

Framework for Responsible
Environmental Decision-making

FRED:

A Tool for Environmentally Preferable Products

presented by

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InLCA

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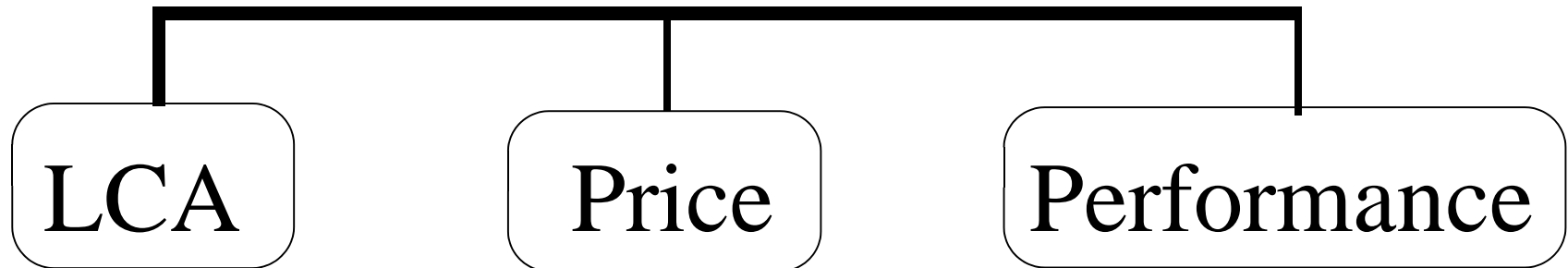
Goal of the FRED project:

To demonstrate how an LCA approach could be used in product selection

- Support EPA's Environmentally Preferable Purchasing Program (EPP)
- Provide guidance to NIST for the BEES model (Buildings for Environmental & Economic Sustainability)

FRED Framework

FRED



EPP is based on Executive Order 13101:
“Greening the Government through Waste
Prevention, Recycling and Federal
Acquisition”

-Places requirements to purchase recycled content
and bio-based products

HOWEVER

- A life cycle review of multiple environmental
attributes may be used to demonstrate overall
preferability

FRED Impact Categories

- Global Climate Change
- Human Toxicity
- Acidification
- Stratospheric Ozone Depletion
- Eutrophication
- Ecological Toxicity
- Photochemical Smog
- Resource Depletion
 - **Fossil Fuels**
 - **Minerals**
 - **Wood**
 - **Land Use**
 - **Water Use**

3 Pilot Studies were conducted:

- Motor Oil
- Wall Insulation
- Asphalt Coating

Asphalt Emulsion vs Asphalt Cement

Indicator	Emulsion	Cement
GWP	16547	44368
ODP	0	0
Acidification	145	344
Eutrophication	0.0065	0.0151
Photo. Smog	36	77
Human Tox. - cancer	7.97E-02	1.78E-01
- non-cancer	2.02	4.51
Ecotoxicity	1.25E+04	2.26E+03
Fossil	3.86E+04	8.55E+04
Mineral	0	0
Land Use	0	0
Water Use	76982	2292
Solid Waste	31729	816165

Conclusions

- FRED can be conducted in a reasonable amount of time (app. 4 months for the pilots)
- Need to integrate the results into the decision-making process
- Accessing data remains problematic