

CHOOSING THE RIGHT SHADE OF GREEN

There are several ways a company may choose to express their green side.

- By addressing issues of sustainable *forestry* and choosing a paper that is *forest certified*.
- By addressing *landfill* issues and choosing papers with *post consumer waste*.
- By addressing the issue of *global warming* by *purchasing carbon neutral manufactured paper*.
- By addressing *water* and *air quality* issues and choosing papers that are *bleach free*.
- By addressing the *environmental impacts* of paper manufacturing and choosing an *ISO 14001 approved mill*.

Forest Management Systems

These papers are partially or totally derived from resources that are managed to ensure their renewability for generations to come.

- Forest Stewardship Council (FSC)
- Program for the Endorsement of Forest Certification Schemes (PEFC)
- Sustainable Forestry Initiative (SFI)
- Canadian Standards Association (CSA)

Recycled Content

Recycled papers may contain either pre or post consumer waste. The mobius loop (the three arrow symbol) is commonly used on printed recycled materials. Its use is not monitored, nor does the symbol represent any specific waste content.

Carbon Management

Carbon neutral is an emerging trend for both companies and individuals. Being carbon neutral is a very simple concept involving the purchase of carbon offset credits which fund emission free energy projects such as wind farms and solar installations.

Green Energy

Green energy refers to electricity generated by renewable resources, such as wind power, hydro and biogas.

Bleaching Process

When wood is pulped, it is naturally discoloured. The environmental challenge is to bleach the pulp white while minimizing harmful side effects on the environment.

- Elemental Chlorine Free (ECF)
- Totally Chlorine Free (TCF)
- Processed Chlorine Free (PCF)

Environmental Management Systems

External certification and ongoing monitoring systems are designed to assure continuous reduction of environmental impacts. An EMS is designed to identify, evaluate, plan, manage, improve and monitor the environmental policy throughout an organization.

- ISO 14001
- Eco-Management and Audit System (EMAS)
- Environmental Protection Agency (EPA)

(Please see the Definitions pages for more information on each of these terms)

FOREST CERTIFICATION PROGRAMS

Forest certification is an assurance given to a purchaser of wood and paper products that the timber used for the product originates from well managed forests. This means the forest is managed in an environmentally, socially and economically sustainable manner.

Printing on forest certified paper provides a means to actively support well managed forests and communicate a company's corporate social responsibility program.

Sustainable forestry is about:

- The balance between society's increasing demands for forest products and the preservation of forest health and diversity
- Maintaining forest biodiversity
- Ensuring regeneration capacity
- Not causing damage to other ecosystems

FSC - Forest Stewardship Council

The Forest Stewardship Council is an international nonprofit organization founded in 1993 to support environmentally appropriate, socially beneficial, and economically viable management of the world's forests.

It supports the development of national and regional standards to be used to evaluate whether a forest is being well managed. Membership is open to all that are involved in forestry or forest products and share its aims and objectives. Headquartered in Bonn, Germany, FSC is governed by an elected Board that consists of people from industry, environmental, social and labour groups, Indigenous People's representatives and others.

The Forest Stewardship Council accredits other organizations to carry out independent inspections and issue Forest Management and Chain of Custody certification. The FSC goes a step beyond just sustainable growth, incorporating elements of social interest, economic viability and indigenous land claims.

COC (Chain of Custody) is the path taken by raw material from the forest to the consumer, including all stages of processing. A product can only carry the FSC label or logo if the forest receives an FSC forest management certificate and if all steps along the supply chain possess chain of custody certifications. To reproduce the FSC logo, an FSC certified printer must print the job.

www.fscanada.org

PEFC - Program for the Endorsement of Forest Certification Schemes

PEFC is an independent, non-profit, non-government organization founded in 1999 in Paris. The organization promotes sustainably managed forests through independent third party certification, similar to FSC. PEFC is a global umbrella organization which assesses and endorses national forest certification programs such as CSA and SFI. It has a greater European awareness, though presently more than half of their forest certifications are in Canada.

www.pefc.org

SFI - Sustainable Forestry Initiative

- SFI meets the standards of responsible forest practices and is PEFC endorsed.
- Established in 1994 by the American Forest and Paper Association.
- Governed by the Sustainable Forestry Board, an independent, multi stakeholder group.

www.aboutsfi.org

CSA - Canadian Standards Association

- Meets the standards of PEFC forest practices for sustainable growth and development.
- Formed in 1994 by a group of Canadian foresters wanting to establish independent standards for responsible forestry in Canada.
- No chain of custody involved with CSA as it encompasses forestry harvesting practices only.

www.csa.ca

RECYCLED PAPER DEFINITIONS

To use the mobius loop (the three arrow symbol), a paper must contain recovered materials. The amount may vary considerably, from small percentages of Pre Consumer Waste to 100% Post Consumer Waste. The amount of Post Consumer Waste should be noted in an accompanying tagline.

Post Consumer Waste

Paper that has completed its life cycle to the end user then re-enters the production process through recycling bin collection.

Pre Consumer Waste

Includes manufacturing waste from envelope converters, binderies, and printed paper that never reached the consumer.

Recyclable

This term simply means that the product is able to be recycled; it does not mean that the product contains any amount of recycled content.

Contains Recycled Content



Product is Recyclable



Climate Change Explained

Interest in Carbon Neutral products is growing as the world becomes more concerned and educated about climate change and reducing greenhouse gases.

What is the problem with greenhouse gases?

Greenhouse gases increase global temperatures by stopping heat from radiating into space.

What are greenhouse gases?

According to the Kyoto Protocol:

- **Carbon Dioxide** - emitted partly by human activities such as fossil fuel combustion, deforestation and industrial processes.
- **Methane** - emitted from sources such as livestock, incomplete combustion of biomass, leakage from natural gas transportation and delivery systems, coal mining and decay of organic waste in landfills. It is also produced naturally when vegetation is burned, digested or rotted without the presence of oxygen. Large amounts of methane are released by cattle farming, waste dumps, rice farming and the production of oil and gas.
- **Nitrous Oxide** - released by cultivating soil, applying nitrogen-based fertilizers, producing nylon and burning fossil fuels and wood. Nitrous Oxide has a global warming potential 310 times that of carbon dioxide.
- **Hydrofluorocarbons (HFCs) and Perfluorocarbons (PFCs)** - used, for example, in refrigeration equipment, fire extinguishers and air conditioners. Emissions of these gases occur when this equipment is used and when it is discarded.
- **Sulphur Hexafluoride** – emitted by the electric power industry when installing, servicing and disposing of equipment such as circuit breakers, gas-insulated substations and switchgears. Sulphur Hexafluoride is also used during primary magnesium production.

How are greenhouse gases measured?

Some greenhouse gases have stronger warming potential than others. To allow consistent accounting, emissions are reported as carbon dioxide equivalents or CO₂e.

What is the Kyoto Protocol?

The Kyoto Protocol is an agreement made under the United Nations Framework Convention on Climate Change (UNFCCC). Countries that ratify this protocol commit to reduce their emissions of carbon dioxide and five other greenhouse gases, or engage in emissions trading if they maintain or increase emissions of these gases. The Kyoto Protocol now covers more than 160 countries globally and more than 60% of countries in terms of global greenhouse gas (GHG) emissions. This treaty expires in 2012, and international talks began in May 2007 on a future treaty to succeed the current one.

What does 'Carbon Neutral' mean?

Carbon Neutral means carrying out an activity without increasing the greenhouse gases in the atmosphere. This can be done by operating without releasing any greenhouse gases, or by offsetting greenhouse gases released through equivalent reductions elsewhere.

There are three steps to becoming carbon neutral:

1. Calculate the CO2 emissions from your activity. Online carbon calculators make it straightforward for individuals to quickly determine their CO2 output.
2. Reduce emissions. Once you know how much CO2 you are responsible for and its source, you can prioritize how to reduce.
3. Purchase carbon offset credits. For those emissions you cannot reduce, you can pay for reductions to be made somewhere else in the world. In this evolving market you need to be sure you purchase guaranteed offsets from reputable providers.

What are some ways to reduce greenhouse gases?

- Fuel Switching – finding alternatives to using fossil fuels to generate steam and electricity, such as using clean biomass fuel.
- Energy Efficiency – reducing energy used in manufacturing processes.
- Closing Assets – getting rid of old, inefficient equipment and facilities.

What is a 'Carbon Offset'?

A carbon offset is a credit for CO2 emission reductions that can be bought. If you add polluting emissions to the atmosphere, you can effectively subtract them by purchasing 'carbon offsets'. Carbon offsets are simply credits for emission reductions achieved by projects elsewhere, such as wind farms, solar installations, or energy efficiency projects. By purchasing these credits, you can apply them to your own emissions and reduce your net climate impact. Carbon offsets are bought and sold through brokers, online retailers, and trading platforms.

How do I get more information?

There are many online resources where you can read more about climate change and carbon neutrality:

www.davidsuzuki.org

www.carbonneutral.com

www.myclimate.org

econeutral.com

www.zerofootprint.com

Carbon Management – Terminology

Carbon reduction – taking actions to help slow climate change and reduce the amount of carbon released into the atmosphere. Positive actions can include making a more energy efficient home, choosing energy efficient office and home appliances, and walking or biking instead of using the car.

Carbon neutral – going carbon neutral is a way to take responsibility for the greenhouse gas emissions we create – it means you contribute positive carbon offsets to offset the negative ones you have created.

Carbon offsets – an emission reduction achieved by undertaking a greenhouse gas reduction project – a way to neutralize the negative environmental outputs associated with energy or fuel consumption. Examples of offsets include planting trees or funding solar installations.

Carbon footprint – a measure of the impact human activities have on the environment in terms of the amount of greenhouse gases produced, measured in units of carbon dioxide.

Greenhouse gases – they trap heat in the earth's atmosphere, which helps support the variety of life on the planet. However, when we burn large amounts of fossil fuels such as oil, coal and gas, we are increasing the atmospheric concentration of these gases. This raises the average air temperature in the lower atmosphere. The result is climate change.

There are 6 greenhouse gases listed in the Kyoto Protocol – carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.

Kyoto Protocol – an international agreement to cut greenhouse gas emissions that cause climate change.

Global Warming – the name given by scientists for the gradual increase in temperature of the earth's surface.

GREEN ENERGY

Wind Power

Paper production requires vast quantities of water and electricity. Many mills are seeking ways to conserve and reduce their energy usage. By utilizing contracted purchases of electricity generated through nonpolluting wind turbines, mills are able to supplement the energy required to produce paper.

Wind power generation has economical operating costs compared to more traditional methods of power generation. As the price of traditional electricity increases, wind power is becoming an excellent, efficient power resource. Wind energy creates new jobs, offsets emissions from fossil-fired power plants, offsets external costs, stimulates new economical development particularly in rural areas, enhances security of electricity supply and provides a stable price model. Because wind turbines use less than 5% of the land where they are situated, wind farms allow for multiple use of the same land, offering alternative income sources to family farmers. Wind energy is the fastest growing energy resource in the world and has few environmental impacts compared with other sources of energy, resulting in a reduced contribution to global climate change. Also, wind energy is a domestic source of energy, meaning that it is not subject to international politics.

With all new initiatives there are always drawbacks. There are aesthetic concerns, as wind farms are located on or just above ridgelines where they obstruct the view. A large amount of land mass is also required. Seventeen acres of land is needed to produce 1 megawatt of electricity, enough to power 750 to 1,000 homes. While this may be expensive, the land can be shared by farms and cattle.

Green-e Program

Green-e is administered by a U.S. nonprofit organization called the Center for Resource Solutions. It provides an easy way for consumers to quickly identify environmentally superior products made from renewable sources of electricity, including wind power, solar power, low impact hydropower and biomass.

www.greene.org

BLEACHING PROCESS DEFINITIONS

When wood is pulped, it is naturally discoloured. The environmental challenge is to bleach the pulp white while minimizing harmful side effects on the environment.

Elemental Chlorine Free (ECF)

Pulp is bleached using processes that do not use elemental chlorine gas, significantly reducing the amount of toxins released.

Totally Chlorine Free (TCF)

A pulp bleaching process that avoids the use of all chlorine, in elemental or compound form.

Processed Chlorine Free (PCF)

Recycled fibers are bleached using this process which is chlorine free. The pulp cannot be called totally chlorine free since the recycled fibres could have been chlorine bleached in their initial use.

ENVIRONMENTAL MANAGEMENT SYSTEMS DEFINITIONS

External certification and ongoing monitoring systems are designed to assure continuous reduction of environmental impacts. An EMS is designed to identify, evaluate, plan, manage, improve and monitor the environmental policy throughout an organization.

ISO 14001

A formal international certification of environmental management systems, covering planning, environmental performance, evaluation and auditing.

Green Seal Certified

Green Seal is an independent, nonprofit organization whose mission is to achieve a more sustainable world by promoting environmentally responsible production, purchasing, and products.

Minimum requirements for Green Seal certified papers specify that uncoated printing and writing papers shall either contain at least 30% post consumer material, or be manufactured without using chlorine derivatives. Green Seal is an organization that works with manufacturers, industry sectors, purchasing groups, and governments to “green” the production and purchasing supply chain. Products can only become Green Seal certified after much testing and evaluation, including onsite plant visits. www.greenseal.org

Environmental Choice Program (ECP)

This program is intended to help consumers identify products and services that are less harmful to the environment. Ecologo has criteria for printing and writing paper that covers energy use and sustainable forest management, emissions and global issues. For more details visit www.terrachoice.com

Environmental Protection Agency (EPA)

An American government agency whose mission is to protect human health and to safeguard air, water, and land.

The EPA sets standards and regulations regarding environmental programs, most notably emissions.