

NCASI's Environmental Footprint Comparison Tool (EFCT)

...an Online Information Resource for Industry Stakeholders

SFI Annual Conference

Making Informed Choices Throughout the Supply Chain

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Achieving “sustainability” has truly begun affecting all of our personal choices, well beyond the traditional marketplace...

...and as part of this trend, expectations from governments and stakeholders have changed...

1970s – 1980s: Overt Environmental Challenges, Straightforward Solutions

- Measurable, and at times visible, releases to environment
- Heightened environmental awareness within electorate and establishment of (and trust in) government agencies
- Solutions were:
 - Oriented towards meeting command/control regulations
 - Technology-driven
 - Focused on reducing individual pollutants
 - Enforced by government

Today:

Ongoing Environmental Progress, Perception Trumps Facts

- 30+ years of intensified environmental research has substantially increased knowledge
 - Most overt environmental challenges have been addressed, contained and/or controlled, *but*
 - Number of environmental concerns has expanded (science keeps advancing, which makes it hard to come to any “final” solutions)
- Internet has enabled networking on common causes
 - Exponential growth of informal & formal environmentally-focused stakeholder organizations since 1970s
 - Populace is informed in more persistent, consistent fashion
- Perception of environmental health has plummeted

Today:

Ongoing Environmental Progress, Perception Trumps Facts

- Societal wish that industry should ideally have no effect on the environment
 - Ideal is for all pollutant releases to simultaneously be zero
- Industry's solutions are increasingly:
 - Oriented towards meeting stakeholder perception as well as regulatory compliance
 - Focused on many, frequently low-level, pollutants simultaneously
 - Technically challenging
 - Met with skepticism in the marketplace

Stakeholder Influence on Marketplace Affects Customer Questions

- Non-regulatory initiatives increasingly replacing government regulations as biggest driver for action
 - Non-government environmental scorecards, labels, and standards now augmenting government regulated standards
- Customers initiating sustainability studies and programs
 - Government studies still relevant, but inherent bureaucracy slows down ability to influence action
- Customers demanding details on substances in products, not only how they are made
 - For both regulatory & non-regulatory “hot button” chemicals

What the Industry and its Stakeholders are Facing:

- Society swept up in imagery of all industry as part of a history which society must rid itself of
- General public that has increasingly been identifying scientific terms like “chemical” with “deadly”, making objective communication difficult
- Marketplace tools that overly simplistically portray complex environmental decision-making
- Practical and operational constraints, given that all environmental releases cannot simultaneously be reduced to zero
- Financial constraints, given the current state of embedded capital in the industry
- Communication challenges, given that industry-generated information is deemed untrustworthy



NCASI has built an online tool
to help industry and stakeholders
respond to today's perception-driven
environmental questions

– *using facts* –

in a manner that allows
better understanding of the
opportunities and constraints to
environmental solution development.

Minimizing a Facility's Environmental Footprint...

...requires understanding the interactions between environmental parameters

- Co-benefits:
 - Concurrent reductions in environmental parameters when another parameter is reduced
- Trade-offs:
 - Concurrent increases in environmental parameters when another parameter is reduced
- The most effective decisions will balance these two aspects

Example: Greenhouse Gases

- Most of the industry's manufacturing facilities require fossil fuels, and these fuels generate greenhouse gases when burned
- The industry obtains much of its energy, however, from biomass fuels, which have a short-term renewable life cycle and are thus a low-carbon source of energy

Example: Greenhouse Gases

- In terms of Air Emissions,
 - Reducing GHGs by switching from coal to biomass or natural gas can significantly *reduce* emissions of certain air pollutants, SO₂ in particular – i.e., a *Co-benefit*, however,
 - Reducing GHG by switching to biomass fuels can *increase* particulate emissions if the switch is from liquid or gaseous fossil fuels – i.e., a *Trade-off*.

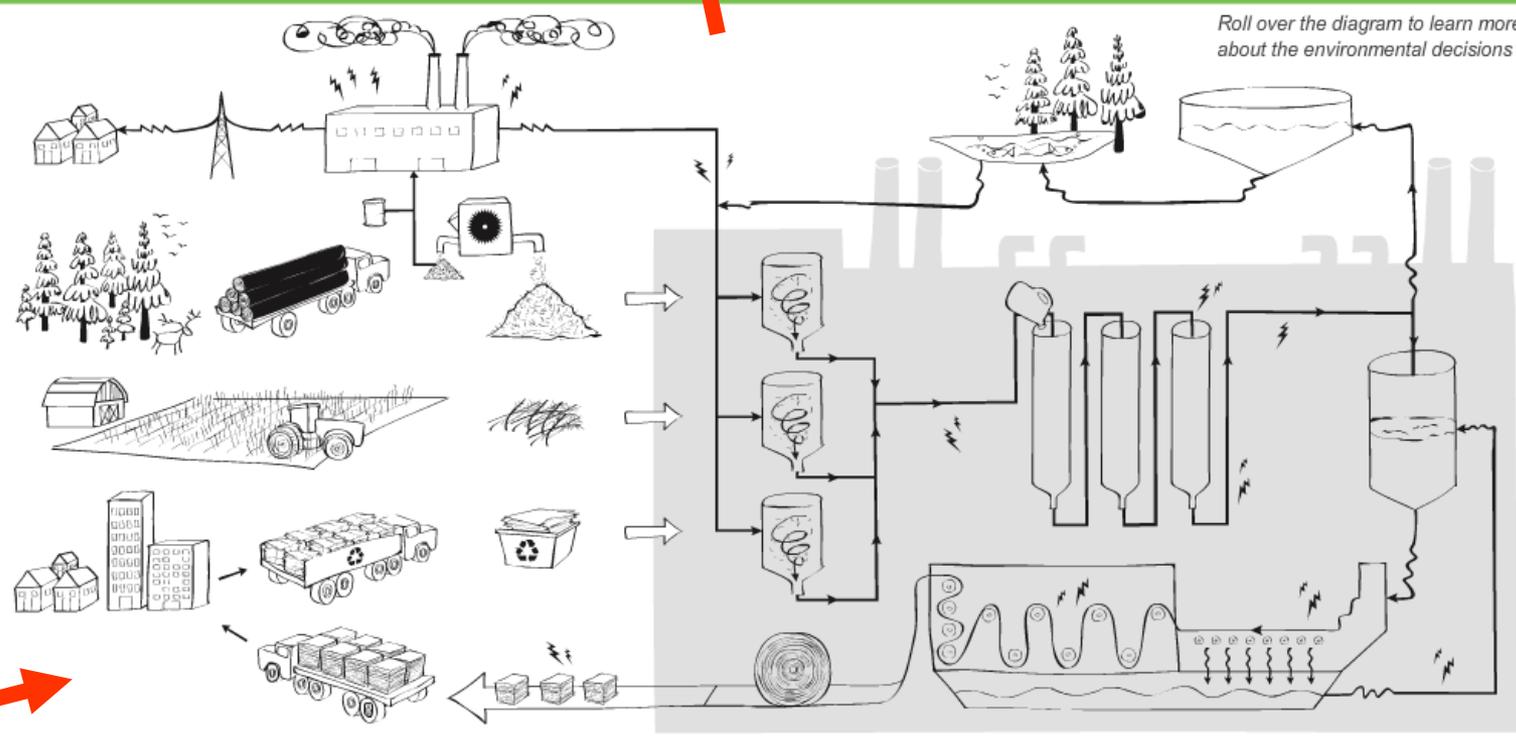
How to Understand these Issues Better?

- NCASI's new *Environmental Footprint Comparison Tool (EFCT)*
 - Available at www.PaperEnvironment.org
- Provides increasing levels of scientific detail on a variety of important environmental parameters, for specific subjects
- Allows user to select desired level of detail
- Primary focus is pulp & paper, but certain aspects relevant to wood products, and this will grow in future

RECYCLED FIBER WATER SOx & NOx ENERGY GHGs CHLORINATED COMPOUNDS NON-WOOD FIBER BOD / COD / TSS

ENVIRONMENTAL FOOTPRINT COMPARISON TOOL

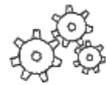
A tool for understanding environmental decisions related to the pulp and paper industry



*Please use a 32-bit browser to view content on this site.

 **HOW SHOULD I USE THIS INFORMATION?**

 **WHAT ARE CO-BENEFITS & TRADE-OFFS?**

 **WHAT DOES THIS RESOURCE DO?**

ncasi **WHAT IS NCASI?**

WELCOME TO THE ENVIRONMENTAL FOOTPRINT TOOL BROUGHT TO YOU BY NCASI.

Minimizing the environmental footprint from pulp and paper manufacturing requires understanding the interactions between various parameters. There are a number of releases to the environment associated with manufacturing, recycling, and

– or it may find that other types of environmental releases become larger (trade-offs). Environmental decisions therefore become something of a balancing act, seeking to maximize co-benefits while minimizing trade-offs. This tool will help you understand these

ENVIRONMENTAL FOOTPRINT COMPARISON TOOL

A tool for understanding environmental decisions related to the pulp and paper industry

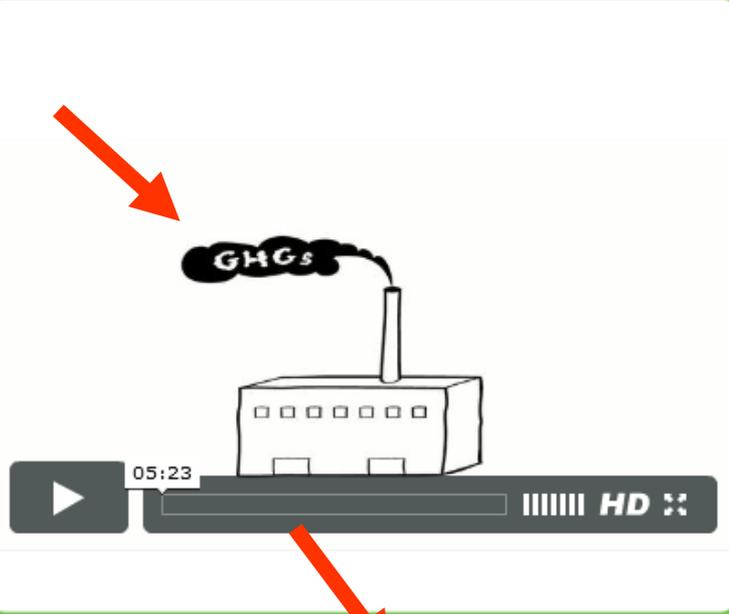
GREENHOUSE GASES

The connections between the climate change issue and the forest products industry are more complex than for any other industry. The forests that supply the industry's raw material remove carbon dioxide from the atmosphere and store the carbon in the forest ecosystem and ultimately in forest products.

Most of the industry's manufacturing facilities require fossil fuels, and these fuels generate greenhouse gases when burned. The industry obtains much of its energy, however, from biomass fuels, which are carbon neutral due to their short-term renewable life cycle. This characteristic contrasts with that of fossil fuels, which when burned undergo a one-way transfer to the atmosphere from geologic reserves.

For more information, use the grid below. Hover over the bubbles to see possible effects of decreasing greenhouse gas emissions (co-benefits and trade-offs). Click on a column header to go to a page dedicated to that subject.

How should I use this information?



QUICK FACTS

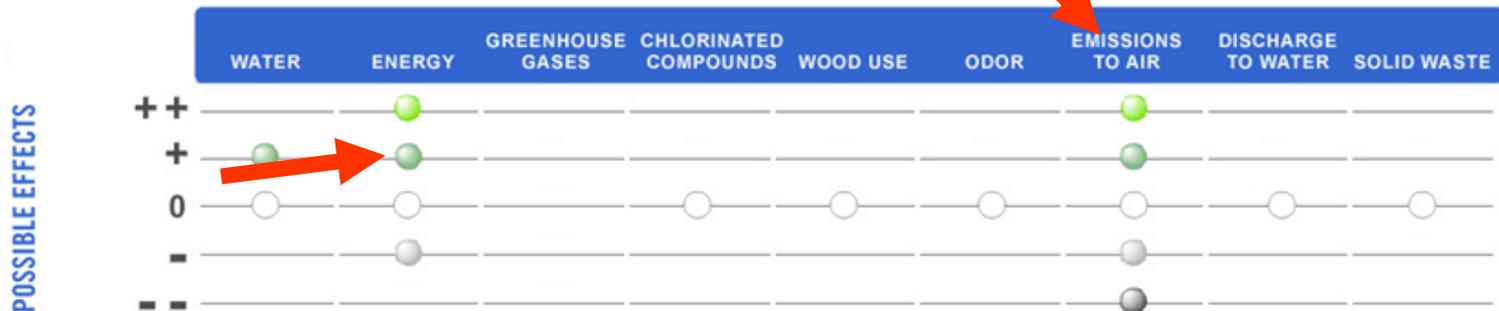
- Carbon dioxide can remain stored in forests and forest products for periods ranging from days to centuries.
- The pulp and paper industry gets much of its energy from biomass fuels, which are carbon neutral.
- Switching to biomass or natural gas from coal can significantly reduce emissions of certain air pollutants, sulfur dioxide in particular.

[Click for overview >](#)

[Download full text >](#)

DECREASED GREENHOUSE GAS EMISSIONS

Please roll over a bubble or click a header for more information



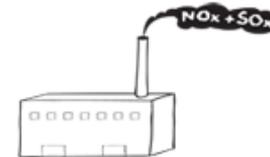
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EFFECTS OF DECREASED GREENHOUSE GAS EMISSIONS ON EMISSIONS TO AIR

The effects on emissions of various air pollutants that occur when you reduce greenhouse gas emissions depend on how the emissions are reduced. Increasing carbon storage, either in the forest or in products, is not expected to impact sulfur dioxide (SO₂), nitrogen oxides (NO_x), or particulate emissions.

Click on links to the right to find out how other activities may affect emissions to air.



More information:

[Emissions from energy use in manufacturing](#)

[Avoiding emissions elsewhere in society](#)

DECREASED GREENHOUSE GAS EMISSIONS

Please roll over a bubble or click a header for more information



Demonstration!

www.paperenvironment.org