



INTERNATIONAL
COUNCIL OF
FOREST & PAPER
ASSOCIATIONS



2015

ICFPA Sustainability Progress Report



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Executive Summary



The International Council of Forest and Paper Associations (ICFPA) and its members are committed to sustainable development to ensure that environmental, social and economic benefits are available to current and future generations. Reflecting this commitment, the ICFPA is pleased to publish its fifth biennial Sustainability Progress Report.

This report highlights regional and national member associations' activities and performance related to the six commitments made in the 2006 CEO Leadership Statement on Sustainability and provides an aggregate snapshot of performance. The industry's contributions to the green economy; the ICFPA's and the sector's efforts to tackle climate change; and specific examples of members' innovations also are included in this 2015 report.

Globally, the sustainability performance of the forest product industry is improving. All indicators are showing progress; however, performance in some areas is starting to plateau – reflecting limits to the continued improvements that can be made. For instance, aggregate indicators such as Sustainable Forest Management (SFM) certification, the global recycling rate, sulphur dioxide (SO₂) emissions and onsite energy intensity show only minor improvements from the previous report, but reflect the industry's early actions and ongoing progress.

The ICFPA is committed to biennial reporting and the use of aggregate indicators to track global performance of the sector. Please contact the ICFPA if you have any questions or comments on the report at info@icfpa.org.

Summary of our Progress

Creating Solutions to Global Climate Change and Energy Supply Challenges

Forests and forest products play an important role in mitigating climate change. The ICFPA advocates the carbon neutrality of biomass and the industry's role in delivering climate benefits to society through sustainable forest management and carbon sequestration. To reduce greenhouse gas (GHG) emissions and support climate change mitigation efforts, ICFPA members are supporting national and regional climate policies and programmes; investing in their operations with new technologies and processes; increasing the use of low carbon fuels; and providing substitutions for traditional fossil-fuel based products. Collectively, reporting ICFPA members have reduced their GHG emissions intensity by 0.03 percentage points, or 5%, and have increased the share of bio-energy in the fuel mix by 3 percentage points since the previous report (2010/2011 data).

Collectively, reporting ICFPA members have reduced their GHG emissions intensity by 5% since 2010/2011.

Promoting Sustainable Forest Management (SFM) Worldwide

Managing forests in a responsible way protects one of nature's most important assets, as well as the long-term viability of the global forest products industry. The ICFPA promotes key principles to ensure the continued credibility of SFM certification systems worldwide and advocates the increasingly important role of planted forests in providing sustainable raw material for the growing industry. The ICFPA is a member of the Programme for the Endorsement of Forest Certification (PEFC) and has applied for membership in the Forest Stewardship Council (FSC). Companies rep-

Reporting ICFPA members increased the percent of SFM-certified hectares from 48% in 2010/2011 to 52% in 2012/2013.

resented by ICFPA members apply a variety of SFM certification systems (many of which are endorsed by PEFC) and support SFM certification bodies at the international level, as well as regional conservation programmes. Reporting ICFPA members increased the percent of forest-based wood fibre supplied from certified sustainably managed forest sources by 4 percentage points between 2012/2013 and 2010/2011. Performance on this indicator is beginning to plateau, as the vast majority of the rest of the wood supply in countries covered by the reporting associations is either commercially unavailable or owned by private, often small, landowners, who are not SFM certified for economic and/or practical reasons. In addition, a large proportion of the world's uncertified forests is in developing countries, where there has been minimal penetration of credible SFM certification systems.

Combating Illegal Logging

Illegal logging contributes to deforestation and distorts the trade of forest products (recognising that land conversion from forests to agriculture is the main cause of deforestation). The ICFPA acknowledges the role of domestic authorities to enforce forest laws and lists key principles for which the ICFPA and its members stand united. The majority of reporting members are actively supporting legislation to combat illegal logging – the U.S. *Lacey Act*, the European Union *Timber Regulation* and the *Australia Illegal Logging Prohibition Act* – and several countries have set up monitoring and traceability systems to verify the origins and legality of fibre supplies. In Europe, recent monitoring results have shown that no illegal timber has been found in European pulp and paper companies. In Japan, monitoring showed that performance is improving due to active measures that ensure certification and traceability. Brazil's new Rural Environmental Registry requires all rural property owners to report information that will help improve the country's monitoring efforts.

Recovering and Recycling Fibre

The recycling of pre- and post-consumer paper and wood products conveys substantial benefits to the forest products industry, to consumers and to society as a whole. In cases

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Our Six Commitments

Creating Solutions to Global Climate Change and Energy Supply Challenges

Promoting Sustainable Forest Management (SFM) Worldwide

Combating Illegal Logging

Recovering and Recycling Fibre

Improving Environmental Management

Investing in Workers and Communities

where there are no significant competing uses for the land or for the trees on the land, recycling can reduce harvesting by reducing demand for pulp-wood. Recycling also reduces the amount of paper in the waste stream, thereby reducing the waste directed to landfills. The global recycling rate continues to rise but only modestly with a 1.3 percentage point increase between 2011 and 2013. This is a reflection of the already high rates of paper recovery. Canada, Europe and Japan all have recovery rates over 70% and note the challenges of trying to advance the rate further. In other countries such as Brazil, the industry is finding opportunities for job creation as cooperatives for recycling and waste collectors play an increasingly important and legitimate role in the recycling industry.

The global recycling rate rose 1.3 percentage points to 58% between 2011 and 2013.

Improving Environmental Management

The ICFPA and its members are committed to reducing the environmental footprint of their industrial activities, ensuring that their activities respect the environment, and maintain the natural resources on which the industry depends. This means ensuring compliance with all relevant regulations in the jurisdictions in which ICFPA members operate and responding to growing societal and industry expectations. Similar to paper recovery rates, members are seeing their performance in some areas of environmental management plateau. Collectively, between 2004/2005 and 2012/2013, reporting members have improved their total onsite energy intensity by 4.3% to a total of 17.4 GJ Lower Heating Value (LHV)/Mt production. More marked decreases in SO₂ emissions were achieved with a 40% reduction to a total of 1.2 kg of SO₂/Mt production during the same period. ICFPA members also describe how they are taking steps to improve environmental performance on other important issues such as water use, releases of chemical substances, biological oxygen demand (BOD), chemical oxygen demand (COD) and waste.

Investing in Workers and Communities

Employing 13.2 million people in the forest products sector directly, and another 41 million people indirectly (Food and Agriculture Organisation of the United Nations, *State of the World's Forests, 2014*), the global forest products industry plays a critical role in the economic health and well-being of thousands of local economies and communities, particularly in rural areas in many parts of the world. In Brazil and Chile for instance, both Ibá and CORMA have conducted studies to demonstrate the socio-economic benefits of the industry. Canada, Japan and Europe on the other hand, note that the industry is facing an aging workforce and will need to manage the oncoming skills shortage.

From a health and safety perspective, five out of ten reporting members (AF&PA, CEPI, FPAC, JPA, and PAMSA) representing 22 countries provided data to calculate the aggregate recordable incident rate, which is the number of recordable incidents for every 200,000 hours worked, divided by the total number of hours worked by all employees. This is the first time the ICFPA is including this indicator in the report. ICFPA member performance has improved to 3.0 in 2013, compared to 3.3 in 2006/2007.

This is the first time the ICFPA is reporting on the Recordable Incident Rate (RIR). Members' collective performance improved to 3.0 RIR in 2013 from 3.3 in 2006/2007.

Aggregate Performance Summary

In 2011, the ICFPA started to report on aggregated performance indicators to demonstrate and quantify the collective impacts of its members and identify international trends. It has added new indicators to each report since. This year, two new indicators have been added: total onsite energy intensity, and the recordable incident rate (employee safety).

TABLE 1: Summary of progress on aggregate sustainability indicators

Indicator	2012/2013 Performance	Improvement from baseline	Improvement from previous report (2010/2011 data)
GHG emissions intensity (Scope 1&2 emissions)	0.57 Mt CO ₂ eq/Mt production	▼ 17% (2004/2005)	▼ 5%
Share of bio-energy in the fuel mix	61% of onsite energy needs met by biomass and renewable fuel sources	▲ 8 percentage points (2004/2005)	▲ 3 percentage points
SFM-certified hectares	52% SFM-certified hectares	▲ 41 percentage points (2000)	▲ 4 percentage points
Global recycling rate	58% of recovered paper used by paper and paperboard mills from total paper and paperboard production	▲ 11 percentage points (2000)	▲ 1.3 percentage point
Onsite energy intensity	17 GJ Lower Heating Value (LHV)/Mt	▼ 4.3% (2004/2005)	N/A
SO₂ emissions	1.2 kg SO ₂ /Mt production	▼ 40% (2004/2006)	▼ 8%
Recordable incident rate	3.0 (# of recordable incidents x 200,000 hours worked / by the total number of hours worked by all employees)	▼ 9% (2006/2007)	N/A

Indicator data was collected through a survey distributed to all ICFPA members. The baseline years for data and reporting years vary by member and are included in Table 1. This variation is due to differences in reporting cycles and data

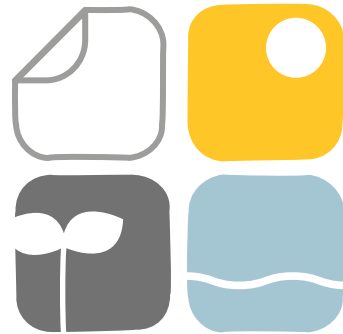
availability. Only data from associations providing complete responses for a given performance indicator have been included in the aggregate indicators presented in Table 1.



About the ICFPA

The ICFPA is committed to the principles of sustainable development.

The ICFPA is an organisation of national and regional forest and paper industry associations.



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Launched in 2002, the purpose of the ICFPA is to:

- Serve as a forum of global dialogue, coordination and cooperation among forest and paper associations
- Represent the global forest and paper industry in international organisations
- Develop common positions on issues of mutual interest
- Coordinate action by member associations

Currently, forest and paper associations from 33 countries are united under the ICFPA, representing more than 90% of the world's paper production and 50% of its wood production.

About this Progress Update



The 2015 ICFPA Sustainability Progress Report is the fifth biennial report that highlights the progress of regional and national member associations in acting on the 2006 CEO Leadership Statement on Sustainability.

The leadership statement commits signatories to achieving and reporting on continual improvement in sustainability performance through action in six key areas:

1. Creating solutions to global climate change and energy supply challenges
2. Promoting sustainable forest management worldwide
3. Combating illegal logging
4. Recovering and recycling fibre

5. Improving environmental management

6. Investing in workers and communities

The full text of the CEO Leadership Statement can be found on the ICFPA's website at www.icfpa.org/publications/22/32/Forest-Products-Industry-A-commitment-to-global-sustainability.

This report highlights the global forest products industry's contribution to the green economy, including how the ICFPA and its members are supporting global efforts to address the challenge of climate change; continually innovating to improve performance; and developing new bio-based products. The 'Progress on our Commitments' section of the report discusses the progress made against each of the CEO Leadership commitment areas.

ICFPA members contributing to this report

Country/Region	Association	Acronym
Australia	Australian Forest Products Association	AFPA
Brazil	Brazilian Tree Industry ¹	Ibá
Canada	Forest Products Association of Canada	FPAC
Chile	Corporación Chilena de la Madera	CORMA
China	China Paper Association	CPA
Europe	Confederation of European Paper Industries	CEPI
Japan	Japan Paper Association	JPA
New Zealand	New Zealand Forest Owners Association ²	NZFOA
South Africa	Paper Manufacturers Association of South Africa	PAMSA
United States	American Forest & Paper Association	AF&PA

¹ In 2014, BRACELPA (Brazilian Pulp and Paper Association) merged with three other major forest-related associations to form the Brazilian Tree Industry (Ibá).

² The NZFOA is not structured to collect all industry data for New Zealand, making it difficult to provide quantitative data and measureable performance for this report.



Contributing to the Green Economy by Focusing on Climate Change and Innovation

The ICFPA takes very seriously the challenges that lie ahead with a changing climate and the need to transition towards a sustainable future. This report highlights the industry's role in contributing to the green economy; the ICFPA's effort and the industry's contribution to climate change mitigation; and specific examples of its members' innovations.

Green Economy

The forest products industry contributes to the green economy in a number of important ways. Wood fibre – the industry's primary raw material – is a renewable and recyclable resource, and the industry is opening up new markets for bio-based products through innovative technologies. The different elements of this green economy are illustrated in member highlights found throughout this report:

- **Resource efficiency** - Using material and energy inputs efficiently through recycling and the use of waste and by-products.
- **Carbon sequestration** - Storing carbon in forests and forest and paper products.
- **Innovative technologies** - Developing new and improved technologies and products that enable industry transformation and market opportunities to meet the needs of consumers.
- **Bio-based products** - Delivering products from renewables/biological resources.
- **Benefiting communities** - Bringing economic and health benefits to and improving the well-being of rural economies and communities.

Climate Change

Through its contribution to the green economy, the forest products industry plays a critical role in mitigating the negative impacts of climate change and reducing GHG emissions through carbon sequestration and improved resource efficiency. Additionally, the industry is contributing to the transition to a low carbon economy through process and product innovation, leading to the uptake of bio-based products that will replace ones made from exhaustible raw materials.

The ICFPA's policy statement on climate change demonstrates the industry's achievements in addressing climate change and the various climate benefits the industry delivers to society. The policy statement includes the industry's key messages for the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP) 21 negotiations to be held in Paris in December 2015, including:

- Recognising sustainable forest management through clear credits for its contribution to the global climate effort;
- Establishing a policy framework that reduces the regulatory risk for investments, innovation and the future competitiveness of the industry; and

Elements of the Green Economy



- Reaffirming the carbon neutrality of forest biomass used for energy-substituting fossil fuel in international carbon accounting protocols.

www.icfpa.org/uploads/Modules/Publications/icfpa-statement-on-climate-change.pdf

As shown throughout this report, the industry continues to improve performance through further GHG emission reductions, increased biomass use for onsite energy needs, increased third-party SFM certification, and continued increases in the paper recovery rate. This performance is underscored by the forest's ability to absorb carbon dioxide (CO₂), the storage of CO₂ in forest products, and the substitution benefits of wood-based products, along with the substitution of biomass for other energy sources that have greater climate impacts.

Innovation

The global forest products industry is investing in new technologies and processes to enter into new markets and expand the commercialisation of bio-products. Throughout this

report, highlights from ICFPA members provide examples of how regional and national industry associations and their member companies are supporting innovation:

- **Manufacturing** - Wood fibre can be used in all types of innovative products: wood fibre can act as a substrate for 3D printing; cellulose products can substitute for glass fibre in reinforced plastics; carbon fibre from lignin can be used for high-end sporting equipment; and bio-plastics can be used in the medical industry.
- **Chemicals** - Bio-methanol (a by-product of pulp mills) can be used in plastics, glues, and fabrics, or can be blended with gasoline to fuel cars.
- **Cosmetics** - Sugars derived from wood can be used in a host of cosmetic products: wood cellulose can make cosmetic creams smoother and more luxurious; and the iridescent properties of wood fibre can be used in lipstick and nail polish.
- **Mining** - Wood-based chemicals can help remediate tailings ponds and landfills, and cellulose nanocrystals can be added to drilling fluids to minimise loss in geological pores.

Progress on our Commitments



Creating Solutions to Global Climate Change and Energy Supply Challenges

The ICFPA and its members around the world are well placed to be leaders in tackling climate change.

Advocating for the carbon neutrality of biomass, the ICFPA states that:

1. CO₂ released from the combustion of wood biomass is part of the global carbon cycle and does not increase the amount of carbon in circulation in the biosphere when the growth of forest stocks is equal to or exceeds harvests;
2. In the case of afforestation of non-forested land or in the case of reforestation, the CO₂ released from the use of such woody biomass is also carbon neutral;
3. Theories on 'carbon debt' and 'payback time' of biomass are based on an unrealistic assumption that trees are first burnt and then grown; and
4. The concept of biomass carbon neutrality is central to the use of bio-based wood and paper products as a substitute for other materials that are fossil fuel intensive.

www.icfpa.org/uploads/Modules/Publications/icfpa-statement-on-biomass-carbon-neutrality.pdf

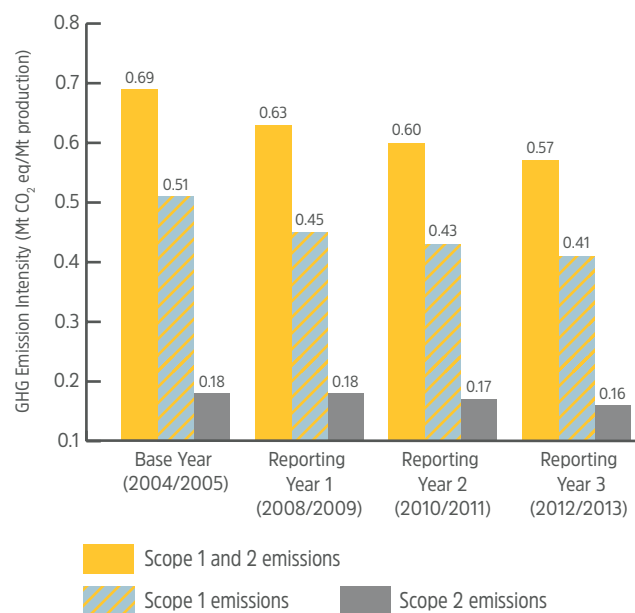
The forest products industry uses renewable energy from biomass to produce much of the energy it needs to run its operations. While there remain a variety of perspectives on the carbon neutrality of forests, ICFPA members believe that their commitments to sustainable forest management and use of renewable biomass as an energy source is carbon neutral based on the foundation provided by the *Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (2007)*.

ICFPA Members' Aggregate Performance

Two aggregate indicators were calculated to help demonstrate the global performance related to climate change and energy supply challenges:

- **GHG emissions intensity indicator** - The industry is continuously looking to reduce its carbon footprint. This indicator helps demonstrate ICFPA members' collective impact on reducing their GHG emissions relative to their production (Figure 1).
- **Share of bio-energy and renewable fuels indicator** - The industry collectively aims to reduce its reliance on fossil fuel energy. This indicator demonstrates ICFPA members' collective impact on increasing the share of bio-energy in the fuel mix (Figure 2).

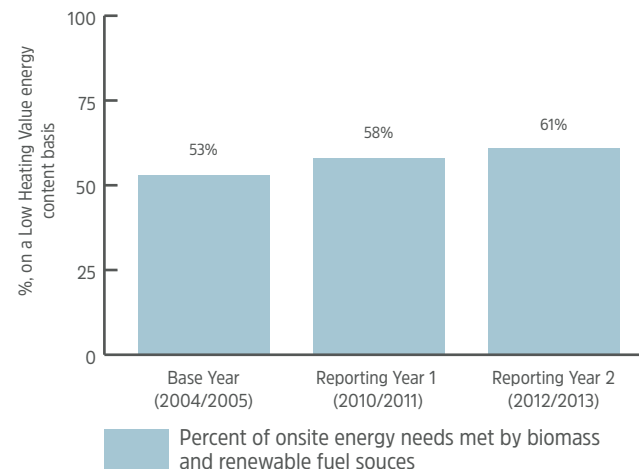
FIGURE 1: ICFPA members' GHG emissions intensity
(AF&PA, CEPI, FPAC, Ibá, JPA and PAMSA)



CARBON SEQUESTRATION: Recognising the role of planted forests for mitigating climate change in Brazil

Ibá has been working with the “Brazil Sustainable Forests Initiative,” a multi-stakeholder group of private sector and civil society members, to advocate for public policies and programmes to recognise the value of forests as part of the solution to mitigate climate change due to their CO₂ sequestration potential. In June 2013, the Brazilian government launched the Climate Change Mitigation Plan for the industry, and as a result of Ibá’s efforts, the Brazilian government officially recognised the role of planted forests in climate change mitigation. The plan will be further elaborated throughout the next years and Ibá will continue its constructive engagement with government and non-governmental stakeholders.

FIGURE 2: ICFPA members’ share of bio-energy in the fuel mix
(AF&PA, CEPI, FPAC, JPA and PAMSA)



Summary of Members’ Progress Updates

The ICFPA members’ progress updates described in this section provide examples of how they work with governments around the world and with their own member companies to tackle climate change. Some member associations are taking an active stance on promoting the role of carbon sequestration and planted forests in mitigating climate change, while several others are involved in national and regional policy making and programmes to support action to address climate change. Several member associations report on their GHG and energy-related performance improvements and provide examples of how they are investing in new technologies to reduce GHG emissions and improve energy efficiency.

The ICFPA GHG emissions intensity indicator at a glance

Metric	Coverage	Performance Improvement	Drivers
Scope 1 (onsite fuel combustion and Scope 2 (total purchased energy minus sold electricity) GHG emissions	Six ICFPA member associations representing 242 million metric tonnes of production submitted data for this metric.	Change from previous reporting year (2010/2011): ▼ 4.7% (Scope 1) ▼ 5.9% (Scope 2) ▼ 5% (Scope 1+2)	<ul style="list-style-type: none"> Increased fuel switching (to lower emissions fuels) Energy efficiency improvements at facilities Closing of less energy-efficient mills

Australia (AFPA)

AFPA promotes the industry’s role in mitigating climate change through opportunities such as carbon sequestration from tree planting and the substitution of fossil fuels with bio-energy and emissions-intensive materials with wood products. Australia’s Renewable Energy Target aims for 20% of total electricity generation to come from renewable electricity generation by 2020. With the right policy settings, it has been estimated that 3000 GWh of electricity from renewable bio-energy (i.e. up to 7% of the renewable energy target) could be utilised from available wood-related wastes in Australia.

Brazil (Ibá)

The Brazilian pulp and paper industry has invested heavily in new technologies and processes to support the long-term transition towards a low carbon economy. The industry has decreased the use of fuel oil to 5.5% of the sector’s energy matrix (excluding the consumption of electrical energy) and has been increasing the use of renewables to approximately 85%. The industry also plays a significant role in climate change mitigation. From 2000 to 2013, Brazil’s forest stocks increased from 1.4 M to 2.4 M ha, equating to 215 Mt of CO₂e in net GHG removals. While there is major potential for additional net removals, there are still barriers and challenges to double the Brazilian planted forest area through productive (commercial) forests and conservation within the next decade. Proper policies and incentives will play a key role in these efforts.

The industry is actively involved in the National Climate Change Plan for the sector, as well as in the development of the

The ICFPA share of bio-energy and renewable fuels indicator at a glance

Metric	Coverage	Performance Improvement	Drivers
Percent of onsite energy needs met by biomass and renewable fuel sources	Five ICFPA member associations representing 215 million metric tonnes of production submitted data for this metric.	Change from previous reporting year (2010/2011): ▲ 3 percentage points to 61% in 2012/2013	<ul style="list-style-type: none"> Reducing energy use from fossil fuel sources and purchased electricity and steam Cost reduction due to less fuel purchased

National Policy for Planted Forests. The work associated with these and other policies are coordinated internally through the Brazil Sustainable Forests Initiative. Coordinating these climate change strategies is a challenge for government and industry, as the forest-based industry is often considered in agriculture, energy and low-carbon economy plans. Other challenges include high transaction costs and access to capital for long-term forest investments in a developing country.

Canada (FPAC)

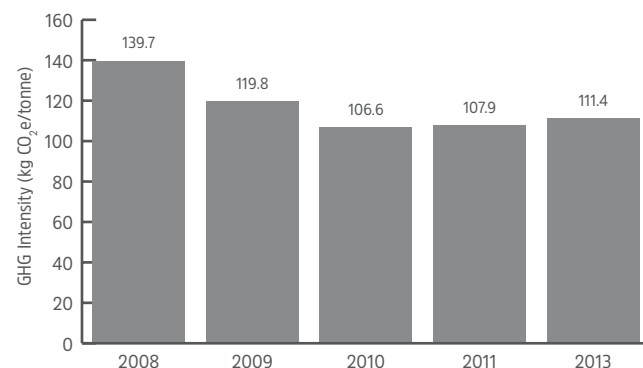
Between 2008 and 2013, the Canadian forest and paper industry reduced its overall energy use by 4%, its absolute GHG emissions by 17%, and its GHG intensity by 20% (Figure 3). This was largely due to investments in energy reduction projects and an increase in the production of green energy. GHG emissions have slightly increased since 2011, due to an increase in overall production facilitated by the start-up of new cogeneration facilities and access to inexpensive fuel. Where feasible, FPAC members attempt to use cleaner burning nat-

ural gas in their mills. The Canadian forest products industry continues to work diligently to achieve its carbon neutrality goal, with reporting expected in 2017.

Canada continues to invest in the commercialisation of innovative technologies and processes to support industry transformation in areas such bio-energy, bio-chemical, bio-materials and solid wood. The Government of Canada's Investments in Forest Industry Transformation programme was established in 2010 as an initial four-year, CAD\$100 million initiative that was renewed in 2014 with an additional CAD\$90 million to be invested over the next four years.

In Canada, the federal and provincial governments have each either implemented or proposed their own climate change initiatives and emissions reduction targets. This remains an ongoing challenge for the forest industry as Canada's forests are almost entirely managed provincially. Higher level information sharing between the two jurisdictional levels would assist in achieving a more effective climate policy for Canada.

FIGURE 3: GHG intensity (FPAC)



Chile (CORMA)

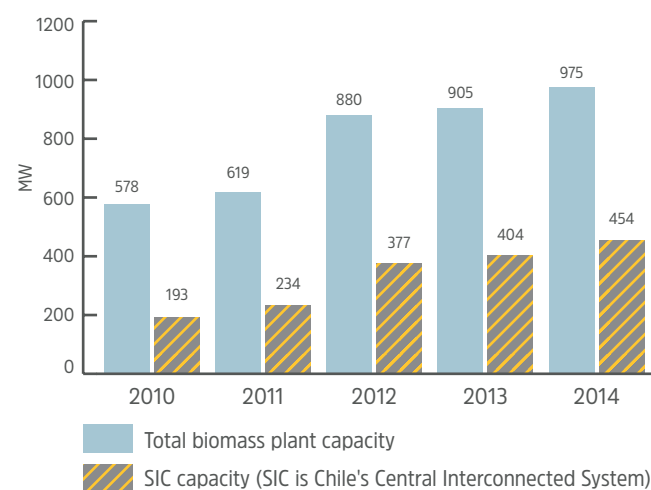
Chile is committed to reducing its GHG emissions by 20% by 2020 from the baseline year 2007, and increasing the use of Non-Conventional Renewable Energy (NCRE) in the Chilean energy matrix by 20% by 2025. While biomass projects do not currently make up a substantial portion of the NCRE project portfolio, it is estimated that these will increase in the future.

Chile is currently participating in MAPS (Mitigation Action, Plans and Scenarios), a research programme to help developing countries transition towards carbon-efficient and climate-

RESOURCE EFFICIENCY: Making energy from waste in Chile

Chile is home to some of the most expensive electric power in the world. The forestry industry plays an important role in providing green power by using carbon-neutral forest residues and other waste products from the forest and pulp and paper process to power its own operations, as well as the domestic national grid where possible. Today, the industry generates virtually no waste, and over 70% of the forest residues in Chile are supplied from forests that are sustainably managed. In 2014 Chile's forest and forest products companies produced approximately 975 MW of power, equivalent to 5% of the country's total capacity of 19,492 MW (Figure 4).

FIGURE 4: Growth in Chilean biomass plant capacity (CORMA)



resilient economies. According to its recent Phase II report, the forestry and electric generation sectors were the two that could contribute the most to GHG emissions reductions by 2030.

Chile continues to address the challenge of low income families turning to the unregulated market for firewood (which causes major environmental and health issues), by providing them with subsidies for dry wood fuels and more efficient heaters such as pellet systems.

Europe (CEPI)

Europe continues to see improved performance on CO₂ emissions reductions. The share of biomass within the total prima-

ry energy consumption increased from 55% in 2011 to 57% in 2013, even while the consumption of all fuels has decreased for the fifth year in a row.

As shown in Table 2, direct absolute CO₂ emissions continue to drop, reaching a low of 32.3 Mt in 2013, and the emissions intensity from fossil fuels declined to 0.31kt CO₂/kt of products. This is the result of sector restructuring, which has led to gains in efficiency and the installation of new and efficient boilers, as well as the switch to carbon-neutral energy (mainly from biomass). Data is slightly revised from the previous ICFPA Progress Report due to upgrades in members' data collection processes.

While it is well known that Europe has an ambitious climate agenda, there is a growing debate on the climate benefits of bio-energy and biofuels, with the carbon neutrality of biomass at the core of the discussions. CEPI is concerned that when the provisions against carbon leakage³ and free allocation under the European Union (EU) Emissions Trading Directive are phased out after 2020, even the most efficient operations in Europe will be put at a competitive disadvantage with non-EU industries. CEPI is working with others to inform government leaders of this issue.

Japan (JPA)

JPA achieved and surpassed its previous targets for reducing fossil fuel consumption and CO₂ emissions under its Committed Action Plan. Specific fossil fuel consumption has

TABLE 2: Direct and indirect CO₂ emissions (CEPI)

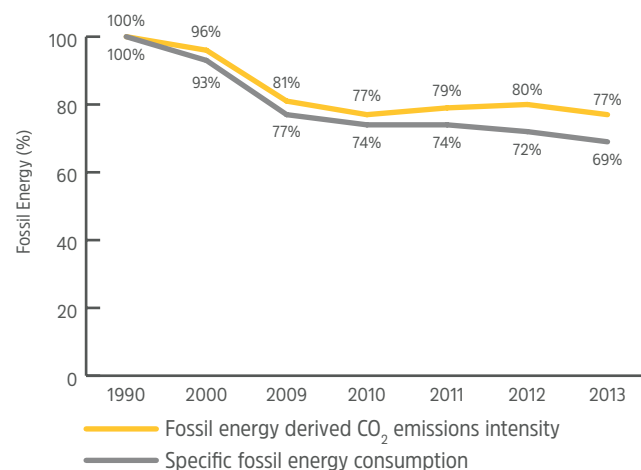
	1990	2000	2010	2011	2012	2013
Direct CO₂ emissions						
Absolute (Mt)	39.89	41.94	36.87	34.01	34.01	32.28
Specific (kt CO ₂ /kt of product)	0.57	0.42	0.35	0.34	0.33	0.31
Indirect CO₂ emissions						
Absolute (Mt)	13.99	14.33	11.59	10.05	9.60	9.80
Specific (kt CO ₂ /kt of product)	0.20	0.15	0.11	0.10	0.09	0.10

³ Carbon leakage is a term to describe the risk that companies relocate their production outside Europe due to increased costs, thus leaking emissions outside of the European Union (EU) Emissions Trading System (ETS) cap.

decreased to 69% in 2013, or 31 percentage points from the 1990 baseline. Fossil energy-derived CO₂ emissions intensity dropped to 77% in 2013, or 23 percentage points from the baseline year (Figure 5). This was achieved through its members introducing energy-efficient equipment, and promoting conversion from fossil energy to renewable and waste energy. JPA's new 2020 target is to reduce CO₂ emissions (derived from fossil fuels) from paper and paperboard production by 1.39 Mt from 2005 levels. Biomass and waste energy accounted for 52% of total energy consumption in 2013, increasing substantially compared to 36% in 1990.

In 2013, the forest plantation area was 626,000 ha, a decline of 65,000 ha since 2011. This was largely due to one member selling some of its forest assets to a Japanese trading company that operates a pulp and paper business (but is not a JPA member). Moving forward, JPA aims to expand forest plantation areas owned or managed by the pulp and paper industry at home and abroad to 800,000 ha by 2020. JPA estimates that if this goal is achieved, the carbon stock will increase to 196 Mt CO₂e from 67 Mt CO₂e in 1990 when the forest area was 275,000 ha.

FIGURE 5: Fossil fuel consumption intensity and CO₂ emissions intensity (derived from fossil fuels) (JPA)



New Zealand (NZFOA)

The New Zealand government is reassessing the impact of climate change and GHGs and ways to achieve its targets. This involves forestry as an activity that improves New Zealand's position. It is possible that a roadmap for forest industry-based renewables to feed liquid fuel needs will be developed to enact the bio-energy strategy. In general, the New Zealand government does not have a plan or roadmap for decreasing GHGs but rather allows the activity to be driven by the market.

South Africa (PAMSA)

The South African forest and paper industry met and exceeded the target set by the National Energy Efficiency Strategy of a 15% improvement in energy efficiency for the forestry and mining industries by 2015, relative to a 2000 baseline.

South Africa is addressing climate change through several national policies and legislative changes and has set a national goal to reduce emissions by 34% below 'business as usual' levels⁴ by 2020 and by 42% by 2025. A carbon tax will be introduced in 2016, although the agriculture, forestry, and other land use and waste sectors are exempt for the first five years of implementation. The forest and paper industry is currently negotiating with the government to take into account carbon sequestration by the plantation forests that are owned by some of PAMSA's members when calculating liability for the carbon tax. PAMSA members are actively pursuing cogeneration and selling energy back to the national electricity grid but are experiencing challenges with government implementation.

United States (AF&PA)

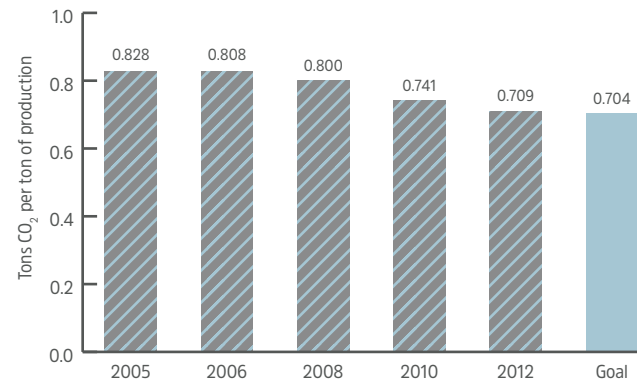
In 2012, AF&PA members decreased their GHG emissions intensity by 14.5% from 2005 levels, nearly reaching their goal of a 15% reduction by 2020 (Figure 6). At pulp and paper mills, the emission rate (expressed in short tons of CO₂e per short ton of production) has been reduced by 23% since 2000, and 4.3% compared to 2010. Greater reliance on carbon-neutral biomass derived energy, improvements in energy

RESOURCE EFFICIENCY: Expanding biomass power generation in Japan

Following the 2012 implementation of a Feed-in-Tariff scheme in Japan, some paper manufacturers are now expanding their biomass power generation capacity to take advantage of their easy access to wood biomass as well as their advanced cellulosic biomass utilisation technology. Seven biomass generation plants with a total capacity of over 150 MW are scheduled to start up by 2015. In addition, the industry is focusing on other green power business such as solar power and hydro power generation. To date, eight projects with a total capacity of over 60 MW have been completed or will be completed by 2015.

⁴ PAMSA's 'business as usual' GHG emissions levels are defined in a 2011 report by the Department of Environmental Affairs entitled "Defining South Africa's Peak, Plateau and Decline Greenhouse Gas Emission Trajectory."

FIGURE 6: Progress toward GHG reduction goal (AF&PA)



efficiency, and increases in paper recycling have all contributed to this reduction.

The carbon-neutral renewable energy generated by AF&PA members is equivalent to 200 million barrels of oil annually, and its use avoids fossil fuel-based GHG emissions. Virtually all of this energy comes from biomass residuals from the manufacturing process.

Promoting Sustainable Forest Management Worldwide

ICFPA Commitments

ICFPA members are committed to Sustainable Forest Management (SFM) and sustainable production of forest products across a range of forest types and landscapes to meet the growing needs of society. The ICFPA has two policy statements related to SFM:

- **SFM Certification** - This statement lists specific principles that should be followed to ensure the continued credibility of certification systems.

www.icfpa.org/uploads/Modules/Publications/icfpa-statement-on-sfm-certification.pdf

- **Forest Plantations** - This statement outlines the ICFPA's support for, and advocacy of, the role of forest plantations for commercial purposes in providing sustainable raw materials for the growing demand for fuel, fibre and timber.

www.icfpa.org/uploads/Modules/Publications/icfpa-statement-on-forest-plantations.pdf

ICFPA Members' Aggregate Performance

An aggregate performance indicator – the percent of SFM-certified hectares – was calculated to help demonstrate the global efforts towards SFM certification.

- **Sustainable Procurement Indicator** - Considering the importance of SFM certification to the industry, this indicator demonstrates ICFPA members' collective efforts to increase the use of SFM-certified sources in the supply of forest-based wood fibre. For the purpose of this indicator, certified sustainably managed forest is defined as wood that has been certified to a system formally recognised by the Forest Stewardship Council (FSC) and/or the Programme for the Endorsement of Forest Certification (PEFC).

FIGURE 7: Total and percent of ICFPA industry-managed forest supply area certified under PEFC and/or FSC (AF&PA, CEPI, CORMA, FPAC, Ibá, JPA and PAMSA)

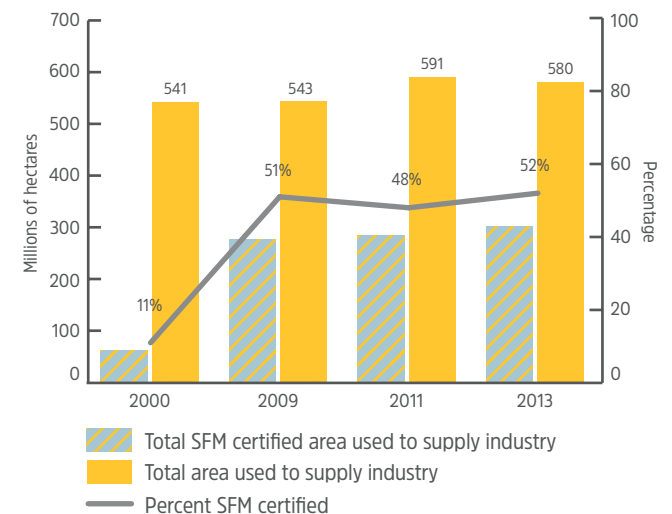


TABLE 3: List of international and national SFM certification systems

SFM Certification Programmes	
FSC	Forest Stewardship Council
PEFC	Programme for Endorsement of Forest Certification
	<i>Programmes endorsed by PEFC:</i>
	<ul style="list-style-type: none"> • AFS - Australian Forestry Standard • ATFS - American Tree Farm System • CERFLOR - Brazilian Forest Certification Programme • CERTFOR - Chile Forest Certification Corporation • CSA - Canadian Standards Association • SGECC - Sustainable Green Ecosystem Council (Japan) • SFI - Sustainable Forestry Initiative

Note that a small amount of the uncertified area used to supply the industry may be certified but not accounted for in the data due to country-wide versus association member reporting (Figure 7).

Summary of Members’ Progress Updates

ICFPA members apply a variety of international and national SFM certification systems, as shown in Table 3. While most of the western European and North American associations have mandated SFM certification for their member companies, ICFPA member associations in South America and Africa are working to increase the uptake of SFM certification for small producers within their regions, as well as nearby regions that are in urgent need of SFM practices. Many members are working collaboratively with other sectors at the national or regional level to promote SFM and biodiversity conservation.

The ICFPA sustainable procurement indicator at a glance

Metric	Coverage	Performance Improvement	Driver
Percent of forest-based wood fibre supplied from certified sustainably managed forest sources	Seven ICFPA member associations, representing 24 countries with SFM-certified area of 302 million hectares, submitted data for this metric.	Change from previous report (2011): ▲ 4 percentage points to 52% in 2013	<ul style="list-style-type: none"> Indicator performance is expected to plateau as the rest of the available wood supply is owned by private landowners and/or is located in developing countries.⁵

Australia (AFPA)

Forest certification in Australia is undertaken under either PEFC via the Australian Forestry Standard or FSC, and includes almost all of the area of industrial plantation and most public native forests managed for wood production. In 2011-2012, the area of certified native forest and industrial plantation in Australia was 10.7 million ha.

Brazil (Ibá)

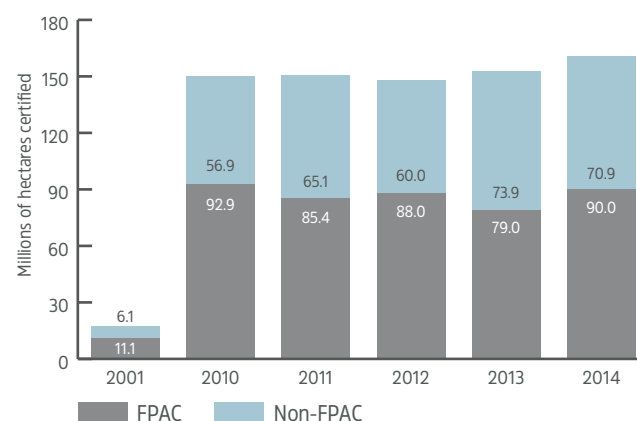
In 2013, 4 million ha of forest plantations were certified through FSC (an increase of 100,000 ha from 2012) and another 1.4 million ha were certified by CERFLOR (the Brazilian certification system endorsed by PEFC). The total certified area is 4.1 million ha, as all but one member company are certified by both PEFC and FSC. The vast majority of the area is certified by FSC except for a few operations that are certified only by PEFC. Ibá members are also responsible for conserving 2.1 million ha of natural forests.

Ibá works closely with other sectors, through programmes such as the Brazilian Agribusiness Association and the Brazilian Forest Dialogue, to discuss and act on issues like land use planning, landscape management and supplying the growing global demand for timber and wood products. Ibá also supports SFM at the international level, working with FSC on strategic planning issues such as the International Generic Indicators and the FSC global strategy.

Canada (FPAC)

As of 2014, Canada has 161 million ha of forests certified to FSC and/or to PEFC systems (Canadian Standards Association

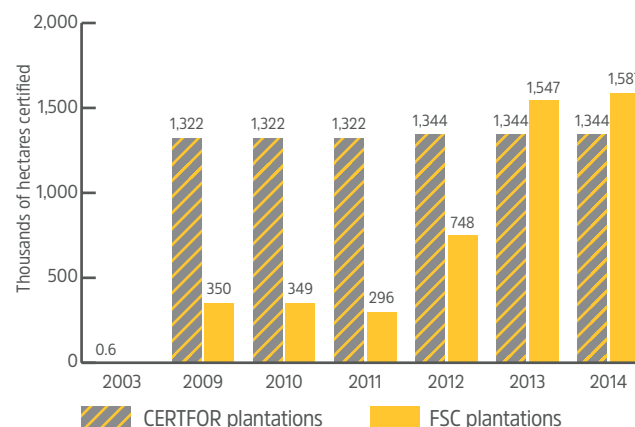
⁵ Approximately 75% of the world’s SFM-certified area is in North America and Western Europe, with these two regions accounting for 98% of the SFM-certified area reported by ICFPA member associations in this year’s report.

FIGURE 8: FPAC member and national SFM certification

and/or Sustainable Forestry Initiative), an increase of 13 million ha from 2012 (Figure 8). Over half of these forests are being managed by FPAC members. Globally, Canada is responsible for over 40% of the world's certified forests.

Signed in 2010 by both industry members and environmental non-governmental organisations, the Canadian Boreal Forest Agreement (CBFA) is the world's largest conservation agreement. In short, the CBFA strives to set a global precedent for boreal forest conservation and forest sector competitiveness. Action plan recommendations for forest development and conservation for 3 million hectares in Northeastern Ontario's Abitibi River Forest have now been achieved. It has the support of Northern Mayors and First Nations. Two new wild-land parks have been established in Northeastern Alberta based, in part, on CBFA recommendations. The implementation of key strategic goals related to protected areas and species at risk has proved to be challenging, and considerably slower than the CBFA Signatories had anticipated. A status report on Ecosystem-based Management policy barriers and opportunities in Canada was published in August 2014.

www.canadianborealforestagreement.com/publications/EBM_in_Canada_CBFA_July_2014.pdf

FIGURE 9: Evolution of SFM certification in Chile (CORMA)

Chile (CORMA)

As of 2012, 70% of Chile's plantations were SFM certified, under the Chilean SFM system CERTFOR and/or FSC. Over 4 million ha are covered by both systems and almost 2.5 million ha are covered by one system (Figure 9). While the amount of SFM-certified land continues to rise, particularly with FSC certification, Chile does not have any programmes or incentives in place at the national level to encourage certification. The forest industry continues to promote certification to small land owners but challenges remain on its uptake.

Europe (CEPI)

As of 2013, CEPI members covered 24.1 and 69.3 million ha of FSC and PEFC certified forests, respectively. There has been a 3 percentage point increase in SFM certification of the forests from which raw materials are harvested and delivered to European mills for production of wood, chips and sawmilling by-products (62% in 2010 to 65% in 2013), and a 4 percentage point increase in SFM certification of the forests from which raw materials are harvested delivered to paper and board mills in Europe for pulp production (71% in 2010 to 75% in 2013).

CEPI played an active role in the FSC General Assembly and tabled motions to increase transparency in the system and

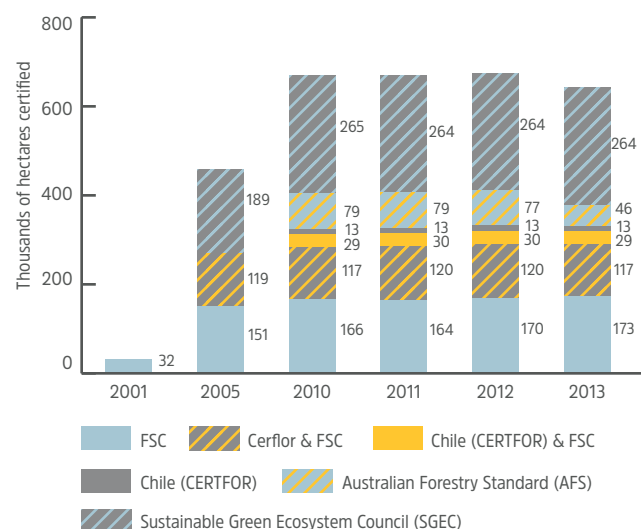
enable a degree of mutual recognition among PEFC and FSC for wood from an uncontroversial origin. CEPI is also actively encouraging certification systems to provide stability and predictability in their schemes to help reduce the amount of disturbance felt by companies who are constantly required to adjust to new rules and requirements.

Japan (JPA)

JPA promotes SFM through its Environmental Action Plan. JPA members use FSC or PEFC for overseas plantations, and both Sustainable Green Ecosystem Council certification and FSC for domestic forests. In 2013, 643,000 ha were certified for both domestic and overseas forest areas (Figure 10). This represents a 20-fold increase from 2001, but a decrease of 27,000 ha from the previous report. This decrease is attributed to one member selling some of its assets.

In 2014, JPA developed Guidelines for Action on Biodiversity Conservation with the cooperation of academics and NGOs. The guidelines provide practical actions to improve biodiversity conservation through SFM and responsible procurement.

FIGURE 10: Total certified forest area managed by JPA member companies (JPA)



South Africa (PAMSA)

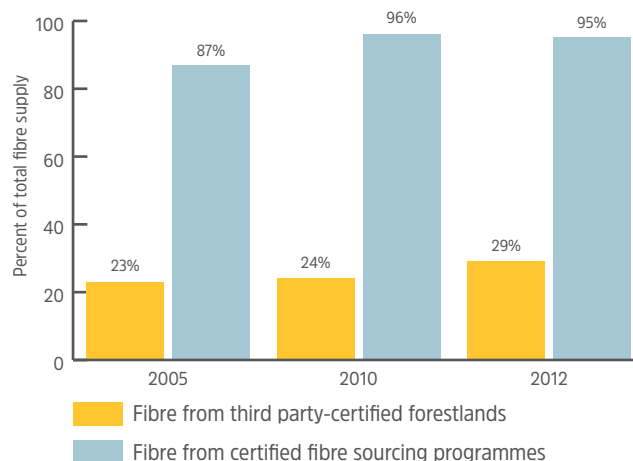
The relative percentage of FSC-certified plantation forests remains at just over 80% of all plantation forests in the country. However, there has been a decrease of approximately 215,000 ha in the total area certified since 2010.

As part of FSC's strategy to focus on countries that are seriously threatened by deforestation, several key positions have been established to provide SFM support across the African continent. This increased commitment to SFM in Africa is helping improve SFM practices and improve market conditions for FSC certificate holders. For instance, an FSC National Standard is currently being developed for the Congo Basin comprising the countries of Cameroon, Congo Brazzaville, Democratic Republic of Congo and Gabon.

United States (AF&PA)

AF&PA members adhere to a set of Sustainable Procurement Principles that go beyond compliance and have a goal to promote sustainable forestry practices, which includes increasing the amount of fibre procured from certified forestlands and/or programmes. AF&PA members use a variety of SFM certification systems including SFI and ATFS (which are endorsed

FIGURE 11: Fibre from third party-certified forestlands and from certified fibre sourcing programmes (AF&PA)



BIO-BASED PRODUCTS: Recognising paper and wood products as "bio-based" in the United States

In 2014, AF&PA achieved recognition of paper and wood products as "bio-based" under the United States Department of Agriculture's (USDA) BioPreferred Program. Initially, the USDA's federal procurement preference and labelling programme for bio-based products excluded products with "mature markets," which were defined as products with "significant national market penetration in 1972." This limitation made the majority of paper and wood products ineligible. AF&PA successfully advocated for changes to this limitation. Several AF&PA company members are currently in the process of applying for BioPreferred labelling.

Figure 12: U.S. BioPreferred label



INNOVATIVE TECHNOLOGIES: Commercialising new forest products in Canada

As part of its Vision2020 challenge, FPAC has set an ambitious goal for Canada: to generate an additional CAD\$20 billion in economic activity from new innovations and new markets by 2020. FPAC's Bio-Pathways programme estimates the current global market for bio-products to be CAD\$200 billion. A few technologies that will help achieve this goal include:

- **Cellulose nanocrystals** are the primary structural building blocks of trees. This renewable nano-sized raw material is light, strong and bio-degradable, with a wide array of possible uses. Canada is at the forefront of the race to exploit its wonders.
- **Cellulose filaments** optimise the strength, stability, flexibility and longevity of a variety of materials including composites, coatings and consumer products. Canada is currently first in the global competition to develop the next generation of cellulose-based materials because of its work with cellulose filaments.
- **Cross laminated timber** is a panel product made of multiple layers of timber stacked and glued together resulting in a strength-enhanced product, with a smaller environmental footprint, faster construction, and potential uses for tall buildings. Canada is aiming to expand the market by encouraging the use of wood in non-residential construction, including high-rise buildings.

www.fpac.ca/publications/EXPECT_US_IN_THE_UNEXPECTED.pdf

by PEFC) and/or FSC. In 2012, 29% of member fibre was procured from certified forestlands, and 95% was procured through certified fibre sourcing programmes, both of which are increases from the 2005 baseline (Figure 11). The fibre sourcing programme is important in the U.S. since most private forest owners – approximately 10 million – manage their land responsibly but may not participate in a forest certification programme for several reasons including costs and land management objectives.

Combating Illegal Logging

ICFPA Commitments

ICFPA members support efforts to prevent illegal logging due to its contribution to deforestation and its negative effects on global commerce. The ICFPA's policy statement on illegal logging acknowledges the role of domestic authorities to enforce forest laws and lists key principles for which the ICFPA and its members stand united.

www.icfpa.org/uploads/Modules/Publications/icfpa-statement-on-illegal-logging.pdf

Summary of Members' Progress Updates

ICFPA members are actively working to address illegal logging through the implementation of national and regional legislation such as the *Lacey Act* in the United States, the European Union *Timber Regulation*, and the *Australia Illegal Logging Prohibition Act*, which all aim to deny market access to wood that is not legally harvested or traded. With legislation in place, many members are involved in or actively watching the results of monitoring activities to ensure that their member companies are complying with the regulations. Many members report on their approach to preventing illegal logging, such as the use of traceability systems to verify the origin of fibre and developing community awareness campaigns to help consumers understand the challenges posed by purchasing illegally harvested wood products.

Australia (AFPA)

AFPA provided input into the development of the *Australia Illegal Logging Prohibition Act* (signed in 2012) and supporting regulations that came into effect in 2014. AFPA is promoting industry and community awareness of this issue to support the legitimate international trade in legally and sustainably sourced wood and paper products. While AFPA recognises the policy intent of the Australian government on these matters, it has expressed concern that any measures put in place to address illegal imports do not place unnecessary and costly compliance requirements on local Australian producers who are already subject to the highest legal and regulatory standards.

Brazil (Ibá)

According to forestry and land use regulations, forest industry land expansion in Brazil takes place on previously degraded lands. Between 2012 and 2013, deforestation in the Amazon dropped 22% compared to 2010-2011. This shift has occurred mainly due to the substitution of natural timber products for plantation-based timber products, economic crises (decreasing demand), public policies, and law enforcement such as the Brazilian Forestry Code. Ibá members do not have operations in the Amazon basin, where illegal logging is prevalent.

Established in 2012 by the Brazilian Forestry Code (Regulation 12651/12), the Brazilian Rural Environmental Registry (CAR) requires all rural property owners in the country to report on key data to help monitor and control environmental and economic planning at the local, regional and national levels. CAR will be strategic in municipalities within the Amazon Biome, as well as in the Atlantic Forest Biomes to address land tenure and land encroachment issues, which today are drivers of illegal logging and social issues. Additionally, CAR will map the environmental assets and liabilities in every rural property, allowing for public policies and programmes to monitor and control illegal practices and well as to promote better use of resources. Ibá encourages its members to comply with CAR and recently partnered with a group of stakeholders to map out approximately 4,000 municipalities to support the

implementation of CAR. This work will create mechanisms to promote a sustainable forest-based economy by evaluating opportunities for enhancing environmental services.

Canada (FPAC)

FPAC members have signed on to a commitment to purchase and use wood from legal sources only. Moreover, FPAC members are committed to tracing their fibre supplies back to the forest area of origin to assure customers that the wood fibre they are using comes from legal sources. By the end of 2013, the number of chain of custody certifications in Canada totaled 1,283. Canada supports a multifaceted approach to address the direct and underlying causes of illegal logging. Specific actions include: supporting third-party forest certification as a tool to promote legal and sustainable forest management, both in Canada and internationally; participating in international discussions related to SFM and illegal logging, including discussions under the United Nations Forum on Forests (UNFF), and the Food and Agriculture Organisation (FAO); and collaborating with national and international organisations to explore ways to tighten border controls to combat illegal logging and the illegal trade of timber.

Chile (CORMA)

CORMA supported the establishment of a voluntary National Fuelwood Certification System that has laid down origin and quality standards for marketing fuelwood across the country. Chile is committed to chain of custody certification for the whole forest products industry including sawmills, panels, pulp, paper distributors, remanufacturing producers, furniture, packaging and printers. In 2014, 17 companies were certified by FSC and 5 companies were certified by CERTFOR, leading to a total of 160 companies certified by one or both SFM programmes. These companies collectively represent 181 chain of custody certificates.

Europe (CEPI)

CEPI members have 10,061 FSC chain of custody certificates and 7,178 PEFC certificates, and a large number of mills are

double-certified. This represents a 7% increase in labelling for market pulp and paper tissue and board since 2010. According to a recent CEPI assessment, its members were generally not challenged by having to abide by the new EU *Timber Regulation*, which prohibits placing illegally logged wood and wood products on the European market. Most of them have been using their own due diligence system, except Italy, which uses the cross-sectoral Conlegno system. However, several EU member states have yet to enforce the legislation nationally. In the current state of implementation of the regulation, no illegal timber has been found in European pulp and paper companies. Although not much time has passed to assess the effectiveness of the legislation, it is expected to be reviewed by EU institutions in 2015. As part of the review process, CEPI is calling for the inclusion of printed paper products (Code HS 49) to the list of products subject to the legislation and will ask for increased recognition of certificates granted by PEFC and FSC as proof of legality.

Japan (JPA)

JPA has a mission statement against illegal logging and has clearly stated in its Environmental Action Plan that JPA member companies will never handle illegally-harvested wood. JPA uses a third-party monitoring system made up of academics and private institutions to monitor its members' measures against illegal logging. In 2013, 17 members participated in JPA's monitoring system. Monitoring showed that performance is improving due to active measures such as purchasing only certified wood chips, and requiring suppliers to submit traceability reports. Since 2009, JPA has used this monitoring system to ensure the credibility of its members' sustainability efforts, particularly for the enforcement standards related to the *Act on Promoting Green Purchasing*.

South Africa (PAMSA)

South Africa was selected as one of 20 countries that would have an FSC Controlled Wood Centralized National Risk Assessment completed, and its first results will be published for stakeholder consultation in 2015. South Africa is expected to be a low risk country, as illegal logging is not a material issue.

INNOVATIVE TECHNOLOGIES: Identifying breakthrough technologies through the 'Two Team Project' in Europe

C EPI set up the Two Team Project as a follow-up to its Roadmap 2050 program, which aims to decarbonise the industry by 80% while creating 50% more value. Using an open-innovation process, two teams composed of industry professionals and academics worked together for over a year to identify breakthrough technology concepts that would significantly reduce carbon emissions from pulp and papermaking. Each team submitted four concepts, ranging from 30% to 50% in carbon emissions reductions. The winning concept, selected by a jury of experts, uses Deep Eutectic Solvent. This natural solvent could completely change the way of producing pulp, as it would allow fractionating wood into its main components with a high level of purity at low temperature and room pressure, significantly reducing energy needs. Research consortia have now been formed to translate this concept into reality.

twoteam.unfoldthefuture.eu



All natural forests are protected by law and indigenous trees are mainly managed by government and the private sector in conservation areas, therefore offering greater protection from illegal logging than in other jurisdictions.

United States (AF&PA)

AF&PA supports the implementation of the 2008 *Lacey Act* amendments, which made it illegal to import illegally harvested and traded wood and wood products into the U.S. The 2008 amendments enabled U.S. forest products companies to compete on a more level playing field due to increased global awareness and concern about the legality of sourcing practices.

AF&PA and its members are actively promoting measures to maintain the integrity and effectiveness of the amendments, including testifying in 2012-2013 against efforts in the U.S. Congress to dilute the *Lacey Act* amendments and supporting congressional funding for the full implementation and enforcement of the *Lacey Act*. AF&PA supports provisions intended to curb illegal logging and associated trade in free trade agreements the U.S. government is negotiating in the Asia-Pacific region and with the EU.

Recovering and Recycling Fibre

ICFPA Commitments

ICFPA members are committed to working with various stakeholders to increase recovery rates and invest in technology to increase recycled fibre input into modern paper and wood products, thus optimising the use of wood as a raw material.

ICFPA Members' Aggregate Performance

For the purpose of this report, instead of data submissions from ICFPA members, the global recycling rate is provided as members around the world have different definitions and methodologies for calculating recycling, recovery and utilisation rates.

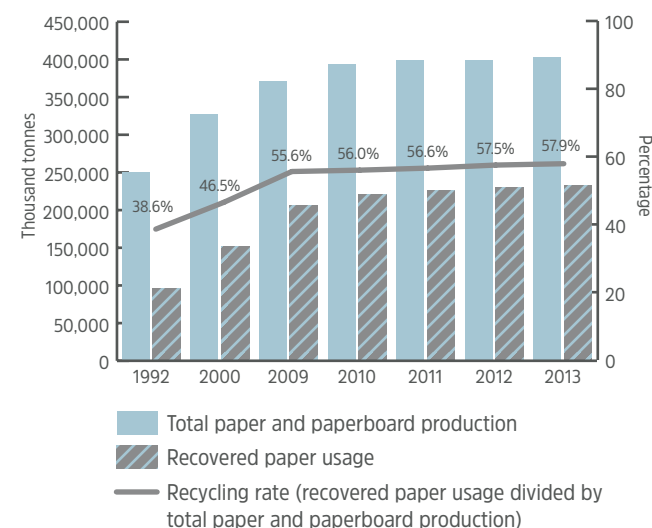
- **Global recycling rate** - Recovering increasing amounts of paper and integrating it back into the product manufacturing system decreases the need for raw materials, in cases where there are no significant competing uses for the land or for the trees on the land. The global recycling rate represents the amount of recovered paper used by paper and paperboard mills as a percent of global paper and paperboard consumption. This performance indicator is derived from RISI's Annual Review of Global Pulp and Paper Statistics, which provides data on recovered paper usage and trade for 175 countries worldwide (Figure 13).

Summary of Members' Progress Updates

ICFPA members continue to improve recovery rates by taking actions such as investing and expanding waste paper collection systems and developing community awareness programmes to improve recycling habits. Canada, Europe, Japan and the United States have reached high recovery rates but face challenges in continually finding new ways to increase them, especially as the use of newsprint and graphic paper declines, resulting in decreasing amounts of fibre that will be

FIGURE 13: Global paper recycling rate

SOURCE: RISI's Annual Review of Global Pulp and Paper Statistics



The global recycling rate at a glance

Metric	Coverage	Performance Improvement	Drivers
Percent of recovered paper used by paper and paperboard mills from total paper and paperboard production	175 countries worldwide (not just ICFPA members)	<p>Change from previous report (2011):</p> <p>▲ 1.3 percentage points to 57.9% in 2013</p> <p>ICFPA members' rates are, on average, higher than the global rate, as shown in the individual member updates</p>	<ul style="list-style-type: none"> Indicator performance is expected to plateau, as recovery rates beyond 70% are difficult to sustain. Limitations to paper recovery for recycling due to contamination during sorting and the fact that many locations are not easily reachable by recycling programmes.

available for recovery. In certain countries, the industry is finding opportunities for job creation as cooperatives for recycling and waste collectors play an increasingly important and legitimate role in the recycling industry.

Australia (AFPA)

In Australia, the recovery rate for paper (measured as a percentage of wastepaper collected to total consumption) was over 85% in 2012-2013 compared to 77% in 2010-2011. In 2012-2013, 3.1 million tonnes of wastepaper were collected of which 1.6 million tonnes were used for domestic paper production and the balance exported to Asia. This high collection rate reflects the significant expansion in wastepaper collection systems over the past decade, which has seen an increase in the amount of wastepaper collected from 1.9 million tonnes in 2002-2003 to over 3.1 million tonnes in 2013.

Brazil (Ibá)

Between 2011 and 2013, the volume of recovered paper consumed increased 10%, from 4.3 million tonnes to 4.7 million tonnes (Figure 14). The recovery rate, which is the volume of recycled paper over the total amount of paper that entered the Brazilian market in 2013, was 48%. The National Solid Waste Policy sets goals to reduce the recyclable material from urban solid waste from 22% in 2015 to 45% in 2031. The Action Plan for the Coalition for Corporate Governance of the National Policy, which Ibá is part of, is in line with these goals. Unlike other countries with high paper recovery rates, almost

all of the material collected is recycled within Brazil.

In addition, the paper sector has contributed to the development of recycling cooperatives, improving the quality of life and promoting social inclusion through income opportunities, among others. The volume of recovered paper collected and sold directly and indirectly by cooperatives and waste collectors to the paper sector increased from 7% to 20% of total recovered paper consumption between 2011 and 2013. In terms of volume, recycling cooperatives have collected approximately 1 million tonnes of paper in 2013 (Figure 15).

FIGURE 14: Paper consumption and recovery (Ibá)

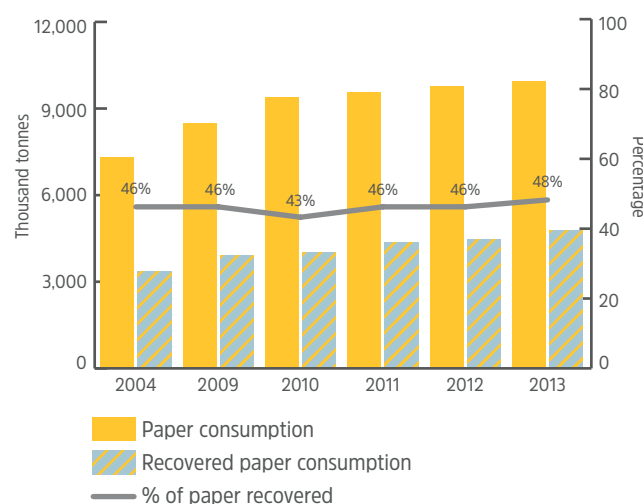
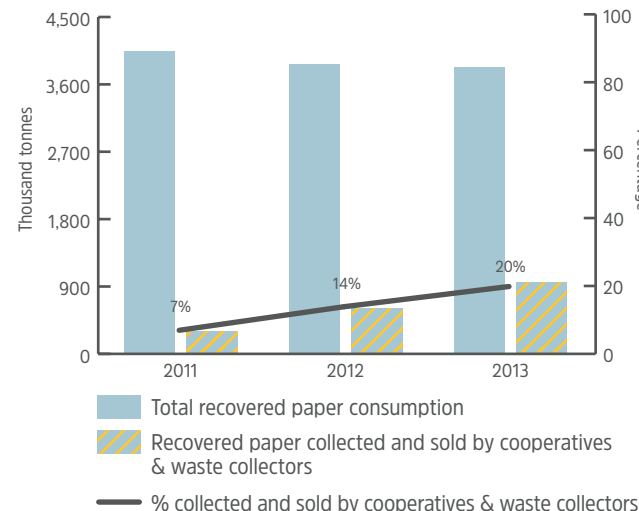


FIGURE 15: Paper collection by cooperatives and waste collectors in Brazil (Ibá)



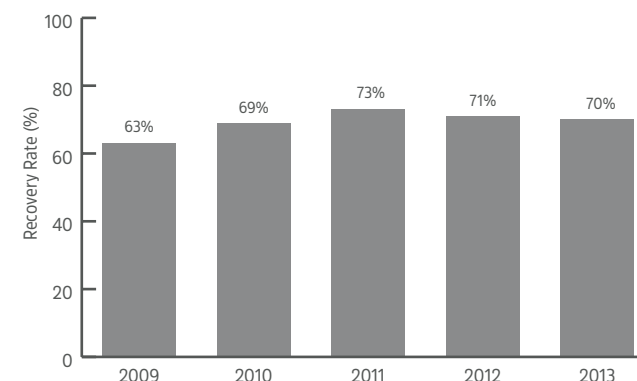
Canada (FPAC)

The recovery rate in Canada decreased slightly, from 73% in 2011 to 70% in 2013 (Figure 16). Maintaining this high recovery rate will be challenging, as the use of newsprint and graphic paper continues to decline due to the increased movement to digital sources of information.

Other forms of recovery include beneficial uses of mill wastes. Data from 2013 indicates that more than 95% of wood residue was being utilised for energy generation, while 85% of wastewater sludges and 50% of process sludges were being used for energy generation and land spreading. Greater than 30% of ash residue is also being used for land spreading and composting.

The 2014 Progress Update on the Canada-wide Action Plan for Extended Producer Responsibility (CAP-EPR) shows that progress has been made in Canada on EPR since its adoption in 2009. For packaging and printed paper, four provinces now have a shared responsibility programme in place and one province has a full EPR programme in place (out of 10 provinces and three territories).

FIGURE 16: Recovery rate (FPAC)



China (CPA)

CPA is committed to the recycling and utilisation of recovered paper and improving the technology of waste paper treatment. In 2013, CPA issued guidelines for collecting, sorting and trading domestic scrap paper to support these efforts. The Chinese recovery rate has increased year over year, reaching 44.7% in 2013 (Figure 17). The waste paper utilisation rate in China has stayed relatively high over the past five years (72% in 2013).

FIGURE 17: Recycling of recovered paper (CPA)

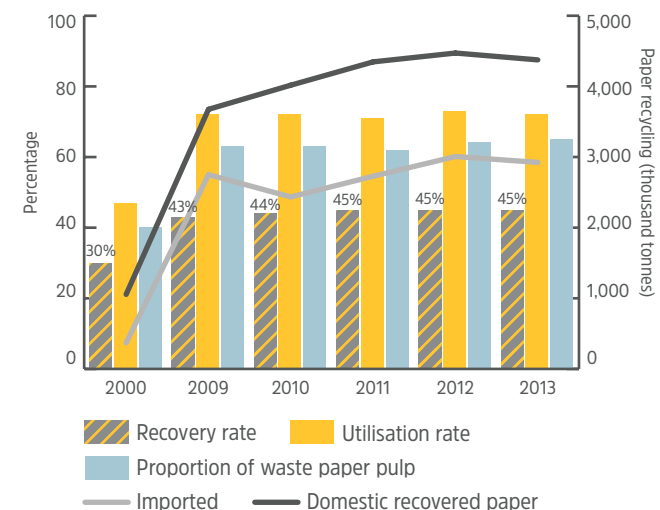
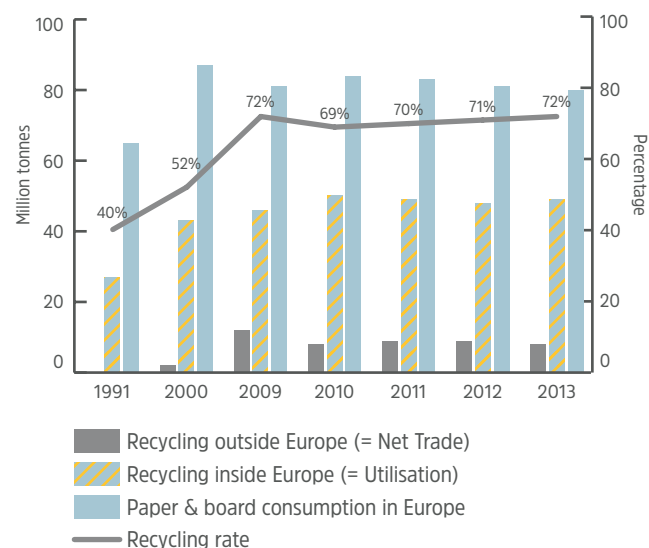


FIGURE 18: European paper recycling (CEPI)



Europe (CEPI)

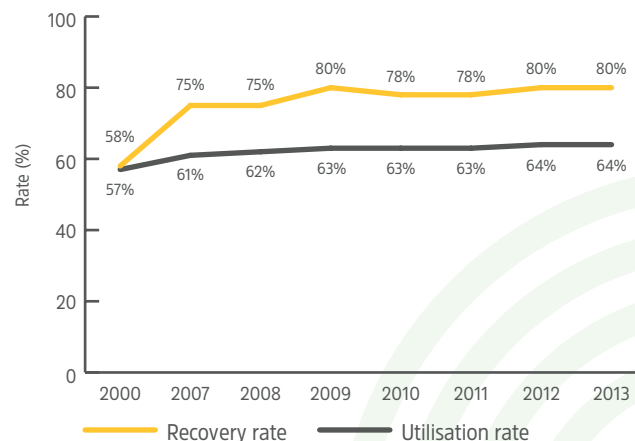
The paper recycling rate in Europe reached approximately 72% in 2013, a slight increase from 2012 (Figure 18). The total amount of paper collected and recycled in the European paper sector remained stable at just over 57 million tonnes, despite decreasing paper consumption in Europe. Paper fibre is now recycled an average of 3.5 times in Europe, far exceeding the worldwide average of 2.4.

As part of its activities to improve the quality of paper for recycling, CEPI, as a member of the European Recovered Paper Council (ERPC), and inspired by AF&PA, launched a campaign against unnecessary paper shredding, which destroys the fibre length and impacts the recyclability of paper (Figure 19).

FIGURE 19: Campaign poster on paper shredding (CEPI)



FIGURE 20: Recovered paper recovery and utilisation rate (JPA)



Japan (JPA)

In 2013, JPA's recovery rate was at 80.4% and its recovered paper utilisation rate (the volume of recovered paper consumption in paper and paperboard production as a percentage of total raw material consumption in paper and paperboard production) was 0.1% shy of meeting its 2015 target of 64% as shown in Figure 20. To achieve this target, JPA has worked to promote the development of lighter paper and recycled products; increase paper recycling from business offices; and enable research and development of new products and applied technology associated with recovered paper.

To increase the recovery rate, JPA will continue to collaborate with local governments, the private sector and NGOs, and work to enhance consumer awareness.

South Africa (PAMSA)

The Paper Recycling Association of South Africa, a subsidiary of PAMSA, is active in driving progress towards increasing recovery rates, which reached a high of 61% in 2013. The South African government has implemented various sections of the Waste Act and is serious about shifting towards a circular economy to reduce requirements for landfill space in the future and to recover valuable raw materials.

RESOURCE EFFICIENCY: European commitment to improve paper collection to avoid waste

I MPACT (Introducing and Improving separate Paper Collection to avoid landfilling and incineration) is a commitment by CEPI and 20 partners to work together and promote the separate collection of paper for recycling by benchmarking collection schemes and exchanging best practices in the field of paper collection. IMPACT is a recognised commitment under the European Commission's European Innovation Partnership on Raw Materials.

www.cepi.org/impact

As the recycling rate increases, each tonne becomes more expensive to collect due to diminishing availability of fibre. A weak currency in South Africa also means that traders prefer to export their recovered paper to countries such as India, where there are low cargo costs, which then puts pressure on price.

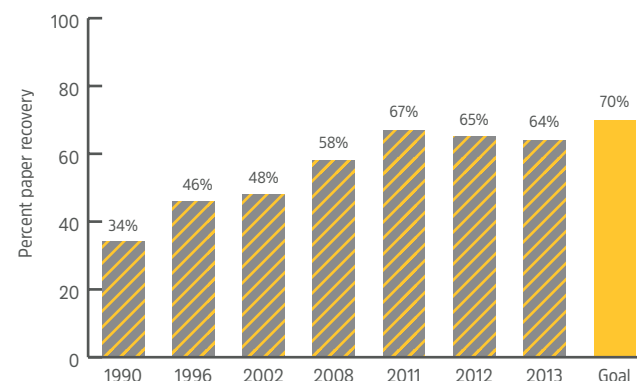
United States (AF&PA)

One of AF&PA's sustainability goals is to achieve a 70% paper recovery rate by 2020. In 2013, the U.S. rate was 64% (Figure 21). The amount of paper recovered for recycling has nearly doubled since the industry committed to setting and achieving recovery goals in 1990. The paper industry's recycling success leads the way for all other U.S. recycling efforts.

Recovered paper that was sorted or processed in the U.S. had a 2012 market value of USD\$8.4 billion. The value of U.S. recovered paper exports totalled USD\$3.1 billion in 2013. Voluntary paper recovery has fostered a dynamic marketplace that allows recovered fibre to find its highest-value use, which, in turn, helps to encourage more recycling.

AF&PA increases public awareness and encourages paper recycling through partnerships, youth education, and outreach programmes. To improve the quality of recovered paper, AF&PA develops communication materials such as the *Think Before You Shred!* poster and the *Improving Paper Recycling* video, available at www.paperrecycles.org.

FIGURE 21: Progress towards paper recovery goal (AF&PA)



Improving Environmental Management

ICFPA Commitments

ICFPA members are committed to complying with all regulatory requirements and managing material environmental issues such as water, air emissions, energy and biodiversity through environmental management systems to continually improve the environmental practices and performance in our operations. ICFPA members aim to understand and respond to increasing societal and industry expectations around environmental management.

ICFPA Members' Aggregate Performance

Two aggregate performance indicators were calculated to help demonstrate members' improvement on two material environmental issues to the industry: energy efficiency and air emissions.

- **Onsite Energy Intensity Indicator** - The forest products industry is an energy-intensive industry. This indicator demonstrates ICFPA members' collective impact to decrease onsite energy use relative to their production output (Figure 22).

FIGURE 22: ICFPA members' onsite energy intensity improvement (AF&PA, CEPI, FPAC, JPA and PAMSA)



The ICFPA onsite energy intensity indicator at a glance

Metric	Coverage	Performance Improvement	Drivers
Total onsite energy intensity (energy use per unit of production - GJ LHV/Mt production)	Five ICFPA member associations representing 215 million metric tonnes of production submitted data for this metric	Change from baseline (2004/2005): ▼ 4.3% to 17.4 GJ LHV/mt production in 2012/2013	<ul style="list-style-type: none"> Energy efficiency improvements at facilities Closing of less energy-efficient mills over time

The ICFPA sulphur dioxide (SO₂) emissions indicator at a glance

Metric	Coverage	Performance Improvement	Drivers
SO ₂ emissions from onsite combustion sources (kg SO ₂ / Mt production)	Five ICFPA member associations representing 241 million metric tonnes of production submitted data for this metric	Change from previous reporting year (2010/2011): ▼ 8% to 1.2 in 2012/2013	<ul style="list-style-type: none"> Energy efficiency improvements at facilities Closing of less energy-efficient mills over time

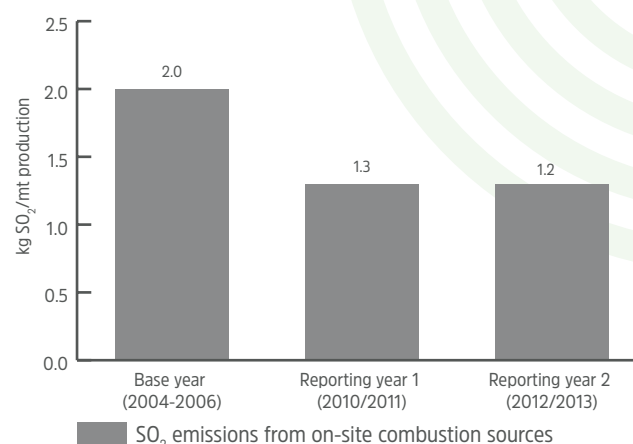
- Sulphur dioxide (SO₂) Emissions Indicator** - SO₂ is emitted during the paper manufacturing process and is a major contributor to acid rain. This indicator demonstrates ICFPA members' collective commitment to reduce their SO₂ emissions from onsite combustion sources such as boilers, turbines, direct-fired dryers, recovery furnaces, lime kilns and thermal oxidizers (Figure 23).

Summary of Members' Progress Updates

ICFPA members report on their environmental performance and describe how their regional industries are taking steps to increase efficiencies and improve overall environmental management on material issues such as water quality and biodiversity. Some industry associations are setting targets to lower the overall environmental footprint of the industry and others provide examples of how specific companies are investing in new technologies and processes to improve the overall environmental management of their operations.

Overall, the industry is concerned that performance will plateau on key environmental management indicators where efficiencies have been maximised. Current technology has not enabled plants to achieve goals such as 'zero effluent' and 'zero emissions.'

FIGURE 23: Sulphur dioxide emissions for ICFPA reporting members (AF&PA, CEPI, FPAC, JPA and PAMSA)



Brazil (Ibá)

Brazil's water consumption dropped dramatically over the last 30 years, from approximately 250m³ / dry tonne of pulp in the late 1980s to approximately 35m³ to 50m³ / dry tonne of pulp in 2013 across its various pulp plants. About 90% of the water used is captured and returned to the system either through evaporation or as treated effluents. The industry continues to optimise water use and improve water quality

RESOURCE EFFICIENCY:

Showcasing efficient operations at Australian tissue manufacturing plant

Kimberly-Clark Australia (KCA) received the prestigious Environment Minister's Banksia Award for a Cleaner Environment in 2014 for its achievements in energy efficiency and water quality improvement at its tissue manufacturing plant in Millicent, South Australia. The KCA achievements included decreasing the site's energy and carbon footprint by more than half over the past five years and diverting on average 95% of the sites manufacturing waste from landfill.

FIGURE 24: The new cogeneration facility at the Kimberly-Clark Australia mill



INNOVATIVE TECHNOLOGIES: Agenda 2020 programme announces new research areas in the United States

The American forest products industry's Agenda 2020 Technology Alliance is pursuing six research areas under its Advanced Manufacturing Technology (AMTech) cooperative agreement with the National Institute of Science and Technology. The areas are chemical recovery, next-generation pulping, reuse of process effluents, reduced energy in paper drying, cellulosic nanomaterials, and value from biomass. Agenda 2020 and its area-specific teams helped prepare for this research project in 2014 by producing roadmaps to identify goals, strategies and specific research and development needs aimed at advancing the industry's competitiveness and improving its environmental footprint. In 2015, with support from the AMTech grant, teams will be formed to drive each area forward by further defining needs, developing specific research concepts and projects, publicising the opportunities, and seeking the experts and funding to execute them. Workshops will be held in spring 2015 and completed work products are scheduled for the fourth quarter of 2015.

www.agenda2020.org

through modern forest management practices and technology improvements and is currently working with stakeholders to build ecological infrastructure to address the challenge of water scarcity.

Ibá has been proactively involved, together with government and other stakeholders, in discussing the sectorial agreement for the establishment of an Extended Producer Responsibility system for non-hazardous packaging products. According to the Brazilian Solid Waste Policy (Act 12.305/2010), government has established progressive goals to reduce the amount of recyclable solid waste from landfills, varying from 22% in 2015 to 45% in 2031.

Ibá engaged in a voluntary proposal to support the implementation of the Solid Waste Policy in collaboration with more than 18 entities representing different stakeholders from the packaging supply chain. This proposal was submitted to government and is awaiting approval.

Canada (FPAC)

Between 2008 and 2013, the reduction in waste to landfill from FPAC members was 31%, a significant decrease. Canada is a global leader in this area with 98% of wood residue in 2013 being used for either energy generation or composting. Similarly, more than 66% of mills' wastewater sediment is diverted for either energy generation, composting or land application. FPAC members have also integrated more energy-efficient equipment into their operations, which has improved air quality with a reduction in particulate matter (PM) of 24%, SO_x of 30% and NO_x of 9% since 2008.

FPAC's Vision2020 Environmental Performance goal is to deliver a further 35% improvement (from the 2010 baseline) in the sector's environmental footprint, a single measure based on twelve environmental performance indicators related to GHGs and other air emissions, water use and water quality, biodiversity and waste. A recent progress report on Vision2020 shows that the industry has reduced its overall footprint by 6% between the years 2010-2012. As outlined in the report, the sector has improved its performance on waste to landfill, recy-

cling rate, energy use, and air quality (PM, SO_x, and NO_x), but only made minimal gains on improving water use and water quality. To reach their environmental footprint target by 2020, the industry is investing in new technologies, improving management practices, working towards carbon neutrality through the value chain, and working with government to make the regulatory system more efficient and effective.

www.fpac.ca/vision2020

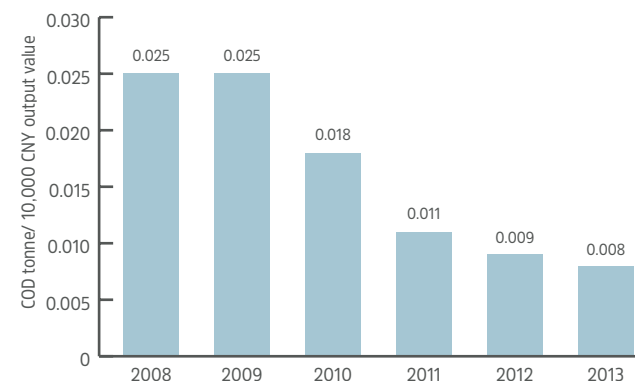
Chile (CORMA)

Some of the ways the Chilean forest sector is improving environmental management include reducing emissions through clean development mechanism projects; identifying high conservation value areas and developing conservation programmes; and improving operations efficiency of water and energy use. Chile also uses Clean Production Agreements (CPA), a voluntary agreement between companies and relevant environmental authorities to meet specific environmental targets. CORMA coordinated the signing of several CPAs covering the vast majority of the forest sector. Presently, two CPAs are close to being finalised for small and medium-sized enterprises: one in the lumber industry and the other for plantations.

China (CPA)

The industry continues to see performance improvements in reducing pollutants in wastewater. The chemical oxygen de-

FIGURE 25: Reducing pollutants in wastewater (CPA)



mand (COD) emission intensity per thousand CNY (Chinese Yuan Renminbi) output value as shown in Figure 25 continues to decrease marginally.

Europe (CEPI)

Almost 90% of the pulp, paper and board in Europe comes from mills that have certified environmental management systems in place (ISO or EMAS⁶ certified). These systems provide increased rigour to how companies manage environmental issues. In 2013, CEPI members confirmed a slight further decoupling of most emissions and effluents from the production of pulp and paper (Figure 26). As the “low hanging fruit” have been picked years ago, this decoupling trend will most likely not show dramatic variations in terms of continued performance improvement.

Japan (JPA)

JPA members’ final disposal of industrial waste decreased to 191,000 tonnes in 2013, a drop just over 27% from 2012 (Figure 27). This is the fifth consecutive year that JPA met its target for reducing the amount of industrial waste to less than

FIGURE 26: Decoupled growth levels and environmental impacts for paper production (CEPI)

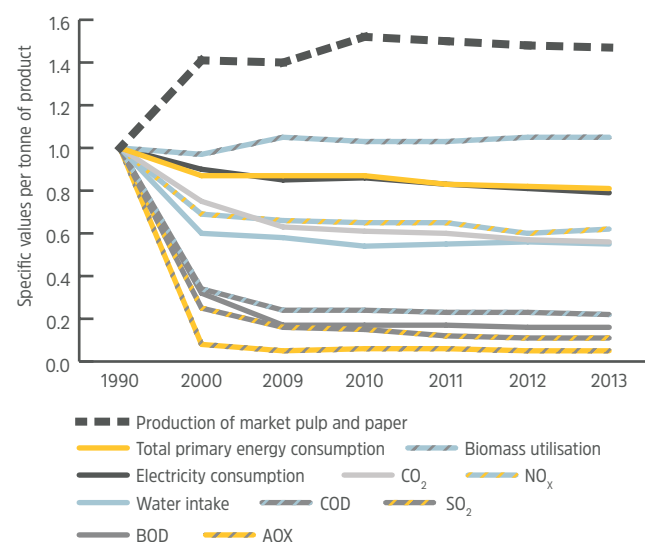
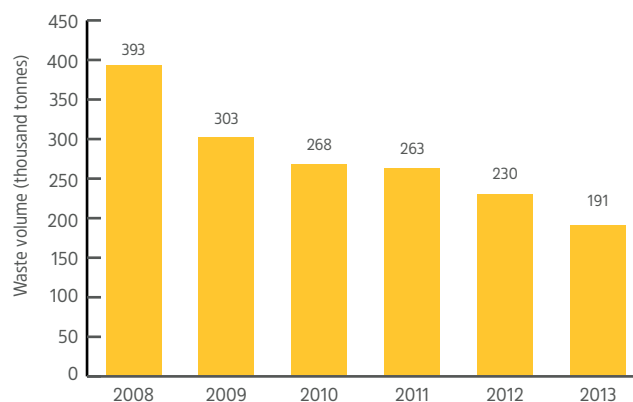


FIGURE 27: Final disposal of industrial waste (JPA)



350,000 tonnes by 2015. This success is partly due to using wastes as cement material and alternative fuel, and developing new uses (e.g. as a soil improvement agent). JPA also has a target for all member mills to become ISO 14001 certified and as of 2013, 94% of member mills were certified.

New Zealand (NZFOA)

The New Zealand government and industry are working together to create a National Environmental Standard (NES) for forestry. This NES is designed to create minimum national standards for the forestry industry to adhere to that are either level with or better than current regional requirements. To date there has been a positive response to the proposed NES from central and regional governments and the industry.

Increased focus on water quality has placed further focus on the industry’s discharge of sediment into water bodies. This has resulted in a further shift towards science and research that looks at erosion, water body recovery after weather events, and what limits the industry can realistically commit to during and after harvest.

South Africa (PAMSA)

PAMSA has supported several water reduction studies and there is currently a national survey underway to update a water use survey that was undertaken in 1996. While water

⁶ ISO is the International Organization of Standardization and EMAS is the European Eco-Management and Audit Scheme.

INNOVATIVE TECHNOLOGIES: Engineered wood fibre for the new generation of biocomposites in New Zealand

In New Zealand, Scion developed Woodforce, a new technology that uses radiata pine fibres, and is now being commercialised in Europe, the United States (by licensee Sonae Industria) and New Zealand. This patented technology offers many advantages including both weight and cost savings with design opportunities unrivalled in the natural fibre sector. Woodforce is neither a by-product nor a residue; it is an industrially engineered wood-based product that offers natural strength for plastics, manufactured as a drop-in technology in medium-density fibreboard (MDF) mills globally. The power of Woodforce and its product potential is in its versatility and customisable nature. Applications use a range of resin polymers, both bio-based and petroleum-based, and offer 10-15% lightweighting over glass fibre in various applications, making it energy effective. Woodforce is recyclable, provides benefits for industrial health and safety and equipment wear and tear, and has been approved for the USDA BioPreferred Program.

www.woodforce.com

consumption has generally improved over time in South Africa, it is expected that this study will provide a quantitative indication on how the industry's water use has improved. PAMSA is also working on projects such as putting a value on the use of industry wastes and by-products (e.g. biorefinery research).

PAMSA's forestry members are currently working on a bio-energy research project to better understand the impact that removal of bio-energy may have on forest residue, an issue that has concerned investors and other stakeholders. This work will help guide the industry's approach to managing this issue.

United States (AF&PA)

Members comply with the AF&PA Environmental, Health & Safety Principles as a condition of membership and have tracked and worked to reduce releases to the environment for decades. The principles can be found in AF&PA's sustainability report at www.afandpa.org/sustainability.

In 2012, just over 96% of the electricity the industry generated was through combined heat and power, which enabled many members to efficiently generate significant portions of their electricity. Since 2000, SO_x and NO_x emissions have been reduced by 46% and 26% respectively, and total reduced sulphur compound emissions have been reduced 44%.

AF&PA members track and report on chemical releases of substances listed by the U.S. Environmental Protection Agency's Toxics Release Inventory (TRI) programme, as well as on relevant compounds specifically related to operations at pulp and paper mills and wood products facilities. From 1999 to 2012, total TRI releases have been reduced by 28% in pulp and paper mills and by 92% at wood products facilities.

Investing in Workers and Communities

ICFPA's Commitments

ICFPA members are committed to contributing to the economic and social well-being of their workers and the communities where they operate.

ICFPA Members' Aggregate Performance

One new aggregate performance indicator, the recordable incident rate, was calculated to help demonstrate ICFPA members' commitment to their workers as related to health and safety.

- **Recordable Incident Rate Indicator** - Safety is a critical issue as all companies in the forest products industry want to ensure they send their workers home safely. This is the first time the ICFPA is reporting on its members' aggregate performance on the recordable incident rate (Figure 28).

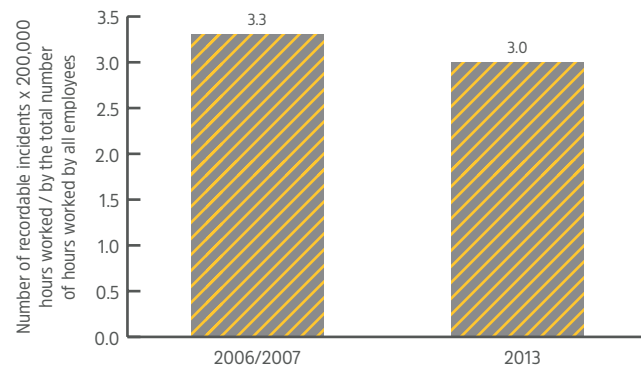
Summary of Members' Progress Updates

ICFPA members report progress on their overall health and safety performance and provide examples of how they are developing training programmes to continuously improve on this front. In emerging regions, the industry is positioned to create jobs that can help lift people, particularly those in rural and remote areas, out of poverty. In certain regions, the focus is on recruiting new talent to fill the imminent void of an aging workforce. Several members comment on the implementation of sustainability programmes to help generate social value.

The ICFPA recordable incident rate indicator at a glance

Metric	Coverage	Performance Improvement	Drivers
Number of recordable incidents x 200,000 hours worked / by the total number of hours worked by all employees	Five ICFPA member associations, representing 22 countries submitted data for this metric	Change from baseline (2006/2007): ▼ 0.3 to 3.0 in 2013	<ul style="list-style-type: none"> • Improved safety awareness • Improved processes and systems

FIGURE 28: ICFPA members' recordable incident rate
(AF&PA, CEPI, FPAC, JPA and PAMSA)



Brazil (Ibá)

The tree plantation sector is responsible for creating 4.5 million direct and indirect jobs, including jobs due to income effect, in 2013. This includes 150,000 jobs created since the 2012 reporting year. Currently, 4.5% of the workforce in Brazil — primarily communities and people with smallholdings living in rural and remote regions — is employed by the tree plantation sector. The associated income generated for this sector reached USD\$192 million.

In 2013, approximately 8% of all the wood consumed by the sector was supplied by independent small rural producers. This is a decrease from 2010, where it was reported as 20%; however, the difference is due to a change in calculation, not in the volume of timber supplied by small producers.

Ibá has analysed the impacts of the forest-based activities using the Firjan Social Development Index. Evidence has shown that municipalities with stronger forestry development have obtained better indices when compared to their respective state capitals.

Ibá and its members' initiatives to support small producers generate social value in rural regions of Brazil, reduce pressure on native forests, and recover degraded soils. In 2013, Ibá member companies invested USD\$64 million in social programmes, benefiting 1.4 million people and more than 1,400

municipalities. In 2014, Ibá and its members helped develop a best practice guide to improve relationships between companies and Indigenous communities to reduce conflict and respect Indigenous rights.

Canada (FPAC)

Driven by the need to replace its aging workforce and create new jobs to support industry transformation, FPAC has an ambitious goal to hire 60,000 new workers in Canada by 2020. Between 2010 and 2012, the sector recruited 8,000 workers. While these jobs primarily replaced retirees, the pace of hiring is expected to accelerate as the industry transforms.

Filling jobs is a challenge for the industry due to the changing skillsets required to support sophisticated technology, and the aggressive competition for skilled workers in the trades across the country. To overcome this challenge, FPAC launched TheGreenestWorkforce.ca to help rebrand the industry as renewable and growing, and attract a new generation of employees to the sector, focusing on youth, women, Aboriginal workers and new Canadians. FPAC is also working with stakeholders to create a comprehensive national Labour Market Information web application tool for the forest products industry.

Chile (CORMA)

CORMA's accident rate reached an average of 1.4 in 2013, an increase from the 0.99 reported in 2011. This is primarily due to an increase in the number of accidents at sawmills and in the remanufacturing sector, where there was an accident rate of 2.4 as shown in Figure 29. CORMA recently launched a prevention campaign called "Forestry workers for no accidents." The campaign is geared towards small and medium-sized forest enterprises with the goal to improve workers' health and safety.

CORMA commissioned a study on the forestry sector's economic and social contribution in Chile in 2014. Forest activity in Chile is traditionally located in small villages with high poverty rates, and the study highlights how the forest industry has helped decrease poverty in these areas.

www.corma.cl/_file/material/informe-final-evaluacion-del-aporte-economico-y-social-del-sector-forestal-2014.pdf

FIGURE 29: Accident rates in Chile (CORMA)

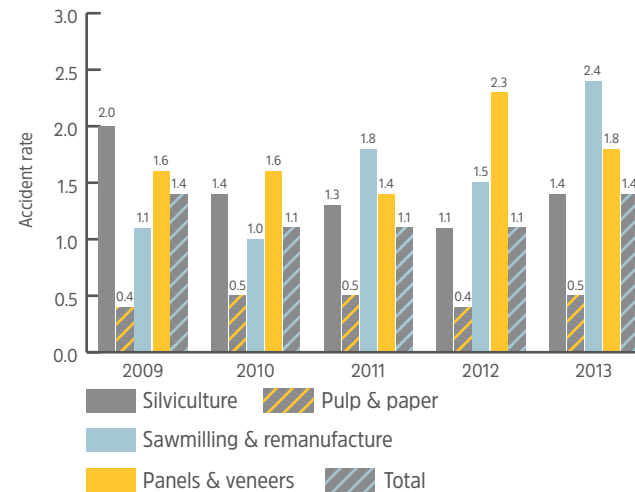
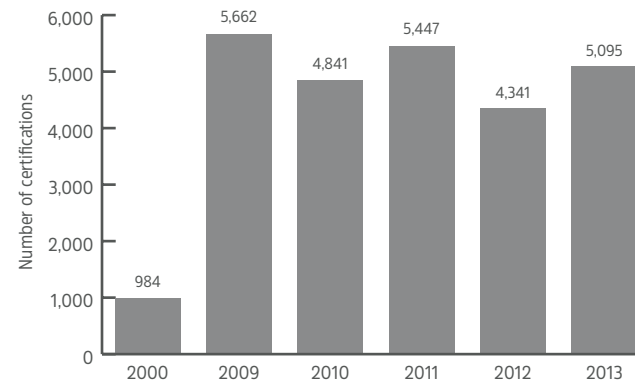


FIGURE 30: Chilean working competencies certification (CORMA)

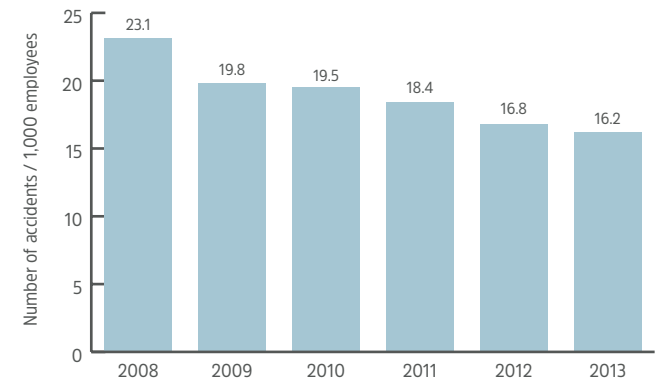


CORMA supports workers and their development through its voluntary-based Competence Certification System, which aims to properly train workers, improve productivity and reduce accidents. In 2013, 5,095 certificates were issued, up from 4,341 in 2012 but down from the 2009 high of 5,662 (Figure 30).

Europe (CEPI)

The accident rate (number of accidents causing an absence of more than three days off work per 1000 employees) in

FIGURE 31: European accident rate (CEPI)



Europe continues to decline, with 16.2 in 2013 compared to 18.4 in 2011 as shown in Figure 31.

The European forest and paper industry is facing a knowledge transfer gap due to its aging workforce and the apparent lack of interest in the industry from young workers. To address this challenge, CEPI and its trade union partner will map the existing education and training programmes relevant for the sector and assess its adequacy in meeting the needs of the industry.

Japan (JPA)

Demonstrating that safety is a priority for members, JPA holds regular meetings with safety representatives to share perfor-

FIGURE 32: Frequency rate in Japan (JPA)

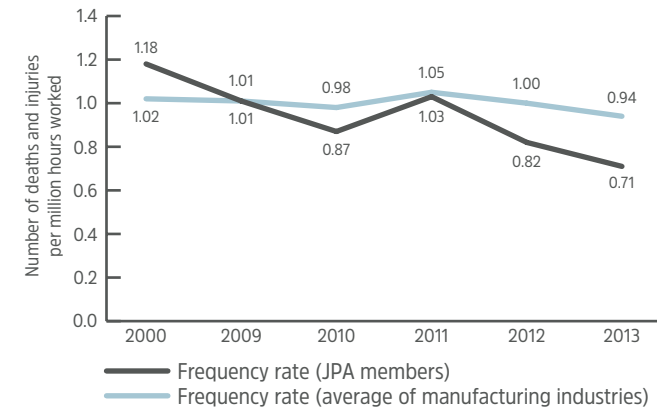
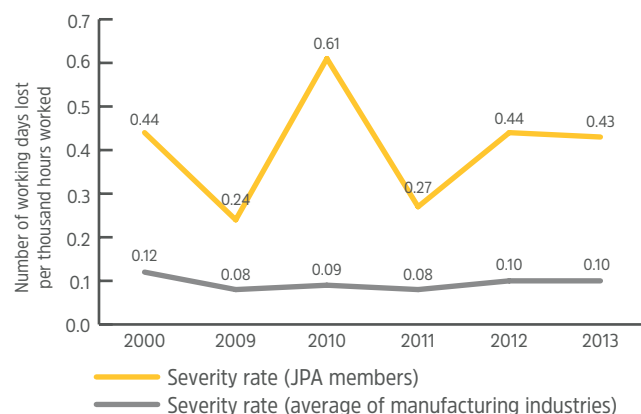


FIGURE 33: Severity rate in Japan (JPA)



mance information. The frequency rate for lost workday injuries (number of deaths and injuries per million hours worked) for JPA members has substantially improved, 0.71 in 2013 compared to 0.82 in 2012, and has been at the same level or lower than average for Japanese manufacturing industries (0.94 in 2013) (Figure 32). The severity rate (number of working days lost per thousand person hours worked) improved to 0.43 in 2013; however, this is still above the average of manufacturing industries in Japan (0.1 in 2013). It is of utmost importance for the industry to improve this performance and eliminate fatal accidents (Figure 33).

New Zealand (NZFOA)

The New Zealand forestry industry has been identified as having an unacceptably high incidence of severe injury and death. While there has been a decrease in the number of serious harm and fatal injuries in 2014, this has been attributed to the focus that has been placed on this issue, causing more awareness and caution. As a result of acknowledging the issue, the industry convened an independent panel to assess the industry and the health and safety concerns that may be contributing to the high incidents of harm and death. This panel released a report in October 2014 with 11 recommendations that are currently being implemented. There was general support from the industry for the report and to make the changes required to improve health and safety. Implementing the recommenda-

tions of the independent forestry review will involve all parts of the industry coming together to work as a whole. It will also take a culture change within the industry for long-term results.

South Africa (PAMSA)

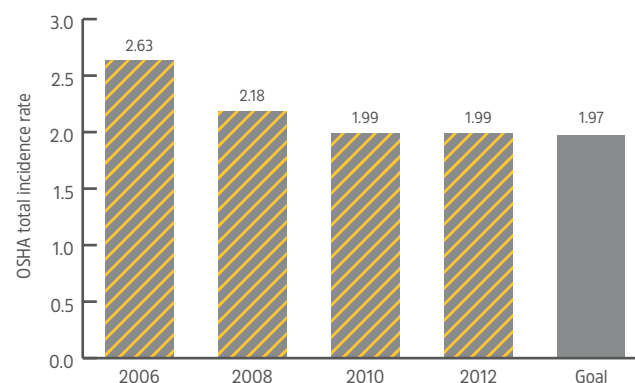
The FSC South African Standard puts an emphasis on employing local labour wherever possible and practical. PAMSA members' FSC-certified plantations need to be able to demonstrate that where it is possible and practical, local communities are given preferential employment.

In South Africa, a grower development programme was initiated in 2014 with the aim of providing both technical advice and funding to farmers involved in plantation forestry. Emerging grower technical toolkits have also been developed to train 60 small-scale farmers on the basic techniques of eucalyptus tree growing. Further technical toolkits are being developed for the growing of acacia trees, while a harvesting manual is also planned. The programme is also looking to initiate research aimed at producing innovative and economical solutions to the harvesting and short-haul transport challenges currently facing small-scale growers.

United States (AF&PA)

AF&PA continues to work toward its goal of improving the industry's safety incident rate by 25% by 2020, and its long-term vision of zero injuries.

FIGURE 34: Recordable incident rate (AF&PA)



BENEFITING COMMUNITIES: Supporting small and medium-sized enterprises in the value chain in South Africa

In South Africa, national unemployment levels are over 25%, with rural areas especially vulnerable due to substantial job losses in the agricultural sector. Mondi Zimele, the small business development arm of Mondi Ltd in South Africa, plays a key role by helping finance and support small and medium-sized enterprises to encourage economic development and job creation in the forestry community. The programme focuses on four key areas to leverage employment opportunities, as shown in Figure 35. Financed through a "revolving" fund from Mondi, the programme is recognised as being a successful vehicle for job creation in South Africa. Since 2007, the Mondi Zimele Programme has supported over 80 small and medium-sized enterprises with an employment footprint reaching over 4,200 people and a collective annual turnover in excess of USD\$61 million.

FIGURE 35: South Africa's Mondi Zimele's programme to support small and medium-sized enterprises (PAMSA)



AF&PA member-implemented worker training initiatives, increased automation, and a host of injury preventive measures and safeguards have resulted in a recordable case incident rate reduction of 24% since 2006 (Figure 34). The incident rate remained stable between 2010 and 2012. AF&PA's mandatory Environment, Health and Safety Principles require that members have health and safety policies in place and that the companies perform frequent safety audits.

The U.S. Occupational Safety and Health Administration recognises industrial facilities that voluntarily work to maintain job illness and injury rates below national Bureau of Labor Statistics averages. As of February 2014, AF&PA members who had facilities recognised for outstanding performance included: four forestry and logging operations, 85 wood products manufacturing plants, and 93 pulp and paper manufacturing facilities.

Looking Forward



The ICFPA and its members are proud of their achievements in supporting the six commitments of the CEO Leadership Statement on Sustainability. Looking forward, the ICFPA and its members will continue to play an important role in meeting the needs of society for sustainable products. From expanding markets for bio-based products, to investing in breakthrough technologies that will lead to more efficient and sustainable operations, to being responsible stewards of the forests and leaders in the fight against climate change – ICFPA members have made significant progress but there is much left to do.

The industry is working to address the challenge of continual improvement in areas where performance is already strong, and looking for advancements in technologies and processes that will further reduce our footprint on the planet's resources. The industry will continue to play an important role in mitigating the negative impacts of climate change and reduce GHG emissions through carbon sequestration and improved energy and resource efficiency.

The forest products sector is a strong contributor to the economic and social well-being of communities around the world, employing 13.2 million people directly, and another 41 million indirectly. Some ICFPA members face challenges in replacing aging workers with a younger workforce with the needed skills, but as a whole, the sector is committed to ensuring a robust and safe workforce that positively contributes to society for years to come.

The ICFPA will continue to provide biennial progress updates to keep stakeholders informed of the efforts of the industry. This report also serves as a tool to keep members informed of interesting actions and initiatives taken by others in their sector and as a motivational tool to encourage continual improvement in environmental and social performance.



Figures and Tables

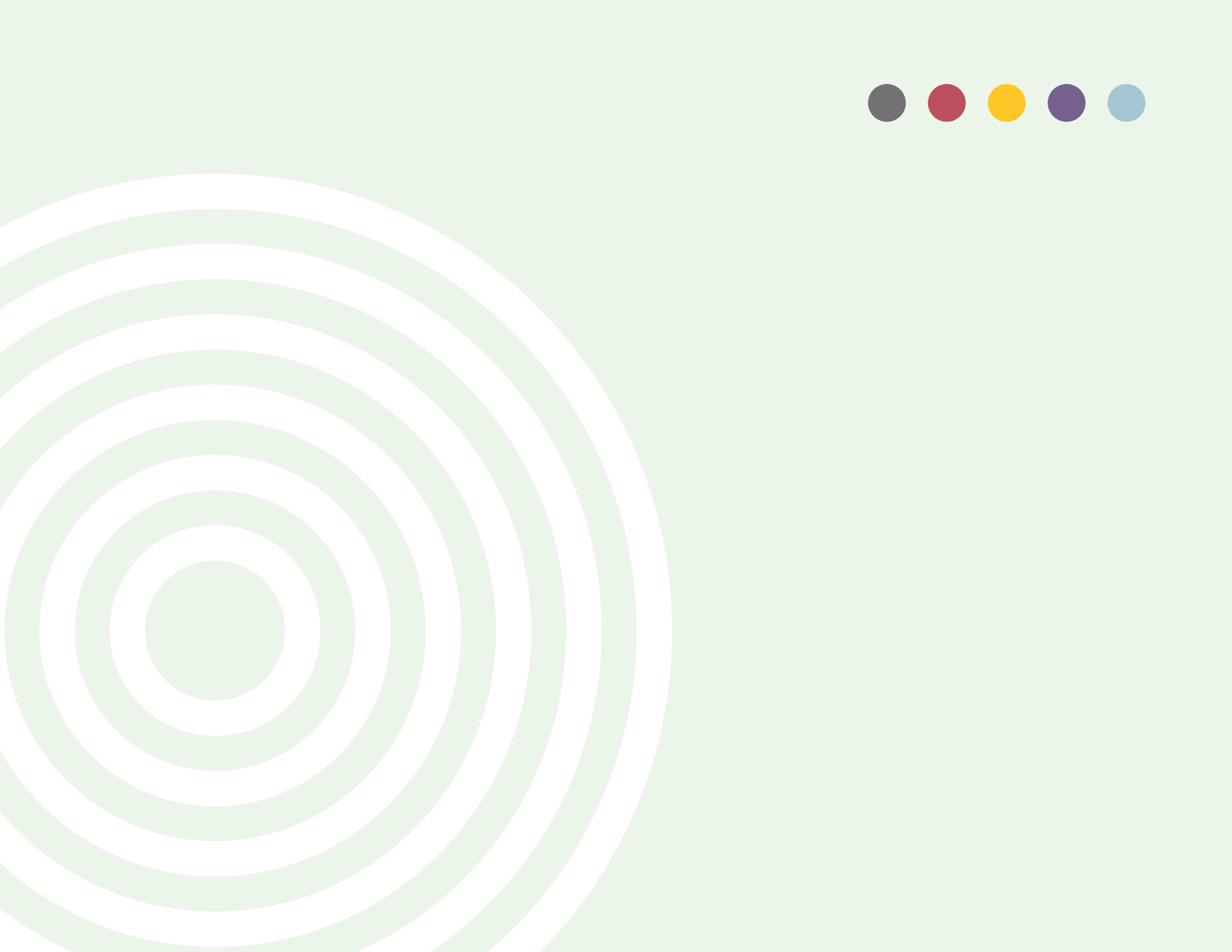
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