

FSC—Certified Post-Consumer Recycling and Mixed Sources

Project Summary

The Forest Stewardship Council ([FSC](#)) was created in 1993 to promote sustainable forestry practices—FSC standards address social and environmental issues. The FSC operates internationally with national offices or chapters. [Principles](#) and standards are set globally with room for adaptation on a national basis. FSC operates in over 50 countries and has achieved significant uptake in the market—currently certifying [50%](#) of companies along the forest product supply chain. FSC is governed by a multi-stakeholder board, elected by each of the participating sectors.

This example is included in this analysis due to the system that FSC devised to respond to a complex supply chain dynamic: recycled products that lose their provenance and products with only portions originating from FSC certified virgin forests. FSC eventually recognized the need to certify recycled products as well as forests, because increases in recycling rates would clearly lead to less demand for products derived directly from forests.

Understanding that some consumer products containing forest products would only be comprised of a percentage of fully-compliant certified wood, FSC designed a system that sought to account for and credit the beneficial nature of these products without jeopardizing the credibility of the larger system. The FSC Mixed Sources label allows for FSC certified products to be mixed with non-certified sources that meet bottom-line requirements. FSC's Recycled label provides learning for the metals sector due to the complex nature of the chain of custody for post-consumer recycled paper.

Project Description

FSC is organized as a non-profit organization with linked, for-profit subsidiaries. The FSC General Assembly sets the overall direction for the organization and elects a board to govern FSC between general assembly meetings and oversee the secretariat. Over time, the FSC board has gained authority, relative to the assembly, to ensure efficient decision making.

FSC standards are based on 10 principles and 57 criteria that cover legal issues, indigenous and labor rights, multiple use/benefit systems, and knowledge of environmental impacts surrounding forest [management practices](#).

FSC certifies both compliance with site based performance or source and that the material in an end-product is actually the virtuous product that entered the system. In other words, FSC certifies both environmental and social performance and the integrity of the chain-of-custody. The forest management activities and the tracking of forest products are evaluated by independent third-party certification bodies utilizing regional standards, built from global principles.

FSC started with one label that certified well managed forests—with all content coming from those forests ([FSC Pure or FSC 100%](#)). The FSC 100% label represents ‘virgin’ products which come from forests certified as meeting the environmental and social standards of the FSC.

FSC later added two additional [labels](#): FSC Mixed Sources, and FSC Recycled.

The FSC Mixed Sources and FSC Recycled labels are the two that allow for post-consumer recycling. The Recycled label means that at least 85% of the wood fiber content is from post-consumer sources, and no more than 15% comes from post-industrial sources. While the fact that the material comes from recycled sources is assured, because mixing occurs, the literal provenance is lost. Thus, the Recycled label differs from FSC’s literal chain-of-custody applied to a piece of lumber and the pulp process, and has similarities to the smelting process.

The Mixed Sources label represents an additional step or consideration. In these products, wood from FSC certified forests can be mixed with FSC certified recycled material and wood products from controlled sources. “Controlled sources” do not meet FSC standards but are screened to ensure they do not contribute to some of the worst forest practices (i.e., illegal logging, natural forest conversion, destruction of high conservation value forests, civil and traditional rights violations, and genetic modification of forest species). Controlled sources must be independently verified prior to mixing with FSC certified materials. The FSC Recycled label identifies the post consumer recycled content in the products (through a percentage), and the strict chain of custody that applies for virgin products also applies for reclaimed materials.

Nature of Supply Chain, Products, and Issues

Humans have been altering the forest landscapes for centuries; harvesting timber and timber products for household use, pulp, and building supplies and clearing forested lands for agricultural and transportation purposes, among myriad of other reasons. According to the [World Resources Institute](#), we have lost 47% of the forests globally, 32% of the world’s forests are ‘working forests,’ and only 21% remain intact in their natural form. The clearing of forests has caused global environmental problems including climate change, water degradation and pollution, and biodiversity loss.

Informal, unregulated logging activity can raise issues related to indigenous rights and lack of adequate community participation in decision making. Like other natural resources, conflict can occur over forests; as such, logging can occur in conflict zones.

The supply chain for timber is moderately complex, with primarily large-scale, mechanized logging operations. Pulp products constitute the exception to what is otherwise generally a straightforward process of tracking logs through the supply chain because wood fibers are broken down and separated during the pulping process.

Pulp processes and paper production use approximately 300 million tons of paper annually, and although most of that paper is made from virgin pulp, recycled paper accounts for nearly 40% of

the world's total fiber supply. Put another way, around [4 billion trees or 35%](#) of the total trees cut around the world are used in paper industries. Increasing the amount of post-consumer recycling puts less pressure on natural forests and minimizes landfill input.

Analysis

Supply Chain Complexity—Steps (*Moderate for Wood, Complex for Paper*)

The complexity of the supply chain is moderately complex for wood with a generally more limited number of players than is the case for metals. However, the supply chain for post-consumer paper can be more complex.

Formalization of Sector (*Formal*)

In general, the focus of FSC is on the formalized forestry sector. The sector can be informal in places with illegal logging sometimes at the center of natural resource conflicts. FSC seeks to address this by excluding these sources from the system. FSC also tends to focus on large rather than community scale forestry. Note that this question of scale is a critical one now under discussion and evolving standards regionally and internationally. In Atlantic Canada and in France, for example, the political and ecological importance of small scale (from a few hectares up) individual tenure holders has been recognized and incorporated.

Material Processing, Coherence (*Mixed*)

Wood products are relatively easy to track in that they maintain their integrity. The complexity results from pulp and paper production and the challenge of tracking materials through the supply chain when mixing occurs during the pulping process. This complexity is similar to the materials flow in smelters, where provenance is essentially lost. In response, FSC has developed a program that allows for certified recycling as long as the post-consumer inflow is insured as a percentage of the feedstock. Pure provenance is lost but the integrity of the system is maintained and an incentive is created.

Significance in Product Composition (*Typically High %*)

FSC Pure products contain only wood or wood products that originate in certified forests. The system allows for mixing post-consumer recycled paper with some post-industrial paper sources such as cuttings, maintaining a high degree of product integrity.

The FSC Mixed Source label allows non-certified products as long as those products do not violate a set of bottom-line thresholds at the source. In a sense, this lowest of FSC thresholds, which seeks to screen out the worst offenders, could be a starting point for metals in electronics which is seeking, as a first step, to prevent metals from conflict zones to be part of consumer electronics products.

Issue/Source Geography (*High Relevance*)

FSC operates on a global scale and in regions where metals in electronics are sourced. FSC has demonstrated that certified sources can be located in virtually any region of the world.

Stage of Development, Maturity (*Full Implementation*)

For over a decade, the FSC's standards, criteria, and certification system have set a benchmark for sustainable forestry. The Recycled and Mixed Source systems and labels are more recent developments. There is significant learning available from the FSC system.

Nature of Governance (*Multi-Stakeholder*)

Governance of the FSC is through an association of voting members who have the authority on formal decisions taken by the FSC. Membership is broken down into three different chambers: economic – for individuals or organizations involved in commercial products; environmental – NGO, non-profit or other organization committed to environmental, social and economic stewardship; social – focusing on indigenous populations and environmental concerns. In total, there are currently over 830 different individuals or organizations with membership in the FSC. The board is also organized to be representative of all participating sectors. It is worth noting that the Canadian Board includes a distinct Indigenous People's Chamber to reflect this as a regional priority for political representation. Recent changes to membership structure and the incentives that exist for membership management among the International and National Initiatives will likely result in a significant growth in membership.

Standards Breadth or Focus (*Multi-Issue: Environmental and Social Objectives*)

The FSC standards and criteria address multiple issues of social responsibility and economic and environmental sustainability.

Nature of Standards/Program Development (*Multi-Sector*)

The FSC General Assembly is comprised of members from all sectors with a stake in sustainable forestry practices. This body is responsible for the current standards and criteria, as well as any modifications to ensure that best practices are being utilized regionally. As a result, and for other reasons, the FSC has significant stakeholder legitimacy. In practical terms standards are negotiated, adapted, and revised regionally (based on Global Principles and Criteria) through chamber-balanced committees under the oversight of the National Initiatives. Canada, for example, has 4 separate regional standards (Boreal, Maritime, BC and Great Lakes St. Lawrence Lowlands.) A strong part of the unique strength and legitimacy comes from this regional tailoring of the standards to ecological, economic, and structural considerations.

Approach to Verification (*Third Party*)

The FSC utilizes independent, third-party certification bodies for their Forest Management and Chain of Custody certifications. These certification bodies are required to gain FSC accreditation

through compliance with a broad set of rules, and the FSC is the only forest management certification system with an integrated accreditation system. Compliance with these rules is overseen by Accreditation Services International, which also conducts the annual audits.

Key Findings

FSC has a high degree of credibility and robust systems. It is important to keep in mind that FSC was created over a fifteen-year period, in addition to tumultuous years of false starts that preceded its founding. FSC also required a significant investment of resources to organize and launch, including millions of dollars in indirect and direct foundation grants, as well as government and corporate commitment. It is worth noting that FSC has sought to be adaptive to changing economic conditions. A recent shift in the business model and revenue collection/distribution process for FSC is likely to alter and improve its viability and sustainability as an organization. This business model adaptation is worthy of further investigation for its system level lessons for the metals sector. Thus, an FSC-type approach to metals would require years to implement and a determined effort by key organizations and companies.

The system has significant credibility, even from campaigning NGOs. While acknowledging flaws in the FSC system, many NGOs still push companies to join. Decision-making has been criticized as inefficient at times, and FSC has responded by altering its governance structure.

Timber and timber products have shorter supply chains, relative to most metals, which make it easier for them to be branded as “responsibly” sourced. However, the pulp and paper processes create a bit more of a challenge, and FSC’s solution to its recycled content and mixed sourcing challenges may offer some guidance as it relates to the challenges of the metals supply chain. Key considerations for metals FSC may inform include the need for clear incentives, system integrity, creativity around the challenges of materials mixing, and the fact that metals are simply a small component of most consumer electronics products.

FSC principles also address similar issues to those faced in the mining sector. The specific standards overlap in some places, thus there is potential learning from FSC in this area but not a precise match—examples include issues such as biodiversity protection and related issues. What is interesting is the use of an approach that is comprised of global principles coupled with regional adaptation of standards. Furthermore, FSC’s certification mechanisms are flexible enough to account for regional differences, allowing the standard to be applied in a multitude of circumstances.