



MATERIALS AND RESOURCES

Generic Building Product

Brand X, Model Y

Product #1098347

Possible Impact **100**

 Global Warming (CO₂e) 7.8

 Eutrophication (H+e) 0.005

 Ozone Depletion (kg CFC-11) 1.33e⁻⁶

 Acidification (kg SO₂) 0.0038

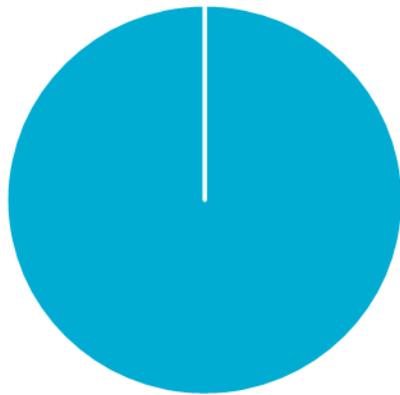
 Smog Formation (kg Nox) 0.005

 Energy Use (MJ) 10.2

 Water Use (Gal.) 2.3

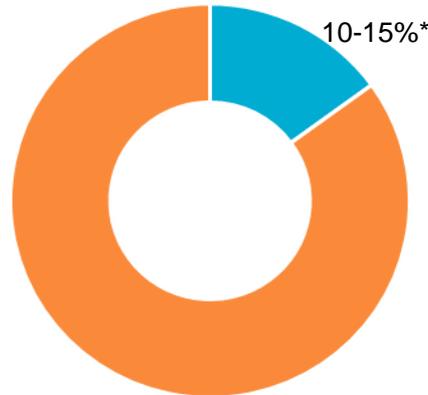
 Water Use (Gal.) 2.3

Day 1



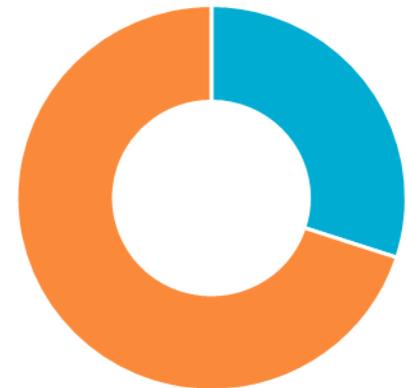
- Materials Embodied Energy
- Operational energy impact

Year 100



- Embodied Impact
- Operational Energy impact

More Efficient Building



- Materials Embodied Impact
- Operational energy impact

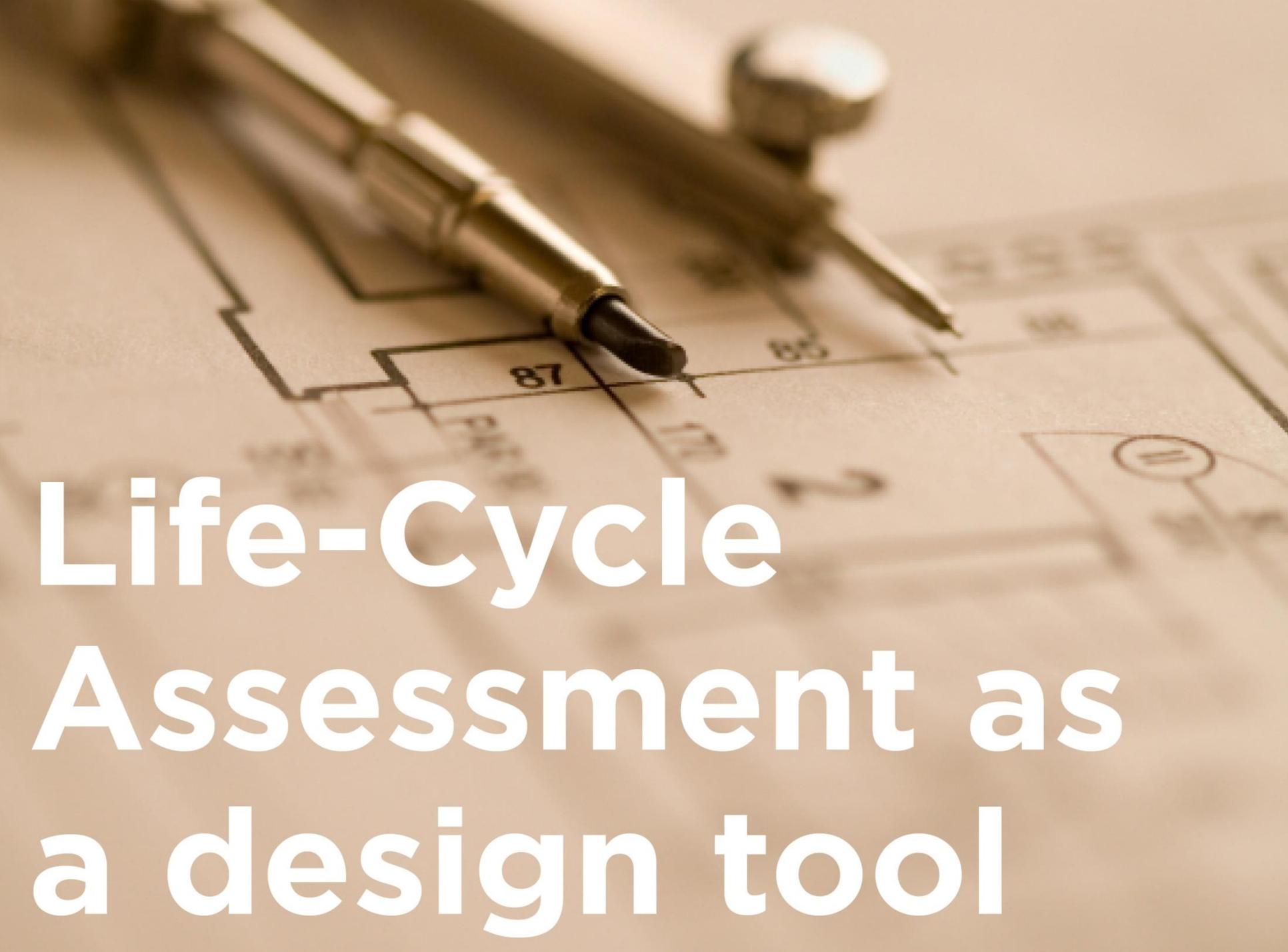
* B. Lippke et al "Life-Cycle Environmental Performance of Renewable Building Materials" June 2004 Journal of Forest Products



**do
more**

**with
less**





Life-Cycle Assessment as a design tool



reduction

compared to baseline building
required in 3/6 impact indicators



maximum increase

for any indicator

Global warming potential 全球暖化潜能值

Depletion of the stratospheric ozone layer 平流层臭氧层破坏

Acidification of land and water sources
土地和水资源酸化

Eutrophication 水体富营养化

Formation of tropospheric ozone
对流层臭氧层形成

Depletion of nonrenewable energy resources 非可再生能源消耗

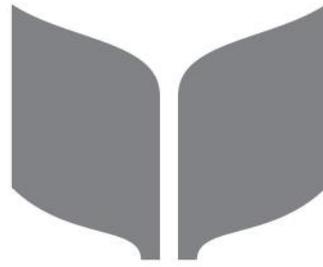
WHAT

WHY

WHEN

WHO

HOW



REFERENCED STANDARD

ISO 14044 definition
for life cycle assessment

www.iso.org

Complete cradle to grave assessment

WHAT

WHY

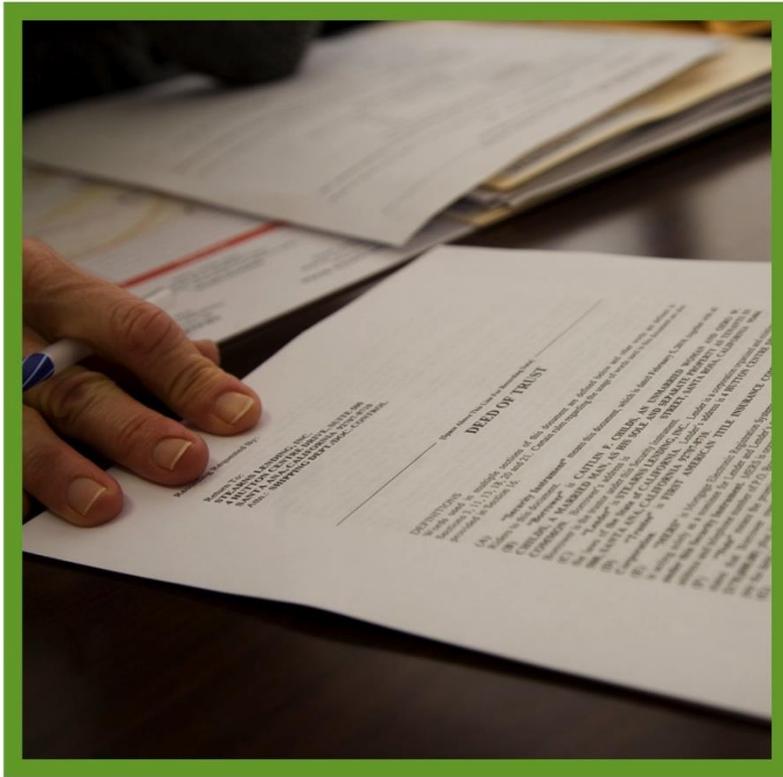
WHEN

WHO

HOW



LEEDv4 BD+C & ID+C PERFORMANCE-RELATED CREDIT: BUILDING PRODUCT DISCLOSURE AND OPTIMIZATION - ENVIRONMENTAL PRODUCT DECLARATIONS



DISCLOSURE PATH



OPTIMIZATION PATH

INFORMATION = IMPACT

Raw material acquisition
原材料萃取

Energy use
能源使用

Content of materials and
chemical substances
材料和化学物质成分

Emissions to air
向大气的排放

Soil and water
土壤和水

Waste generation
废弃物的产生

OPTION 1. EPDs

20

minimum number
of products

5

maximum number
of different manufacturers

WHAT

WHY

WHEN

WHO

HOW



MR Credit

Building Product Disclosure and Optimization
Environmental product declarations

OPTION

1

Environmental product
declaration (EPD)

1 POINT

and/
or

OPTION

2

Multi-attribute
optimization

1 POINT

1. Global warming potential 全球暖化潜能值
2. Depletion of the stratospheric ozone layer 平流层臭氧层破坏
3. Acidification of land and water sources 土地和水资源酸化
4. Eutrophication 水体富营养化
5. Formation of tropospheric ozone 对流层臭氧层形成
6. Depletion of nonrenewable energy sources 非可再生能源消耗



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