



ANSI SCS-002: Certified Environmental Preferable Products

Based upon Life Cycle Impact Assessment (LCIA)

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Presented to the
Canadian Wood Preservation
Association
October 29, 2008**

Overview



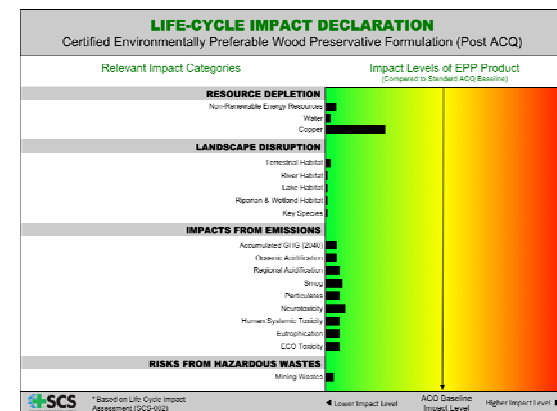
- Background - SCS
- Environmentally Preferable Purchasing (EPP)
- LCA and SCS-002
- Life-Cycle Impact Declarations:
Wood Treatment Processes

SCS Mission

- SCS is a leading third-party provider of certification, auditing and testing services, and standards, founded in 1984.
- SCS's goal is to aid the marketplace in developing environmental certification programs and LCIA metrics that allow users to define a clear path for minimizing impacts on human health and the environment from their operations, within a socially responsible context.
- SCS provides a wide spectrum of environmental services to both industry and government.

Examples of Service Offerings

- Forest Stewardship Council (FSC)/Chain of Custody certifications
- Material content
- Biodegradability
- Indoor Air Quality (IAQ)
- Environmentally Preferable Product (EPP)



Home Depot Eco Options Program

- SCS has worked with the Home Depot for over a decade, to help identify products with less of an environmental impact.
- Customers have purchased 350 million+ Eco Options products
- Eco Options products are evaluated using EPP criteria



Product End Tag



Environmentally Preferable Purchasing

- California law requires Environmentally Preferable Purchasing or EPP
- EPP refers to the procurement of goods and services that have a reduced impact on human health and the environment over its life cycle
- ANSI SCS-002 provides a national LCA metric for EPP Certification

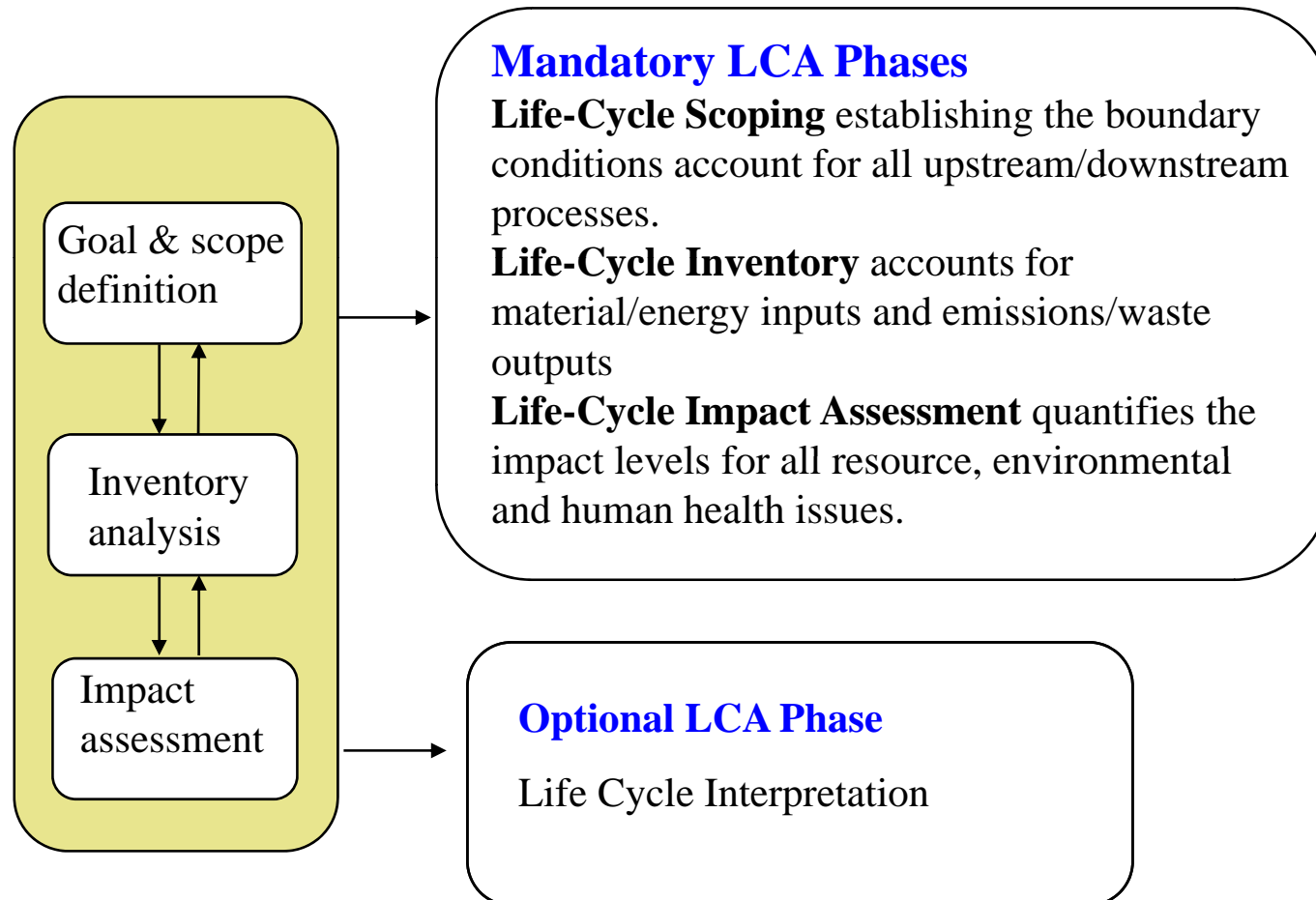
Scope of Life-Cycle Assessment

- *Scope is comprehensive ...*

Cradle-to-grave focus — quantitative assesses all impacts from raw material extraction and processing through manufacturing, use and disposal/recycling



ISO 14044 LCA Framework



Nutrition Facts

Serving Size 1 cup (228g)

Servings Per Container 2

Amount Per Serving

Calories 250 **Calories from Fat** 110

	% Daily Value*
Total Fat 12g	18%
Saturated Fat 3g	15%
<i>Trans</i> Fat 3g	
Cholesterol 30mg	10%
Sodium 470mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Required SCS-002 Impact Categories for Treated Lumber Formulations

<i>RESOURCE DEPLETION</i>
Non-Renewable Energy Resources
Water
Copper
<i>LANDSCAPE DISRUPTION</i>
Terrestrial Habitat
River Habitat
Lake Habitat
Riparian & Wetland Habitat
Key Species
<i>IMPACTS FROM EMISSIONS</i>
Accumulated GHG (2040)
Oceanic Acidification
Regional Acidification
Smog
Particulates
Neurotoxicity
Human Systemic Toxicity
Eutrophication
ECO Toxicity
<i>RISKS FROM HAZARDOUS WASTES</i>
Mining Wastes

Over 2/3 of US wetlands are gone

Leading to the destruction of world's coral reefs

Over 1 million US women have excess body mercury

LIFE-CYCLE IMPACT DECLARATION

Northern California Biomass Power Station

Relevant Impact Categories

Impact Levels (Compared to Regional Grid)

NATURAL RESOURCE DEPLETION

Impact Levels

Non-Renewable Energy Resources	12,000 barrels oil
Water	--
Strategic Metals	
Terrestrial Habitats	14,000 hectares
Wetland Habitats	1,200 hectares
Lake Habitats	--
River Habitats	--
Key Species	50% loss

IMPACTS FROM EMISSIONS

Cumulative Greenhouse Gases	12,000,000 tons CO2
Oceanic Acidification	149,000 tons CO2
Acid Rain	96 tons SO2
Smog	33,000 exposures
Soot (PM 2.5)	87,000 exposures
Neurotoxicity	--
Systemic Chemical Toxicity	--
Eco-Toxicity	106 kg TCDD

RISKS FROM HAZARDOUS WASTES

Radioactive Wastes



* Based on Life-Cycle Impact Assessment (SCS-002)

◀ Lower Impact Level Average Impact Level of Regional Grid Higher Impact Level ▶



Life-Cycle Impact Declarations & Post-ACQ Wood Treatment Formulations

- EPP Certification in accordance ANSI SCS-002
- Several innovative wood treatment companies have applied for certifying processes as environmentally preferable
- Bird's-eye view of the current Life-Cycle Impact Declarations

LIFE-CYCLE IMPACT DECLARATION

Certified Environmentally Preferable Wood Preservative Formulation (Post ACQ)

Relevant Impact Categories

Impact Levels of EPP Product (Compared to Standard ACQ Baseline)

RESOURCE DEPLETION

Non-Renewable Energy Resources

Water

Copper

LANDSCAPE DISRUPTION

Terrestrial Habitat

River Habitat

Lake Habitat

Riparian & Wetland Habitat

Key Species

IMPACTS FROM EMISSIONS

Accumulated GHG (2040)

Oceanic Acidification

Regional Acidification

Smog

Particulates

Neurotoxicity

Human Systemic Toxicity

Eutrophication

ECO Toxicity

RISKS FROM HAZARDOUS WASTES

Mining Wastes



* Based on Life-Cycle Impact Assessment (SCS-002)

◀ Lower Impact Level

ACQ Baseline
Impact Level

Higher Impact Level ▶



LIFE-CYCLE IMPACT DECLARATION

Wood Preservative Formulation

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RISKS FROM HAZARDOUS WASTES

Mining Wastes



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ACQ Baseline
Impact Level

Higher Impact Level ▶






ANSI SCS 002 Standard

The standard provides complete and transparent assessment of overall environmental performance of new emerging formulations compared to ACQ.

While making some mistakes and going down some environmental blind alleys, the wood preservative industry is making a historic breakthrough in reducing its level of impacts across the LCA.

The 80% impact reduction achieved through selective formulation are a great example of products qualifying as EPP.



Thank You - Questions?