

# Earthster: Open LC Calculation & Publishing



*The Sylvatica Team  
(G. Norris presenting)*

*[www.sylvatica.com](http://www.sylvatica.com)*

LCA VIII  
October 1, 2008

# Outline

- The Ideas
- Implementation Status and Path



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# Credit

The image is a screenshot of a web browser displaying the Earthster website. The browser's address bar shows the URL <http://www.earthster.org/consortium.php>. The website has a green header with navigation tabs for "About", "Consortium", "Partners", and "Contribute". Below the header, there is a white box containing the Earthster logo and a photograph of a green leaf with water droplets. A section titled "Thank You to the Following Visionaries" features a row of partner logos, including TCEQ, PRE, EPA, Stonyfield Farm, Owens Corning, Tetra Pak, and Charlotte Pipe and Foundry Company.

Earthster

[About](#) [Consortium](#) [Partners](#) [Contribute](#)

Earthster

Thank You to the Following Visionaries

TCEQ

PRE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Stonyfield Farm

OWENS CORNING

protects what's good. Tetra Pak

EAST IRON PIPE & FOUNDRY COMPANY CHARLOTTE PIPE AND FOUNDRY COMPANY

# Credit



- **Evan Andrews, project director**
- **Sebastien Cabot, lead programmer**
- **Pascal Lesage, office manager**
- **Jean-Francois Labbe, summer programmer**
- **Jonathan Cabot, graphical design**
- **Catherine Benoit, social LCA strategy**
- **Marylene Dussault, daily support**

# Credit

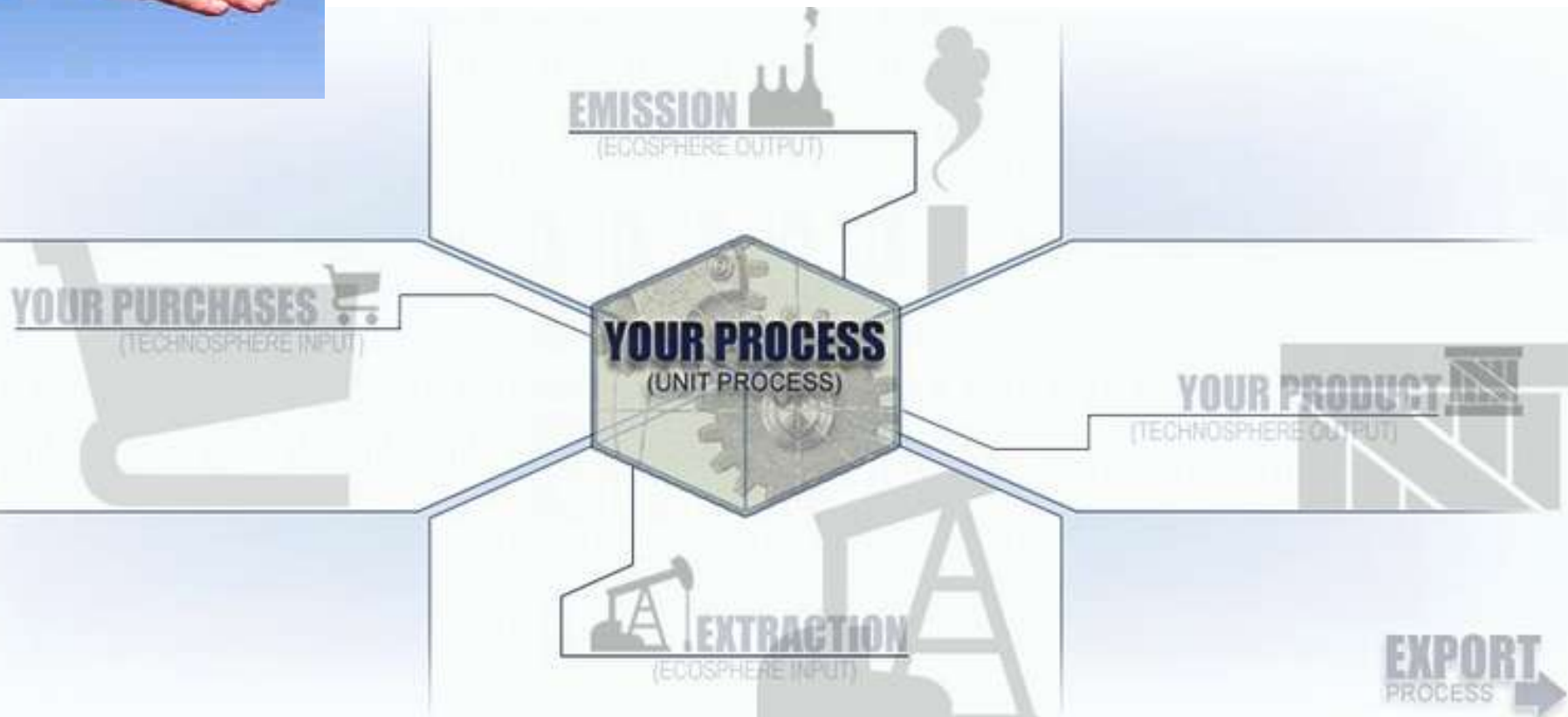
- Many of you!

# Core Ideas

- **Earthster was created around 3 initial core ideas**

# The first 3 Core Ideas: #1

- Idea 1: Basic LCA computation ability in web. Free.



# The first 3 Core Ideas: #2

- Idea 2: Publish Cradle-to-Gate results in web\*. Free.

\* in web-accessible database today.  
Perhaps in the  
semantic web tomorrow.

A screenshot of a software application window titled 'EXTRACTION (ECOSPHERE INPUT)'. The interface features a navigation bar with tabs: 'Administration', 'Your product', 'Your purchases', 'Your extraction', 'Your emission', and 'Processes'. Below the navigation bar, there are three buttons: 'Calculate', 'Publish', and 'Unpublish'. A mouse cursor is hovering over the 'Publish' button. Below these buttons is a table with the following data:

Published	Time	Product	Amount	Unit	Unit Set	Emission
false	2008-10-01 10:09:25	new product	1	unit	Amount	13

# The first 3 Core Ideas: #3

- **Idea 3: Link to your supplier's LCI data. Re-compute. Re-publish. Free.**



# Implementation status

- Ideas 1-3 are working, and had first beta-test.
- Code being re-programmed to enhance:
  - Modularity --> supports open source input
  - De-bug-ability --> supports next round of test/refine



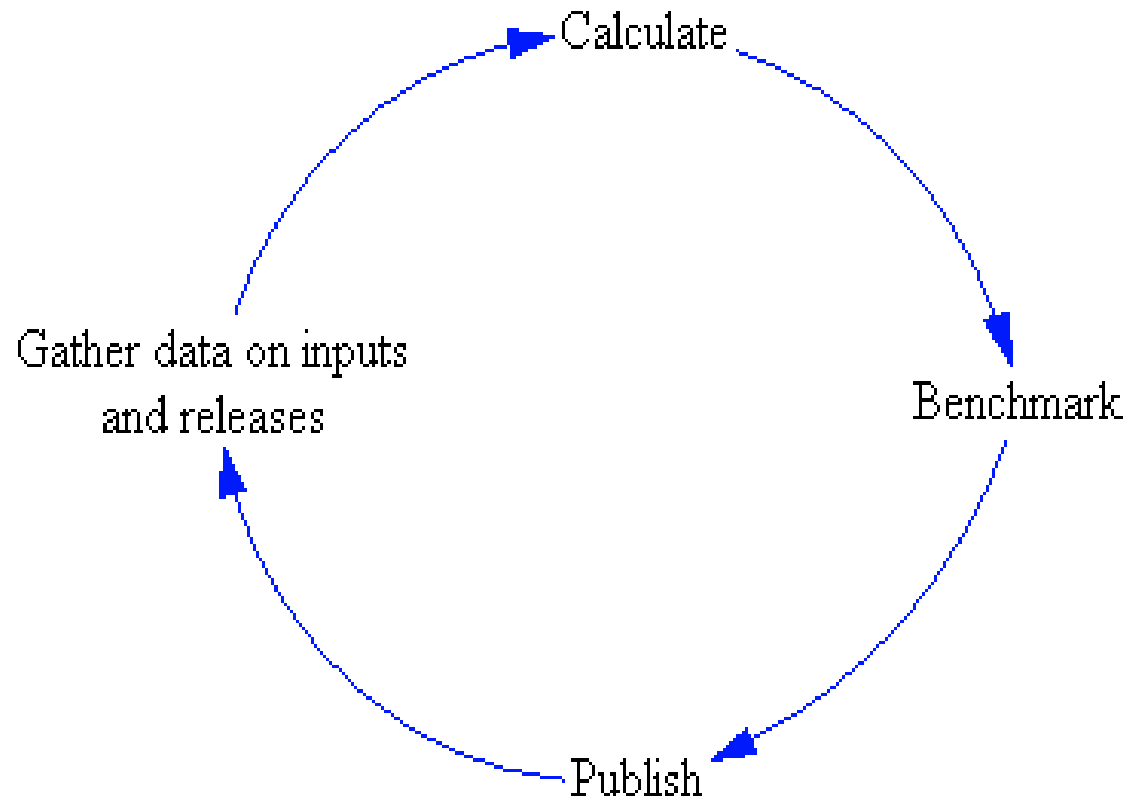
# Implementation status: Bonus Features

- Compare processes. Benchmark yourself vs. avg.
- Contribution assessment: prioritize inputs.

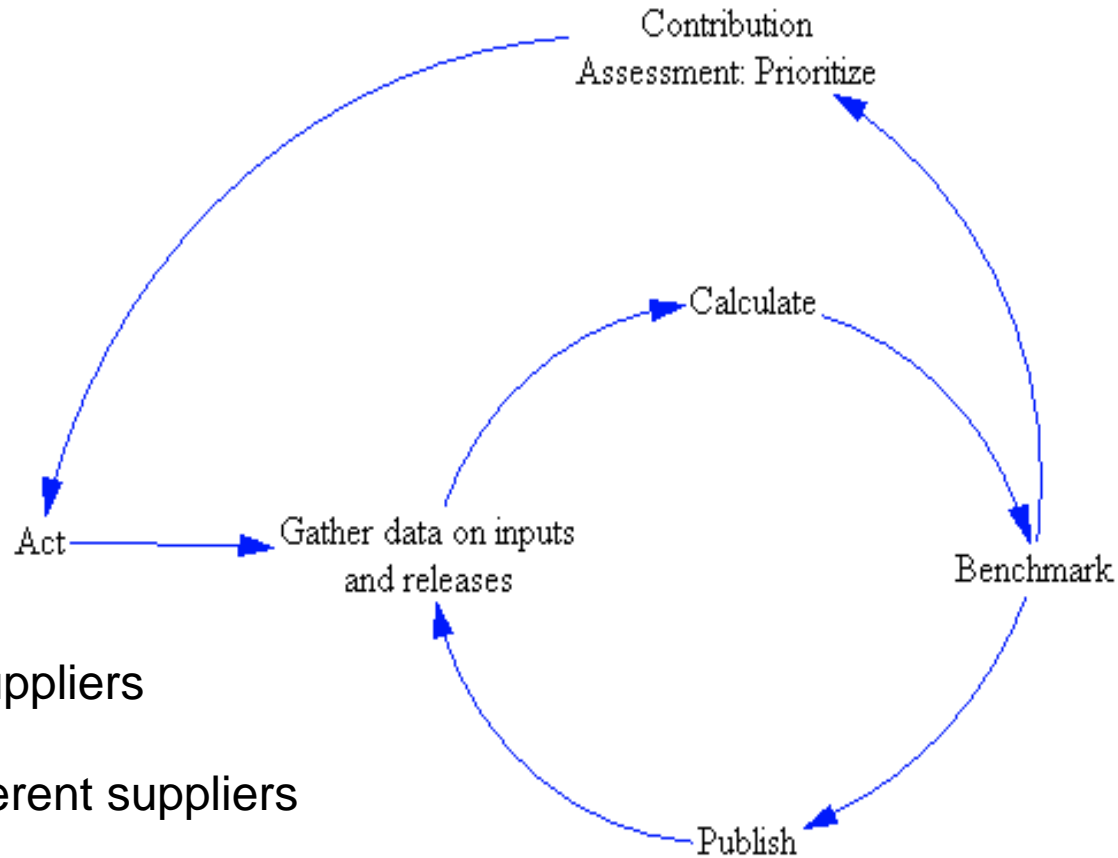
The screenshot displays a software interface with two main panels. The top panel, titled "Contribution (U Processes)", features a toolbar with "Add process", "Charts", and "new product" buttons. It includes a "Select a method:" dropdown set to "IMPACT 2002+", a "Clear" button, a "Graph view" dropdown, and a "human health" dropdown. The main area shows a tree view under "Your Processes" with folders for "agricultural means of production", "organic fertilizers", and "poultry manure". A visual flow shows a red "U" icon moving through three arrows to a 3D pie chart, with the instruction "Drag a unit process onto this canvas".

The bottom panel, titled "Comparison (S Processes)", has a similar toolbar and dropdowns. Its tree view under "Published Processes" includes "agricultural means of production", "buildings (1)", and "grain silo". A visual flow shows a blue "Σ" icon moving through three arrows to a bar chart, with the instruction "Drag systems processes onto this canvas".

# Basic usage cycle



# Second basic usage cycle



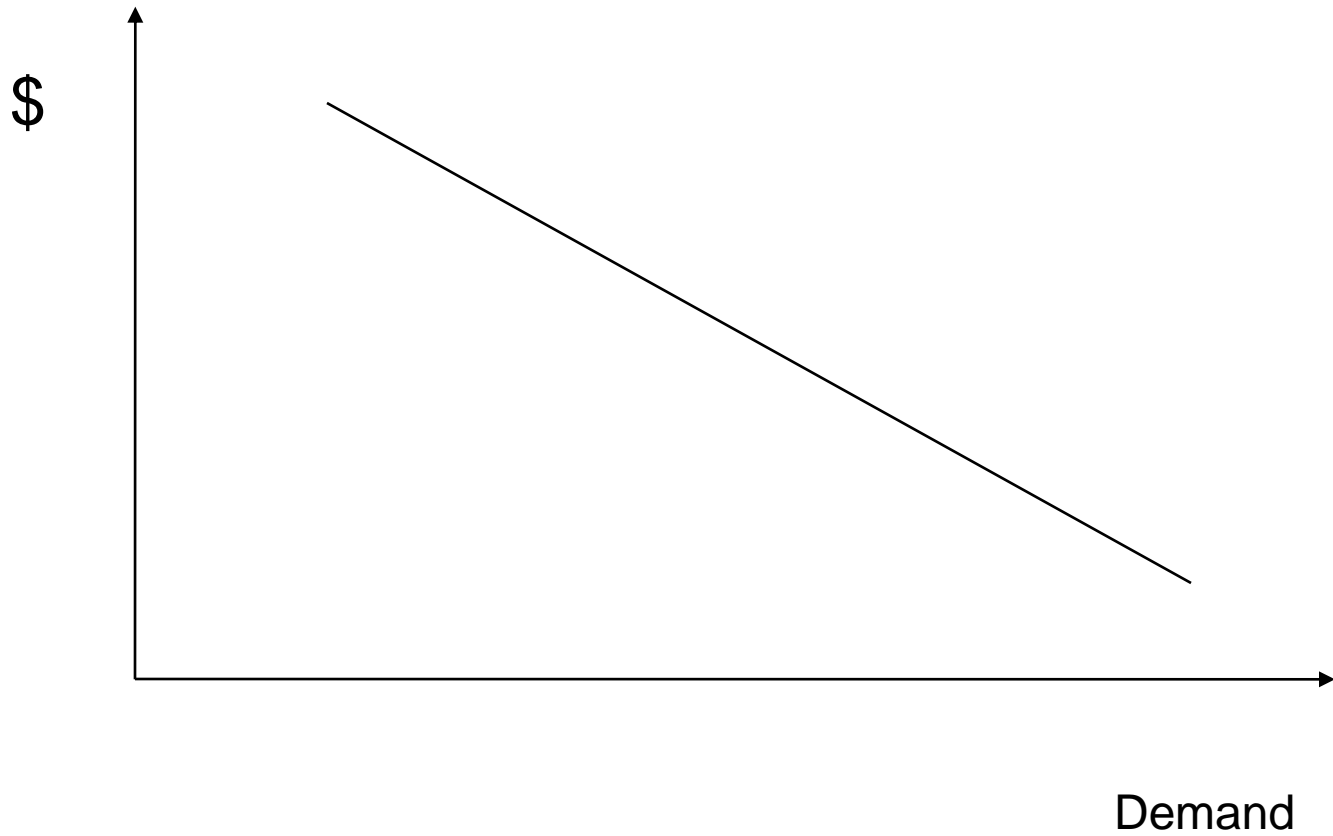
Engage suppliers

Select different suppliers

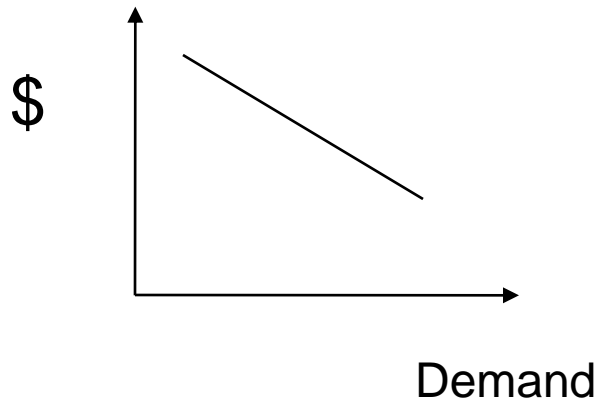
Improve on-site impacts

Use inputs more efficiently

# An LCA Demand Curve



# An LCA Demand Curve

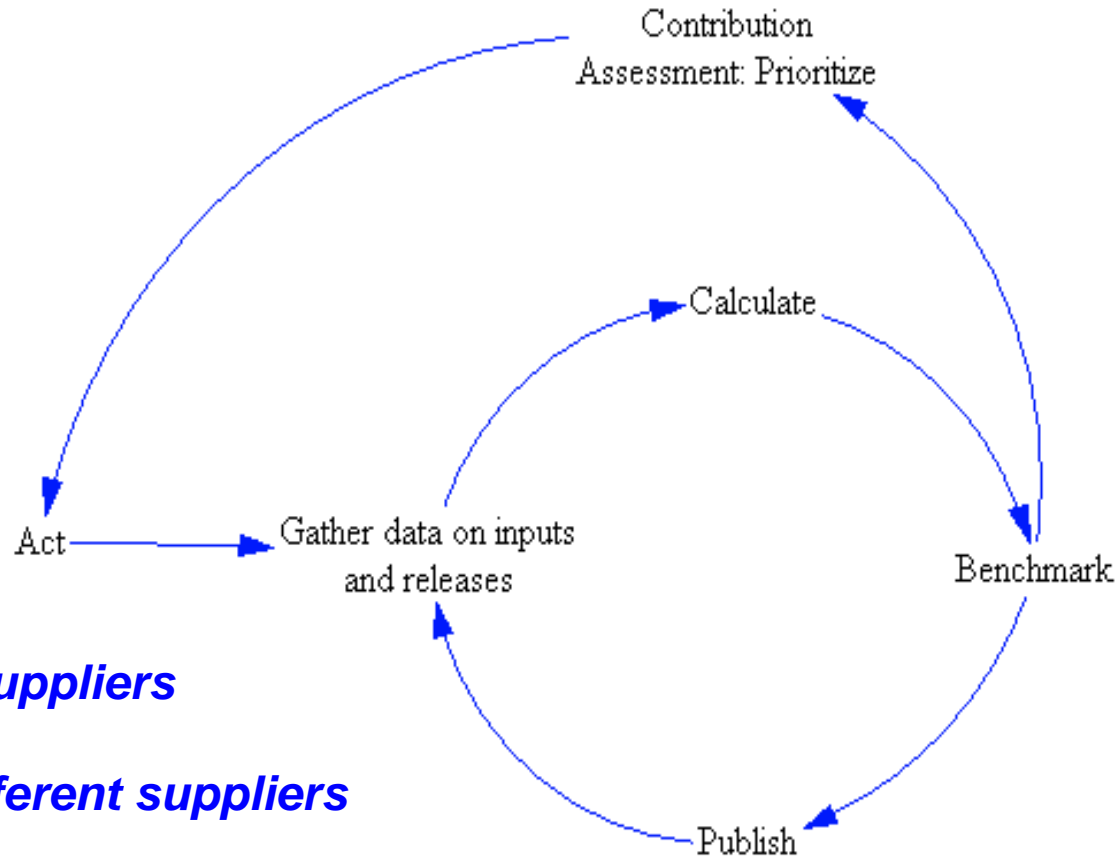


Aware

Able

Perceived benefits > Perceived costs

# Awareness propagation in supply chains



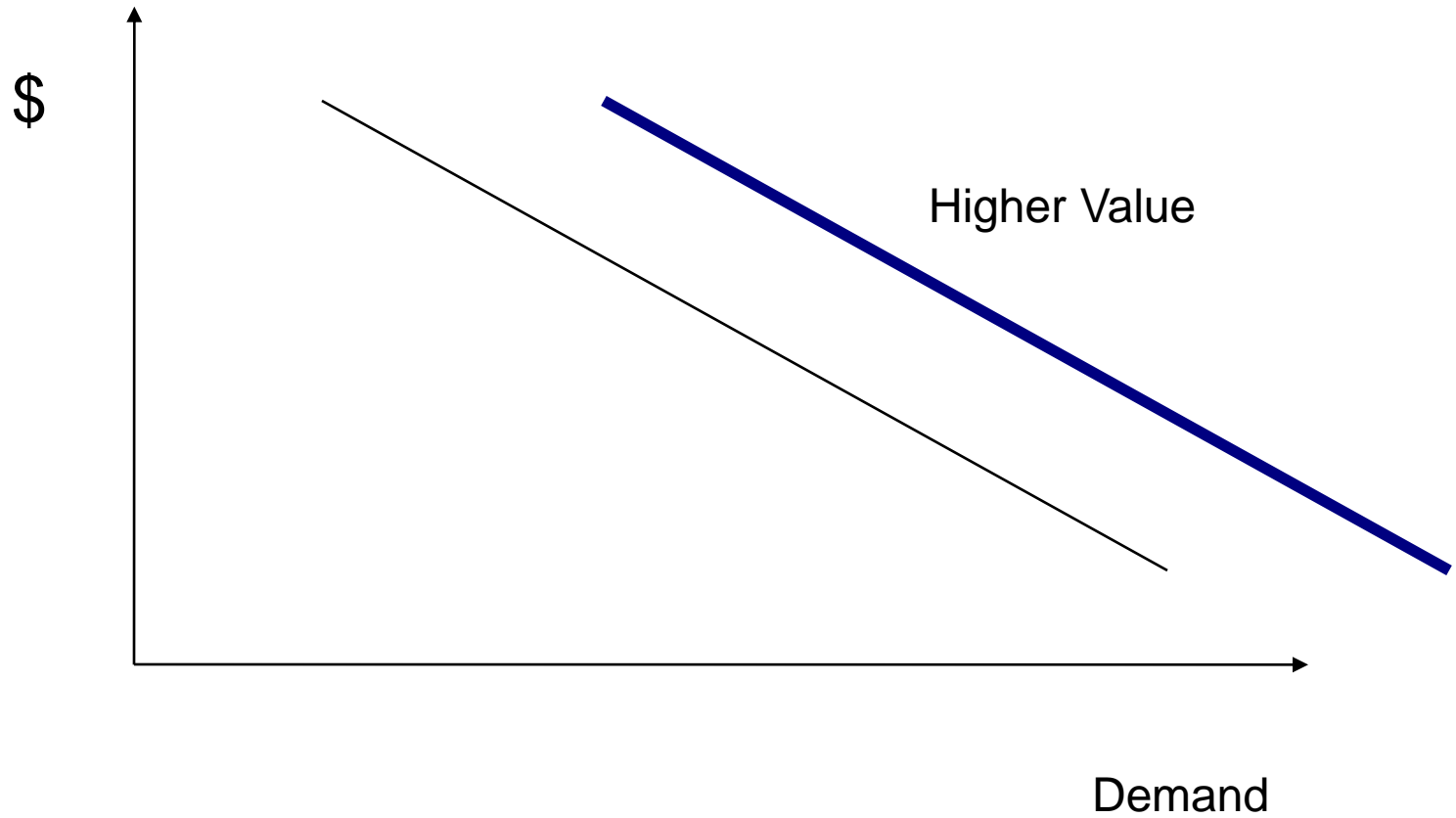
***Engage suppliers***

***Select different suppliers***

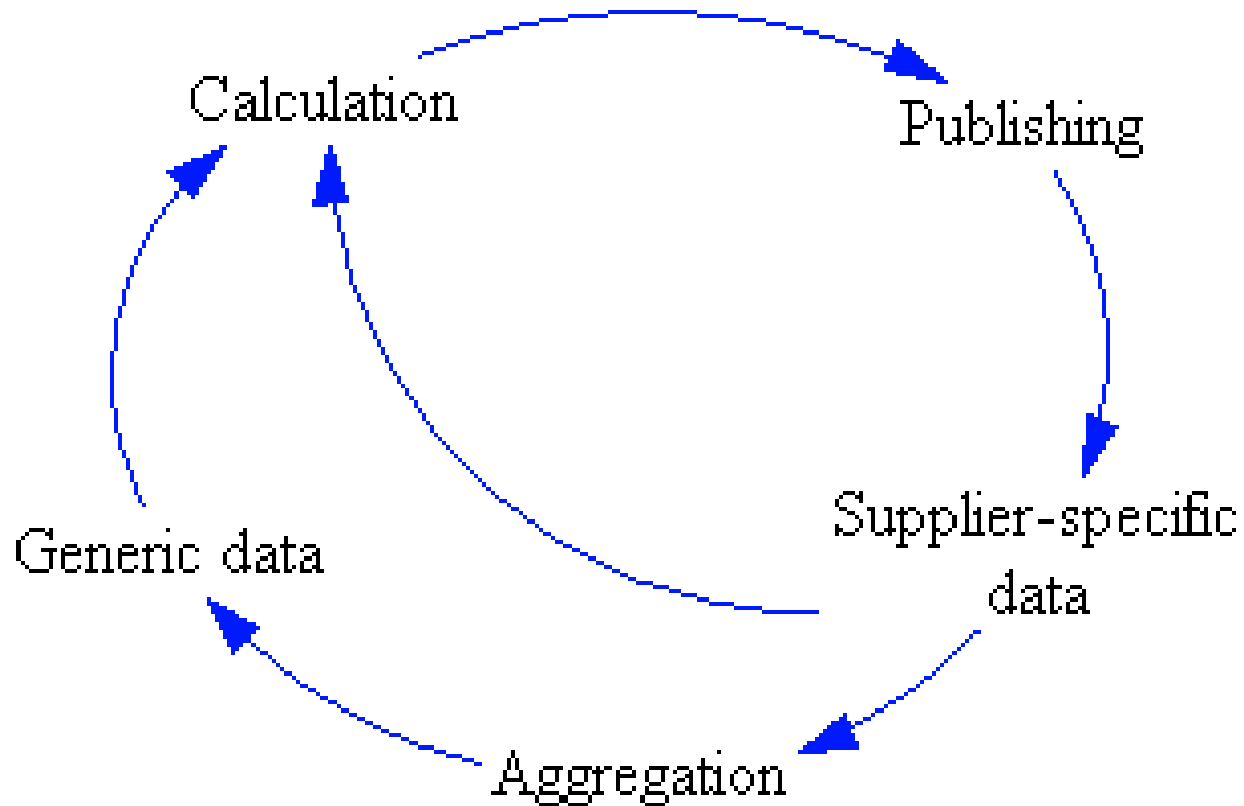
Improve on-site impacts

Use inputs more efficiently

# The LCA Demand Curve



# Data – Demand – Value Feedback Loops



# Implementation / Deployment Path

- **Next beta-test, with user input from consortium members, can begin: end of October, 2008**
- **Establishing partnerships to support:**
  - **Development of validation process**
  - **Increased programmer capacity**
  - **Ability to manage open source contributions**
  - **Sector-specific applications / adaptations**
  - **Additional scope (e.g., social impacts)**
- **Widening the “market” for input: EPIC**



# Earthster Prioritizer and Idea Collector

Logout

Greg Norris

Total of points : 0

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Task #	Tasks name	Module Name	Date added	Status	Imposed	Information	Votes	Your votes
57	General desing for user interface	Interface	04/09/2008	closed	false	! ?	0	
58	Earthster database development	Kernel	04/09/2008	closed	false	! ?	0	
59	Unit process (U) creation (Single output)	Kernel	04/09/2008	closed	false	! ?	0	
60	Import of EcoSpold process data (Single output)	Import/Export	04/09/2008	closed	false	! ?	0	
61	Export of EcoSpold process data (U, single output)	Import/Export	04/09/2008	closed	false	! ?	0	
62	Export of EcoSpold process data(S, single output)	Import/Export	04/09/2008	closed	false	! ?	0	
63	Transformation of U into a system terminated proce	Kernel	04/09/2008	current	false	! ?	0	
64	Publishing of an S	Kernel	04/09/2008	current	false	! ?	0	
65	Basic user management features	Kernel	04/09/2008	current	false	! ?	0	
66	Impact assessment calculation (using a given impact asse...	Kernel	04/09/2008	current	false	! ?	0	
67	Graphic display of contribution analysis.	Kernel	04/09/2008	current	false	! ?	0	
68	Graphic display of comparison of S's	Kernel	04/09/2008	current	false	! ?	0	
69	Refactoring of kernel	Kernel	04/09/2008	opened	true	! ?	0	
70	Tagging system for published data	Intelligence	04/09/2008	opened	false	! ?	100	0
71	Import of EcoSpold Impact Assessment data (single output)	Import/Export	04/09/2008	opened	false	! ?	20	0
72	Creation of multi-output processes	Kernel	04/09/2008	opened	false	! ?	10	0
73	...	...	...	...	...	! ?	...	...

# Discussion

- **THANK YOU**

