

Where do the products come from?

Excerpts from the report: *Sustainable Procurement of Wood and Paper-based Products: Guide and Resource Kit* (www.SustainableForestProducts.org)

Traceability is the ability to track sources of wood in finished products through the supply chain to their origins. A clear sense of all the links in the products' supply chain will be useful for the procurement manager to assess:

- Whether the sources of wood can be accurately identified.
- Whether the products have the properties they are claimed to have, such as the wood was harvested and processed in compliance with relevant laws, the wood comes from sustainably managed forests, the products were manufactured with environmental controls in place, etc.

Tracing the origin of wood and paper-based products is not always straightforward. Supply chains can link many wood producers and dealers across several countries, and procurement portfolios can be complex, with multiple supply chains.

Understanding the position of a company in the supply chain can help identify priorities and key areas of influence. Also, depending on the location and/or complexity of the supply chain, the need for due diligence is greater in some places than in others (Figure 1).

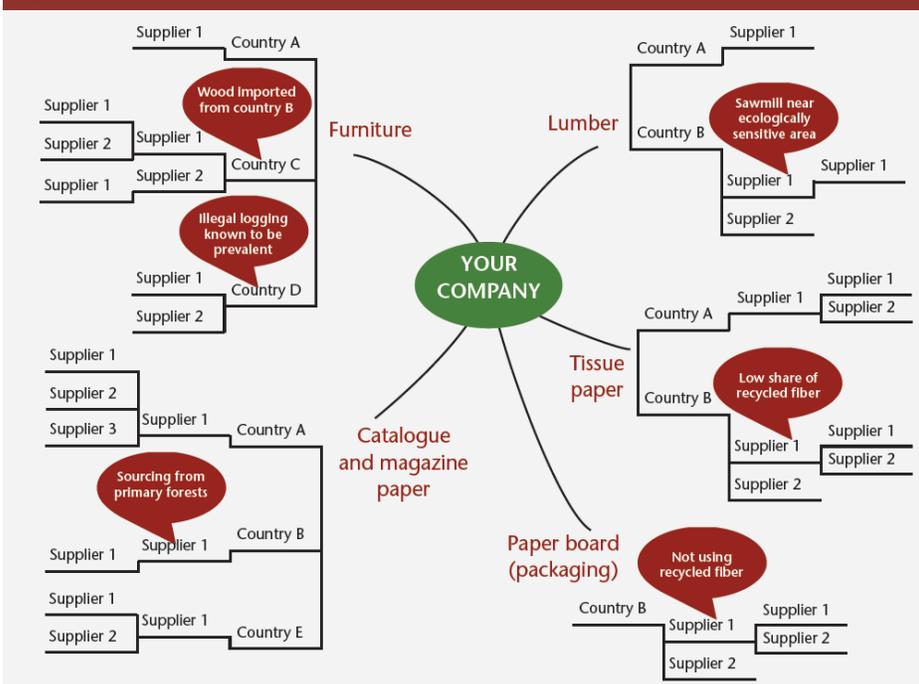
Requesting documentation from suppliers is a common method of tracing the origin of raw materials. Purchasers can trace the supply chain through contracts, and require that their suppliers commit to providing raw materials that were harvested in compliance with the law, or meet other customer specifications. In places where the law is strong and properly enforced, sales contracts can be a good compliance mechanism.

In addition to sales contracts, other documents for tracing the origin of raw materials include:

- Licensing permit(s) from the relevant authorities giving permission to harvest
- Certificate of a sustainable forest management standard
- Certificate of origin
- Chain-of-custody (CoC) certificate¹
- Harvesting/management plans
- Bill of lading²
- Transportation certificates

Several technological approaches are emerging to help trace and verify the origin of the raw materials in products (Table 1: Technologies to trace and verify the origin of wood in the supply chain). There are also new technological applications that seek to increase the overall transparency of the supply chains regarding the origin of the raw materials (Table 2: Technologies and selected technological applications to increase transparency in supply chains).

Figure 1. Example of a company's portfolio of wood or paper-based products.



¹ Chain-of-custody (CoC) certificate documents and systematically verifies the flow of the materials from their origin in the forest to their end-use.

² Bill of Lading is a receipt for cargo and contract of transportation between a shipper and a carrier that describes the goods being transported and is issued when the shipment is received in good order.

Areas of high and low risk of encountering unacceptable practices

Areas with higher risk of encountering unacceptable practices require more due diligence and more detailed information than areas with lower risk.

High-risk source areas may include:

- Areas that have unique ecological and socio-cultural features (special forests).
- Areas of political and social conflict.
- Areas where avoidance and violations of workers and/or indigenous rights are known to be high.
- Areas where the incidence of forestry-related illegal activity is known to be high.

Low-risk source areas may include:

- Sites where there are no ownership disputes or clear processes to resolve them fairly, and where illegal activity in the forestry sector does not typically occur.
- Areas known to have low corruption and where law enforcement exists.
- Sites that have been certified to appropriate credible standards, though not all certification labels are perceived by all stakeholders to offer the same level of protection against risk.

Table 1. Technologies to trace and verify the origin of wood in the supply chain

Technology	Used by	Tested	What it is	Scope	Contacts
DNA Fingerprinting	Forest managers Manufacturers Importers Retailers	Global	Wood samples are taken from standing trees before harvest as part of the forest inventory process and stored for later use. Samples are taken from the same trees and logs during harvesting and processing, according to harvest and log transportation records. The second set of samples is physically matched to the first set and the DNA of the paired samples is compared. If the DNA is an exact match, this proves the two samples come from the same tree, validating the documentation.	Solid wood	Double Helix Tracking Technologies Pte. Ltd. www.doublehelixtracking.com/
DNA Mapping			Genetic variation within a population of trees can be measured and mapped out. DNA extracted from wood samples can be compared to these maps to determine origin and verify claims. This works even with finished products. By conducting random sampling and testing of product shipments, costs are limited to less than 1% of product value.		
Electronic Barcoding	Forest managers Processors Importers	West & Central Africa South & Central America Southeast Asia	Unique barcodes are attached to trees in the forest and, using software installed onto PDAs, data is collected (e.g. GPS location and species), and uploaded into the software's central online database. Upon harvest, the barcode remains on the stump and corresponding barcodes are attached to felled logs thereby linking them to the source tree. This process is repeated at each point of timber transformation. Timber can then be tracked and traced, using barcode technology, in real time, along the chain of custody, with the software system reconciling data at every control point and alerting users to irregular or possible illegal activities for resolution.	Solid wood	Helveta Ltd. www.helveta.com
Fiber Testing	Manufacturers Importers Retailers	Global	Samples of paper are broken down into slurry and examined under a microscope by trained analysts. While fiber analysis is not a traceability tool, it can identify certain characteristics about the fibers that compose paper products, including whether the species are hardwood or softwood varieties and, in some cases, the genus of the trees.	Paper	Integrated Paper Services www.ipstesting.com

Table 2. Technologies and selected technological applications to increase transparency in supply chains

Application	Used by	Tested	What it is	Scope	Contacts
Technologies					
Isotope Analysis	Forest managers Manufacturers Importers Retailers	Africa	Stable isotopes are used to confirm and verify the origin of timber species. Stable isotopes are chemical elements (e.g. oxygen, carbon, nitrogen and sulfur) that occur in materials with different atomic mass and with different chemical and kinetic behavior. Databases of stable isotopes can be used to map the distribution of timber species and identify and verify origin of the wood even in finished products.	Solid wood	TÜV Rheinland, Agroisolab www.agroisolab.de
Applications to collect, analyze and share information about the supply chain					
Smart-Source	Retailers Importers Manufacturers	North America Europe	A web-based supply chain management resource that can be used to trace the supply chain and collect sourcing details about a company's products. With SmartSource360, suppliers can enter information and provide supporting documentation about the wood materials used in the products, including species, certification status, forest origin, etc.	Solid wood and paper-based products	SmartSource www.rainforest-alliance.org
String	Forest managers Manufacturers Importers Retailers	Global	String is an online, data recording, tool that allows users at all phases in the supply chain to request information about products from their suppliers. Users can generate reports from the data to get a complete picture of the flow of products throughout the supply chain. The system has been piloted in a number of industries including timber, textiles and minerals.	Solid wood and paper-based products	Historic Futures www.historicfutures.com
FSC's Online Claims Platform	Forest managers Manufacturers Importers Retailers	Global	The Online Claims Platform (OCP) is an online traceability platform customized to work with FSC's Forest Management (FM) and Chain of Custody (CoC) certification systems. Currently buyers and sellers of FSC certified products are required to maintain paper records. Under the OCP, the information and claims about certified products will be kept in an electronic format and all entities along the supply chain can access the data and document the phases of the product in the supply chain. The OCP builds on the String platform (above).	Solid wood and paper-based products	FSC www.ic.fsc.org
PEFC's Global Information Registry	Forest managers Manufacturers Importers Retailers	Global	An online platform to trace the flow of certified material information. PEFC is currently using a system which requires certified entities to keep detailed records on procured and sold quantities of PEFC certified material. The PEFC Global Information Registry will allow participating certificate holders to receive and pass on relevant data electronically along the supply chain, allowing for comprehensive traceability of certified material. The registry is expected to be fully implemented in 2013.	Solid wood and paper-based products	PEFC www.pefc.org
PREPS	Retailers Importers Manufacturers	Europe North America	The PREPS database includes information about paper products, including origin of raw materials. To add a new paper grade to the database, PREEP members nominate the product and the PREEPS secretariat contacts the mills and requests the information.	Paper-based products	PREPS prepsgroup.com/home.php

Factors to Consider Regarding Traceability

- Purchase contracts can be useful to trace the origin of the wood. They can also be used as safeguards to require that raw materials be harvested and products be manufactured in compliance with the law, where laws are properly enforced.
- Tracing wood through the supply chain back to the regions of origin is becoming common in many parts of the world, and new technologies are emerging to aid this practice. Forest certification schemes are often able to track certified and recycled content as well as uncertified content in the product line. For the uncertified content certification schemes are increasingly placing requirements and safeguards to avoid supply from unwanted/controversial sources.
- Different levels of detail may be needed depending on the risk of encountering unacceptable practices. More information and verification is typically needed for high-risk areas than for low-risk areas. In areas where illegal activity may be occurring, for instance, detailed information on the specific location of harvesting may be needed while for other areas knowing the general origin of the wood may suffice.
- Chain-of-custody systems have been established by different stakeholders to document the wood flow between various steps of the supply chain. Most forest certification schemes include a chain-of-custody standard that reaches from the forests up to certain processes in manufacturing. Not all chain

-of-custody systems cover 100% of the certified product, and all systems allow mixing of certified and non-certified materials. In some cases it may be pragmatic for the end user to ensure that its suppliers maintain proper records and make them available upon request, subject to appropriate confidentiality agreements.



Photo Credit: Program on Forests

Where to Get More Help

- ISO Standard for Environmental Management Systems 14001. Standards are available for purchase at www.iso.org/
- WBCSD/WWF. 2005. *Developing best wood tracking practices to verify legality of wood origin in Latvia. 2005.*
- Helveta - www.helveta.com
- DoubleHelix Tracking - www.doublehelixtracking.com
- Historic Futures - www.historicfutures.com
- Rainforest Alliance's SmartSource - [www.rainforest-](http://www.rainforest-alliance.org)
- alliance.org
- Integrated Paper Services - www.ipstesting.com
- TÜV Rheinland, Agrolsolab - www.agroisolab.de
- Forest Stewardship Council International Center- www.ic.fsc.org
- Programme for the Endorsement of Forest Certification - www.pefc.org
- PREPS - <http://prepsgroup.com/home.php>

For more information on climate issues and to download a copy of the guide, *Sustainable Procurement of Wood and Paper-based Products: Guide and Resource Kit*, visit www.sustainableforestproducts.org.

For more information please contact: Ruth Nogueroń (RNogueroń@wri.org), Loretta Cheung (LCheung@wri.org), or Tina Schneider (TSchneider@wri.org).



E-mail: info@wbcسد.org
Web: www.wbcسد.org



E-mail: info@wri.org
Web: www.wri.org

This document is for information purposes only. This document does not constitute legal advice. The views expressed do not necessarily represent the decisions or the stated policy of WBCSD, WBCSD members, or WRI. Citing of trade names or commercial processes does not constitute endorsement.

