Forest Stewardship Council®

FSC® Discussion Paper

FSC's Approach to Placing and Valuing Pre-Consumer Reclaimed Paper Fibre within certified Paper Products

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The Forest Stewardship Council® (FSC) is an independent, not for profit, non-government organization established to support environmentally appropriate, socially beneficial, and economically viable management of the world's forests.

FSC's vision is that the world's forests meet the social, ecological, and economic rights and needs of the present generation without compromising those of future generations.

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Executive Summary[1]

In 2011 the FSC membership mandated FSC International Center to conduct a chamber-balanced study to evaluate the risks and benefits of valuing pre-consumer reclaimed paper fibre materials as FSC certified content. This document presents evaluation findings, incorporates stakeholder input, provides different options, and recommends a solution for valuing pre-consumer paper fibre in relation to FSC certified products.

Currently, reclaimed material may be used as input for the production of FSC Mix and FSC Recycled products. FSC standards treat post-consumer reclaimed material as equal to FSC certified virgin material, whereas pre-consumer material does not count as creditable input towards the labelling of FSC certified products.

The report finds substantial potential benefits for valuing pre-consumer fibres as FSC certified content. Often, the economic, social and environmental values are deeply entwined and difficult to separate one from another.

Economically, valuing pre-consumer fibres underpins the financial stability of many printers and paper converting operations. Pre-consumer fibre is often used to stabilize and improve quality in recycled products, and is sometimes the only acceptable recycled source (such as for food safety applications). By equally valuing pre-consumer fibre (and removing, when appropriate, the requirement to separately track post-consumer fibre), FSC could expect greater market penetration and consumer recognition globally. It would also likely lead to increased FSC certified paper production and brands, both from already-certified mills and, especially, from mills in countries where recycling systems do not track post-consumer materials. For these mills, the cost of FSC certification would be reduced to a level much more attractive for recycled paper producers' participation. In some cases, valuing pre-consumer fibres could also help reduce recycled paper costs.

Socially, valuing pre-consumer fibres for certification extends many of the same benefits as valuing post-consumer fibres, including jobs and income for local communities, as well as improved working conditions and worker safety. In many parts of the world, often with newly developing paper industries, some of the most resource-intensive grades of paper, such as printing and office papers, still are rarely made with recycled fibres. Approving pre-consumer fibre use can encourage more recycled paper production, thereby helping to support increasing access for these regions' large populations to the many benefits of paper products while also better balancing the resource use needed to produce them.

Environmentally, in comparison to certified forest fibres, pre-consumer fibres reduce environmental impacts during paper production in the same ways as post-consumer fibres. Extensive and comprehensive U.S. Environmental Protection Agency (EPA) modeling indicates significant reductions in greenhouse gas emissions, most by a factor of 3 or more, for recycled fibres compared to virgin forest fibres. Life cycle studies show that using recycled fibres conserves water and energy, reduces the need for landfills and incineration, and decreases production of toxics and pollution, thereby effectively minimizing paper's production footprint. Pre-consumer fibres are similar to post-consumer fibres in their environmental benefits when they replace virgin forest fibres.

Pre-consumer fibres originating from post-industrial sources are often perceived as playing a different role in the recycling system than post-consumer fibres, which are usually sourced from

[1] This draft discussion paper, except the FSC recommendation section, has been prepared by Susan Kinsella, Conservatree, San Francisco and Sofia Ryder, Source Responsible Consulting.

municipal or office collection programs. The pre-consumer fibres are generally easier to incorporate, introduce fewer toxics and contaminants, and are less likely to have been otherwise headed for landfills or incinerator disposal. But much of the motivation for separate identification of pre-consumer and post-consumer fibres is compelled by systemic issues, not by any inherent difference in environmental benefits. When pre-consumer fibres are compared to the use of forest fibres in papermaking, they clearly produce significant environmental advantages. While the specification of post-consumer fibres in recycled papers has stimulated significant capacity and technological development and remains essential for systemic reasons, devaluing pre-consumer fibres has distorted the understanding of recycled paper's environmental advantages. Giving certification value to pre-consumer fibres would strengthen 100% recycled mills and recycled paper production, and possibly encourage new recycling development.

There are also some risks on all of these dimensions, but they are not judged to be as great as the benefits, and most of the risks can be effectively mitigated. Table 2 (pages 26 - 30) summarizes the benefits and risks covered in this report, on economic, social and environmental levels.

However, FSC's certification standards are influential beyond just the products it certifies. Originally, its recycled content definitions, their applications and, hence, its labels, were consistent with the recycled paper guidelines implemented by the U.S. EPA for federal procurement in the United States. These guidelines emphasize post-consumer content and have been embedded into procurement laws and executive orders in hundreds of U.S. state and local governments, as well as also adopted in many instances into Canadian procurement. Yet FSC's shift to allowing some pre-consumer fibres to be used in the production of FSC Mix and FSC Recycled products, while reasonable in itself, has influenced some variance in how North American mills respond to the U.S. EPA requirements.

FSC faces a dilemma: Accepting pre-consumer paper fibres for certification opens the potential to undermine these North American purchasing guidelines and laws. At the same time, requiring the tracking of post-consumer content has limited FSC recycled paper certification in many countries beyond North America and entirely prevented it in others. This report approaches consideration of the alternative solutions with a view towards maximizing the benefits, minimizing the risks, advancing FSC's goals, and harmonizing the solution to work both globally and in North America. FSC recommends adopting the following approach to valuing pre-consumer reclaimed paper fibres indicated as option D in section 9:

1. Pre-consumer fibre is fully valued for certification for both Recycled and Mix labels.
2. No changes in the current FSC labelling rules: Globally, the Moebius loop[2] in FSC labels will continue to indicate the percentage of total reclaimed material (sum of pre- and post-consumer reclaimed materials).
3. Papers claiming recycled content and made in, or sold to, North America may indicate the percentage of post-consumer content next to the FSC label.

In North America, where mills and supporting community recycling programs already do have an established tracking system, it will not be an additional burden to indicate the post-consumer percentage of FSC certified products. It will also maintain FSC certified papers' acceptability to purchasers with legal requirements to follow the U.S. EPA's guidelines for post-consumer content thresholds, and free 100% recycled production mills to make more FSC certified papers that best meet their customers' needs.

[2] The use of the Moebius loop in the FSC label is optional.

Using Scenario D, FSC would be able to more realistically value recycled paper fibre, more properly value the production at 100 percent recycling mills, allow greater participation from mills in parts of the world that are barred by requirements to track post-consumer, yet also facilitate meeting purchasers' legal and environmental requirements.

1 Introduction

In 2011 the FSC membership mandated FSC International Center[3] to conduct a chamber-balanced study to evaluate the risks and benefits of valuing pre-consumer reclaimed paper fibre materials as FSC certified content. The membership's direction requested assessment from a market, environmental and social perspective, as well as exploration of where best to value pre-consumer fibres in FSC paper products.

This document presents the findings of the evaluation and provides different options for valuing pre-consumer paper fibre in relation to FSC certified products. It also incorporates stakeholder input collected through a May 2012 FSC membership survey, a Drupa Trade Fair stakeholder workshop in May 2012, and phone interviews with U.S. and Canadian paper companies conducted from December 2012 to February 2013.

Solid wood products are not included in the evaluation, as the membership Motion specifically limited the scope of the study to fibre products. In addition, nonwood fibre sources are not included in this discussion, as the membership Motion likewise specifically limited the scope of the study to reclaimed paper materials. Both solid wood products and nonwood fibres may involve circumstances that could lead to evaluations different from this discussion of paper fibres.

2 FSC's Current Approach to Classifying and Valuing Reclaimed Paper Materials

Prior to 2004, recycled material was not counted as creditable input towards the labelling threshold of certified paper products, and there was no formal distinction made between pre-consumer and post-consumer material.

In 2004, FSC recognised recycled material in FSC-labelled products through the introduction of standards for identification and labelling of recycled content, including a label for 100 percent recycled products. These recycled content standards represented FSC's acknowledgement of the role of recycling in taking pressure off the worlds' forests, thereby supporting forest stewardship and responsible forest use. The distinction between pre-consumer[4] and post-consumer[5] material was created to incentivise the incorporation of post-consumer waste in recycled products.

The original FSC Recycled label (2004) required 100 percent post-consumer material content, with no allowance for any pre-consumer material to be used in the production of FSC Recycled products.

In November 2007 the threshold for post-consumer material in FSC Recycled products was lowered to 85 percent, thereby allowing up to 15 percent pre-consumer material to be used in FSC Recycled products. This acknowledged that pre-consumer material is commonly collected together with post-consumer material and often may be problematic to separate at the recycling mill.

[3] FSC General Assembly Motion 38 (see Appendix A).
[4] "Pre-consumer reclaimed material" is defined as, "Material that has been reclaimed from a process of secondary manufacture or further downstream, in which the material has not been intentionally produced, is unfit for end use and not capable of being re-used on site in the same manufacturing process that generated it." Examples of pre-consumer fibre include post-mill (post-industrial) sources such as printers' scraps, publisher overruns and returns, converting scrap (e.g., sheeting, forms conversion, bindery, bag and box manufacturing), merchant return stock, obsolete inventories from distributors, printers, converters and others beyond the original manufacturer. (FSC-STD-40-007 (V2-0) EN, "Sourcing reclaimed material for use in FSC Product Groups or FSC Certified Products")
[5] "Post-consumer reclaimed material" is defined as, "Material that is reclaimed from a consumer or commercial product that has been used for its intended purpose by individuals, households or commercial, industrial and institutional facilities in their role as end-users of the product." It does not include mill broke or similar waste from primary manufacture. Examples of post-consumer fibre include old newspapers and magazines from residential and office collection, reclaimed household scrap paper, reclaimed office waste paper, used corrugated boxes, and commercial transport packaging. (FSC-STD-40-007 (V2-0) EN, "Sourcing reclaimed material for use in FSC Product Groups or FSC Certified Products").

Currently, reclaimed[6] material may be used as input for the production of FSC Mix and FSC Recycled products. FSC standards treat post-consumer reclaimed material as equal to FSC certified virgin material, whereas pre-consumer material does not count as creditable input towards the labelling of FSC certified products.

The FSC standards establish different product composition thresholds for the use of the FSC Mix and FSC Recycled labels. For labelling FSC Mix products, at least 70 percent post-consumer and/ or FSC certified virgin content is required when applying the percentage system. For chip and fibre products a reduced labelling threshold of 50 percent is accepted on an exemption basis until the end of 2015.

The FSC Recycled label requires 100 percent of reclaimed content, where at least 85 percent shall be post-consumer and the remaining pre-consumer.

When applying the credit system, the quantity of products that can be FSC-labelled is, instead, calculated according to the equivalent portion of post-consumer reclaimed material input used in the paper production over a specified time.

The use of the recycling Moebius loop is optional. Since 2010 the percentage information[7] reflects the total reclaimed content of the product and does not differentiate the pre- and post-consumer content in the product, to ensure that claims are in alignment with environmental claims according to ISO standard 14021:1999. To facilitate continued compliance with US requirements FSC allows organizations to add an extra statement outside of the FSC label, indicating the percentage of post-consumer content. If the total reclaimed material is not already stated in a Moebius loop, it should also be indicated outside the label for any paper products sold in North America.

3 Other Schemes' Approach to Pre- and Post-Consumer Material

European Schemes

Blue Angel[8] requires that certified recycled printing and publication papers, as well as tissue products, should be made from “waste paper,” which is its umbrella term for paper and board recovered after use or papermaking. The Blue Angel definition for "waste paper" is similar to FSC’s definition for reclaimed material. While its documents specify post-consumer content for some papers, it does not define the term and, instead, relies on the categorization of paperstock grades. It does not specify pre-consumer content.

Blue Angel defines paperstock grades of input materials by quality and directs that a minimum of specific percentages should be used for different product categories. The lower quality levels of the paper collection grades effectively target post-consumer sources such as households, although they also include some post-industrial pre-consumer sources. While Blue Angel does not define terms other than “waste paper,” it does require producers to make available

[6] FSC defines “reclaimed material” as: “Material that demonstrably would have otherwise been disposed of as waste or used for energy recovery, but has instead been collected and reclaimed as input material, in lieu of virgin material, for re-use, recycling, re-milling in a manufacturing process or other commercial application. Inputs of the following material categories are classified as reclaimed material: a) FSC Recycled material, b) Post-consumer reclaimed material, c) Pre-consumer reclaimed material.” (FSC-STD-40-007 (V2-0) EN, *Sourcing reclaimed material for use in FSC Product Groups or FSC Certified Projects.)*

[7] "2.5 The Moebius loop shall not be used without a percentage figure. The figure shall reflect the post- and pre-consumer reclaimed material content . . . . 3.2.1 The Moebius loop is optional for the Mix and Recycled labels." (FSC-STD-50-001 (V1-2) EN, *Requirements for Use of the FSC Trademarks by Certificate Holders*.)

[8] *Basic Criteria for Award of the Environmental Label: Recycled Paper*, RAL-UZ 14, Edition January 2013; *Printing and Publications Papers primarily made of waste paper, RAL-UZ 72,* Edition April 2011; *Sanitary Paper Products*, RAL-UZ 5, Edition January 2013

information on the paper stock grades used to make the papers.

Nordic Swan sets certification thresholds for papers containing recycled fibre[9], which it defines as fibre collected from converter and post-consumer stages. (Post-consumer fibre is not favoured or separately required.) It also specifies that purchased broke and broke within the mill is considered "new fibre" unless it is derived from recycled fibre (such as in a 100% recycled mill), in which case it qualifies as recycled material.

PEFC does not differentiate between pre- and post-consumer, with both covered under the definition of “recycled material.” Both the PEFC Certified and PEFC Recycled certification logos require a minimum of 70% certified material, which can be fulfilled by using recycled fibres.

North America

The **U.S. Environmental Protection Agency** (EPA) has established minimum post-consumer content guidelines[10] (not certification) for recycled content papers purchased by federal agencies, and these guidelines have been incorporated as minimum specification standards into hundreds of state and local procurement laws, ordinances and executive orders across the country.

EPA's post-consumer[11] definition requires that post-consumer materials derive from sources that have met their intended end use as consumer items. Most commercial uses (e.g., printers, sheeters, converters) are not counted as post-consumer, although used office paper and transport packaging do qualify. EPA's pre-consumer definition is weaker than FSC's, allowing scraps and obsolete inventories within a mill to qualify, so long as they occur after the initial papermaking process. The interaction of these guidelines/standards with FSC's recycled content certifications is discussed below in this report.

Standards for certification schemes in North America, including **Green Seal, UL/EcoLogo**, and the **Sustainable Forestry Initiative** (SFI), use definitions of "post-consumer" and “pre-consumer” that are consistent with the U.S. EPA definitions. SFI is a member of PEFC.

The **U.S. Federal Trade Commission** (FTC) publishes Green Guides that describe appropriate uses of environmental terms and labelling that may be used for advertising products marketed in the U.S. Its references to recycled content definitions are consistent with those of the EPA, except that it states that advertisers should have substantiation that any pre-consumer material used would otherwise have entered the waste stream. It also advises that, for products made with less than 100% recycled material, the specific percentage should be clearly displayed.

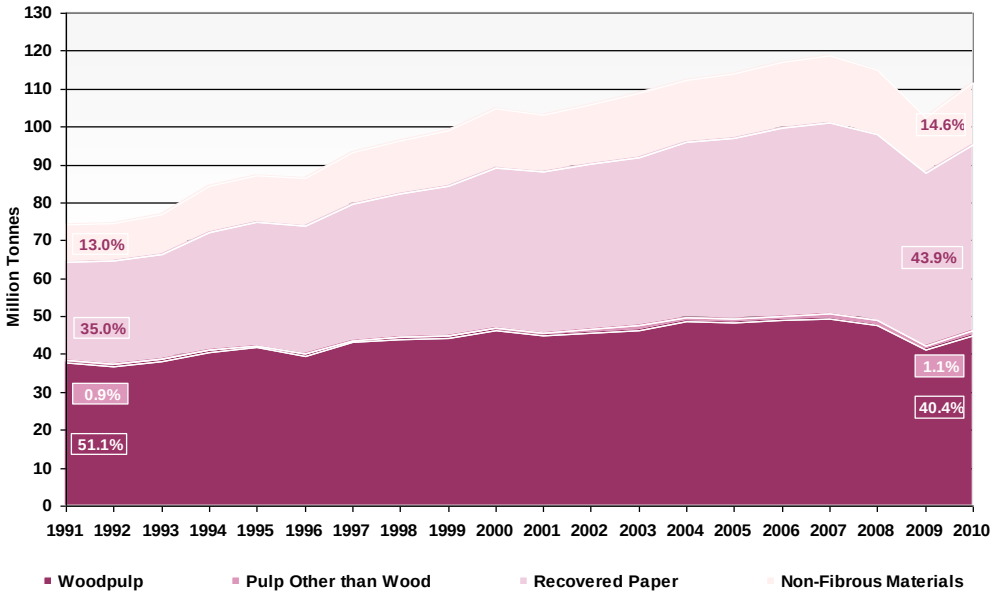
4 Recycled Paper/Recycling Markets and Trends

Since the introduction of the FSC Recycled label in 2004, global demand for paper has increased and pre-consumer and post-consumer material have become an increasingly important component of securing raw material for paper and paperboard production.

Over the past two decades, recovered paper’s share of the raw material use in Europe has increased from 35 to 44 percent (Figure 1). When calculating fibre use only, recovered fibre accounts for half the input.

[9] Recycled fibre: Fibre collected from converter and post-consumer stages. (*Nordic Ecolabelling of Paper Products - Basic Module*, Version 2.0, 22 June 2011 - 30 June 2014)
[10] The U.S. EPA's Comprehensive Procurement Guidelines are described online at http://www.epa.gov/epawaste/conserve/tools/cpg/index.htm
[11] "Post-consumer Materials" are, "A material or finished product that has served its intended use and has been diverted or recovered from waste destined for disposal, having completed its life as a consumer item." (U.S. EPA Comprehensive Procurement Guidelines, Glossary of Terms, http://www.epa.gov/epawaste/conserve/tools/cpg/glossary.htm)

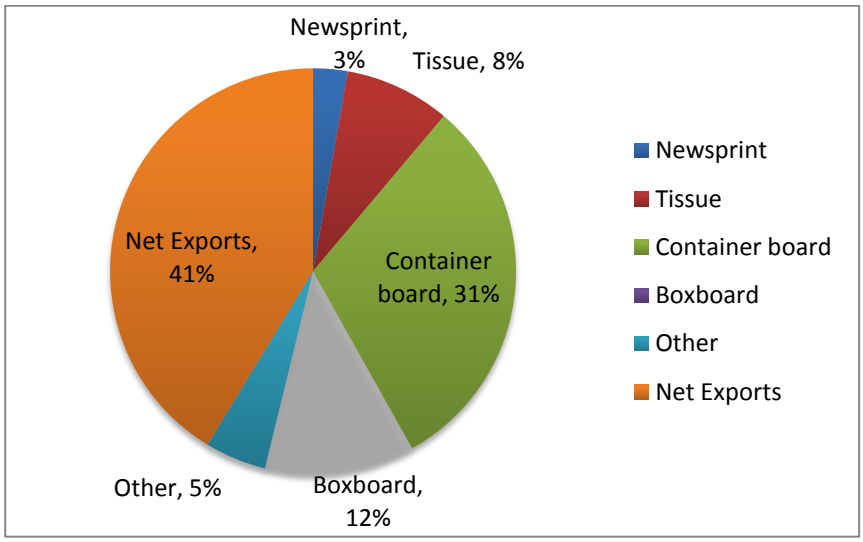
Figure 1. Raw Material Use in the Europe Pulp and Paper Industry



Source: CEPI

In the U.S., 78.5 million tons of paper and paperboard were consumed in 2012 and 65 percent of that was recovered for recycling. Of the recovered fibres, 41 percent (21.1 million tons) was exported. Still, 30 million tons of recovered fibres were available for domestic production (Figure 2).

Figure 2. U.S. Recovered Paper Fibre Usage, 2012



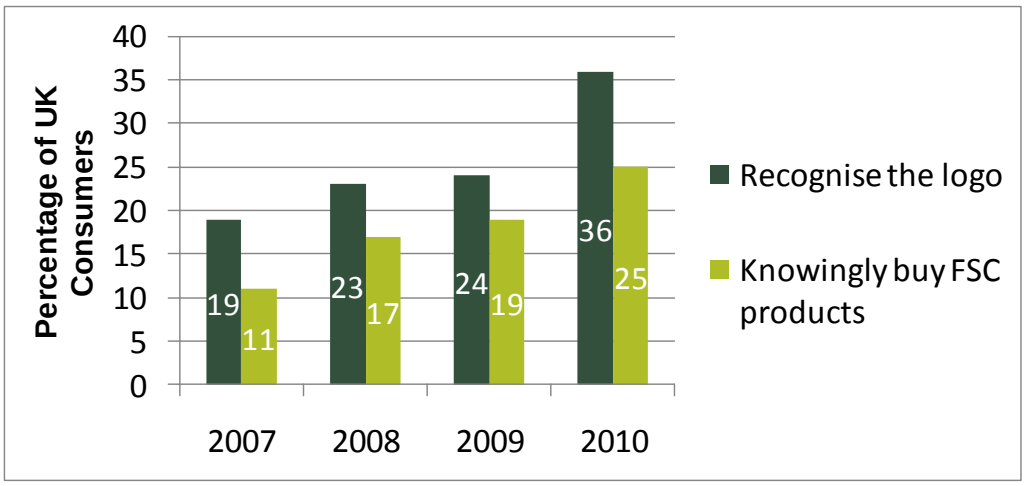
Source: paperrecycles.org, accessed 4/27/13

Since 2004, there has been a steep increase in the number of FSC labelled products in the

marketplace and, following that, a significant increase in consumer awareness of the FSC label amongst consumers in key markets, e.g., UK, Japan, Netherlands[12] (Figure 3).

However there are no data on the number of FSC Recycled products or FSC Mix products containing post-consumer recycled content in the marketplace today, nor data to show the impact that the recognition of recycled materials has had on the FSC mission and system as a whole.

Figure 3. Customer recognition of FSC brand in UK 2007-2010



Source: FSC UK

5 Pre-Consumer Materials: Evaluation from Economic Perspectives

The economic, social and environmental benefits of using pre-consumer fibres are often deeply intertwined and difficult to separate. However, this section will endeavour to examine whether using pre-consumer reclaimed paper material in paper products would have economic benefits. Following are relevant economic issues.

1. **Financial stability.** Pre-consumer material is often collected and managed as a profit centre that underpins the financial stability of many printers and converters. This applies to the production of tissue, publication papers, newsprint and packaging and is relevant globally. Valuing pre-consumer reclaimed paper fibre can support and strengthen that financial stability.

2. **Market competitiveness.** Pre-consumer material is often used in recycled paper products to stabilize and improve the quality of recycled products, in order to compensate for the increasingly heterogeneous and poorly-sorted quality of post-consumer material. It may be substituted for virgin pulp in products for which strength is critical, and used to achieve higher brightness levels in products with high post-consumer contents. Blends of pre- and post-consumer materials are often used and some mills consider the combination essential for producing some types of higher quality recycled paper products. This use of pre-consumer

[12] Consumer recognition can in some countries also be attributed to the success of marketing campaigns undertaken by FSC national offices and/or certified companies.

fibres can improve markets for recycled papers and enhance their competitiveness.

3. **Safety issues.** In some products, such as food contact packaging, pre-consumer material may be the only acceptable source for safety reasons.

4. **FSC market development.** Among many of the European and North American papermakers interviewed for this report, the use of pre-consumer material is overall seen as a driver for increased availability of FSC certified paper products, resulting in greater market penetration and consumer recognition of FSC. Currently, with pre-consumer material unrecognized for FSC certification and allowed only up to 15% in the Recycled label and up to 30% in FSC Mix products, some recycling mills are significantly limited in the amount of FSC certified and labelled paper they can produce under the FSC systems for controlling claims. Their production may indeed meet FSC's goals, but if they use large inputs of pre-consumer material, or if they do not have a process for identifying and tracking post-consumer fibre, much of their paper cannot carry the FSC label.

   Giving value to pre-consumer fibres could allow many more papers to carry the FSC certification logo. This could strengthen the recycling mills that currently are making FSC certified paper but cannot certify all of their production. It could also encourage participation from recycling mills that have resisted FSC recycled paper certification because they cannot track post-consumer separately.

5. **Costs of certification.** Post-consumer fibre is collected and incorporated in many countries but it is only specifically tracked in the U.S. and Canada. Pre- and post-consumer material is usually collected, stored and transported as bales (bulk material) or as mixed assortments from different suppliers. This complicates identification and/or separation into pre- and post-consumer. Since identifying post-consumer content is not usually a need or value in European and other non-North American paper markets, so developing systems to segregate and track it may not be desirable or cost-effective. The same situation has been described by stakeholders in China and Japan, saying that, "This is the major reason why FSC recycled paper is not produced in Japan."

   So, while FSC's current approach seems to be clear and consistent with North American standards and the purchasing policies of a significant number of companies and organisations, it seems to be in conflict with other countries, regions and systems, including Europe, China, and Japan, where reclaimed materials are distinguished and traded by quality of the waste paper rather than by collection source. (Recyclable paper is also traded by quality in the U.S., yet papermakers must still recognize which are from post-consumer sources and which are not.)

   This means that for those outside of North America who do enter into the FSC system, determining pre- and post-consumer volumes can add significant administration and costs or else exclude participation in the FSC system altogether. Therefore, valuing pre-consumer fibres and removing the requirement to track post-consumer (except, potentially, in North America where structures already exist to do so) would simplify FSC requirements and

thereby reduce direct and indirect costs of certification.

6. **Recycled paper costs.** In the U.S., the cost of pre-consumer reclaimed paper fibre used to be much higher than that for post-consumer, especially 20 years ago. But now that China has such a vast appetite for recovered fibre from both Europe and North America, the pricing relationship in the U.S. has flipped. Some North American papermakers report[13] that if they could meet recycled paper requirements by including more pre-consumer fibre, they could reduce some of the environmental paper costs that currently discourage buyers because of higher prices for some certified recycled printing and office paper grades.

7. **Potential backlash.** A potential negative effect could result from confusion created in U.S. markets if products with the FSC Recycled and FSC Mix labels increase their pre-consumer content enough to fall below the U.S. EPA minimum post-consumer content guidelines threshold. (Currently, many papers meet both the FSC and the EPA requirements.) In order to ensure that purchasers who are legally required to buy EPA-compliant recycled papers (thousands of government purchasers at federal, state and local levels in North America) can identify which actually meet them, purchasers' educational materials could potentially recommend against buying FSC certified products if they no longer track and identify their post-consumer content. But FSC can take steps to craft its certification requirements and introduce them in ways that respond sensitively to this difference. Suggestions are presented in the Recommendations (page 34).

A compilation of economic evaluation perspectives is included in Table 2 (page 26).

6 Pre-Consumer Materials: Evaluation from Social Perspectives

The use of pre-consumer paper fibre materials can also increase social value, although sometimes this seems to be tightly connected to economic value. This section focuses on social value opportunities.

1. **Jobs and income for local communities.** Recycled paper mills, including those processing pre-consumer fibres, as well as recycling collection programs and sorting facilities, bring jobs and income for local communities and economies.

2. **Worker safety and community health.** Using recycled fibres often encourages the use of safer bleaching chemicals that are both less toxic and less potentially explosive than alternatives required for virgin forest fibre, improving both worker safety and community and environmental health.

3. **Higher wages and better working conditions.** Pre-consumer fibre results from scraps created in value-added businesses such as print shops and converting operations. In the U.S., these businesses often support union jobs or, even if not unionized, higher wages and better working conditions than many other job opportunities. While a large percentage of these pre-consumer scraps are already successfully integrated into the recycling system, explicit valuation of pre-consumer fibres in recycled papers would encourage more

[13] Phone interviews conducted with U.S. and Canadian printing and office paper mill representatives from December 2012 to February 2013 by Conservatree, San Francisco, www.conservatree.org

comprehensive collection even from small quick-printers and copy shops that may not have been economical to include in the past, providing either a revenue stream or reducing their trash collection costs and thereby strengthening their community stability.

4. **Social empowerment and community development.** Large populations in developing and recently-industrialized countries where people have had very little paper in the past are now beginning to gain access to the many benefits that paper encourages, including improved literacy, education, communication, health, sanitation, food preservation, and commerce. Even in a world swiftly gravitating to digital forms of communication, there are many enduring needs for paper and advantages it can bring to communities. But this great social need must be carefully balanced with the planet's global resource capacity. Currently, some of the most resource-intensive types of paper production, particularly for printing and office papers as well as tissue products, often use no recycled content even when other grades such as newsprint and packaging do. Valuing pre-consumer reclaimed paper fibre is part of the key to helping to conserve resources such as environmentally and socially critical forests while ensuring paper's contribution to social empowerment and community development.

5. **Possible threat to community recycling programs.** A negative possibility is that allowing the use of pre-consumer fibre to count as creditable input towards the FSC Mix or FSC Recycled content calculation could discourage markets for post-consumer fibres, threatening the success of community recycling collection programs, the community benefits they bring and the jobs they provide. Investment for processing post-consumer fibres is expensive. If too little recycling is occurring to begin with and mills can meet recycled fibre demand with easily processed pre-consumer fibre (some of which does not require deinking), they could effectively limit recycled content to pre-consumer fibres, which are only a small fraction of the far greater amounts of post-consumer fibre potentially available.

A compilation of social evaluation perspectives is included in Table 2 (page 27).

7 Pre-Consumer Materials: Evaluation from Environmental Perspectives

FSC’s vision, mission and strategy focus on the promotion of responsible forest management, with no explicit strategic alignment with valuing reclaimed material in general. Yet by introducing the FSC Recycled label, FSC has recognised the environmental benefits of reclaimed material in reducing the pressure on the world’s forests and incentivized the collection of post-consumer material by classifying it as equally valuable to certified virgin fibre.

In considering how best to evaluate the potential environmental value of pre-consumer fibre in FSC's standards, it seems prudent to answer three questions:

- What is its environmental value in general, including its potential impact on forest management?

- What is its role in the recycling system?

- If pre-consumer fibre were independently valued in the FSC standards, what would be its potential effect? Would it strengthen or undermine recycling? Would it discourage the use

of post-consumer fibre? Would it strengthen or undermine FSC? Would it conflict with or undermine any national laws or regulations?

Following is a discussion of these questions in more detail.

A. What is the environmental value of pre-consumer paper fibre compared to certified forest fibre? What is its potential impact on forest management?

The salient issue for FSC is whether pre-consumer paper fibres have sufficient environmental value to be considered comparable to certified forest fibre and to post-consumer reclaimed fibre for certification purposes. Each raises different issues and so must be evaluated separately. Therefore, this section will consider the comparison to certified forest fibres. In doing so, this section makes an assumption that pre-consumer fibres share similar environmental values to post-consumer fibres. That point will be argued further in section B below.

1. **Managing forests.** When viewed from the larger papermaking picture, it is reasonable to argue that pre-consumer fibres reuse resources and reduce environmental impacts during paper production in the same ways as post-consumer fibres. Rather than require more wood fibre to make new paper, both pre-consumer and post-consumer fibres reuse the materials of previously made and discarded papers.

   In this way, pre-consumer fibres can be said to "save trees" by reducing demand for new forest fibres and the pressure to overharvest trees. Therefore, valuing pre-consumer fibre can further FSC's interest in conserving and responsibly managing the world's forests.

2. **Greenhouse gas production.** Because greenhouse gases have been found to escalate the dangers of climate change, the U.S. EPA created a Waste Reduction Model[14] (called the WARM Model) to estimate life-cycle greenhouse gas (GHG) emission factors for U.S. paper products, beginning at the initial point of waste generation. The model, in development for more than a decade and with the most recent update released in February 2012, incorporates information from leading scientists and technical experts, including collaboration with the U.S. Department of Agriculture Forest Service, and has gone through several peer reviews.

   Specific product categories are calculated individually, using a systems perspective. The model's purpose is to provide credible and impartial decision-making data to guide government policy, including for government officials who must decide between different waste management approaches, including source reduction, recycling, combustion and landfilling. However, in the course of generating the data to model these alternatives, it necessarily must include calculations that provide insight into the comparisons between harvesting forests for virgin fibre versus using recycled fibres.

   One of these calculations arrives at a "recycling emission factor" which is described as representing "the net change in GHG emissions from process energy, transportation energy and process non-energy sources in recycling paper products relative to virgin production" for each of the paper product categories. It also includes forest carbon storage benefits associated with recycling because the reduction in forest demand leaves trees standing (and

[14] Updated February 2012, see http://epa.gov/epawaste/conserve/tools/warm/index.html

therefore able to continue sequestering carbon) that would have otherwise been harvested, and it takes into account the differences in pulping processes for various products, including chemical and mechanical pulping. In addition, it adjusts the recycling data to account for fibre losses in the manufacturing process. Following are the WARM Model recycling emission factors calculated for manufacturing a number of different paper products.

TABLE 1. U.S. EPA WARM Model Recycling Emission Factor for Paper Products ($MTCO_2E$/Short Ton)[15]	
Corrugated Containers	-3.11
Magazines/Third-Class Mail	-3.07
Newspaper	-2.78
Office Paper	-2.85
Phone Books	-2.65
Textbooks	-3.11
Mixed Paper (general)	-3.52
Mixed Paper (primarily residential)	-3.52
Mixed Paper (primarily from offices)	-3.59

Most of the emission factor accrues from carbon sequestration, essentially an avoided emission created by not harvesting the trees. The WARM Model table that presents these factors labels them “Net Emissions (Post-Consumer).” But is there some reason why they would be created only by post-consumer fibres and not by pre-consumer fibres? In the U.S., there is a history of favoring post-consumer fibres over pre-consumer fibres, which will be discussed in section B below. Briefly, the debate centers on whether or not pre-consumer fibres would have been landfilled if not used for the products in which they are found. But whether or not there is an argument for differences between the two sources of reclaimed fibres based on where they might have ended up, there is no question that they both have the same effect on forest fibre use. Both provide a fibre source that displaces the need for the same virgin forest fibres.

Therefore, the recycling emission factors in the WARM Model that compare production data between virgin and recycled papermaking can be considered applicable to pre-consumer as well as to post-consumer fibres. The emission factors in Table 1 indicate significant reductions in GHG emissions, most by 3 or more times, for recycled fibres compared to virgin forest fibres.

3. **Reducing other environmental impacts.** Since recycling mills produce recycled pulp from used paper, studies have shown that they also reduce other demands on the environment, in addition to forest demand, when compared to similar wood fibre pulp mills. Recycling

[15] *Paper Products*, WARM Model background data for paper production, Exhibit 18.

conserves water and energy, reduces the need for landfills and incineration, and decreases production of toxics and pollution, thereby minimizing paper's production footprint in a comprehensive manner. There is no reason why this is not as true for pre-consumer fibre as for post-consumer.

The Environmental Paper Network's Paper Calculator[16] produces an environmental comparison between copy paper made from forest fibres vs. recycled fibres, using U.S. national averages, that indicates that in almost all comparisons, recycled paper dramatically reduces negative environmental effects from paper production. (The Calculator produces similar quantification for coated papers, newsprint and several packaging grades, as well.)

For example, one metric ton of 100 percent recycled copy paper, compared to one metric ton of copy paper made from virgin wood pulp, produces the following beneficial environmental results:

Wood use	100% less, saving 4 metric tons of wood
Net energy	33% less
Hazardous air pollutants	67% less
Water consumption	49% less
Solid waste	39% less

There are similar environmental reductions for other air and water pollutants as well.

4. **Comparison to certified forest fibre.** Recycled fibre produces lower environmental impacts even when the virgin forest fibre has been FSC certified. While environmentally superior to other types of forest fibres, sustainably certified forest fibre is still virgin wood fibre and requires harsher and more robust processes to turn it into paper than is necessary for recycled fibres. Certainly there are some virgin pulp mills that will achieve better results and some recycling mills that will achieve worse, but using U.S. national averages suggests that paper production with recycled fibres - whether post-consumer or pre-consumer - can dramatically mitigate a whole constellation of environmental costs while also reducing demand on forests.

   Some stakeholders give greater value to pre-consumer recycled fibre over certified virgin fibre. For example, the Environmental Paper Network (EPN)[17] coordinates more than 100 nonprofit organizations worldwide that work collaboratively to advance their *Common Vision for Transforming the Paper Industry*. Steering committees and coordinators in both North America and Europe guide the network. EPN's *Paper Steps*[18], which ranks papers according to environmentally preferable criteria, uses the following order of environmental superiority, from highest to lowest: post-consumer recycled, pre-consumer recycled and agricultural residues, FSC certified virgin fibre, virgin no controversial sources.

[16] papercalculator.org - The Paper Calculator is a peer-reviewed tool originally developed by the Environmental Defense Fund, now owned and maintained by the Environmental Paper Network, and continually updated to reflect new lifecycle impact understandings. It is used widely by ENGOs, paper purchasers and paper manufacturers in the U.S. and Canada.
[17] www.environmentalpaper.org
[18] www.whatsinyourpaper.org

5. **Energy use.** The recycling process is sometimes criticized for its energy use. While some recycling mills use more purchased energy than some virgin pulp and paper mills (particularly chemical pulp mills that can use waste materials and processing chemicals to co-generate papermaking energy), studies indicate that the recycling mills use less energy overall, including when calculating in transportation energy for collecting and delivering recyclable paper. The purchased energy is criticized for its heavy reliance on fossil fuels, but this only reflects the current state of national energy grids, not an inherent requirement for recycling. In fact, some recycling mills invest in wind power and other clean energy credits to offset their fossil fuel use.

6. **Deinking impacts.** Some question the environmental advisability of the chemicals, pollutants and discards of the deinking process used for paper grades such as printing, publications and office papers. Virgin wood pulping has been shown to use far harsher chemicals and produce more toxic pollutants than deinking. While deinking does produce more sludge, it is a small percentage of the paper material that otherwise would have been discarded in municipal landfills, and it provides a much more environmental management system for that discarded paper, in addition to reusing its resources.

   A recent extensive life cycle analysis for magazine papers concluded, "Deinked pulp has a lower relative impact than the virgin pulp it would replace in all environmental categories analyzed."[19] Many other studies and reports going back more than two decades indicate similar conclusions.[20]

7. **Effect on FSC certifications.** Interviews indicated some concern that substituting pre-consumer material for certified virgin fibre could discourage demand for certified forest fibre material, leading to fewer certified forests that are responsibly managed. This could possibly be a factor if FSC allowed scraps in a mill producing virgin paper to be counted as pre-consumer (since it possibly could qualify for certification based on its in-mill scraps alone), but that is not what FSC's pre-consumer definition allows. Therefore, a mill using pre-consumer material that conforms to FSC's definition of being from "downstream" and "secondary manufacture" would in most cases need to have specific recycling capabilities such as a deinking mill or buy market pulp from such a deinking mill. A virgin paper mill, even if FSC certified, would not be able to start using its own scraps to count as pre-consumer fibre.

   Also in response to the concern that pre-consumer fibre could undermine forest certification, a stakeholder pointed out that global demand for fibre is increasing and that pre-consumer material will not fill the supply gap. In addition, demand specifically for FSC certified fibre is much higher than the supply, again much more than the potential increase of pre-consumer reclaimed supply, and therefore is unlikely to impose a risk to the demand for FSC certified forests.

   In fact, FSC certification may present more of a challenge to building recycling capacity than the other way around. Since deinking facilities are magnitudes more expensive than FSC

[19] ENVIRON International Corporation*, Life Cycle Assessment of Deinked and Virgin Pulp*, for National Geographic, November 2012
[20] Examples include: Kinsella, Susan, *Paperwork: Comparing Recycled to Virgin Paper*, Conservatree, 2012; *Paper Task Force Recommendations for Purchasing and Using Environmentally Friendly Paper,* The Paper Task Force, Environmental Defense Fund, 1995, subsequent updates; MacGuire, Frances, *Paper Recycling: Exposing the Myths*, Friends of the Earth UK, 1997, updated 2001

certifications, some paper companies argue that forest certification is all that is necessary to meet environmental responsibilities, undermining the potential for the environmental benefits afforded through recycling.

8. **Potential for controversial sources.** Since FSC does not control the chain of custody of reclaimed material back to the fibre origin, some stakeholders are concerned that better valuing pre-consumer material would increase the risk of input from controversial sources. This could then lead to potential misuse of the FSC system, exposing FSC's credibility and integrity. For example, a company could possibly receive pulp or paper from controversial virgin fibre sources that it claims is damaged so therefore should be considered pre-consumer input, allowing it to enter the chain of production for FSC certified products. One stakeholder asked whether "FSC really wants to encourage pre-consumer from the worst forest management practices weighted equivalent to FSC certified inputs?"

   Other stakeholders argue that the risk is minimal because, "Greenwashing of controversial fibre in pre-consumer recycling does not make economic sense." If a mill were to receive pulp from controversial sources and re-pulp it rather than incorporate it into the paper it sells, the re-pulped fibres would be considered mill broke and not pre-consumer fibres under FSC's definition. If it produced paper from the controversial sources and sold it to a converting plant that conveniently generated higher-than-normal converting losses to send back to the mill as pre-consumer material, this would not make economic sense for the converting plant, whether it was independent or part of the paper company, because the value of scrap is far less than that of finished paper. Also, the additional scrap would have been intentionally produced, which FSC does not allow for qualifying as pre-consumer.

   It is unclear why introduction of controversial sources would be more of a concern for pre-consumer than for post-consumer when both are the result of scraps and waste from paper that was originally virgin fibre paper, which seems far more likely to potentially include controversial sources than recycled paper. Since FSC does not allow scraps in the original papermaking mill to count as pre-consumer, the source for any controversial fibres in recycled paper would be indirect, coming from converting operations using fibres from virgin paper that is directly made from controversial sources. In that case, the virgin paper is the problem source, not the recycled. In any event, if pre-consumer fibre is valued equally with certified forest fibre and post-consumer fibre, it will then be audited and certified as they are, providing similar opportunities to prevent the introduction of controversial sources.

B. What is the role of pre-consumer fibres in the recycling system? Is it different from that of post-consumer fibres?

Pre-consumer and post-consumer fibres play different roles within the recycling system. Although commonly the differences are assumed to be environmental, often they actually seem to stem more from policy decisions about systems development incentives.

The discussion in this section refers often to "deinking," although technically that describes the pulping system used primarily by mills making papers such as for printing, publications, and office use, as well as for newsprint and tissue products. Mills that recycle reclaimed material to make many packaging and board grades generally use a simpler recycled pulping process that is not called deinking. For this report, "deinking" is intended to represent all recycling mills. Much of the

argument about the comparable environmental value of pre-consumer and post-consumer paper fibres has centered on recycled paper grades that require high grade deinking because using post-consumer fibres in their production is more challenging than using it in most packaging and board grades.

1. **Comparison of impacts.** There are strong reasons to argue that pre-consumer and post-consumer paper fibres have the same environmental impact value, particularly in the production process. This is especially true of post-industrial fibres, which are the category that FSC wisely classifies as "pre-consumer."

   Post-industrial fibres include scraps from converters and value-added producers such as printers, envelope manufacturers, box makers, and sheeters. It does not include any scraps that were intentionally produced or that could be reused within the original manufacturing mill where they were generated.

   What is the nature of these pre-consumer fibres? Much of the material contains printing inks, coatings or glues and requires the same level of deinking as post-consumer fibres. Sheeting scraps may not need deinking, but FSC's pre-consumer definition requires that they would at least have gone through a converting operation outside the original mill, which indicates a secondary level of commerce.

2. **Development of pre-consumer and post-consumer categorizations.** In the U.S., pre-consumer fibre collection flourished throughout the 20th century. Paper brokers regularly collected scraps from printers and converters and delivered them to paper mills that either had a deinking pulp mill (one high quality U.S. book paper mill, in particular, started deinking in 1917) or that could add clean scraps directly into a pulper.

   The distinction between pre-consumer and post-consumer became critical in the 1970s, when U.S. and Canadian municipalities were just beginning to develop local residential recycling collection programs. While in Europe recycling responsibility was handed primarily to producers, trade associations and national governments, allowing for nationally consistent programs, in North America the recycling programs were designed and implemented at the local municipal level, resulting in many very different programs even within the same state or province.

   The North American municipal programs quickly began producing huge amounts of recovered fibres but these "post-consumer" materials were much more challenging to incorporate into papermaking than the pre-consumer fibres of the established paper broker system. The printing and writing paper mills[21], in particular, did not have deinking technology capable of adequately cleaning post-consumer fibres, which are much more diverse than pre-consumer fibres in both the grades and the contaminants they introduce into the system. A particular difficulty was cleaning office paper fibres that included copier toner. Yet the firm[22] that produced annual statistics for the U.S. EPA on municipal recycling collection estimated that

[21] Printing and writing paper mills in North America produce publication and office paper grades such as uncoated printing paper, coated papers with either chemical or mechanical pulp base, text and cover, and copy papers. Newsprint mills are not considered part of this category.

[22] Bill Franklin, of Franklin Associates, worked out this calculation around 1995 in response to a question in a private discussion with Susan Kinsella/Conservatree (San Francisco).

the quantity of potential post-consumer papers available for use at printing and writing mills was at least five times greater than the amount of pre-consumer available.

In order to ensure that municipal recycling collection programs would have markets for the materials they were recovering and be able to keep them out of landfills, the U.S. Congress passed a law in 1976 that included a section that defined "post-consumer" separately from other types of recycled content, required federal agencies to purchase recycled products, and designated the U.S. Environmental Protection Agency (EPA) to implement the law.[23] EPA eventually wrote guidelines setting minimum post-consumer content percentages for recycled paper products purchased with federal funding and hundreds of state and local governments passed legislation adopting them as specifications. Canadian purchasers, also, often use similar requirements.

3. **Categorization for systemic and economic reasons.** "Post-consumer," therefore, was separated out from pre-consumer materials not for inherent environmental reasons (both conserve and reuse resources) but rather because its collection would help solve environmental problems (e.g., wasting resources through landfilling and incineration) created by systemic and economic factors. By putting a spotlight on post-consumer materials, EPA successfully incentivized the development of new technology - deinking was improved so that now high grade deinking mills are routinely able to handle office papers with copier toner - and it stimulated development of the recycling supply chain to collect and deliver post-consumer materials to recycling mills, thereby diverting the paper from landfills and incinerators.

4. **Pre-consumer did not need incentives.** Pre-consumer fibre, on the other hand, was not a part of the EPA focus. Because for the most part pre-consumer fibre had already been successfully incorporated into the recycling system, the federal government saw no need to use tax dollars to encourage its use. With an assumption that the pre-consumer part of the paper recycling system would continue to operate successfully as it had in the past, all the purchaser education focused on the need to use post-consumer fibres. Now post-consumer fibres are routinely collected and incorporated into all types of recycled papers. Pre-consumer fibres are used, as well, but not always included in the recycled content label, sometimes because the mills prefer leeway in the amount of total recycled materials included in the product and sometimes because North American purchasers of some products such as recycled copy papers have become focused only on post-consumer content.

5. **Pre-consumer collection system needed development.** In fact, thirty years ago, when state and federal agencies in the U.S. were new to specifying recycled paper purchases, even the pre-consumer markets were only partially developed. Major printers, for example, were likely to have well-established markets for sending their scrap to recycling mills, but small print and copy shops were often not included. The increased demand for recycled paper stimulated a search for more sources and brought these small shops into the collection markets over time, as well. It is relevant to note that at that time the mills making recycled paper were most likely to note both its total recycled content as well as its post-consumer content, and therefore the pre-consumer played a more prominent role. More recently, the

[23] Resource Conservation and Recovery Act (RCRA)

focus has narrowed for many products to only specifying a minimum post-consumer content, without recognizing any additional recycled content. This post-consumer-only focus seems to have contributed to the common short-sighted assumption that only post-consumer fibres carry environmental benefits.

6. **Is post-consumer the only "real" recycled fibre?** In fact, U.S. purchasers who buy recycled paper tend to assume that the only "real" recycled fibre is post-consumer material and that pre-consumer fibres are just leftover scraps in the mill that are essentially the same as virgin fibres. This perspective was not helped when, early on in developing the recycling programs (particularly late 1980s), several U.S. mills saved the pre-consumer scrap that they routinely put into their virgin paper and used it to produce a "new recycled paper" that was priced higher than the virgin papers but did not add any new capacity or even represent a significant change from their virgin paper production process.

   Unfortunately, the U.S. EPA definition of "pre-consumer" allows some materials in the manufacturing mills to qualify, such as obsolete inventory, butt rolls, and in-mill coating and sheeting operations. In comparison, FSC's definition is firmly focused on post-industrial fibres only. This post-industrial step — particularly converting operations such as envelope and box makers and sheeters — is nearly invisible in the collective awareness outside the industry. When policymakers and purchasers learn about it, as well as of the significant quantities of printing scrap that must be recycled, they tend to be more positive about its inclusion than about material that never left the mill.

7. **Integrated recycling influences perspectives.** Perhaps another factor in discounting pre-consumer fibre has been that many of the mills producing recycled printing and writing paper in the U.S. do not have their own recycling capacity. Instead, they buy their recycled pulp from market deinking pulp mills and add it to their papermaking system. They are not concerned with the specific fibres that go into the pulp, as long as it is identified as the post-consumer that they need for their products. (Since many government purchasers in the U.S. have legal requirements to specify paper with post-consumer content, it remains critical for mills to be able to identify post-consumer fibres separately from pre-consumer. See further discussion below.)

   Many other mills, however, do have their own integrated deinking pulp mills or recycled pulping systems. Some of these mills produce part of the pulp used in their paper production from recycled sources and the rest from their own virgin woodpulp mill, while others produce all of their pulp from recycled paper materials. Because they produce their own recycled pulp instead of simply adding purchased post-consumer pulp to their process, these integrated recycling mills tend to be more concerned with recognizing the environmental value of pre-consumer fibres.

   These are the mills that are directly involved with handling the streams of collected fibres, along with the challenges that those bring when they are not well-sorted. They are also the mills that must find ways to turn these collected fibres into pulp that meets high quality and brightness expectations. The increasingly poorly sorted condition of post-consumer materials and shredded papers, especially in the U.S., makes it more difficult to guarantee that the pulp

has no pre-consumer fibres included. In addition, both shredding and single stream recycling collection make pre-consumer fibres more attractive to add to some products in order to leaven the more difficult aspects of using post-consumer fibres, improve their environmental benefits (e.g., improving yield and reducing chemical use), and reduce the additional mill costs.

Commercial tissue mills in the U.S. are much more likely to have significant investments in deinking technology than printing and writing mills. Many value all of their recycled input by labelling their products with both "total recycled content" (which includes pre-consumer) and the specific post-consumer content. For example, a paper towel product is likely to be labelled as "100% recycled with minimum 60% post-consumer content." This convention has also been incorporated into third-party certifications such as Green Seal's and purchasers' expectations. FSC also allows an additional on-product statement to be made outside of the label, indicating the post-consumer content, as well as the total recycled content if that is not already indicated on the FSC label.

Recycled printing and office papers were often labelled with both their total recycled content as well as their post-consumer content in the early 1990s, as well, but the overwhelming focus on post-consumer, as well as the volatility of recovered paper markets, caused papermakers to drop the expectation of specific amounts of recycled beyond post-consumer.

8. **Mitigating post-consumer fibre challenges.** While the pulp production process for both post-consumer and pre-consumer fibres is mostly the same, post-consumer fibres are more demanding to clean, more challenging technologically, and more diverse. They require more of the "art" side of papermaking, as different feedstock qualities must constantly be addressed, particularly when the post-consumer comes from poorly-sorted collection processes such as the single stream collection systems used in many North American municipalities. These typically include 15-30 percent non-paper materials such as glass, plastics, and metals, as well as inappropriate out-throw paper grades, clearly reducing yield.

   Using some pre-consumer fibre can help to mitigate some of the environmental impacts of using post-consumer fibres. For example, for paper products such as most printing and office papers for which brightness is a quality factor, recycled fibre can enable greater use of safer bleaching chemicals such as oxygen, ozone, and peroxide in place of chlorine-based bleaching chemistries. But some of the post-consumer materials are so dirty that even papermakers with these processed chlorine free bleaching systems may sometimes need to use chlorine derivatives to clean them. Pre-consumer fibres, however, almost always are much cleaner. Recycled papermakers make the case that pre-consumer fibres' improved yield and ability to reduce chemical use compared to much of the post-consumer fibre currently available actually can improve the environmental qualities of the recycled paper produced.

9. **Post-consumer fibres are still essential, just not the whole story.** While the inclusion of post-consumer fibres in recycled papers remains essential for systemic reasons, devaluing pre-consumer fibres has distorted the environmental understanding of recycled paper's advantages. Valuing all the recycled materials a mill might want to use, both pre-consumer

(post-industrial) and post-consumer, credits all the environmental benefits from recycled papermaking, not just one portion of them.

10. **Landfilling.** The main question people ask about pre-consumer content is, "If it were not used, would it go to landfills?" The U.S. Federal Trade Commission (FTC) publishes guidelines for environmental marketing claims that allow pre-consumer fibre to be counted in a recycled product, with the qualification that, "If the source of recycled content includes pre-consumer material, the advertiser should have substantiation that the pre-consumer material would otherwise have entered the waste stream."

    Recycled papermakers acknowledge that pre-consumer fibre is valuable to their processes and usually can count on having value in the market. Some pre-consumer fibre can be easily returned to the papermaking process even at mills without formal recycling technology. Unprinted sheeting scraps, for example, can often be dumped into an open pulper. But post-industrial scraps are purchased from other businesses and a significant percentage of them must be deinked because of inks, glues, coatings or other factors.

    Pre-consumer fibres are not regularly "diverted" from landfills, as post-consumer fibres are considered to be because they require a concerted collection step such as from residences and offices. But papermakers point out that pre-consumer fibres also require commercial collection and would be headed for landfills if they did not have the markets that are available. And even some kinds of pre-consumer scraps, such as those from polycoated or wax-coated containers, require such specialized processing that they are more similar to post-consumer fibre challenges, with even more limited recycling options. A FSC Certification Body staff member states that he has "audited FSC recycled facilities where they cannot make use of FSC pre-consumer materials. These materials may eventually be sent to the landfill as they have very little economic value to the FSC certified manufacturer."

    Still, since most pre-consumer fibres have strong markets and therefore are unlikely to be landfilled, they may be seen as having an environmental impact different from post-consumer fibres.

11. **Reducing effects of landfilling and incineration.** A major reason for the push to use post-consumer fibres is the desire to reduce the damaging effects of landfilling and incineration, including greenhouse gas emissions from organic decomposition as well as groundwater contamination from heavy metals in the inks on the paper. Pre-consumer fibres with strong markets that discourage their disposal would join the environmental benefits cycle at the mill, but would not typically be part of the landfill/disposal mitigation.

    In many life cycle analyses and calculations, some weight is given to the benefit of post-consumer fibre's reduction of methane and other greenhouse gases by being kept out of landfills. For any pre-consumer fibre that is not otherwise destined for landfill, this might not be an equivalent impact. But whether or not the fibre is likely to end up in a landfill is more a systems issue than an inherently environmental issue.

12. **Determining categorization.** Some concern was expressed by stakeholders that companies are currently allowed to classify the material themselves. If pre-consumer is given explicit value by FSC, it should be audited for compliance similarly to the current process for auditing post-consumer.

13. **Estimating pre-consumer fibre volume available.** How much pre-consumer fibre might be available? That will vary by mill, but the American Forest & Paper Association suggests that in the U.S. it might account for 4.3% of the total fibre recovered, across all paper grades.[24] (Their calculation includes after-manufacture scraps in the original mill, as well as post-industrial sources, so the amount of pre-consumer that qualifies for FSC's certification would be less.)

C. If pre-consumer fibres were equally valued in the FSC standards, what might be their potential effect?

1. **Effect on current recycling standards.** FSC's current practice of allowing some pre-consumer fibres to be used in Recycled and Mix products (even though not counting towards the labels' thresholds) has already had an impact on recycled paper production in the U.S. Some of the deinking mills that make pulp for the recycled printing and writing mills produce recycled pulp that meets the FSC Recycled definition, which already allows for 15 percent pre-consumer content.

   However, when this pulp is used to make papers that are sold to purchasers that require products compliant with the EPA guidelines, in fact they may not be in literal compliance, since EPA's post-consumer definition does not allow any pre-consumer fibres, including post-industrial. Ensuring the compliance with the EPA definitions is the responsibility of the papermaking mills, not of FSC. However, there is some confusion among papermakers about the specific requirements of the EPA definitions, and those mills that buy market deinked pulp are less aware of the exact contents of that pulp.

   It is reasonable to argue that FSC's requirements are more realistic because its auditors are regularly visiting mills and seeing the conditions with which they must work. EPA does not audit the mills. But if FSC were to allow pre-consumer material to count towards the labelling threshold in FSC Mix products or further reduce the labelling threshold of post-consumer material in FSC Recycled products, the gap between the two definitions could widen even more, unless FSC takes steps to encourage harmonization. (Suggestions are included in the Recommendations below.)

2. **Effect on FSC certified 100% recycling mills.** Ironically, FSC's current focus on post-consumer fibres is more problematic for some mills doing 100% recycling with their own deinking pulp mill than for primarily virgin paper mills buying recycled market pulp to produce a line of recycled content papers. If these 100% recycling mills use a significant amount of post-industrial fibres, they must ensure that they are also using a high enough percentage of

[24] American Forest & Paper Association, *Paper Recycling: Why Recycled Content Mandates Are Counterproductive*, May 2012, suggests that the U.S. recovered pre-consumer fibre rate would be the difference between its 2011 U.S. fibre recovery rate of 66.8%, which includes pre-consumer fibres by the EPA definition (including those in the original production mill but excluding mill broke), and the U.S. EPA's 2010 recovery rate of 62.5%, which counts only municipal solid waste, which would be post-consumer.

post-consumer fibres or else some of their pulp cannot qualify for the FSC label. Yet they are producing a recycled pulp with important environmental benefits that reduces demand for forest fibres.

For some of these recycling mills, having the FSC certification is important to many of their customers, who may be less concerned with the specific level of post-consumer content than with the fact that the paper from these mills contains very high percentages of recycled fibre. (While legal requirements to implement the U.S. EPA minimum recycled content guidelines, including its definitions, apply to many levels of government purchasers, they do not extend to private businesses and organizations, unless they purchase their paper with government funds from contracts or grants.) Equally valuing the pre-consumer (post-industrial) content could allow all of the recycled content to count towards FSC certification and strengthen the economics of these recycling mills.

3. **Effect on recycling systems.** For all the environmental benefits that recycling mills provide, it seems paradoxical that there is far less recycling capacity for many paper grades, particularly in high grade paper production, than virgin paper capacity. Recycling's minimized paper production footprint becomes more consequential as global demand for paper grows. Certifying pre-consumer fibres in FSC certified papers is likely to encourage other schemes' consideration of including post-industrial fibres, which could help strengthen the recycling capacity that currently exists.

   Meanwhile, it might also encourage new recycling development. For example, in many parts of the world, including South America and Asia other than Japan, mills making coated printing papers or freesheet printing and office papers rarely have recycling technologies. There may be many reasons for this, including too little paper use to result in the "waste" paper common in North America and Europe, as well as inadequately developed recovered fibre collection systems. But valuing pre-consumer (post-industrial) sources may create some opportunities for beginning to build more recycling into their systems.

4. **Effect on post-consumer content.** As described above, there is reason to be concerned that an FSC shift to giving value to pre-consumer fibres could encourage a general slide towards mills aligning with the FSC application of post-consumer content in its Recycled label, which allows some pre-consumer, thereby potentially undermining the U.S. EPA's stricter definition.

   While post-consumer fibre is now collected at a relatively high rate in the U.S., the term was introduced to incentivize its inclusion in everyday manufacturing. Some stakeholders argue that the original intent of giving greater recognition to post-consumer material is no longer relevant because the overall demand for recycled fibre has pushed collection to very high levels. But there is still concern that if post-consumer were not explicitly required, there could be loss of capacity for processing it in grades where that capacity is already limited, such as for printing and office papers. So it is unlikely that the EPA would eliminate the minimum post-consumer requirement, and it would probably be unwise to do so. In addition, the post-consumer requirement is now embedded in a multitude of U.S. state and local government procurement laws.

And yet, since only the U.S. and Canada have developed systems to track post-consumer content, its requirement is a hindrance to FSC certification in recycled paper mills in other parts of the world. Some of those countries, such as Japan and those in Europe, are clearly collecting post-consumer fibres but generally do not separately identify it.

5. **Effect of FSC influence.** While FSC's certification requirements are certainly not the only factors affecting recycled pulp production and recycling collection program development, they can be influential. It is more economical for a mill to make a consistent type of pulp than to have to vary it to meet different criteria, and the consistency allows for more competitively priced products. Already, some mills in the U.S. tend to make their post-consumer pulp to meet FSC's certification specifications, which is more tolerant than the EPA post-consumer definition, even though the requirements are actually not the same.

6. **Categorizing mill scraps in recycling mills.** FSC's pre-consumer definition requires the material to be "reclaimed from secondary manufacture or further downstream and which was not intentionally produced, is unfit for end use and not capable of being re-used on-site in the same manufacturing process that generated it." If the manufacturer is 100% recycled can it use the scrap that is normally produced in the process of manufacturing its paper?

A compilation of environmental evaluation perspectives follows below in Table 2.

TABLE 2. EVALUATING PRE-CONSUMER PAPER FIBRES

ECONOMIC PERSPECTIVE	
Positive	**Negative**
• Can be profit centre that often underpins the financial stability of many printers and converters. • May be used to stabilize and improve the quality of recycled products, improving their markets and compensating for increasingly heterogeneous post-consumer material. • In some products, such as food contact packaging, may be the only acceptable source for safety reasons. • Driver for increased availability of FSC certified paper products, resulting in greater market penetration and consumer recognition of FSC. • Would allow many more papers to carry the FSC	• Could engender backlash from U.S. purchasers at federal, state and city levels that are legally required to buy recycled paper and paper products that comply with U.S. EPA post-consumer content guidelines, if FSC were to introduce changes without a way to identify post-consumer content.

certification logo, particularly in countries that do not track post-consumer fibres. • Could reduce some environmental paper costs and improve economic competitiveness. • Reduces costs of FSC certification for recycled papers.	
SOCIAL PERSPECTIVE	
Positive	**Negative**
• Recycled paper mills, as well as recycling collection programs and sorting facilities, bring jobs and income for local communities and economies. • Pre-consumer fibres encourage use of safer bleaching chemicals that are both less toxic and less potentially explosive than alternatives required for virgin forest fibres, improving worker safety and community and environmental health. • Post-industrial (FSC pre-consumer) scraps derive primarily from print shops and paper converting operations. In the U.S., these businesses often support higher wages and better working conditions than many other job opportunities. • Encourages resource conservation, including environmentally and socially critical forests, while supporting paper's contribution to social empowerment and community development.	• Could discourage markets for post-consumer fibres, threatening the success of community recycling collection programs, the community benefits they bring and the jobs they provide.
ENVIRONMENTAL PERSPECTIVE	
Positive	**Negative**
Compared to Certified Forest Fibres • Pre-consumer fibres reuse resources and reduce environmental impacts during paper production in the same ways as post-consumer fibres. • Pre-consumer fibres reduce demand on forests, furthering responsible management. • Recycling reduces greenhouse gas emissions by a factor of 3 or more for most paper and paper products. • Recycling conserves water and energy, reduces the	*Compared to Certified Forest Fibres* • Some concern that substituting pre-consumer material for certified virgin fibre could discourage demand for certified forest fibre material, leading to fewer certified forests that are responsibly managed. • The recycling system is criticized by some for using more purchased fossil fuel energy than some types of virgin paper mills, and for

need for landfills and incineration, and decreases production of greenhouse gases, toxics and pollution, thereby minimizing paper's production footprint in a comprehensive manner. • Even compared to forest fibre that is certified, pre-consumer fibres dramatically mitigate a whole constellation of environmental costs while also reducing demand on forests. • Some stakeholders, including the Environmental Paper Network, give a greater value to pre-consumer fibres than to FSC certified virgin fibres. • While some recycling mills use more purchased energy than some virgin pulp and paper mills, studies indicate they use less energy overall, including when paper collection transportation is added in. Some recycling mills also invest in clean and renewable energy credits. • A recent life cycle analysis for magazine papers concludes, “Deinked pulp has a lower relative impact than the virgin pulp it would replace in all environmental categories analyzed.” • Could help strengthen the recycling capacity that currently exists and may also encourage new recycling development. • Global demand for fibre is increasing and demand specifically for FSC certified fibre is much higher than the supply. There is not enough pre-consumer fibre to fill the supply gap, and therefore it is unlikely to impose a risk to the demand for FSC certified forests.	pollutants created by the deinking process. • Concern about potential entry of controversial sources through pre-consumer materials, risking FSC credibility and integrity, although others argue the risk is minimal because it would not make economic sense.
Compared to Post-Consumer Fibres • Pre-consumer and post-consumer paper fibres have the same environmental impact value, particularly in the production process. • FSC's pre-consumer definition targets post-industrial fibres from secondary manufacturers, not scraps in the original manufacturing mill.	*Compared to Post-Consumer Fibres* • Some concern that if mills used the U.S. pre-consumer definition, which counts some material that hasn't left the mill, they could "game the system." But FSC's pre-consumer definition expressly requires materials to have left the

• The U.S. categorization into "pre-consumer" and "post-consumer" is part of determining the most necessary and effective ways of stimulating the development of a complete recycling system, not an evaluation of their inherent environmental impacts. • Whether or not the fibre is likely to end up in a landfill is more a systems issue than an inherently environmental issue. • New procurement demand for recycled papers in the 1980s stimulated more complete development of the U.S. pre-consumer paper collection system (such as from small print and copy shops), in addition to post-consumer collection programs. • Pre-consumer fibre can help mitigate some of the environmental impacts of using poorly sorted post-consumer fibres, such as reducing chemical inputs and wear on machinery, and improving yields. • Valuing both pre-consumer (post-industrial) and post-consumer materials credits all the environmental benefits from recycled papermaking, not just one portion of them. • Pre-consumer fibres also require commercial collection and would be headed for landfills or incinerators if they did not have the markets that are available. • Some kinds of pre-consumer scraps, such as those from polycoated or wax-coated containers, require such specialized processing that they are more similar to post-consumer fibre challenges, with even more limited recycling options, and could be more likely to end up in landfills if not recycled.	mill and auditors should catch discrepancies. • Pre-consumer fibres are not regularly "diverted" from landfills, as post-consumer fibres are considered to be, although some include recycling challenges similar to that for post-consumer. • Post-consumer fibres are credited with reducing methane production (and therefore greenhouse gases) in landfills, while pre-consumer is less likely to be landfilled. • Concern about abuse if mills are allowed to classify pre-consumer materials without oversight. • Valuing pre-consumer could discourage collection and markets for post-consumer materials.

8 Stakeholder Workshop and Survey Input for This Study

A workshop meeting organized as part of this study at the Drupa Trade Fair in early May 2012 brought together 20 stakeholders, including paper companies, the European Environmental Paper Network and WWF Germany. Participants were informed of the study and process for resolving the issue and were given a chance to provide some preliminary input. Later in May

2012, a membership survey was carried out to determine stakeholder views on greater recognition of pre-consumer material in FSC certified products.

The survey collected stakeholder comments on the challenges presented by the current approach, the current definition of pre-consumer and the risks and benefits of recognizing pre-consumer inputs, providing feedback on three scenarios: a) maintain the current approach, b) give pre-consumer materials a better value, but not equivalent to FSC inputs, or c) give pre-consumer materials the same value as FSC inputs. Overall, there were 43 responses. Not all respondents filled in all of the questions. Only 28 out of the 43 respondents provided membership information. Of these 28, 16 were economic north, 7 environment north and 5 economic south. Forty percent of respondents who answered the question were certificate holders, 12 percent certification bodies or auditors and 32 percent non-profit organizations. For a copy of the results of the survey, please contact FSC.

Much of the input received has been considered in the drafting of this document and in particular in the development of the scenarios outlined below. Some additional stakeholder inputs in response to the survey include the following observations.

It is the case that pre-consumer fibre has significant economic, environmental and social value and a significant number of stakeholders do advocate that pre-consumer material be better valued than currently. Those stakeholders in favour of giving pre-consumer material better value stated that all pre-consumer material based on the current definition should qualify as certifiable FSC input.

However, other stakeholders argue that fibre that has been re-incorporated into the supply chain for economic reasons and with little additional incentive should not be given equal status to FSC certified virgin and post-consumer fibre.

When asked whether members have any issues or concerns with the current distinction that specifies post-consumer fibre, 8 members replied that they do not have any issues and that the distinction serves an environmental purpose. 10 said that pre-consumer material should be better valued and that the distinction does not serve an environmental purpose. 4 raised other issues.

15 survey respondents agreed that recognising pre-consumer material has benefits and 13 stated that it does not pose risks; however some members do not see any benefits (7) but risks (6).

Respondents to the FSC membership survey were generally not in favour of changing the current definition of pre-consumer waste. One stakeholder proposed that all pre-consumer material should be recycled for economic and environmental benefit.

In a letter to FSC in response to motion 38 and the drafting of this study, the North American Steering Committee[25] of the Environmental Paper Network stated that they would be in support of FSC's recognition of pre-consumer fibre. They propose that the pre-consumer definition should be fibre that has undergone a de-inking process and has left the paper mill at a minimum. They also propose that post-consumer content be identified on the label to allow purchasers to choose only the paper that includes at least the minimum post-consumer content they require whilst allowing purchasers in other countries to choose differently if desired.

9 Possible Scenarios and Consequences/Impacts

[25] Including Climate for Ideas, Conservatree, Green America, Dogwood Alliance, ForestEthics, Green Press Initiative, Canopy, National Wildlife Federation, Natural Resource Council of Maine and Rainforest Action Network

Five scenarios are presented, taking into consideration inputs and concerns of stakeholders gathered via the membership survey, workshop, written comments on Motion 38, and individual discussions throughout the study period. These are listed in Table 3, below, and outlined in more detail on the following pages.

TABLE 3. POSSIBLE SCENARIOS FOR VALUING PRE-CONSUMER PAPER FIBRE

SCENARIO A	SCENARIO B	SCENARIO C	SCENARIO D	SCENARIO E
Maintain the current approach	**Give a better value to pre-consumer in FSC recycled products only**	**Pre-consumer given value but less than FSC certified virgin and post-consumer**	**Pre-consumer given full value and identification of post-consumer content is optional**	**Pre-consumer given full value and identification of post consumer and total recycled content are mandatory in the US and Canada only**

SCENARIO DETAILS

SCENARIO A – MAINTAIN THE CURRENT APPROACH

Pre-consumer fibre is not creditable input towards the credit or percentage calculation for FSC Mix and FSC Recycled products.

Strengths	Weaknesses
• FSC recognizes the need to incentivize the incorporation of post-consumer paper fibres in recycled products. • Responds to the view that preference of certified virgin fibre over pre-consumer material should be maintained. • Limits the potential risk of reclaimed material coming from controversial sources.	• Restricts creditable input to FSC certified-virgin and post-consumer content, which limits the output that can be labelled. • No new market penetration opportunity is created. • FSC does not recognize the economic, environmental and social value of pre-consumer paper fibres in certified products. • The distinction between pre- and post-consumer makes the system more complicated and expensive. • Determining pre- and post-consumer content is a hurdle in many markets outside of US.

SCENARIO B - GIVE A BETTER VALUE TO PRE-CONSUMER MATERIAL IN FSC RECYCLED PRODUCTS ONLY

The 85 percent threshold of post-consumer input in FSC Recycled products is removed, allowing any product containing pre- and post-consumer fibre, independently of the ratio of pre/post, to be eligible for the FSC Recycled label. The percentage of post-consumer fibre may be indicated in an additional statement outside of the label.

In this approach, pre-consumer material is better valued in FSC recycled products, but the current distinction between pre- and post-consumer material is maintained for FSC Mix products.

Strengths	Weaknesses
• The amount of pre-consumer fibre that can be used in 100% recycled products is not limited. • Post-consumer content may continue to be identified and communicated to meet market or other demands. • The approach is consistent with the rationale to incentivize the incorporation of post-consumer paper fibres in recycled products. • It can be aligned with environmental paper initiatives that have broad stakeholder support, such as the Environmental Paper Network's *A Common Vision for Transforming the Paper Industry*. • Opportunity for market penetration is created.	• Pre-consumer is not recognized as creditable input towards the credit or percentage calculation for labelling of FSC Mix products. • Distinction of pre-consumer material value between FSC mix products and FSC recycled products adds to the complexity of the standards and raises questions of consistency. • 100% recycling mills that make products with the FSC Mix label remain unable to use all their recycled content in FSC certified papers.

SCENARIO C - PRE-CONSUMER GIVEN VALUE BUT LESS THAN FSC CERTIFIED VIRGIN AND POST-CONSUMER

Pre-consumer materials are given a higher value, but not equivalent to FSC certified virgin or post-consumer inputs. For example, FSC certified virgin and post-consumer inputs are given a value of 1.0 and pre-consumer a value of 0.5. Therefore a company that uses 100Kg of pre-consumer would be allowed to use 50 percent of this volume as creditable input towards the credit or percentage calculation.

Strengths	Weaknesses
• FSC recognises the value of pre-consumer fibre as creditable input for labelling. • It is applicable to both FSC Recycled and FSC Mix products. • Opportunity for market penetration is created. • Responds to the view that pre-consumer should not be given equal status to FSC certified or post-consumer fibre.	• Potential to reduce complexity of standard requirements and their cost of implementation is not achieved. • Since this approach treats FSC certified virgin material as having greater value than pre-consumer fibre, it cannot be aligned with initiatives such as *A Common Vision for the Paper Industry* which prioritises fibre in the following order of environmental credentials: post-consumer, pre-consumer and agricultural residues, FSC certified fibre and FSC Controlled Wood.

SCENARIO D - PRE-CONSUMER GIVEN FULL VALUE AND IDENTIFICATION OF POST-CONSUMER CONTENT IS OPTIONAL

Pre-consumer materials are valued equally with post-consumer and FSC certified virgin fibre. No changes in the current FSC trademark requirements: the Moebius loop in the FSC label will continue to show the total content of reclaimed materials, and papers claiming recycled content and made in, or sold to, North America may indicate the percentage of post-consumer content next to the FSC label.

Strengths	Weaknesses
• FSC recognises the value of pre-consumer fibre as creditable input for labelling. • Considerable opportunity for market penetration is created. • Labelling is not limited by pre-consumer content. • Country differences in definitions and systems for identifying and tracking of pre- and post-consumer materials are removed. • Simplification of FSC certification requirements and potential reduction of direct and indirect certification cost achieved. • No need to change current FSC label and companies that are required to comply with U.S. EPA guidelines could still indicate the post-consumer reclaimed content next to the FSC label.	• Not aligned with the view that pre-consumer waste should not be incentivized and not treated the same as post-consumer. • Potentially conflicts with some U.S. purchasers' legal requirements for post-consumer content specifications (since it is not mandatory to indicate post-consumer content). • Concern about potential risk for FSC brand and credibility of the system where pre-consumer material from unknown sources is given the same value as FSC certified virgin fibre. • Possibility that U.S. purchasers could be warned not to purchase FSC certified recycled papers if the distinct classification between pre and post-consumer content is no longer verified.

SCENARIO E - PRE-CONSUMER GIVEN FULL VALUE AND IDENTIFICATION OF POST CONSUMER AND TOTAL RECYCLED CONTENT ARE MANDATORY IN THE US AND CANADA ONLY

Pre-consumer materials are valued equally with post-consumer and FSC certified virgin fibre. The Moebius loop in the FSC label will continue to show the total content of reclaimed materials and papers claiming recycled content and made in, or sold to, North America shall indicate the percentage of post-consumer content next to the FSC label, even if zero. If the Total recycled content percentage is not shown in a Moebius loop, then the total shall also be indicated next to the FSC label.

Strengths	Weaknesses
• FSC recognises the value of pre-consumer fibre as creditable input for labelling. • It is applicable to both FSC Recycled and FSC Mix products. • Opportunity for market penetration is created. • Continues to allow North American purchasers to be informed of total and post-consumer content • Papermakers can make the combination of pre-consumer and post-consumer fibres that works best for them and their customers and maximize their FSC certified paper production, while purchasers can identify the	• Possible confusion for papermakers exporting products to North America. • Not aligned with the view that pre-consumer waste should not be incentivized and not treated the same as post-consumer. • Concern about potential risk for FSC brand and credibility of the system where pre-consumer material from unknown sources is given the same value as FSC certified virgin fibre. • Possibility that North American purchasers could be warned not to purchase FSC certified recycled papers if the distinct classification between pre and post-consumer

products that meet their requirements. • Systems for tracking post-consumer content are already used in North America. • No need to change current FSC label.	content is no longer verified.

10 FSC Recommendation – SCENARIO D - PRE-CONSUMER GIVEN FULL VALUE AND IDENTIFICATION OF POST-CONSUMER CONTENT IS OPTIONAL

Features:

1. Pre-consumer fibre is fully valued for certification for both Recycled and Mix labels.
2. No changes in the current FSC labelling rules: Globally, the Moebius loop[26] in FSC labels will continue to indicate the percentage of total reclaimed material (sum of pre- and post-consumer reclaimed materials).
3. Papers claiming recycled content and made in, or sold to, North America may indicate the percentage of post-consumer content next to the FSC label.

When compared to fibres derived from forests, even those certified as responsibly managed, pre-consumer fibres clearly improve paper's environmental metrics. Therefore, pre-consumer fibres should be better valued in FSC's standards. Similarly, since the environmental benefits provided by pre-consumer fibres in the paper production process are equivalent to those from post-consumer fibres, the pre-consumer fibres should be valued equally as post-consumer fibre (and certified fibre). Pre-consumer fibres from post-industrial sources provide environmental value, create economic value for both papermakers and FSC, and could further social values.

For companies that are required to comply to U.S. EPA requirements, the current labelling rules already provide them the option of indicating the total reclaimed content in the Moebious loop and the specific information on post-consumer content may continue to be indicated outside the FSC label.

The processes for tracking post-consumer fibres are well-established in the U.S. and Canada. However, the requirement to track post-consumer material is onerous in other countries that do not use such a system. Scenario D offers a solution to improve accessibility to FSC's recycled certification and labelling worldwide while facilitating implementation of U.S. requirements regionally.

More mills will be able to gain FSC certification globally and more papers will be able to carry the FSC label. Mills that are 100 percent recycled and that use both post-consumer and pre-consumer fibre will no longer be limited in how much of their production they can label as FSC certified, improving market availability both for them and for FSC.
North American papermakers will continue to track and identify their post-consumer content, as they already do. Purchasers worldwide can expect to see a wider range of FSC recycled content products, and they will be able to choose the ones that best meet their criteria.

Within North America, since the post-consumer tracking mechanisms are already in place and mills' personnel are already trained to identify it, the cost of FSC certification should not be affected. Outside North America, papermakers that are not be required to track post-consumer materials will potentially have a decrease of their certification costs. If those papermakers want to export some of their papers to North America, they would need to indicate the post-consumer percentage according to the North American buyers' specifications. For the post-consumer, they might list "0%" or "not tracked" or "undertermined" if they cannot identify its actual amount, allowing sufficient transparency for purchasers to choose.

Using Scenario D, FSC would be able to more realistically value recycled paper fibre, more properly value the production at 100 percent recycling mills, allow greater participation from mills

[26] The use of the Moebius loop in the FSC label is optional.

in parts of the world that are barred by requirements to track post-consumer, yet also facilitate meeting purchasers' legal and environmental requirements.

APPENDIX A. Motion 38 from the 2011 FSC General Assembly.

No. / Title: 1.1 38) Certified reclaimed paper material by FSC-STD-40-004	**Category:** Policy
1.2 **Original** ☐ Amended ☒ **New** ☐	Submitted language(s): **English** ☒ Spanish ☐
Vote by: 1.3 **show of cards**	**Result:** **PASSED**

Proposed by:

Name:	Ulrich Leberle
Organization	Confederation of European Paper Industry
Chamber:	Economic North
E-mail:	u.leberle@cepi.org

1) Seconded by:		**2) Seconded by:**	
Name:	Dale Kavalew	Name:	Uwe Sayer
Organization	Procter & Gamble	Organization:	– (individual member)
Chamber:	Economic North	Chamber:	Environmental North
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MOTION:

FSC shall conduct a chamber-balanced study to evaluate the risks and benefits from a market, environmental and social perspective of pre-consumer paper materials. The study will explore where best to place and value pre-consumer paper materials within FSC paper products.

Purpose and/or additional information:

Maximize Reclaimed PAPER materials (post-consumer and pre-consumer sources) for paper production, and increase the availability of
FSC certified paper with responsibly sourced fibre content. The objective of certifying reclaimed materials is to incentivize the use of recycled fibre and thereby contribute to a more responsible use of the forest resources along the lifecycle. This is in alignment with A Common Vision for Transforming the Paper Industry.

Pre-consumer fibre (reclaimed paper generated by commercial, industrial and media facilities “in their role as end-users of the product which can no longer be used for its intended purpose”) is of the same eligible character as valuable, sustainable, local input as post-consumer fibre (for paper production).

Excluded, and not accepted as reclaimed PAPER material, are inputs that can be reused on site within the same manufacturing process that generated it (commonly known as mill broke).

Background:
An increasing amount of paper products are produced from reclaimed material as technology progresses. To produce high quality end-products from reclaimed material, the quality of the raw material input is crucial. While recovered paper is purchased according to international standards and classification systems, FSC only distinguishes pre- and post-consumer reclaimed material.

The proportion of pre-consumer in the total collection of recovered paper is in the range of 10 to 15% on average. However, this fraction is crucial for paper recycling, since its

No. / Title: 1.1 38) Certified reclaimed paper material by FSC-STD-40-004	**Category:** Policy
1.2 **Original** ☐ Amended ☒ **New** ☐	Submitted language(s): **English** ☒ Spanish ☐
Vote by: 1.3 **show of cards**	**Result:** **PASSED**

composition is homogeneous and exactly known by the buyer of the material. It is the backbone for paper recycling, allowing for the growing volume of (heterogeneous) household materials to be recycled. The vast majority of recovered paper used in the paper industry is post-consumer (85-90%), originating from end-users in industry, shops or households.

Historically, the distinction between pre- and post-consumer reclaimed material has been introduced to increase collection from households. Collection levels from households have significantly increased in all parts of the world. The recovered paper collection rates in 2008 have reached 50% in Asia, 57% in North America and 66% in Europe. Keeping in mind the scarcity of land and pressures on food, fuel and fibres, it becomes clear that the global demand for recovered paper will remain high and all recycled fibre will be needed. Therefore the simplistic distinction of reclaimed materials in two groups does not serve any environmental purpose any longer. Non-accountability of pre-consumer reclaimed material is an unnecessary discrimination of a part of the reclaimed material, which is needed to make the recycling of post-consumer materials possible. The rule is de facto preventing some high-quality recovered paper based products from being certified.

Certain paper products like boxes and newspapers have been produced from recovered paper for a long time. To produce higher qualities of paper products based on recycled fibre, the industry needs to enhance its raw material basis. And to use post-consumer material for high-quality end-products, it needs to be blended with pre-consumer to refine the raw material mix. Thereby an efficient use of the reclaimed material can be ensured.

The foreword of FSC-STD-40-004 (Version 2-0) EN claims that the new standard version aims to make the overall FSC policy framework for Chain of Custody certification more feasible by introducing new concepts … by considering pre-consumer reclaimed material as eligible input in “FSC Recycled” product groups. This policy change was an important step, since it has made the use of the FSC standard more feasible for paper products based on recovered paper. Based on the encouraging experience, FSC should continue the work and overcome fully the distinction between pre- and post-consumer reclaimed PAPER material.

Suggested Revision to FSC STD 40-004 V2 EN 8.3.1: The calculation of input percentage shall be:

% input = [Q(FSC) + Q(Reclaimed PAPER material)]/Q(Total)

Document(s) to be revised / developed:	FSC STD 40-004 V2 EN 8.3.1
Timeline:	December 31, 2011
Cost to FSC:	