



wbcasd forest solutions



The Forest Solutions Group

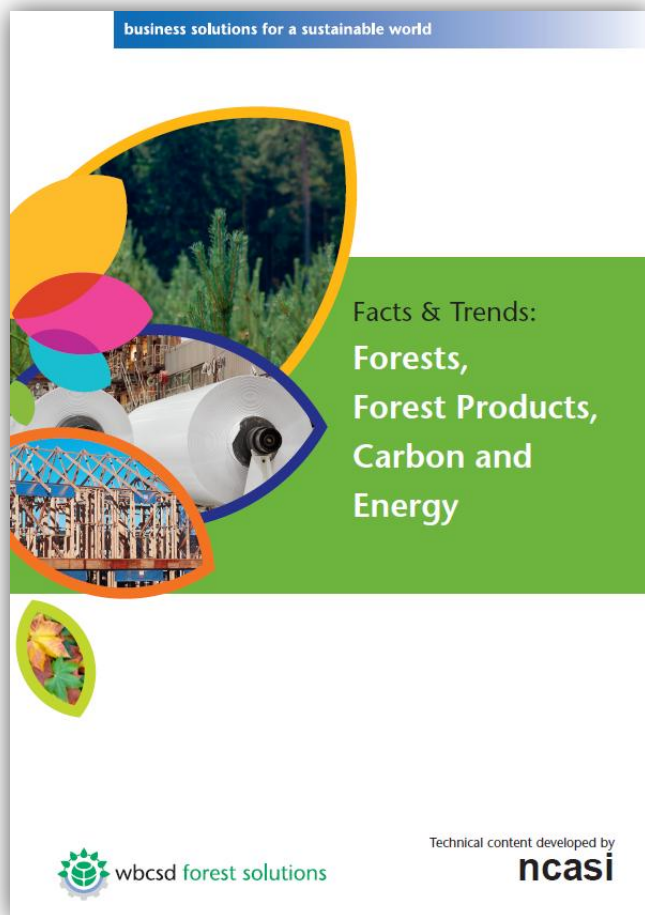
Facts & Trends:

Forests, Forest Products,
Carbon and Energy

Presentation slides

19 September 2012

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The Forest Solutions Group

The group's mission is to provide **business leadership** in expanding sustainable forest-based **solutions** to meet the needs of people now and in the future.

Thirty leading member companies, representing all stages of the forest product supply chain, are engaged driving a **broad spectrum of sustainability initiatives** using the **WBCSD platform**.

The focus address a range of sustainability **challenges and opportunities**, often based on **open stakeholder dialogues**, and emphasize the importance of the **forest-based industry** as a key part of a **low-carbon and bio-based economy**.



WBCSD forest-related work

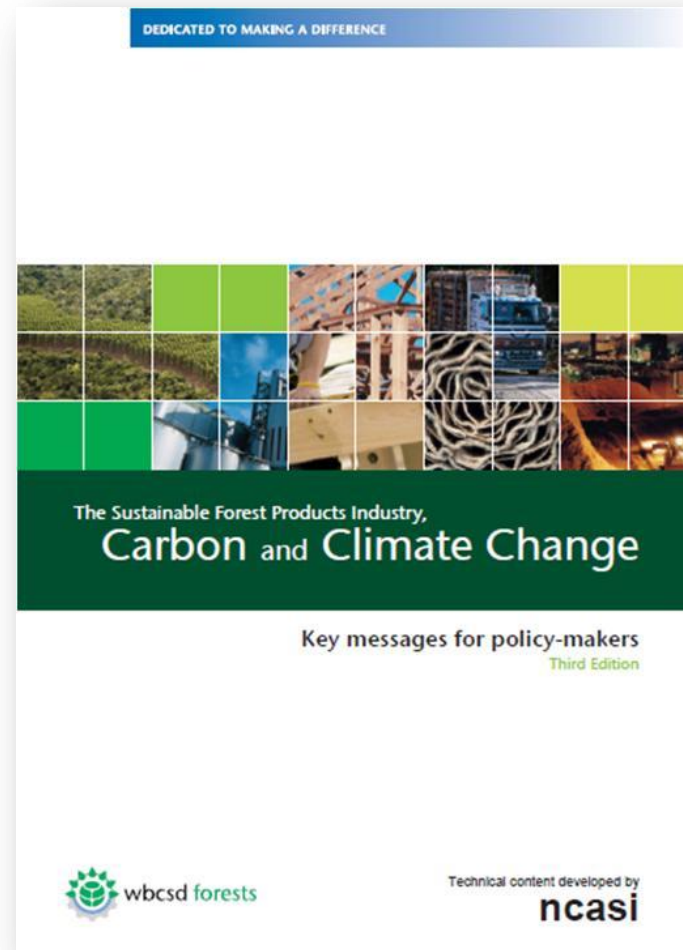
Recent examples of WBCSD forest-related publications include:

- [Changing Pace – Public Policy options to scale and accelerate business action towards Vision 2050, Forests chapter \(2012\)](#)
- [The Sustainable Forest Products Industry, Carbon and Climate Change: Key messages for policy-makers 3rd edition \(2011\)](#)
- [Recommendations for Government Negotiators to Effectively Include Harvested Wood Products within the UN Framework Convention on Climate Change \(2011\)](#)
- [WRI/WBCSD: Sustainable Procurement of Wood and Paper-based products \(2012\)](#)



Publication's Background

- Companion/support document to the November 2011 released [“The Sustainable Forest Products Industry, Carbon and Climate Change – Key Messages for Policy-Makers”](#)
- Technical content developed by [National Council for Air and Stream Improvement \(NCASI\)](#) under the commission of the WBCSD Forest Solutions Group



Publication's Objectives

- Provide **overview & background** of simple facts and trends about forests, forest products, carbon and energy
- Present the **context** for the forest-based industry within the world's **carbon cycle** and recap the **challenges** of the forest-based sector in today's **business environment**
- Underline the importance of **sustainable forest management**
- Highlight the **benefits of forests and forest products** as part of a low-carbon, bio-based economy
- Emphasize the potential & role of forests and forest products in **mitigating climate change risks** and **reducing societal GHG emissions**
- The forest-based industry provides a wide range of **sustainable solutions**



Key messages

- **Forests & forests products**
 - Store carbon and have low carbon profile
 - Provide a substitute for other carbon intensive products
 - Planted forests play an ever-increasing role in meeting demand for wood
- **The forest-based industry**
 - Is highly competitive & increasingly energy efficient
 - Stands at the heart of low-carbon & bio-based economy
- **Sustainable forest management**
 - Is essential to meet future fiber demand and to conserve ecosystems & biodiversity



Forests

Facts

- Forests cover almost one-third of the world's land surface
- About 36% are primary forests, 7% are planted forests, and 58% are classified as other natural generated forests
- **Carbon stocks are increasing**, yet net forest area continues to decline due to **persistent deforestation**, primarily in tropical forest areas
- Planted forest area is growing rapidly, with much of this happening in China

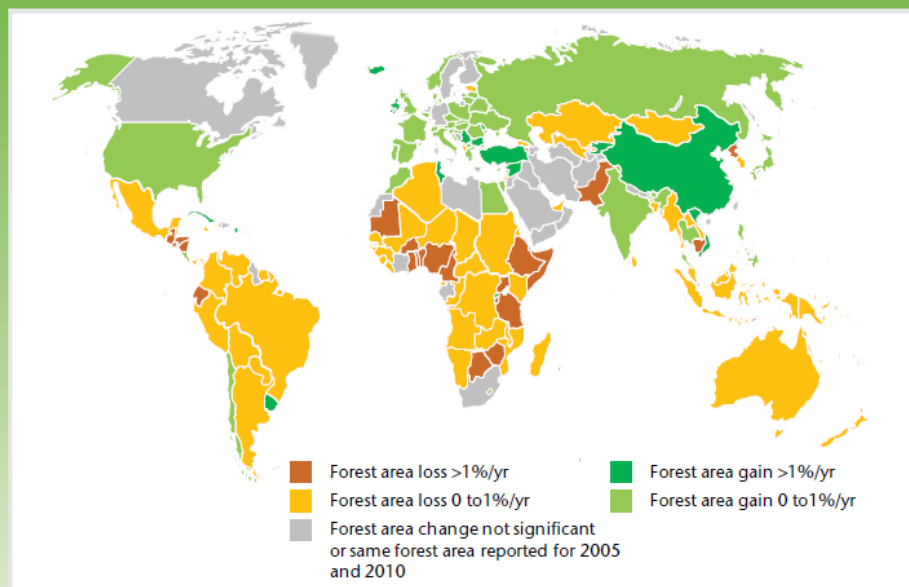
Trends

- High-productivity planted forests provide a large and growing share of the wood
- Sustainable forest management and wood procurement certification programs continue to grow, with about one-quarter of industrial roundwood now coming from certified forests
- **Planted forests tend to be more productive** than natural forests and thus are better able to meet increasing demand for roundwood
- Forest cover tends to be stable in top producing countries



Forests cont'd

Figure 14: Changes in forest area 2005 to 2010⁶



Source: FAO 2010a.

6. The figure is based on percent changes in forested area instead of absolute changes in forested area in order to properly characterize the trends in regions comprised of many small countries.

- Overall the rate of deforestation is slowing
- Forested areas are expanding in many temperate regions of the Northern Hemisphere
- But deforestation continues mainly in tropical forest regions
- Approx. 50% of global forests were managed in 2010 for wood production

Forest Products

Facts

- The forest products industry is an economically significant and **highly competitive industry** globally
- Between 25% and 30% of global wood products and paper manufacturing output is destined for export from the country of origin
- **Harvesting of industrial roundwood** has been **stable** despite increasing production of paper, paperboard and wood-based panels, due to the increasing use of recovered fiber

Trends

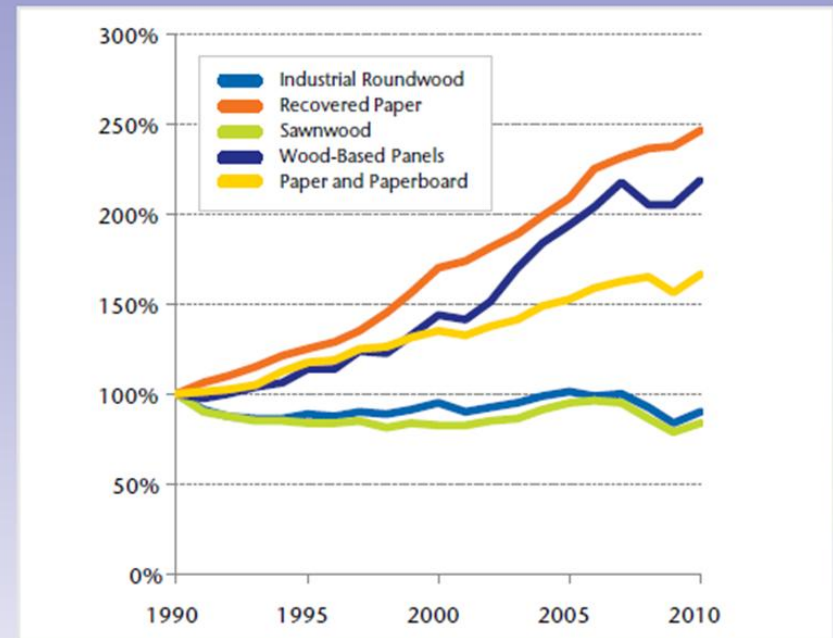
- **Demand for forest biomass is increasing**, particularly for energy production; presenting potential challenges to conventional forest products manufacturers
- Electricity producers may at times be **competing for forest biomass** normally used for conventional forest products, driven by policies incentivizing biomass for energy. Such policies can have adverse impacts on forests and can cause market distortions
- Global production and use of **recovered paper** has been **increasing** drastically since 1990



Forest Products cont'd

- Global production of sawn wood has been constant
- Production of paper, paperboard and wood-based panels has increased
- Despite growth in production, **harvesting** of industrial roundwood **has been stable**

Figure 2: Trends in industry input and output



Source: Data In FAO 2012.



Carbon

Facts

- Forests and forest products **store carbon**; wood is an inherently **low-carbon intensity** material
- Forest products also **reduce societal emissions** of greenhouse gases when they displace more greenhouse gas-intensive products in commerce
- The benefits of substituting wood-based building materials for alternative materials are especially significant

Trends

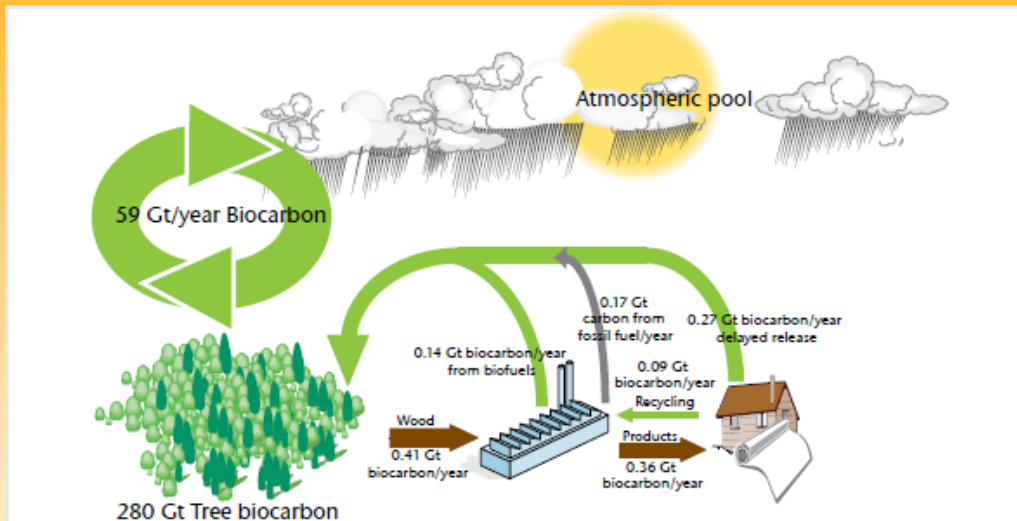
- The **carbon stocks** in global forests are currently **increasing** by about 1 gigaton of carbon (Gt C) per year due to reduced rates of deforestation and forest growth and expansion
- The annual net growth in the stocks of carbon in forest products represents a large enough removal of carbon from the atmosphere to offset one-half or more of the emissions from the forest products value chain



Carbon cont'd

- The **amount of carbon** in **forest ecosystems** has been **increasing** globally
- Net removals of carbon from the atmosphere attributable to **carbon storage in forest products are significant**
- Carbon stored in products remains out of the atmosphere for varying length of time
- Yet data are inadequate to isolate the impact of the forest-based industry on global forest carbon stocks

Figure 4: The forest products industry in the global carbon cycle



The carbon removed from the forest by the forest products industry represents only about 0.7% of the carbon that is recycled between the forest and the atmosphere annually, and less than 0.14% of the carbon stored in trees in the world's forests.

Source: NCASI calculations based on FAO 2010b and 2011, Beer et al. 2010 and IPCC 2003 and 2007

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Energy

Facts

- Energy consumption by the FP industry represents about 1.5% to 2% of global final energy use
- Approx. 50% of FP industry **energy needs** are supplied by **biomass**
- FP industry **leads in using combined heat and power** & in reducing its energy consumption compared to 1990
- Most of the emissions from the FP value chain are associated with fossil fuel combustion, purchased electricity and methane attributable to the decomposition of discarded forest products in landfills

Trends

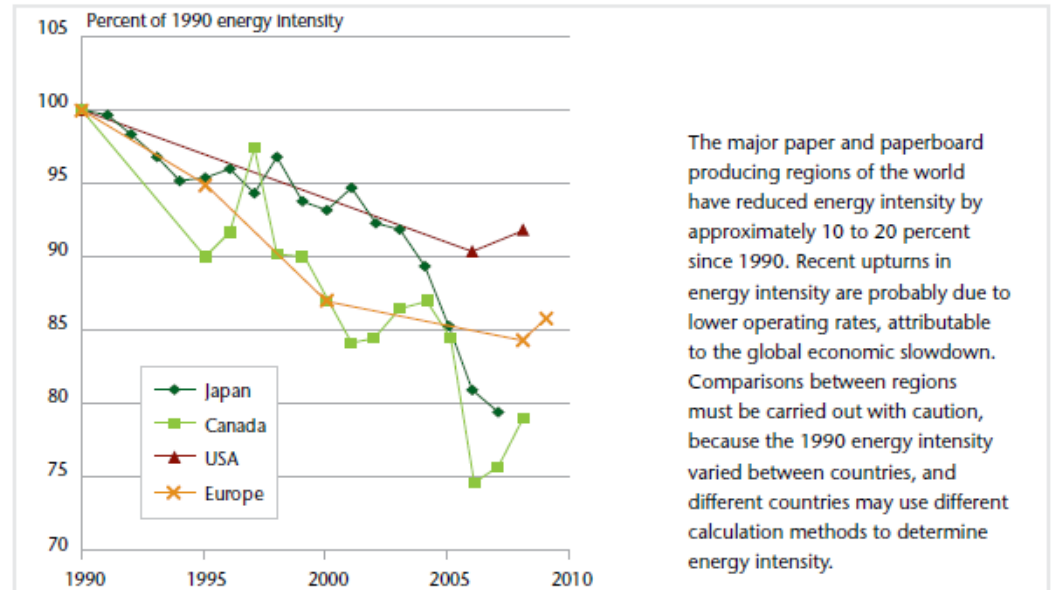
- The sector continues to **improve its energy efficiency** and **recycling rates continue to increase**
- Estimates indicate that current levels of paper recycling are avoiding the release of approximately 300 million metric tons of CO₂ equivalents in landfill methane per year
- **Growth in the pool of carbon** in products is adequate to offset one-half of the industry's value chain emissions



Energy cont'd

- Industry has made steady progress in **reducing its energy consumption**
- Energy required to produce a metric ton of paper is 10-20% lower compared to 1990

Figure 9: Progress in reducing the energy required to produce pulp, paper and paperboard



The major paper and paperboard producing regions of the world have reduced energy intensity by approximately 10 to 20 percent since 1990. Recent upturns in energy intensity are probably due to lower operating rates, attributable to the global economic slowdown. Comparisons between regions must be carried out with caution, because the 1990 energy intensity varied between countries, and different countries may use different calculation methods to determine energy intensity.

Source: Based on data from Energy statistics of OECD Countries: 2008-2009, Paris, France: OECD/IEA

“The food, pulp and paper, chemical and petroleum refining sub-sectors represent more than 80% of the total capacities at existing CHP installations” (IEA 2007).



Membership Principles & Responsibilities

In March 2007, Forest Solutions Group adopted a set of principles and responsibilities as a condition of membership, reassuring their shared commitment to sustainable development and balancing efforts between economic growth, ecological stability and social progress. Under the [Forest Solutions Group Membership Principles & Responsibilities](#), member companies commit to:

- ✓ Efficient and innovative use of fiber, energy and new technologies
- ✓ Promoting the recyclability, recovery and appropriate reuse of fiber
- ✓ Improving energy efficiency and use of renewable energy
- ✓ Tracking, managing and reporting on carbon dioxide emissions
- ✓ Promoting sustainable forest management and use of forest products as important climate mitigation and adaptation strategies





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