sent on average 37% of their total solid waste to landfill. They recycled or incinerated the remaining 63% for energy. The variation of this figure over time is directly linked to the evolution of FSG membership, as it is closely linked to the type of products produced, as well as the local regulations on landfilling certain types of waste.

The Navigator Company provides a good example of the reuse of waste within its own value chain through the valorization of carbonate sludges, a waste from its industrial processes, as a raw material for incorporation in the production of its uncoated wood-free paper. The production takes place onsite through a cooperation partner.

Reusing waste as a feedstock for other industries also presents attractive opportunities, for example reusing residuals such as ash and sludge for road construction, cement, bricks, fertilizers or soil improvers. Additionally, forest residues can be used to produce essential eucalyptus oils for fragrances, cosmetics, disinfectants and other pharmaceutical products.

4. Improving the global recovery rate

While most of us operate upstream in the forest product value chain, consumers' growing concern about the end-of-life disposal of products is pushing businesses to increasingly internalize the cost of poor waste management infrastructure. With a recycling rate at 60% globally, paper is one of the most recycled materials.²⁸ But there is still room for improvement across the full range of wood fiber products and **half of FSG members are actively contributing to increasing the recovery rate of these products.** We often do this in collaboration with

other actors in the value chain, as well as local or regional authorities. For example, **CMPC** has internalized the recovery process by operating its own paper and board recovery subsidiary that works throughout Chile, and at a smaller scale in Peru and Argentina, to recover materials from different origins, such as local recycling facilities, supermarkets or large retail stores and from its own subsidiaries. In Belgium, **Stora Enso** has trialed the recycling of used paper cups from volume cafés and quick-service restaurants by working closely with local waste management partners.



COMMUNITIES

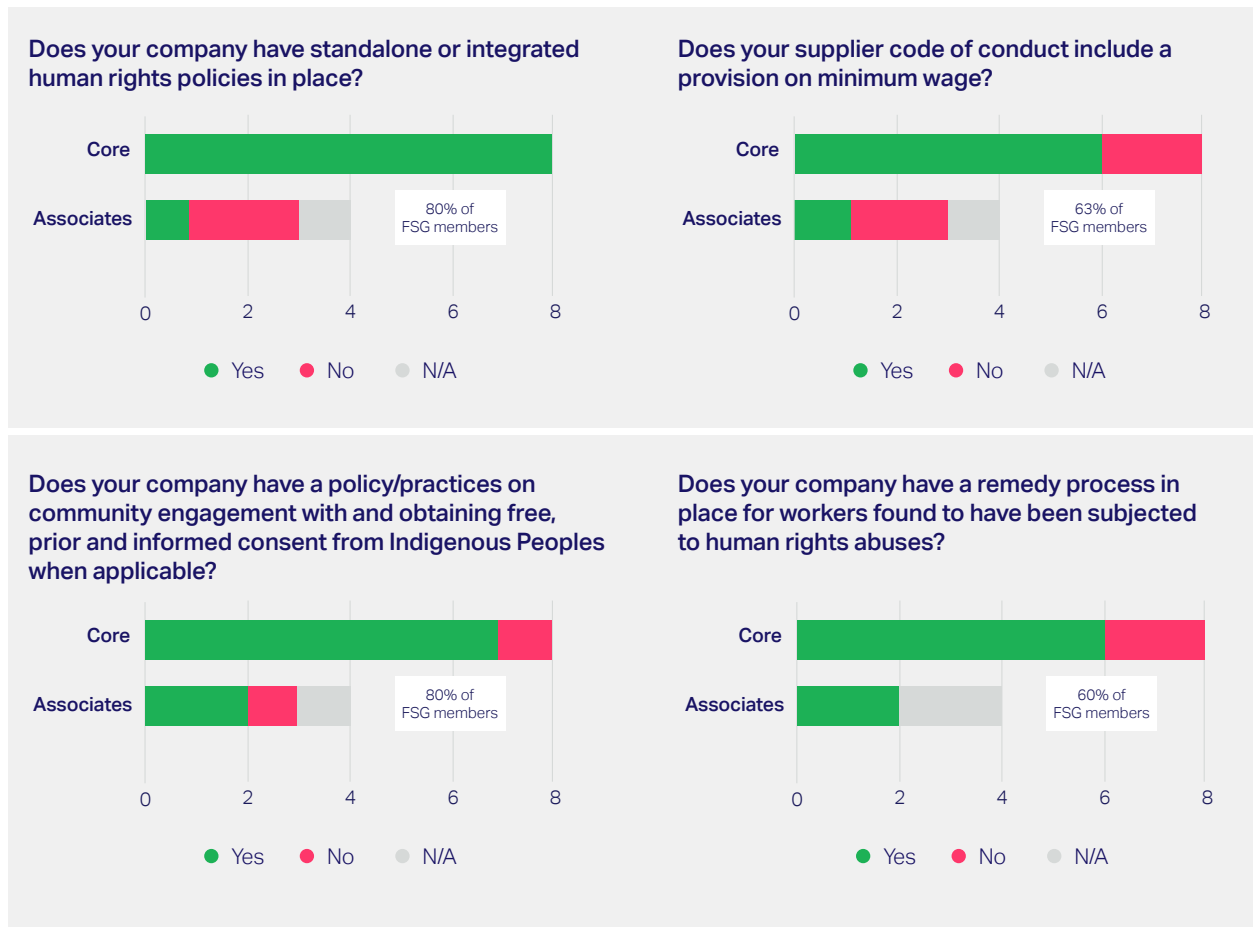
OUR COMMITMENT

SDG impact

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

- 1. Scale shared-value business models** that provide services, infrastructure, business support, skills development opportunities and other livelihood benefits to communities and enable improved governance.
- 2. Respect access and tenure rights of Indigenous Peoples and communities directly affected by forest operations** by proactively seeking to resolve any disputes through appropriate grievance mechanisms, dialogue and independent mediation, and implementing best practices such as participatory planning with Indigenous Peoples in line with the principles of free, prior and informed consent (FPIC).

KPI RESULTS



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. Forestry and primary processing often occur in remote areas with limited access to work, social support services or infrastructure. In this context, businesses in the forest sector have the responsibility to bridge some of these gaps. Indigenous Peoples constitute another key forest sector stakeholder as they manage approximately 28% of the world's land surface, including some of the most ecologically intact forest areas. Yet they continue to face issues related to land rights and other forms of oppression.²⁹

To enhance livelihoods and build resilience in forest dependent communities, in the SDG Roadmap we commit to scaling shared-value business models that provide livelihood opportunities to communities while building long-term business competitiveness. For example, when facing the effects of a

failed educational system and unstable operating environment in rural Columbia, Smurfit Kappa set up agroforestry education institutes to improve education and livelihoods in the region while securing its talent pipeline. In Indonesia, Sumitomo Forestry provides free seedlings to local communities and guarantees the purchase of round logs as raw materials at the current market value once the seedlings grow into harvestable woods. With this approach, local farmers can use any land that is not suitable for farming and earn cash income.

As investment in communities should start by securing their most fundamental human rights, in the SDG Roadmap we commit to respecting the rights of Indigenous Peoples and communities directly affected by forest operations. Common human rights risks in the forestry sector that can impact local communities include hazardous working conditions, the infringement of land tenure rights, forced and child labor, low and insecure wages, threats to the livelihoods of communities and Indigenous Peoples, and

impacts on the environment and air quality. By embedding respect for human rights into business operations and value chains, we can prevent or mitigate these risks while strengthening our social license to operate.

1. Public commitment to respect human rights

Based on the United Nations Guiding Principles on Business and Human Rights (UNGPs), a public commitment to respect human rights is the first step in fulfilling the business responsibility to respect human rights. Some **80% of FSG members have taken this step by publishing a separate or integrated human rights policy, which varies according to their alignment with the UNGPs.**

The content of these published human rights policies meets at least the minimum UNGP requirement of alignment with the International Bill of Human Rights and the International Labour Organization's (ILO) Declaration on Fundamental Principles and Rights at Work.³⁰



2. Provision on minimum wage in supplier code of conduct

The forest sector business model is characterized by a large number of contracted workers and temporary staff. These groups are more vulnerable to human rights risks such as low wages, short-term contracts, hazardous working conditions and long working hours. To mitigate this risk, business should develop robust supplier and contractor policies aligned with core ILO labor standards, a commitment to engaging in social dialogue with workers to monitor compliance, and a provision on minimum wage. A company-wide commitment to a minimum wage and to addressing job insecurity along the value chain significantly improves working conditions and poverty alleviation in communities. We all hold our suppliers accountable to a supplier code of conduct. In 2019, we had reached and evaluated 89% of our more than 160,000 suppliers for compliance with the code of conduct, and **63% of FSG members included a provision on a minimum wage in their code of conduct. These are suppliers of wood fiber and other materials.** This signals a proactive step towards building decent livelihoods and facilitating a more productive and sustainable workforce.

3. Policy & practices for community engagement

Without responsible business practices for community engagement, rural communities and Indigenous Peoples in the vicinity of forestry operations could be at risk of displacement, poor compensation agreements and loss of livelihoods, land and identity. To fully comprehend and mitigate these risks, companies should establish stakeholder engagement plans with clearly defined procedures, compensation mechanisms and grievance channels accessible to all. Some **80% of FSG members have policies and processes for community engagement in place**, such as **Stora Enso's Sustainable Settlement Initiative**, run by its joint operation Veracel, aimed at fostering dialogue and resolutions for displaced people in Brazil. In doing so, most companies demonstrate a commitment to communicating openly about potential impacts and preventing future harm, including by securing free, prior and informed consent from affected peoples.

4. Remedy process in place

Remediation is a central tenet of the corporate responsibility to respect human rights. Where a business has caused or contributed to negative human rights impacts, affected stakeholders should have access to judicial and non-judicial grievance mechanisms and remedy. Some **60% of FSG members report having a remediation process in place** and two FSG members provide examples of the outcomes, lessons learned and corrective actions taken to prevent future harm. Transparency on the steps taken to ensure access to remedy is crucial for companies to demonstrate legitimacy and retain stakeholder trust.

In alignment with WBCSD's membership principles, we commit to declaring our support for the UN Guiding Principles on Business and Human Rights by having a policy to respect human rights and a human rights due diligence process in place.



Launched in 2011, the **United Nations Guiding Principles on Business and Human Rights (UNGPs)** are the framework of reference to reduce the risk of negative impacts on human rights caused by business activities. The UNGPs set out the state duty to protect human rights against abuses, the business responsibility to respect human rights, and the state and business role in providing access to remedy when negative impacts occur.

PEOPLE

OUR COMMITMENT

SDG impact



Enhance the sector's attractiveness, diversity, inclusiveness and safety

- 1. Enhance the quality and integrity of jobs** through continuous improvements in health, safety (incl. road safety) and well-being for employees and contractors.
- 2. Invest in human and social capital to attract and retain talent and enhance workforce diversity** by:
 - Providing access to capacity building and training opportunities for employees and contract workers;
 - Strengthening policies that support workforce diversity and inclusion by setting goals and measuring and reporting progress.

KPI RESULTS

Supplier code of conduct	2019	CAGR (2017-2019)
Suppliers reached and evaluated through supplier code of conduct (%) (weighted average)	89% 7 core	+11%
Employee health & safety	2019	CAGR (2015-2019)
Lost-time injury frequency rate (weighted average)	2.7 8 core + 2 associates	-3%
Employee skills development	2019	CAGR (2017-2019)
Number of training hours per employee (in hours) (weighted average)	26.2 7 core	+6%
Workforce diversity	2019	CAGR (2017-2019)
Women employees (%) (weighted average)	19% 8 core + 2 associates	+3%
Women directors on board of directors (%) (simple average)	19% 7 core	+10%

PEOPLE

The forest sector formally employs nearly 14 million people globally and the FAO and ILO estimate that the sector's indirect and induced effects are far greater, involving about 45 million jobs.³² Businesses in the sector outsource a growing number of jobs in the forest value chain, particularly in forest production and transportation, to contractors, thus complicating the roll out of health and safety and other workforce-related initiatives. In addition, difficulties in attracting women and the younger generation as employees undermine the forest sector's competitiveness. We are committed to building a more sustainable workforce in the sector by investing in the health, safety, training and diversity of our more than 260,000 employees globally. In the SDG Roadmap we commit to enhancing the quality and integrity of jobs, with a focus on the health and safety of our workforces and contractors. We also commit to investing in attracting and retaining talent to enhance workforce diversity and measuring and reporting progress.

To guarantee the same rights to the workers in our supply chains, we start by holding contractors accountable to supplier codes of conduct, against which we evaluate them. **In 2019, FSG members had used a supplier code of conduct to reach and evaluate 89% of their more than 160,000 suppliers.** This figure has been growing substantially over the last three years, indicating a drive towards positive engagement with contractors in the supply chain.

1. Employee health & safety

While the nature of forest work is changing rapidly due to technological developments and mechanization, it remains a high-risk work environment requiring close monitoring and management.³³ For example, forest activities often take place in remote

areas and companies in the sector generally outsource transportation to contractors. Tracking and managing the risk of occupational injuries and fatal accidents throughout our operations is high on our agenda. By promoting work cultures centered on organizational safety and systems that support good practices, we have consistently improved our health and safety indicators overtime. **In 2019, FSG members recorded a lost-time injury frequency rate of 2.7 per 1,000,000 hours worked for direct employees.** Figure 3 shows the positive evolution of FSG's health & safety KPIs from 2015-2019.

2. Employee skills development

Like many other sectors, the forest sector is continuously adapting to the latest technological innovations, as well as the fast-evolving bioeconomy requiring constant renewal of skills and competencies. To ensure a stable and capable workforce through the variety of changing requirements, we invest in human capital. **In 2019, FSG members provided an average of 26.2 hours of training to their employees.** This includes formal training such as the in-class digital training offered by the **Navigator Company** to its employees through an online platform developed in partnership with academic institutions in Portugal. Training also includes more informal self-learning opportunities as practiced by **Campbell Global** that encourage staff to get involved on a personal

level with civic organizations and community leaders to develop greater understanding of local community needs.

3. Workforce diversity

Although gender diversity in the forest sector has come under increased scrutiny in recent decades, women are still heavily underrepresented in the sector, particularly at senior levels. In Europe, women account for only 20% of the workforce in the forest sector.³⁴ This ratio is similar among FSG members, where **19% of all employees were women in 2019.** As a comparison, this ratio was 29.3% for all WBCSD members in 2019.³⁵ The same year, we reported the same ratio of **19% women on our boards of directors,** indicating that the boards are in general representative of the company's workforce composition. For WBCSD members that figure was 25.7% in 2019.³⁶ To improve in this area, companies should make efforts to support the participation and success of women throughout the industry by implementing programs and management approaches to advance gender equality, attract women to the sector and develop women leaders.

In alignment with WBCSD's membership principles, we commit to declaring our support for inclusion, equality, diversity and the elimination of any form of discrimination.

Figure 3: Evolution of FSG's health & safety KPIs from 2015-2019

Key Performance Indicators	2015-2020 CAGRs
Number of fatalities for directly employed (aggregated sum)	-19%
Number of fatalities for contractors (aggregated sum)	-7%
Number of lost-time injuries (aggregated sum)	-7%
Lost-time injury frequency rate (weighted average)	-3%
Lost-time injury severity rate (weighted average)	-2%



PROCUREMENT

OUR COMMITMENT

SDG impact



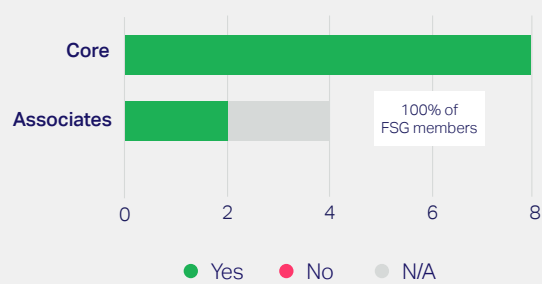
Strengthen and enhance responsible procurement practices, transparency and traceability throughout the value chain

- Scale the use of best practices to **increase the percentage of purchased wood fiber products from legal, controlled and environmentally and socially responsible sources** (including respecting the rights of affected communities and Indigenous Peoples) by implementing a risk-based approach addressing traceability, and geographic and supply chain risk-based assessment.
- Improve the traceability of materials and products** by using up-to-date technology and transparent geo-localization of forest operations and applying approaches to measure and manage natural and social capital dependencies throughout the supply chain.
- Enhance sustainable and responsible procurement practices globally for key non-wood fiber raw materials and services**, such as chemicals and minerals, through supplier collaboration and promotion and the enforcement of supplier codes and other measures.

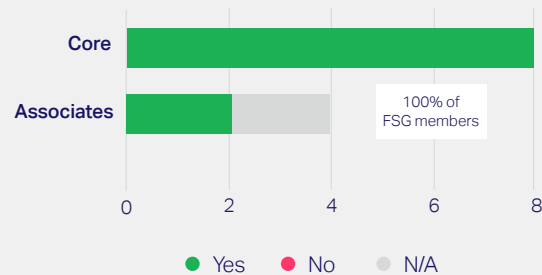
KPI RESULTS

Sourcing policies

Does your company hold its suppliers accountable to a publicly disclosed sourcing policy?



Does this sourcing policy apply equally to non-wood fiber raw materials and services?



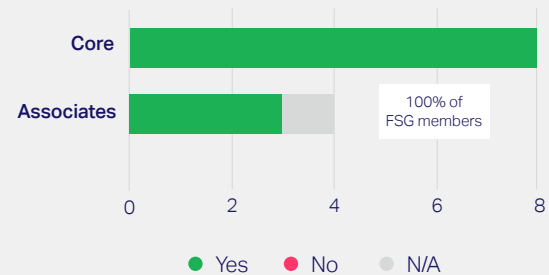
Traceability of materials

Volume of wood fiber products intake certified (%) (weighted average)

2019	CAGR (2015-2019)
67%	+1%

8 core

Does your company invest in improving the traceability of materials and products?



In recent years business has come under increased pressure to move from an arms-length transactional relationship with suppliers to a more strategic, long-term approach. Digital innovation is further disrupting the supply chain's linear structure, giving rise to a more brokered, networked system of peers.³⁷ This same trend applies to businesses in the forest sector where the growing global attention on deforestation is bringing additional pressure to manage risks in the forest products value chain.³⁸ As customers of wood fiber, we have the most direct and substantial ability to make a significant contribution through our network of over 170,000 suppliers globally. This starts with diligent risk-based approaches to more collaborative, long-term partnerships to drive impact through the adoption of sustainable forest management practices or GHG emissions reductions. In the SDG Roadmap we recognize this important lever for impact in our supply chains. With regards to raw material procurement, we commit to scaling up the amount of wood fiber products purchased from legal, controlled and sustainable sources through risk-based approaches and improved traceability. We also commit to improving procurement practices for key non-wood fiber raw materials that we rely on, such as chemicals and minerals.

1. Publicly disclosed sourcing policies

We source wood fiber from forests that we directly own, manage or lease, or from third party suppliers. For example, **International Paper**, once a large landowner and manager in North America, now relies almost exclusively on private landowners and suppliers for the procurement of its fiber supply. Therefore, wood fiber procurement policies can have far-reaching, long-term impacts on the forests where companies harvest and the communities companies support. Having a publicly available responsible sourcing policy and exercising due diligence to manage the risk of non-compliance with the policy is the first element of a responsible sourcing practice. **In 2019, all FSG members had a publicly disclosed sourcing policy. These sourcing policies apply equally to non-wood fiber products, such as the chemicals used for bleaching pulp.** When assessing supplier risks, we typically include risks related to labor, climate change, water and biodiversity, as well as risks related to illegal logging and deforestation for wood fiber supply chains.



2. Traceability of materials

Tracing the origins of wood and paper-based products can be a complex task. Supply chains often link many wood producers and dealers across several countries and procurement portfolios cover multiple supply chains. A finished forest product might include different types of trees and many products can come from the same tree.³⁹

Forest certification is an effective tool to mitigate the risks related to traceability for wood fiber products. **In 2019, a recognized certification system certified on average 67% of the total volume of wood fiber product intake from FSG members.**

But certification is not the only way to drive sustainable forest management practices. In some regions, and for smallholder forest owners, access to certification can be difficult. Also, for non-wood materials, there is no relevant third-party certification. We all invest in bridging this gap by working closely with wood fiber suppliers to uphold sustainable forest management practices and to improve the traceability of raw material supplies. Several technological approaches are emerging to help trace and verify the origin of the raw materials in products. For example, **International Paper** has launched a geographic information system (GIS)-based mapping technology application to assess forest tracts for the existence of important species or forest habitat values prior to harvest. **Birla Cellulose** has adopted a blockchain-based tool coupled with a tracer embedded in the fiber to allow consumers to trace the entire material journey, from forest to retail, by simply scanning a QR code.

③ FSG's recent and ongoing work



3 FSG's recent and ongoing work

The Forest Sector SDG Roadmap's eight impact opportunities align with the FSG's ongoing work program, centered on two mutually reinforcing pillars: sustainable working forests, and the sustainable bioeconomy. Therefore, progress on our work program will lead to progress along the pathways.

We drive some of the actions outlined in the SDG Roadmap, such as GHG emissions reductions or water-use reductions in manufacturing, primarily at the individual company level. Other actions require a coordinated effort along the forest sector value chain to build a critical mass that will effect change at the global level. This second category is where we are in the best position to contribute by offering a global platform for businesses in the forest sector value chain

to build and share sustainable development solutions. A good example of this is our participation in the ongoing work by WRI and WBCSD to revise the Greenhouse Gas Protocol to better account for and report on carbon removal and storage, land use and land-use change, and bioenergy. Through this work we are contributing to the development of new tools and approaches to better account for the carbon impacts of forest and wood fiber products. We are also setting the stage for better accounting of GHG emissions avoidance through the substitution of fossil-based materials with wood fiber products.

Figure 4: Mapping of FSG's work in the eight impact areas

Recent work	Impact areas							
	Working forests	Bioeconomy	Climate	Water	Circularity	Communities	People	Procurement
Sustainable Procurement Guide	Counter deforestation through sustainable forest management and wood fiber procurement							Increase the % of purchased wood fiber products from legal, sustainable sources
Video: "Be part of the solution: buy forest products"	Expand sustainable forest management through certification	Drive uptake of wood fiber products			Consumer education on the benefits of circular bioproducts			
Forest Sector Guide to the Social Capital Protocol						Scale shared value business models	Measure and report on progress on investments in human capital	Value/manage social capital along the supply chain
Forest Sector Guide to the Natural Capital Protocol	Develop tools to value/manage biodiversity & ecosystems		Develop tools to value/ manage GHG avoidance	Develop tools to value/ manage water risks				Value/ manager natural capital along the supply chain
Circular Bioeconomy report		Drive uptake of wood fiber products			Consumer education on the benefits of circular bioproducts			
Food, Agriculture and Forest Products ICFD Preparer Forum		Drive uptake of wood fiber products	Reduce scope 1,2,3 emissions					

Actions from the SDG Roadmap

④ The way forward



④ The way forward

Through the development of this report, we have reassessed the value of the KPIs reported on since 2015. While most remain relevant, others show potential for better alignment with the actions in the SDG Roadmap and current practice. Going forward, we will adopt a revised set of KPIs on which all members will continue to disclose progress annually. In 2026, we will release a second Forest Sector SDG Roadmap Implementation Report to capture the progress made over the previous five years and set the direction for the final years leading up to 2030.

While the SDG Roadmap provides a long-term vision for the sector, the actions outlined to achieve the vision are based on prevailing practices and thinking at the time of its development. Sustainability is a fast-evolving field, so to ensure the pathways remain relevant, the implementation of the SDG Roadmap will require the ongoing monitoring of emerging trends and developments in policy and sustainability. Changes in priorities or focus, growing ambitions and emerging topics will inevitably alter the implementation plan in the coming years.

Going forward, each FSG member will continue to drive progress within its business, with the support of the FSG to enable and amplify their work through its work program. As members of WBCSD, we will also commit to the actions in the WBCSD's membership criteria and report progress annually in our standard external communications. As 2020 marks the beginning of the "Decade of Action" to accelerate efforts to deliver on the SDGs, we are holding ourselves accountable to play our part.

Figure 5: Members of the Forest Solutions Group

FSG core members	Total area owned, leased or managed (thousand hectares)	Number of employees (thousand)	Total revenues (in USD \$ billion)	Country of headquarters	Main products	FSG associate members	Total area owned, leased or managed (thousand hectares)	Number of employees (thousand)	Total revenues (in USD \$ billion)	Country of headquarters	Main products
 Birla Cellulose	674	12	3	India	Man-made cellulosic fiber	 Campbell Global	700	0.2	5	US	Timberland investment
 cmppc	1,189	18	6	Chile	Pulp Packaging Tissue products Wood building materials	 Hancock Natural Resources Group	2,192	0.9	10	US	Timberland and farmland investment
 INTERNATIONAL PAPER	476	52	22	US	Pulp Paper Packaging	 NewForests	765	3	4	Australia	Timberland investment
 mondi	2,368	26	8	Austria/ UK	Paper Packaging	 EURASIAN RESOURCES		74		Switzerland	Tobacco
 NAVIGATOR COMPANY	108	3	2	Portugal	Paper Pulp Tissue paper Energy						
 Smurfit Kappa	68	46	9	Ireland	Packaging						
 storaenso	2,347	25	10	Finland	Packaging Wood building materials Biomaterials Paper						
 SUMITOMO FORESTRY	280	19	10	Japan	Wood building materials Energy* Housing, real estate, construction*						

*Products excluded from KPI results

Endnotes

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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 bioeconomy and a thriving forest sector that sustains healthy productive forests and people's well-being.

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