Chain-of-Custody Certification:
What is it, Why do it, and How?

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Summary

Most certification systems are designed to operate as market-based incentive programs that hope to attract customers by communicating something about production processes or the origins of the raw materials in the certified product. Whether it is food produced without synthetic chemicals or paper from recycled fiber, eco-labels try to tell a story. A critical role of certification systems is to assure customers that the story is true. The verification of the story is the role of the chain-of-custody (COC) certification process. This process, its basic components, and its benefits are the topics addressed in this paper.

Introduction

In forest certification and many other quality assurance programs, there are generally two types of certification. One certification process is applied to the producer, through evaluation of forestland management operations in the case of forest certification or farm operations in the case of organic certifications. This process involves evaluating procedures and practices associated with growing, managing, and producing the raw material. The second type of certification is the process applied to auditing manufacturers, processors and others along the value chain. This second process is often called chain-of-custody (COC) certification. As an interesting aside, the term chain-of-custody has history as police terminology, where it means a "process used to maintain and document the chronological history of the evidence"[1].

The basic concept of COC is a system that assures end consumers that the products they buy can be traced back to a certified source. In some situations the product verification trail is relatively short, for example from green lumber at a local sawmill using logs from a local certified forest. However, in an increasingly global market of highly processed products, the chain-of-custody can become quite complex.

What Does Forest Product Chain of Custody Certification Entail?

Purposes of COC Certification

The various chain of custody certification programs share the following objectives:

- To control the sourcing of materials (material inputs)
- To demonstrate to markets that the sourcing is controlled
- To ensure that material is tracked through every step of the supply chain

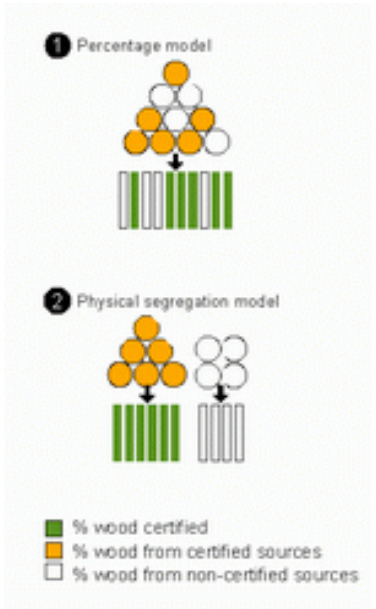
In addition, one or more of the following objectives are also sometimes incorporated into COC programs:

- To allow use of trademarks for promotional purposes
- To verify various product attributes related to safety and health

[1] http://peace-officers.com/content/glossary/def-chain.shtml

Alternative Approaches to COC Certification

There are two major approaches to chain-of-custody: percentage based claims and source separation. Percentage based claims generally mean that a product can carry a label as long as a certain percentage of the raw material in the product meets the certification standard. For example, the Canadian Standards Association (CSA) has a label that can be used on products with at least 70% of the content, by volume or weight, coming from CSA certified forests. For some percentage-based claims, a manufacturer is able to sell the same volume of certified product as the volume of certified raw material that they can document purchasing. For example, if a company buys 10,000 board feet of certified wood, they can sell 10,000 bd ft of certified product.



http://www.pefc.org/internet/html/activities/4_1137_528.htm

In source separation, certified materials must be kept physically separated from non-certified materials. In a source separation scenario the 10,000 bd ft needs to be stored and processed separately. Clearly, the plus side of source separation is that certified raw material is guaranteed to be in the final certified product. In reality, this is what the average consumer thinks they are getting when they buy a certified product and it fits with claims of "from forest to finished product" or from "stump to shelf". However, the costs of physical separation and running separate certified batches through processing can be significant. In organic food production there are rigorous standards not only for processing facilities to clean equipment between batches of conventional and organic products, but also trucking and transport services must clean their trailers and other shipment containers before hauling organic products. Some of these requirements are clearly reflected in the increased retail price of many organic food products and are achievable because of specific consumer concerns. There is some evidence that willingness to pay significant premiums on certified wood products may be more elusive. Without the ability to pass on costs and charge premiums for certified products, it is unlikely that the forest products industry will commit to the same rigor of source separation, raw material tracking, and product labeling that is commonplace in the organic food industry.

Control of Material Sourcing and Demonstration of Control to Markets

The COC standard for certified wood defines where wood can come from, what can be utilized as alternate wood sources (and proportions), and what must be excluded. For purposes of chain of custody tracking, there are three basic categories of material inputs: certified, neutral, or unacceptable. In some systems, this latter group is referred to as uncontrolled, controversial, or even "hazardous" materials.

Certified material includes wood and other forest products that can be demonstrated to have come directly from certified sources.

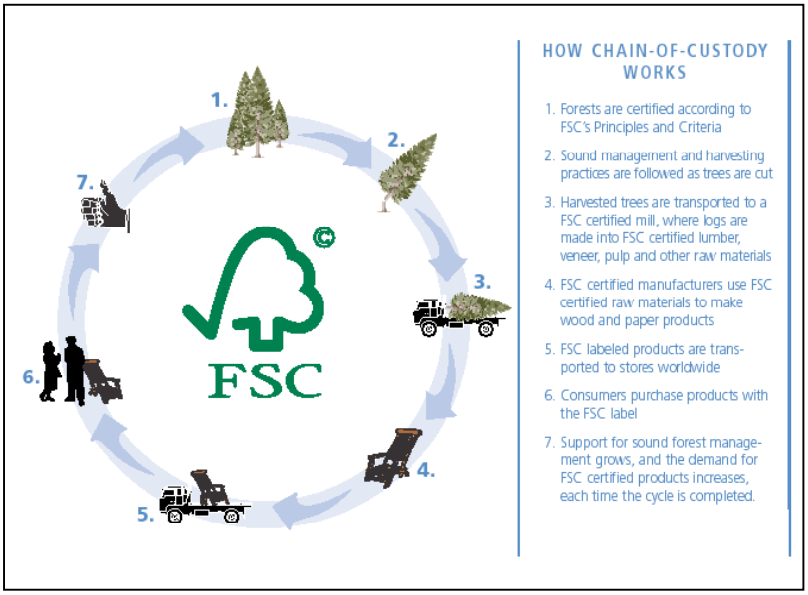
Neutral materials are those that are acceptable in combination with certified materials based on their meeting some defined, program specific criteria. For wood, the basic criterion often includes verification that the wood is legally harvested or that the material has been recycled. Each COC system has defined limits for what qualifies as acceptable neutral materials.

Unacceptable wood is non-certified material either from forests known to be poorly managed or from unknown, illegal, endangered or other extremely controversial sources (e.g. under litigation).

Ensuring that Material is Tracked Through Every Step of the Supply Chain

The key requirement for COC certified companies is that they have the ability to track materials back to the source and through every step of the supply chain. This degree of rigor is a means of assuring the integrity of the system and of addressing the increasing liability issues related to harvesting and international sourcing.

Use of Trademarks



To maximize the impact and benefit of the various forest certification programs, each has designed labels that visually and verbally convey information that they hope helps the certified producer effectively market the environmental attributes of their product. The various forest certification labels and trademarks allow for this type of marketing in much the same way as long-established icons such as the Underwriter's Laboratories (UL) label. Since its founding in 1894, the UL label has helped assure consumers that electrical goods are safe.

Over time, the marketplace may become confident enough about a source that these types of labels turn out to be almost superfluous for well-established producers. Yet, even in established markets, new producers that are trying to enter the marketplace may find these labels valuable for rapidly establishing a reputation of safety, reliability, or quality. For example, electronics from newly developing and importing companies are using the

UL process again, more visibly, to demonstrate product safety. Wood products consumers may also gain confidence in a certain producer, region, or product over time and reduce the usefulness of a certification label. However, the general market for certified forest products is not yet well developed and consumer trust in general appears minimal.

Verifying Various Product Attributes Related To Safety And Health

One criticism of chain-of-custody certification is that the standards and requirements do not evaluate or describe the manufacturing process or the benefits/risks of associated materials or chemicals. Generally, COC programs only address inventory and tracking issues and do not audit for environmental or social issues including working conditions, safety compliance, potentially hazardous chemicals, labor relations, or efficient material use. The Canadian Standards Association (CSA) does include some broad requirements for environmental management in their program, but chain-of-custody systems are not generally designed or intended to evaluate the environmental or social impacts of manufacturing processes. The chain-of-custody requirements found in forest certification systems are almost exclusively focused on the record keeping and inventory tracking operations. Just like getting free-range chicken in a sandwich tells you nothing about the bread or the cleanliness of the restaurant, getting certified wood in a cabinet tells you nothing about the screws, glues, and finishes.

The CSA SFM Mark

Physical Separation: 100% of the product has been tracked and monitored from its point of origin (a Z809 certified forest) to the end consumer. This mark appears on the product and/or the packaging.

Minimum Average Percentage System for Composite Products: At least 70% of the input used to make this product line has been tracked and monitored from its point of origin (a Z809 certified forest) to the end consumer. This mark appears on packaging only.

Minimum Average Percentage System for Solid Wood; At least 70% of the content of this composite product has been tracked and monitored from its point of origin (a Z809 certified forest) to the end consumer. This mark appears on the product and/or the packaging.

http://www.sfms.com/csa.htm#chain

Implementation of a COC System

The business systems required for COC certification are *just good business practices*, and if companies aren't capable of tracking all of their materials today, they will be better off when they can. The ability to track, do costing, and perform a detailed evaluation of materials are basic company functions essential to the success of any organization. This ability is doubly important at a time when issues related to legality of various raw materials, including wood, are increasingly questioned.

There are variations between the different certification systems, but generally the COC certification process for wood companies includes the following business considerations:

- Administrative
- Inventory & Production Process Control
- Product Outputs
- Definitions, terms
- Costs of COC Certification

Administrative Considerations

The basic goal of the administrative considerations in the COC process is to be sure the organization's leadership understands, and is conversant with, the issues of certification. The scoping process evaluates the extent to which COC impacts the organization, and what systems and divisions are impacted. For example, wood use may represent a tiny part of one division, but be pervasive in another. Defining clear roles and responsibilities allows implementation to be simplified, more concrete, and more permanent. Finally, training assures that employees know that just because non-certified looks just like certified, the two cannot be used interchangeably.

Inventory and Production Process Control

There are two major inventory control concerns for chain of custody certified organizations after they receive certified materials into their facility: controlling the product during storage and also controlling the product during the production process. In the inventory control process, it is essential to establish the ability to track what you have and where. It is also important to ensure that all the legalities of a certified purchase are upheld. That is, to ensure that the purchase order, confirmation, and invoice all demonstrate the appropriate documentation, e.g. state that the material is certified with inclusion of the appropriate certificate number. The inventory control system is also the point in the process where it is necessary to determine whether or not staffing has had the appropriate training to distinguish between certified and non-certified materials. This issue has often times already been addressed in organizations with inventory management systems such as MRP or ERP (material resource plan, enterprise resource plan), where specific item numbers are given to the different materials, and staff recognize that there are very detailed reasons for tracking anything with a different item number.

For many forest products companies the process of chain-of-custody certification is disappointingly anticlimactic. If you can already track a blue screw through your system, you probably can track a lift of certified 2x4s!

A number of forest products firms have declined to participate in chain of custody certification and perceive the program requirements as costly, onerous and overly restrictive. Yet, COC certification programs are not all the same; the various certification programs vary a fair degree in their requirements, in part, to accommodate resistance from industry. The downside of a less rigorous chain-of-custody process or failure to participate is not only that the integrity of the label is diminished (potentially reducing its

value in the marketplace), but also all of the other benefits to business operations and customer service that come from a well-run inventory system are unrealized. In the food industry, the rigorous audit trail standards for organic certification have a significant added benefit in addressing concerns about food safety. The same level of accountability and traceability could benefit the forest products industry. For example, if sawmills and other processors collected more information about their suppliers for purposes of meeting certification requirements, this information could be put to use to evaluate the quality, yields, and other characteristics of their suppliers as part of a vendor analysis process. A high quality certification process not only provides a credible, market-based mechanism for addressing customer concerns, it can also help businesses meet their own needs and interests.

New FSC On-Product Labels

In October 2004, FSC introduced new on-product labels. These labels, presented below, are being phased in during 2005.

FSC Pure Label
This FSC product group contains 100% FSC certified material

FSC Mixed Sources Label
This FSC product group contains a mixture of FSC certified materials and/or reclaimed material and/or company-controlled sources.

FSC Recycled Label
This FSC product group contains 100% post-consumer reclaimed material.

http://www.fsc.org/coc/

Product outputs

One of the critical aspects of chain-of-custody certification and the greatest opportunity to deliver on the investments made in forest management certification is in the labeling aspects of the process. Each certification program offers a variety of labeling approaches and these vary in the information they convey and their complexity. The labeling systems define the material proportions and contents allowed in materials produced by certified organizations. From a consumer's perspective, the CSA labeling system is in many ways the most straightforward and simple, whereas that of the FSC is perhaps the most informative and thus complex.

Definitions and Terms

Most businesses use terminology that is common to the country in which they operate and jargon that is specific to their segment of the industry. In the same vein, each

certification system uses some terms unique to their specific situations and origins. The confusion and apparent conflict in terminology between the various certification systems can be a significant source of frustration for companies trying to understand a systems' requirements, compare competing systems, select the best option for their organization, or evaluate their organization's compliance. The importance of clarity is especially important with acronyms, which can dramatically differ between organizations. One company's On Time Performance (OTP) is dramatically different that another ones Operations Team Parameters (OTP). There is no easy answer to this dilemma. Certifiers and accredited service providers understand the customer service importance of this issue and do provide glossaries, quick guides, and other resources to identify these terms and define the process in a way that is easily understood by all involved.

Costs of COC Certification

The direct costs for COC certification assessments can range from $500 to $15,000 depending on a variety of factors and is often heavily influenced by the region or country where the assessment is occurring. This geographical variability in cost reflects the fact that a broad, global COC certification infrastructure does not exist as yet. Chain-of-custody certification is still in its infancy as a market activity. The fact that this is an immature market disrupts supply and demand matchmaking and results in certification cost variations that can be enormous. In regions where high levels of service exist the cost is significantly lower than in those regions where the local capacity to provide certification services is limited and expertise is often flown in from great distances. Regions with significant legal or political conflicts also present additional challenges and risks to chain-of-custody auditors and thereby also may incur higher costs.

These direct costs of getting certified are changing quickly in response to both increases in competition and increased efficiencies. To continue this trend in improvement in cost efficiencies, companies pursuing either forest management and/or chain-of-custody certification are well advised to encourage competitive bidding.

SFI On-Product Labeling Program

Primary Producer
The Primary Producers on-product label, represented above is intended for use by any SFI participant whose manufacturing facility acquires 50% or more of its material from the woods or that sells timber from their own land.

Secondary Producer
The three Secondary Producers labels, intended for use either by SFI Participants that acquire less than 50% of their raw materials from the woods or by entities not eligible for SFI Participation, because they purchase less than 5% of their material from the woods.

(1) **Participating Manufacturer**
A "Participating Manufacturer" is defined as a producer of finished forest products such as plywood, furniture, windows, doors, cabinets, etc. that has been certified to the SFI Program's On-Product Label Use Requirements Document.

(2) **Participating Publisher**
A "Participating Publisher" is defined as a producer of magazines, publications, catalogs, etc. that has been certified to the SFI Program's On-Product Label Use Requirements Document.

(3) **Participating Retailer**
A "Participating Retailer" is defined as a retailer of wood and paper products that has been certified to the SFI Program's On-Product Label Use Requirements Document.

http://www.afandpa.org/Content/NavigationMenu/Environment_and_Recycling/SFI/Office_of_Label_Use/Office_of_Label_Use.htm

In addition to the direct costs of paying certifiers to conduct the COC certification assessment, there are the internal costs of company changes to meet the standards, including monitoring and controlling the tracking process. With the advent of bar coding and hand held inventory systems the addition of a new product should be a relatively simple process for most organizations today, especially if that material is individually labeled. Thus the costs of tracking a certified product through the inventory system at a business should be similar to tracking a blue versus red one. Percentage based claims that do not require physical separation of certified and non-certified materials may also help an organization reduce their costs.

Despite the costs, the benefits of the improved tracking practices required by chain-of-custody certification and the ability to monitor specific sources can be significant. Among the benefits is the ability to evaluate individual supplier and/or material performance within the manufacturing system. Firms that perform detailed supplier evaluations are often shocked at the consistency of variation between suppliers.

PricewaterhouseCoopers' Independent Chain of Custody Certification Standard

The PwC Independent Chain of Custody Standard™:2005 (PwC-ICoC™:2005) helps ensure that organizations have the systems and controls in place to meet their stated environmental objectives. The PwC standard differs from existing chain of custody certification standards in two ways: the certified product claims are not tied exclusively to a particular forestry certification standard and there is no certification label.

PwC's Independent Chain of Custody Certification Standard is designed to accommodate the combination of recycled waste paper and certified wood fibre, to help meet the overall objective of producing environmentally responsible paper products. The PwC Standard can also be applied to solid wood, veneer and composite wood products.

http://www.pwcglobal.com/extweb/pwcpublications.nsf/docid/0CCA106F2A7B9D5585256FC50051263A

Comparing COC Tracking Systems

There are three primary forest certification systems in North America: those of the Canadian Standards Association (CSA), the Sustainable Forestry Initiative (SFI), and the Forest Stewardship Council (FSC). Today, both CSA and FSC have comprehensive COC systems. The COC system of the FSC is considered very restrictive in controlling inputs into the system. In many ways, the FSC system is also the most complex, and occasionally, confusing. In general the FSC system is designed to both identify and track certified wood, and where separation of certified materials is impractical, prevent the inclusion of wood from sources that raise a red flag. The CSA system is very rigorous as well, including unique requirements for environmental management for COC certificate holders. The CSA tracking and labeling system leads to a fairly straightforward end product that is easy for both consumers and users to understand. The SFI system has a labeling program that differentiates between primary, secondary and other types of producers, and the SFI Standard includes a section that addresses a company's wood procurement program. The SFI approach is significantly different from the other certification systems. In many ways, the SFI system was not specifically designed for material tracking and has had to make adjustments to better align itself with increased marketplace demands for the level of accountability and source verification offered by the competing chain-of-custody systems.

Conclusion

Forest certification and the growth thereof is a direct response to demands for accountability in the marketplace. The chain-of-custody certification process is a critical component of this response as it provides customers, organizations and individuals the ability to verify environmental claims. The integrity of this process is valuable and offers an opportunity for companies to help their customers meet their diverse goals and interests. For example, some restaurants want to sell "healthy" food to their patrons, and certified organic is a tool they can use to help accomplish this goal. Similarly, some organizations want to ensure that their wood is coming from legal and sustainable sources and that they aren't contributing to environmental degradation; certified wood can help assure them that these issues are being addressed. The COC process can be used to show that wood as a whole is more environmentally friendly than certain alternatives by demonstrating that the entire process is monitored, verifiable, and transparent.

One of the more challenging questions is: *why should I get COC certified?* The short answer is: if you don't want to advertise or claim a material as a certified product, and none of your customers (or their customers) want to advertise or claim it as certified – then don't worry about it; you don't need to be COC certified. But, if your customers care about any of the issues certification is intended to address, or your customer's customers (or your customer's customer's customers), then COC certification may be for you. Put simply, COC certification addresses the issue of trust. It is frustrating and even difficult to understand the level of marketplace mistrust over environmental issues today. At its heart, COC addresses these trust issues, by providing independent assurances of product sources and environmental claims. It would be nice if we could all just trust each other and go back to making deals with a handshake and a promise, but with environmental issues, as with nuclear proliferation, perhaps it's better to trust, and verify.

Dr. Jeffrey Howe specializes in strategic planning, marketing, and coaching leaders to a clearer vision of themselves and their organization. Prior to Dovetail Partners Jeff was the President of Colonial Craft, a MN manufacturing firm recognized for its social and environmental responsibility with awards that included handicap employer of the year and environmental company of the year. This was accomplished while being one of only two companies to be on "Wood & Wood Products" magazine's Top 100 fastest growing companies every year; proving you can be responsible, and profitable. Jeff has a B.S. degree in Biology from Bates College, a M.S. degree in Forest Products Marketing from the University of Maine, and a PhD in Marketing from the University of Minnesota.

For more background on chain-of-custody certification:

CSA Chain of Custody
http://www.csa.ca/products/environment

FSC Chain of Custody
http://www.fsc.org/coc/

SFI Labeling Program
http://www.aboutsfi.com/sfilabel.asp

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