

DEMONSTRATING THE SUSTAINABILITY OF U.S. HARDWOOD PRODUCTS

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AHEC's strategy is to demonstrate sustainability against environmental attributes identified in scientific life cycle assessment (LCA) as relevant to U.S. hardwood. The table below compares this strategy against requirements for responsible timber sourcing in regulations (such as in EUTR in the EU and Lacey Act in the U.S.) and typically contained in public and corporate procurement policies. In several important respects, AHEC's strategy goes beyond what is deliverable by forest certification systems like FSC and PEFC and is much wider in scope than most timber procurement policies.

Due to lack of awareness of alternatives and of major changes in the policy environment for forest products, technical requirements for "sustainable timber" are still typically equated with FSC and PEFC certification. These technical requirements are increasingly out of step with the growing recognition that the major problems associated with forests in some parts of the world, such as deforestation and poor governance, cannot be addressed through forest certification.

Requirements focused only on certification also do not accommodate the need for broader metrics of sustainability in the forest products sector and to recognise the importance of other issues not covered by forest certification including:

- carbon footprint and other life cycle impacts;
- transparent information on national forest governance;
- the quality of forest resources at national and regional level;
- clear data on species volume, growth and harvest;
- efficient use of the full range of species and grades;
- product durability;
- waste management and disposal

Unlike strategies based on forest certification, AHEC aims to address all these environmental aspects while also recognising the importance of independent assessment and expert review to ensure the credibility of sustainability claims.

Environmental attribute	Regulatory requirements	Typically required in public and corporate procurement policies	Delivered by AHEC strategy
Negligible risk of illegal timber harvest	YES	YES	YES
"Certified" or "recycled"	NO	YES	NO
Traceability to forest management unit	NO	YES	NO
Forestry standard FSC, sometimes PEFC	NO	YES	NO
Negligible risk of unsustainable forestry	NO	NO	YES
Transparent species-specific data on forest area and volume	NO	NO	YES
Resource efficient (make full use of available grades and timber species)	NO	NO	YES
Waste efficient	NO	NO	YES
Energy efficient	NO	NO	YES
Carbon footprint/low emission	NO	NO	YES
Long life	NO	NO	YES
Safe disposal/recyclable	NO	NO	YES
Statewide land-use planning (balancing need for forests, agriculture & other uses)	NO	NO	YES
Material comparisons (wood vs metals, plastic, concrete etc)	NO	NO	YES



CERTIFICATION AND U.S. HARDWOODS

Forest certification systems like FSC and PEFC require compliance with a wide range of good forestry practices to be demonstrated by an accredited third party. It also requires that wood be traced through the supply chain to a certified forest management unit. The concept has proved valuable for buying organisations seeking to demonstrate that their timber products derive from well managed forests.

However, certification has certain limitations. While it can work well when timber is traded in large and relatively undifferentiated commercial volumes from large state and industrial forest holdings, it is technically more challenging to implement where forest management units and supply chains are more fragmented.

Analysis of FSC and PEFC certified forest area data highlights that nearly all growth worldwide in the last decade has been in larger state and industrial forests, notably in Russia, Belarus and Ukraine. There has been very little recent progress to extend forest certification amongst smaller non-industrial and community forest management units.

Although approximately 22% of total forest area in hardwood growing region of the United States is certified, the certified area is concentrated in larger consolidated areas of state forest land or private land managed by TIMOs¹ and REITs² and supply is dominated by softwoods and lower grade hardwoods, much destined for the paper industry and other industrial uses.

Over 90% of hardwood supply in the United States derives from non-industrial landowners, of which there are nearly 9 million with an average area of less than 10 hectares. Certified hardwood forests are concentrated in a few pockets, notably in Wisconsin, Pennsylvania, and West Virginia. In total it is estimated that no



Over 90% of hardwood supply in the United States derives from non-industrial landowners

more than 2% of non-industrial ownerships and 3% of non-industrial forest area is certified.

The low percentage of certified U.S. hardwood forest is due to:

- lack of incentives for non-industrial forest owners that do not prioritise timber production and typically harvest only once in a generation;
- relatively higher unit costs for operators that do not benefit from scale economies;
- challenges of communicating and co-ordinating certification amongst millions of forest owners;
- extreme fragmentation of supply chains which creates significant challenges for wood tracking.

In addition to discriminating against smaller forest operators and traders, another limitation of certification is that it cannot substitute for good forest governance and is open to abuse where this is absent.

This was highlighted recently in an article on [FSC certification in Ukraine](#) which is particularly

¹Timber Investment Management Organizations

²Real Estate Investment Trusts





Systems like FSC easy to manipulate as they rely on annual paper-based audits

- comprehensive national data sets on forest resources, governance and management;
- independent risk assessment involving the collection and systematic analysis of data to demonstrate that all U.S. hardwood is legal and sustainable; and
- scientific and ISO conformant LCA of the environmental impact of each individual U.S. hardwood specification at point of supply to manufacturers in export markets

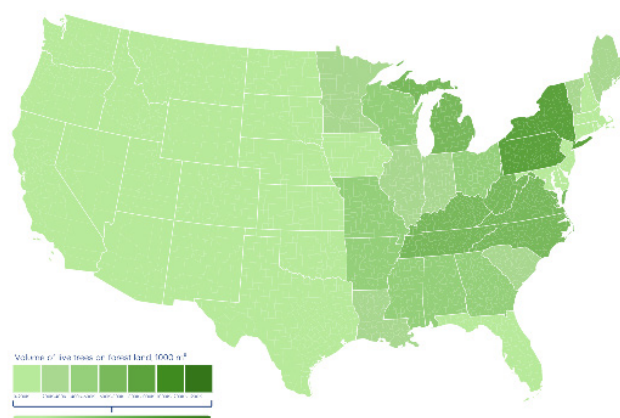
The AHEC website hosts an [interactive forest map](#) to provide easy access to data derived from the USDA Forest Inventory and Analysis (FIA) program on forest volume, growth and harvest. Users can drill down to show data on individual hardwood species at national, state and survey unit level.

notable for being published by NepCon, a certifying organisation and a leading advocate of FSC certification. The article highlights that where corruption is endemic, and someone wants to commit fraud intentionally, it is easy to manipulate a system like FSC which relies on annual paper-based audits.

It is this realisation that has led the EC and other authorities in the EU, to conclude that neither FSC nor PEFC certificates are an adequate assurance, in isolation, that timber is at negligible risk from illegal harvest. It has also highlighted the importance of a risk-based approach to responsible timber sourcing in which the first step is to assess the quality of forest governance in a supply region by combining data on forest resources with information on forest laws and institutions.

INNOVATIVE MECHANISMS TO DEMONSTRATE U.S. HARDWOOD SUSTAINABILITY

In the absence of large-scale forest certification, the U.S. hardwood sector has developed innovative mechanisms to demonstrate and communicate the sustainability of products drawing on:



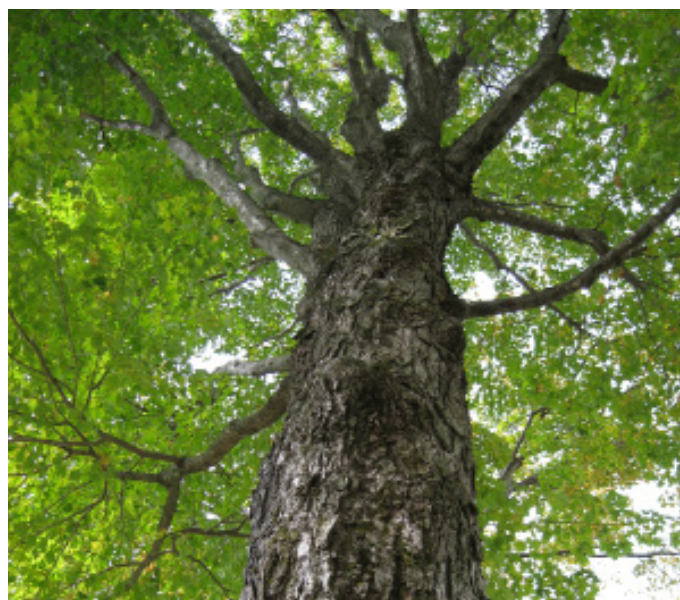
AHEC's interactive forest map provides easy access to data on forest volume, growth and harvest

The map tool confirms a low risk of any hardwood species being from an unsustainable source anywhere in the U.S. and allows individual suppliers and their customers to access forest inventory data relevant to their own supply chains. This level of access to data on the distribution growth and harvest of commercial species at national level is unprecedented in the global forest products sector.



A comprehensive LCA study of the cradle-to-gate environmental impacts of delivering U.S. hardwood lumber and veneer into export markets was commissioned by AHEC from Thinkstep (formerly PE International) in 2012. This study is unique in the wood sector for the level of detail on environmental impacts provided for individual species and thicknesses of lumber and transport scenarios.

AHEC has subsequently used this data to inform LCAs of finished products and structures containing U.S. hardwoods regularly undertaken for AHEC demonstration projects. The AHEC website hosts an [LCA tool](#) providing easy access to environmental impact data on selected American hardwood species and thickness to the overseas customer using the specified transport route.



AHEC's updated Seneca Creek study aims to facilitate U.S. hardwoods' continuing market access



AHEC highlights the value of a "risk-based" approach

AHEC has consistently highlighted the value of a "risk-based" approach to provision of assurances of legal and sustainable timber sourcing, particularly when dealing with products from non-industrial forest owners or composite products for which it is not possible to trace fibre back to specific forest management units.

AHEC commissioned the first 'Seneca Creek' study in 2008 and [an update of this study in 2017](#). The studies aim to facilitate U.S. hardwoods' continuing market access by providing a credible third-party assessment of the risk of illegal and unsustainable practices with respect to U.S. hardwood exports.

The results of both studies have been very positive, not only confirming a negligible risk of illegal harvest in U.S. hardwood exports, but also confirming that there is a negligible risk of unsustainable practices in line with sustainability principles defined in government procurement policies in the EU.

The Seneca Creek studies have also indicated that there are no specific issues of concern raised by environmental groups attributable to harvesting of U.S. hardwoods to produce lumber, veneer or other solid wood products. There are issues associated with harvesting of "bottomland hardwoods", but this is driven by demand for wood pellets for the energy industry. There are also issues in relation to forest conversion in urban areas and forest health in some areas, but these concerns are actively mitigated through management and maintenance of forest for sustainable hardwood supply.



The 2017 Seneca Creek study was subject to [review by an Expert Technical Panel](#), their conclusions published in July 2019. The Seneca Creek report was found by the Panel to provide “comprehensive analysis of risk regarding the legality and sustainability of U.S. hardwoods”, “to be more focused, logical, rational and defensible than other risk assessment approaches that are currently being applied in the marketplace”, and to be “a model for how future risk assessment activities should be conducted in the U.S.”

In their conclusions the Expert Technical Panel also highlighted the need to move on from the focus on certification and to build innovative risk-based assurance approaches that more effectively target governance problems and genuine environmental impacts.

The Panel observed that “The last ten years, since the 2008 report, have shown the strong emergence of risk assessment (due diligence) as a strategy for supporting responsible sourcing. Perhaps in an ideal world, risk assessments would have developed first with third-party certification following as a limited tool to be recommended where risks were identified, and further action was justified.

Although this is not the way history has played out, the marketplace and policy makers are now in the position to apply this thinking to the supply chain”

The Panel concludes that “Risk assessments are essential to evaluating conditions across broad regions and provide an important alternative to conducting complete third-party field-based audits that are inefficient, costly, and overkill in regions where practices are largely known (and shown) to be responsible and sustainable.”

A SINGLE SIMPLE MECHANISM FOR REPORTING TO CUSTOMERS

AHEC has developed the [American Hardwood Environmental Profile \(AHEP\)](#) system to provide AHEC members with a simple mechanism to deliver species-specific data required to be

reported for EUTR and similar regulations, alongside sustainability data from the FIA, the LCA and the Seneca Creek Assessment, to their overseas customers. AHEPs can be issued by AHEC members either for the term of an individual supply contract or for individual consignments of U.S. hardwood exported by AHEC Members to anywhere in the world.



The AHEP system provide AHEC members with species-specific data

INDEPENDENT VERIFICATION

All data on the environmental impacts of U.S. hardwoods provided in the AHEP, the interactive map, and the LCA tool is drawn from verifiable data sources, all prepared by independent world-renowned experts in their respective fields.

The 2008 Seneca Creek study was prepared by a team comprising:

- Alberto Goetzl, founder and president of Seneca Creek Associates, LLC, who has authored widely-regarded studies on US and global forest and forest products trade issues.
- Dr. Paul Ellefson, one of the most recognized authorities on regulations and voluntary programs that affect forest management at the national and state levels in the U.S.
- Phil Guillery who has worked with the FSC and private sector clients on certification and



controlled wood assessments.

- Dr. Gary Dodge, an ecologist with Trailhead Associates who has consulted with the FSC on the Controlled Wood Standard.
- Scott Berg, President of R.S. Berg & Associates, Inc., a consulting firm that works with forest landowners and timber purchasers in preparing for FSC, SFI, PEFC, ISO 14001 and Tree Farm land management and chain of custody certification.

The 2017 Seneca Creek Update was prepared by a team again led by Alberto Goetzl and including Dr. Gary Dodge and Scott Berg, joined by:

- Dr. Steven Prisley a Forest Biometrician and expert in U.S. forest inventory at the U.S. National Council for Air and Stream Improvement.
- Ms. Jazmin Varela, Information Manager, and Mr. Trevor Cutsinger, both of The Conservation Fund, one of the U.S. largest environmental non-profits that has worked in all 50 states to protect over 8 million acres of land since 1985.

The Expert Technical Panel which reviewed the 2017 Seneca Creek Update comprised:

- Dr. Ann Bartuska, formerly Chief Scientist to the U.S. Department of Agriculture who now leads the Land, Water, and Nature Program at Resources for the Future, a U.S. non-governmental organisation.
- Emily Fripp, an expert in EU Timber Regulation, forest certification, and timber procurement policies, who formerly managed the UK Central Point of Expertise on Timber (CPET) and is heavily engaged in sustainability verification in other commodity sectors.
- Katie Fernholz of Dovetail Associates who has more than 20 years' experience in the U.S. forest industry focusing on operations and certification in the non-industrial private forestry sector.

The LCA study of the cradle-to-gate environmental impacts of delivering U.S. hardwood lumber and veneer into export markets was prepared by Thinkstep (formerly PE International) in 2012 in compliance with the ISO 14040/44 standards for LCA. Thinkstep is a global leader in Sustainability Performance Management and provides the world's largest and most accurate sustainability databases.



All data used for AHEC's online tools were drawn from verifiable resources

In line with ISO requirements, the LCA study was subject to Critical Review by an independent expert panel comprising:

- Prof. Dr. Matthias Finkbeiner (Chair), who holds the chair for Sustainable Engineering at Technische Universität Berlin and is Chairman of ISO TC207/SC5 Life Cycle Assessment.
- Dr. Richard Murphy of Imperial College London who is one of the world's foremost experts on LCA of wood products. He is currently Vice-Chairman of the EC COST E9 network on Life Cycle Assessment of Forestry and Forest Products.
- Pankaj Bhatia of the World Resources Institute (WRI), who is the Director of the GHG Protocol Initiative workstream within WRI's Climate, Energy and Pollution Program (CEP). He is a leading expert on GHG Protocol Standards and tools, particularly in the area of corporate greenhouse gas (GHG) accounting and reporting.

The data on U.S. forest resources made available by AHEC on the interactive forest map demonstrating the sustainable utilisation of U.S. hardwood forests is derived from the Forest Inventory and Analysis (FIA) Program of the U.S. Forest Service.

The FIA program began nearly 90 years ago with the McSweeney-McNary act of 1928, which authorized



the first U.S. forest survey. The program has grown and evolved over time, moving from a commodity-oriented inventory to now include many ecological factors. The FIA program is administered within the Forest Service research branch, with an annual budget of about \$80 million.

The current implementation of the FIA program involves a nationally consistent sampling approach and set of estimation procedures. The inventory is conducted in two primary phases. Phase I involves remote sensing for stratification into forest/non-forest conditions, and phase II involves visits to plots by field crews in every state, on a rotating panel schedule such that plots are remeasured on a periodic basis. Over 18,000 plots are sampled across the country in a typical year.

Following initial sampling, data are subjected to a quality control process, and a portion of field plots are revisited as a check. Reports from the FIA program undergo a peer-review process, and the program itself goes through a periodic external review by scientists and stakeholders to ensure that the data collection and analysis procedures follows best scientific and statistical standards.

According to the 2017 Seneca Creek report “We know of no other country in the world that trades in hardwood products that has as robust, consistent, and current data on its forest resources as are available through the FIA program in the United States”.



For more information, visit the [AHEC website](#)

