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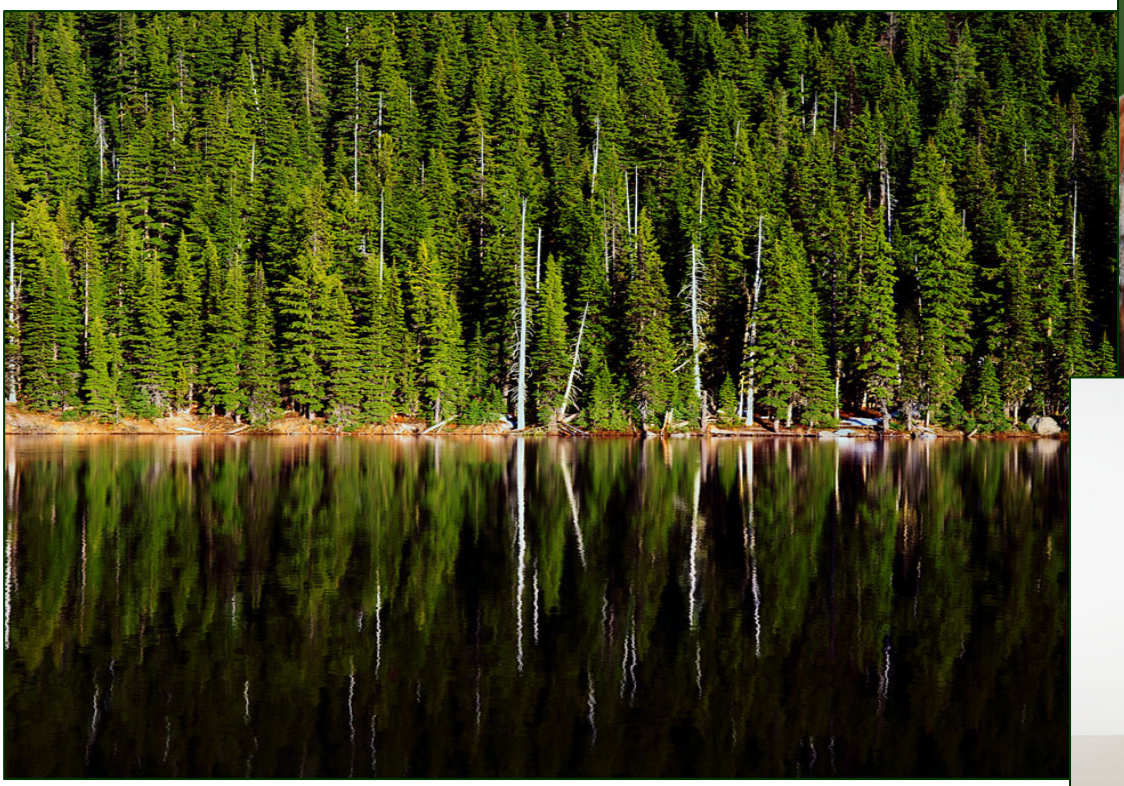
National Wildlife Federation Campus Ecology Program
Paper and Wood Procurement Toolkit



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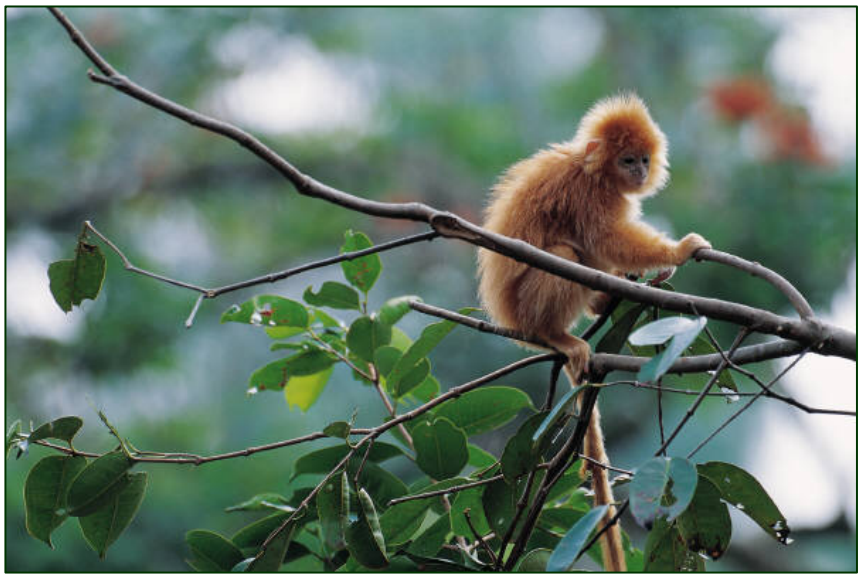


SECTION 1

How To Use This Toolkit

This Toolkit is designed to help your University or College campus design and implement policies that do not only support environmentally- friendly purchasing of paper and wood, but also to make aware the connection between paper usage and deforestation and environmental destruction within the local and international arenas.

This toolkit will also provide you with the issues surrounding wood and paper production, examples of successful campuses and sample policies that you can adjust to meet your campus needs.

Introduction

Paper and wood consumption worldwide has continued to increase yearly. Paper represents about one fifth (1/5) of the world's total wood harvest and two thirds (2/3) of the pulp that goes into papers made at North American paper mills is from virgin forests.

Worldwide, we as a human population, are using roughly 1 million tons of paper per day, or put more clearly, roughly 23 million sheets of paper per day. The United States is the largest consumer of paper, at approximately 90 million tons of paper per year, or 30% of the world's supply. That averages about 700 pounds of paper per person.

In addition, paper has a devastating impact on carbon emissions. According to the UN Food and Agriculture Organization, deforestation accounts for 25% of annual carbon emissions caused by human activity, with paper production accounting for one fifth (1/5) of that percentage. **Hence, it's time we start getting smarter about how we source our paper, how we use paper, and what we do with paper when we are finished with it.**

Yet, not only is paper consumption a problem, so is the general destruction of our forests. Everyday, thousands of indigenous people are displaced or have lost their livelihoods due to the destruction of forests; not to mention habitat loss and loss of biodiversity. Therefore, it is also important to begin looking at smart wood purchasing and the choices one has when buying wood products. Almost half (49%) of the remaining intact forests in the world are tropical forests, located in Latin America, Africa, and Asia Pacific. Furthermore, worldwide, over 60 million indigenous people completely depend on forests and over 1.2 billion people have some dependence on forests for their livelihoods.

University and college campuses are huge consumers of paper and wood products. In fact, university and college campuses create approximately 3.6 million tons of waste each year (roughly 2% of the U.S. waste stream) (The Green Book). But, not only are campuses large consumers of paper and wood products, they also have a responsibility to educate and inform over 20 million students, staff and faculty that are part of the university and college system in the United States. Collectively, these 4,100 plus campuses have a purchasing power of over $300 billion per year, which hopefully with the assistance of this toolkit and other sustainability initiatives will transform that power into purchasing green and sustainable products.

SECTION 2

UNDERSTANDING PAPER AND WOOD PURCHASING

Historically, universities and colleges have played a pivotal role in setting the precedent for sustainability efforts – from recycling programs and energy conservation, to efficiency retrofits and green building policies, to waste reduction and water use conversation, to renewable energy investments and the availability of local, organic foods in the dining halls – our academic institutions have served as incubators and testing grounds for demonstrating ways to have a lighter carbon footprint impact and, in many cases, save money as well. Now, it is time to have a positive impact on our world's forests and inhabitants, through solid and just paper and wood purchasing policies.

According to State of the Campus Environment, an NWF report surveying 891 higher education institutions on environmental performance, 47 percent have set goals to improve purchasing environmentally sound goods. Environmentally conscious purchasing can result in less waste, cost-saving measures, energy conservation resulting in positive climate change, and an overall awareness on campus of the necessity to conserve and reduce.

As the gateway to goods and services on campus, purchasing offers a key opportunity to promote sustainable manufacturing, packaging, transportation, and recyclability of goods. With paper being one of the most visible and utilized commodities on campus, no wonder some are weary of changing their habits and types of paper used. Audits conducted on campuses, have shown that municipal waste stream is made up of 40% to 50% paper and paper product waste.

Benefits of Recycling Paper and Wood on the Environment

De-inked paper fiber is the most efficient source of fiber for the manufacturing of new paper products; one ton of de-inked pulp saves over 7000 gallons of water, 390 gallons of oil, and reduces air emissions by 60 lbs compared to traditional virgin fiber processes. (Abitibi Consolidated, 2005)

Recycling 1 ton of paper saves 17 mature trees, 7,000 gallons of water, 3 cubic yards of landfill space, 2 barrels of oil, and 4,100 kilowatt-hours of electricity — enough energy to power the average American home for five months. (EPA, 2008)

Recycling paper instead of making it from new material generates 74 percent less air pollution and uses 50 percent less water. (EPA, 2008)

Producing recycled paper requires about 60 percent of the energy used to make paper from virgin wood pulp. (EPA, 2008)

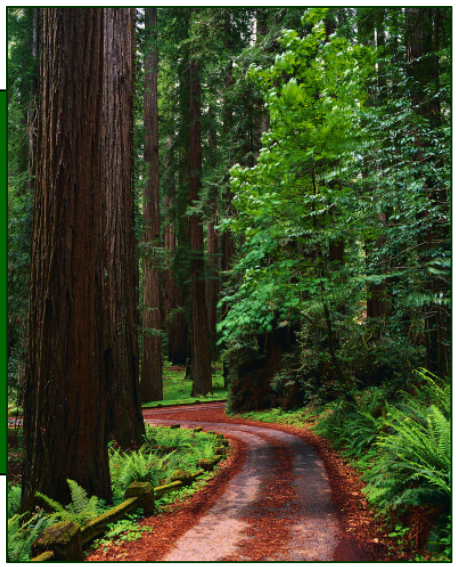
Recycled paper can also be made into paper towels, notebook paper, envelopes, copy paper and other paper products, as well as boxes, hydro-mulch, molded packaging, compost, and even kitty litter. (EPA, 2008)

Paper Purchasing

Changes in how students, staff and faculty use paper, as well as having a complete and detailed campus purchasing policy can help by:

- Preventing water and air pollution

- Protecting indigenous communities
- Increasing forest biodiversity
- Decreasing habitat loss
- Reducing landfill waste
- Ensuring plant and animal safety



When Selecting Paper,

Consider the 3 most significant factors:

(1) Post-consumer recycled content

(2) Bleaching classification, and

(3) Source of the original raw material.

(1) Buy paper with the highest post-consumer recycled waste content available.

Post-Consumer vs. Pre- Recycled Content: It is important to understand the difference between post-consumer paper and pre-recycled content paper. **Post-consumer is the most important number to identify!** The post-consumer number identifies the percentage of paper that was extracted from the waste stream and turned into pulp for new paper. Using a high percentage post-consumer recycled content (i.e. 100%, 50% or 30%) decreases deforestation, pollution and waste because it is re-using paper that would have gone into landfills.

Pre-consumer or pre-recycled denotes the percentage of paper that is recovered during the manufacturing process. This includes wood scraps and paper trimmings, which are common during the production process.

Total recycled paper content includes both, pre and post consumer paper fibers in the production of the new paper.

Nowadays, it is very common to find paper that has 100% post-consumer waste, and it can be found for the same price, if not cheaper from paper suppliers.

(2) Buy Process-Chlorine Free or Totally-Chlorine Free Paper

Traditional "bleaching" of paper can have harmful effects on the environment. Some effects include: water pollution, the release of dioxins and furans as by-products (dioxins have been found to cause endocrine, reproductive, nervous, and immune system damage) and air pollution. Papers can be categorized by their "bleaching classification."

There are several chlorine bleaching classifications:

- Elemental chlorine-free

- Processed chlorine-free
- Totally chlorine-free.

Elemental Chlorine-Free: Bleaching with elemental chlorine was once the industry's preferred method. Because of dioxin concerns, most paper producers have switched to bleaching with a chlorine derivative, such as chlorine dioxide, in a process known as "elemental chlorine-free" (ECF) bleaching. Although ECF bleaching reduces some dioxins by up to 90 percent over traditional chlorine bleaching, it does not eliminate them.

Processed Chlorine-Free (PCF): To further reduce dioxin emissions, some paper manufacturers and purchasers are switching to "processed chlorine-free" (PCF) methods in which new recycled-content paper is bleached without the use of any chlorine or chlorine derivatives. While some dioxin might be released during this process because the recycled papers were originally bleached with chlorine or chlorine derivatives, no additional dioxin is produced with the PCF method. PCF papers with high post-consumer recycled content (30 percent or greater) are generally the most preferable because they are affordable, contain recycled content, and are, for all practical purposes, chlorine-free.

Totally Chlorine-free (TCF): TCF papers can also be made, and they produce no dioxins or chlorinated toxic pollutants during the manufacturing phase because chlorine is not used in any part of the production process. Unfortunately, TCF papers containing post-consumer recycled content are unavailable domestically because the available recycled-content paper pulp was most likely originally bleached with chlorine. As a result, most domestic TCF papers are made from virgin wood although some relatively expensive TCF tree-free papers are commercially available.

(3) Buy paper products that were produced from properly managed forests or from alternative "tree-free" fibers.

Certified Forests are becoming more and more prevalent in today's world. There are currently four (4) different forest certification systems in North America. **The Forest Stewardship Council** (FSC) and the **Program for the Endorsement of Forest Certification Schemes** (PEFC) operate on an international scale and the **Sustainable Forest Initiative** (SFI) and the **Canadian Standards Association** (CSA) operate nationally.

The FSC (www.fscus.org) is the most recognized and has the most stringent policies in place for forest management practices. In fact, the FSC is supported by more than 14 nationally recognized environmental organizations, including the National Wildlife Federation (NWF), The Nature Conservancy (TNC), and the World Wildlife Fund (WWF). Also, major corporations, such as Lowes, Home Depot, and Kinko's, endorse the FSC.

In addition to trees, there are several alternative fibers on the market for producing paper, such as kenaf, hemp, agricultural residual materials (cereal straws, cotton linters, banana peels, coconut shells, etc.), denim fabric and even old paper money. Many of these "agrifibers" yield more pulp-per-acre than forests or tree farms, and require fewer pesticides and herbicides. Fewer chemicals and less time and energy are needed to pulp agricultural fibers because they contain less lignin (a glue-like substance that makes plants and trees stand erect). Due to their inherently lighter color, agrifibers can be effectively brightened using totally-chlorine-free (TCF) bleaching processes, thus eliminating the production of highly toxic chlorine byproducts (such as dioxin). Although their prices are often higher, purchasers can keep prices competitive by substituting a lighter grade of tree-free paper. Some find that this actually saves money when compared with more traditional choices.

Wood Purchasing

The use of wood on college and university campuses is often overlooked. Yet, as campuses continue to experience growth, the use of wood and wood-based products continues to increase.

Wood is used for the construction of new buildings, furniture in dorm rooms, offices, and dining halls/cafeterias, flooring, and heating systems, to name a few.

Promoting sustainably managed forests can help by:

- Protecting fresh water sources
- Protecting marine species, many of which are endangered or threatened
- Encourage local markets
- Improve the livelihoods of indigenous and threatened communities
- Support environmental and sustainable global trade and investment in properly managed forests and countries

When Selecting Wood,

Consider the 3 most significant factors:

(1) Forest Certification

(2) Buy local

(3) Buy low or no carbon impact product

(1) Use wood that originated from a Forest Certified forest.

As mentioned with paper purchasing, buying wood that was Forest Stewardship Council (FSC) certified is the best way you can ensure you are purchasing wood from a properly managed forest.

FSC certified forests ensure the following:

- Require management for natural forest attributes and ecosystem function.
- Prohibit replacement of natural forests by ecologically-barren tree plantations, and require portions of existing plantations to be managed more naturally.
- Require protection measures for rare old growth in certified forests, and require protection of all other high conservation value forests.
- Require on-the-ground protection for all imperiled, threatened, and endangered species.
- Encourage forest practices that reduce the need for routine, intensive chemical use, and ban the most toxic chemicals.
- Prohibit replacement of forests by sprawl and other non-forest land uses.
- Prohibit logging levels that exceed forest growth levels.
- Prohibit use of genetically modified trees and other genetically modified organisms (GMOs).
- Require verification of compliance with all applicable laws and policies for forestry, land use, and resource protection.

- Address numerous other specific forest management considerations.
  (Source: (http://credibleforestcertification.org/fsc_facts/fsc_attributes/)

In addition, FSC has strong socially-responsible values, including protecting indigenous people's rights by reinvesting in communities, requires management complies with international labor laws

(2) Buy locally made FSC- certified products

Buying local products from FSC certified wood ensures that jobs are being made available for many rural or small communities. NWF, Mark Lorenzo believes that for every $1 million spent on FSC- certified wood products creates 20 direct and indirect jobs.

Also, buying locally produced wood products decreases carbon emissions because it decreases transportation emissions. Depending on where you are located in the United States, it is possible to locate FSC certified forest products. Check out the www.fscus.org website for more details.

(3) Buy low- or no-carbon impact products.

Although this is slowly making waves in the wood producing industry, and will soon require product verification, buying low-or no carbon products will further reduce emissions into the atmosphere. For now, wood products that are FSC-certified will assure that more wood (biomass) is growing than is being harvested. This keeps the forest functioning as a carbon sink (sucking up carbon emissions). Also local production reduces carbon emission associated with trucking products. Finally, when FSC-wood is substituted for metal or plastic in a project, it immediately reduces the carbon footprint of that project, since metal is very energy-intensive to produce, and plastic is made from oil.

STEP BY STEP GUIDE

Step 1:
Develop a committee that will be the main contact on paper and wood consumption. This committee should be made up of a mix of students, faculty and staff. This committee should conduct a basic audit of the paper and wood practices on campus.

Step 2:
Before you begin tackling paper and wood purchasing policies on your campus, it is suggested that you do a basic audit. It is important to know the following:

1. Does your school have any suggested paper and wood guidelines already in place?
   - Can these "guidelines" be turned into a strong institutional policy?
2. How are paper and wood products procured?
   - It is important to talk with purchasing managers and departments to understand how paper is used differently on campus and where possibly changes can be made
3. What types of paper and wood products are you currently being used?
   - Campuses use many different types of paper (uncoated, coated, cardstock, etc.).
4. Where are they being sourced?
   - Find out if the companies that paper and wood are sourced from offer environmentally-friendly options.
5. How much paper is being consumed daily/weekly/monthly/yearly?

- The #'s audit is crucial to figuring out how much waste your campus is producing in the form of paper and wood.

Step 3:
Once you have a basic understanding of where your paper and wood is coming from and how much you use, it is important to look what your paper reducing and purchasing goals are.

For example: Can your school reduce consumption by 25%? Or, what is the price differentials of purchasing FSC certified 100% post consumer paper vs. purchasing FSC certified 30% post-consumer paper?

Step 4:
Develop wood and paper purchasing policy drafts (see examples in Section 3)

Step 5:
Gain approval for policies and begin implementing

Step 6:
Evaluate positive impact your school is having on the paper and wood industry. Educate the campus body. Publish your school's policies and efforts on the campus website and local newspapers.

SECTION 3

SAMPLE COLLEGE AND UNIVERSITY PAPER AND WOOD PURCHASING POLICIY

Sample # 1 (Adopted from the Environmental Paper Network, www.epn.org)

Model Paper Purchasing Policy to be adopted by Your Campus

Paper plays a key role in [University name]'s operations. We are concerned about the future of the world's forests and the environmental impacts of paper production. We are therefore committed to purchasing, using, and disposing of paper in ways that protect endangered forests, indigenous communities and their associated biodiversity, reduce pollution, and minimize waste.

By developing a comprehensive paper and wood policy, [University name] is making a commitment to implement and track results of our paper efficiency and procurement strategies by:

Using Paper Efficiently by reducing consumption of paper and paper products when possible.

Maximizing Recycled Content by buying products with the highest post-consumer recycled content feasible for each specific need, but no less than the U.S. Environmental Protection Agency (EPA) minimums for federal agencies.

Choosing Responsibly-Sourced Fiber by purchasing products that originate from sustainably managed forests and are certified by independent, third-party organizations, such as the Forest Stewardship Council.

Supporting Cleaner Production Practices by selecting products that are processed without chlorine or chlorine compounds and giving preference to suppliers and manufacturers using renewable energy.

Closing the Loop by implementing and maintaining a recycling system to ensure the raw materials for producing recycled-content paper are readily available.

Spreading the Word by producing an annual sustainability report and posting information on our paper policy and practices on our website, and promoting responsible paper use in publications as appropriate.

Using Paper Efficiently

Using paper efficiently is a key first step in reducing the environmental impacts associated with paper use. To use paper efficiently, [University name] will:

Increase paper efficiency by [x amount] by [date], upon which time paper use will be re-evaluated and a new target established. [University name] will develop a method for tracking and documenting results.

Institute practices that increase paper efficiency, including, but not limited to:

- Substituting electronic communications for printing.
- Purchasing copiers, printers, and fax machines that can be set to default to double-sided printing.
- Reusing products such as file folders, storage boxes, and paper printed on one side.
- Reducing the basis weight and trim sizes of printed pieces.
- Rethinking design processes to minimize printing and copying waste.
- Minimizing unsolicited mail, both sent and received.
- Minimizing overruns and maximizing sell-through for published materials.

Maximizing Recycled Content

Purchasing recycled-content paper and paper products has far reaching environmental benefits and will encourage suppliers to increase their capabilities in providing these products. To maximize the recycled content in paper and paper products, [University name] will:

1. Purchase and source paper and paper products that contain the highest post-consumer recycled content feasible for each specific need, but no less than the U.S. Environmental Protection Agency (EPA) minimums for federal agencies.

2. Set a timeline for increasing the post-consumer content in purchased paper products as quickly as possible to higher percentages.

3. Give preference to paper and paper products whose post-consumer recycled content is verified by an independent, third-party organization, such as the Forest Stewardship Council.

4. Give preference to paper and paper products that also contain other recovered materials (e.g. preconsumer recycled content, agricultural residues, etc.) after maximizing post-consumer recycled content.

[2] For more information on federal minimum recycled content standards, see the Comprehensive Procurement Guidelines and Recovered Materials Advisory Notices at www.epa.gov/epaoswer/non-hw/procure.

Choosing Responsibly-Sourced Fiber

[University name] supports responsible forest management practices that protect biodiversity, ecosystem integrity, and long-term benefits to communities. To promote the use of responsibly-sourced fiber in paper and paper products, [University name] will:

Verify Supply Origin: Purchase paper and wood listed as FSC certified. If existing suppliers and manufacturers cannot provide these papers, we will verify with them the source of any virgin fiber content in paper and give preference to suppliers and manufacturers that establish a credible "Chain of Custody" tracking system to reliably identify the origin of fiber sources.

Endangered Forests: Give preference to paper and paper products guaranteed to be free of fiber that threatens endangered forests. We currently support the definition of endangered forests as outlined in the Wye River Coalition's *Endangered Forests: High Conservation Value Forests Protection – Guidance for Corporate Commitments* and ForestEthics, Greenpeace, Natural Resources Defense Council, and Rainforest Action Network's *Ecological Components of Endangered Forests*. We will consult with environmental experts, including EPN member organizations, for assistance in identifying endangered forests and paper and paper products from these forests.

Forest Conversion to Plantations: Give preference to paper and paper products that can be guaranteed to be free of fibers from the conversion of diverse natural forest ecosystems into plantations. This policy supports the Forest Stewardship Council's criteria specifying November 1994 as the cut off date for no more conversion of natural forests to plantations. Wood from forests converted to plantations after November 1994 is unacceptable unless the plantations are being restored to natural forests.

Certified Virgin Fiber: Give preference to paper and paper products with a remaining virgin tree fiber content that is certified by independent, third-party organizations that employ the most environmentally and socially responsible forest management and restoration practices. The Forest Stewardship Council (FSC) is the only acceptable international certification program that meets this guidance.

Alternative Fibers: Give preference to paper and paper products made from alternative fiber crops (e.g. hemp, kenaf, etc.) if Life Cycle Analysis and other comprehensive and credible analysis indicates that alternative fibers are environmentally and socially preferable to other sources of virgin fiber.

Genetically Modified Organisms: Buy paper and paper products with fiber content known to be free from genetically modified organisms. This includes transgenically modified trees and plants that have genes of other animals and plants inserted.

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[3] For the Environmental Paper Network's paper hierarchy, see **www.xxx.org/hierarchy.**

[4] The Wye River Coalition's *Endangered Forests: High Conservation Value Forests Protection – Guidance for Corporate Commitments* is available at www.environmentalpaper.org/documents/EF-Report.pdf.

[5] ForestEthics, Greenpeace, Natural Resources Defense Council, and Rainforest Action Network's *Ecological Components of Endangered Forests* is available at http://forestethics.org/downloads/EFDefinitions_April_2006_2.pdf.

[6] For more information on Forest Stewardship Council, see: www.fscus.org and www.fscoax.org (FSC U.S. and international web sites), www.certifiedwood.org (certified wood supply database and tracking services), www.forestworld.com (certified wood supply database and tracking services), and web sites of certifiers specified on FSC web sites.

Supporting Cleaner Production Practices

[University name] supports minimizing the environmental impacts of paper production. To encourage cleaner production practices, [University name] will:

1. Give preference to paper and paper products processed without chlorine or chlorine compounds (i.e. "processed chlorine free" or PCF papers), as long as they also meet recycled content goals. [University name] will set timelines for converting purchases of recycled content paper to PCF.

2. Choose paper with the minimum brightness suitable for our printing needs to further minimize environmental impacts from paper bleaching.

3. Avoid coatings and bright-colored papers whenever possible.

4. Give preference to suppliers and manufacturers that use renewable energy to supply electricity for their facilities, either on-site or through the purchase of renewable energy certificates (RECs).

5. Use vegetable-based inks (e.g. soy, linseed, corn, etc.) and inks free of toxic metals whenever possible.

Closing the Loop

[University name] supports measures to secure the availability of environmentally preferable papers, such as maintaining a paper recycling program. To ensure the raw materials for producing recycled-content paper must be readily available, [University name] will:

1. Collect and recycle paper that has been used internally as well as paper that is received from outside sources. If a paper recycling program does not currently exist, we will work with our building managers and suppliers to implement such a system.

2. Educate co-workers as to what is required of them, including alerting cleaning staff and waste haulers to keep recyclables separate from trash.

Spreading the Word

[University name] recognizes the benefit of promoting environmental awareness with our employees, suppliers, customers, partners, and the public. To publicly promote our commitment to using paper efficiently and purchasing environmentally preferable paper, [University name] will:

1. Publish and distribute to all interested stakeholders an annual sustainability report, which will detail progress in implementing this policy and any other activities related to [University name]'s impact on the environment.

2. Post our environmental paper purchasing policy, goals, and achievements on our website.

3. Print on documents (e.g. letterhead stationary, envelopes, publications, etc.) an accurate description of the attributes of the environmentally preferable papers used, in order to raise awareness and accountability. Such attributes include, but are not limited to, post-consumer recycled content, bleaching technology (i.e. PCF), and any applicable eco-logos or certifications.

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[7] Renewable energy sources include solar, electric, biomass, wind, geothermal, small hydropower, biodiesel, and fuel cells. For more information on renewable energy sources, see www.green-e.org/ipp/national_standard.html.

4. Encourage suppliers to adopt similar paper policies and implement other environmentally and socially responsible practices.

Web Link Examples of Responsible Paper and Wood purchasing policies

Evergreen University:
http://www.evergreen.edu/policies/policy/paperpurchasing

Hampshire College:
http://www.hampshire.edu/cms_PDF/Purchasing_Manual_FINAL.pdf

University of California, San Diego:
http://adminrecords.ucsd.edu/ppm/docs/530-10.htl

University of Oregon:
http://policies.uoregon.edu/ch4k.html

University of North Carolina, Chapel Hill:
http://sustainability.unc.edu/Initiatives/Purchasing/tabid/119/Default.aspx

RESOURCES

NWF website, Paper Use and Recycling
http://www.nwf.org/paper/

NWF website, Forests
http://www.nwf.org/forests/forestchoices2.pdf
and
http://www.nwf.org/forests/pdfs/Final%20Scorecard.pdf

University of Vermont
http://www.uvm.edu/envnr/nsrc/printprojectpdfs/lorenzodiff03.pdf

Grassroots Recycling Network website – Zero Waste, Recycling and Climate Change
http://www.grrn.org/zerowaste/climate_change.html

Go Recycle – Your Washington Area Resource for Recycling Information
http://www.mwcog.org/dep/gorecycle/climate.htm

Environmental Defense Fund's Paper Calculator
www.papercalculator.org

University of Michigan's Waste Management Services
http://www.recycle.umich.edu/grounds/recycle/climate_change.html

EPA has a number of different tools and resource info
http://www.epa.gov/climatechange/wycd/waste/index.html

New Mexico Recycling Coalition
http://nmrecycle.org/climate_change.htm

Stopwaste.org
http://www.stopwaste.org/home/index.asp?page=862

Fun game from EPA
http://www.epa.gov/recyclecity/

Earth911
http://earth911.org/

Environmental Paper Network
http://www.environmentalpaper.org/

Association for the Advancement of Sustainability in Higher Education
www.aashe.org

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