United States National Life Cycle Inventory Database Project

An Industrial Perspective

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VEHICLE RECYCLING PARTNERSHIP

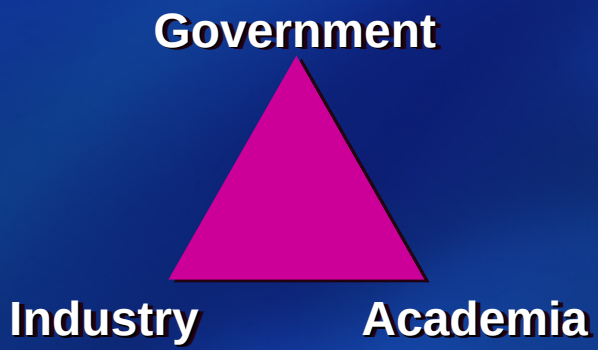
USCAR

General Motors

The Problem

- Population growth
- Increasing consumption
- Limited resources

The Solution



- Must work together
- Make economic development sustainable

- Embraces sustainable development
- Committed to integrating
  - Economic
  - Environmental
  - Social objectives
- Into all areas of our business
  - Long term planning
  - Daily business decisions

Achieving this goal requires innovative thinking and action

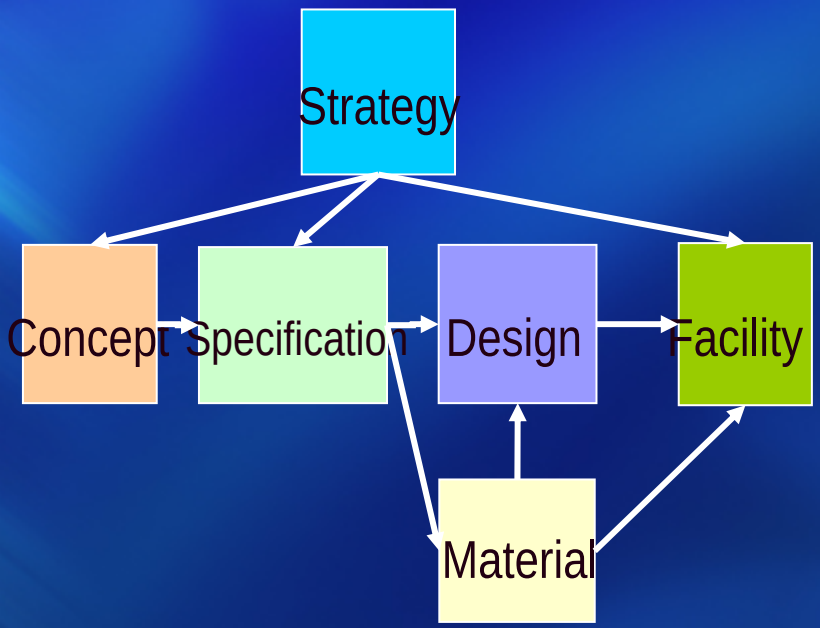
Product Planning → Design & Development → Material Selection → Manufacturing

Results

Value Creation

Vehicle System

Value Realization



Added Shareholder Value

Improved Environmental Impact

Enhanced Societal Value

The Need - Good LCA Data

- Life cycle analysis (LCA) is the method of choice for assessing the environmental performance of products and processes
- Despite the maturing state of its development, LCA can still be a time consuming and costly process (particularly if there is a lack of data)
- Reliability of results is often a concern
- Many studies have been done on a variety of product systems but using different databases most of which are proprietary and not open for review
- Illustrates the need for a publicly available LCI database for commonly used materials, products, and processes

The Solution – National LCI Database

- Advantages
  - Publicly available
  - Peer reviewed and consensus based
  - Transparent
  - Regionally appropriate
  - Consistent with other international efforts (UNEP/SETAC, EU, Japan)

- Benefits
  - Aid in rational (quantitative based) decision making
  - Enable consistent system-wide environmental perspective of a product or process
  - Provides metrics for sustainable development assessments

Participants

- Provided funding and/or in kind contributions
  - VRP: DCX, Ford, GM
  - Aluminum Association
  - American Plastics Council
  - Consortium for Research of Renewable Industrial Materials
  - US EPA
  - Department of the Navy
  - General Services Administration
  - NIST
  - DOE
  - National Renewable Energy Laboratory (NREL)
- Other participants/contactors
  - University of Washington
  - American Center for Life Cycle Assessment
  - University of Michigan
  - Sylvatica
  - Franklin Associates

Why the VRP?

- In 1998, USCAR (USAMP/VRP) completed a five year life cycle inventory study of the generic family sedan
  - We partnered with AISI, AA, & APC

- From that study, it was clear that more work needs to be done on transformation processes

- The database project is an opportunity to fill in the LCI gaps

VRP Contributions

- DCX, Ford, and GM have partnered to contribute the following modules to the database:
  - Aluminum casting (3 types)
  - Iron casting
  - Steel stamping
  - Vehicle painting (2 modules)

- Also provided financial support

Conclusions

- American automotive manufactures (USCAR/VRP) realize the importance of the National LCI Database effort and have made significant submissions to the database
- We would like to encourage more participation from our automotive suppliers as well as other sectors (construction, commodities, etc.) in populating the database
- VRP is proud to have supported this effort, which in turn provides the opportunity for more informed product decisions and environmental characterizations

Thank you for your attention!