Industrial Ecology & Stonyfield

September 14, 2012

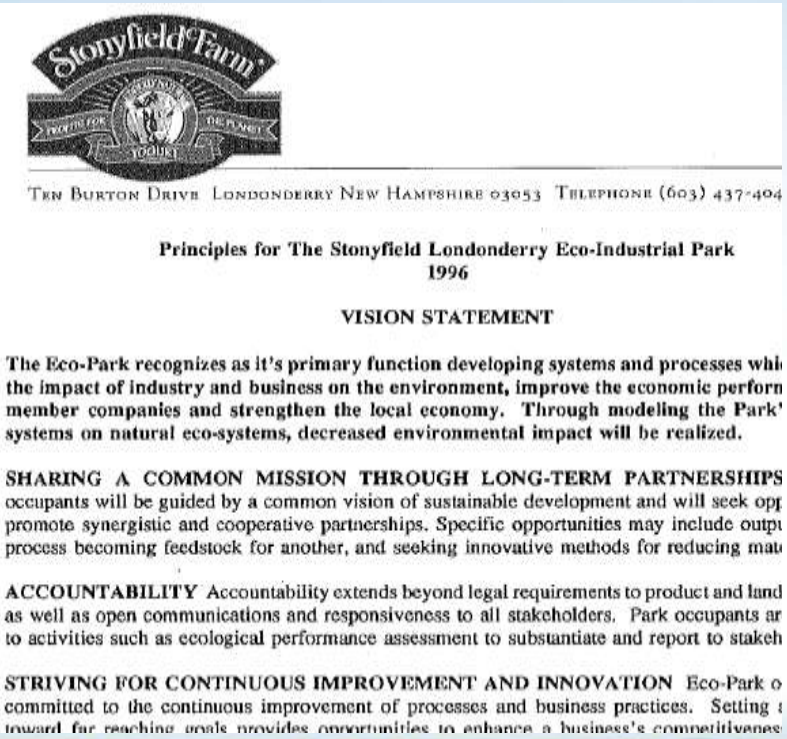
Mary Fischer

Carbon Master

mfischer@stonyfield.com

Londonderry Eco-Industrial Park Concept

- 1994: Stonyfield & Town of Londonderry pursued a recycling facility on adjacent land
- LEIP Vision:
  - "…minimize impact of industry & business on the environment, improve the economic performance of the member companies, and strengthen the local economy
- Covenants > Ecological Guidelines >
  - Design & Construction
  - Energy
  - Water Conservation
  - Pollution Prevention
  - Compliance



Stonyfield Farm

Ten Burton Drive Londonderry New Hampshire 03053 Telephone (603) 437-404

Principles for The Stonyfield Londonderry Eco-Industrial Park
1996

VISION STATEMENT

The Eco-Park recognizes as it's primary function developing systems and processes whi the impact of industry and business on the environment, improve the economic perforn member companies and strengthen the local economy. Through modeling the Park' systems on natural eco-systems, decreased environmental impact will be realized.

SHARING A COMMON MISSION THROUGH LONG-TERM PARTNERSHIPS occupants will be guided by a common vision of sustainable development and will seek opp promote synergistic and cooperative partnerships. Specific opportunities may include outpu process becoming feedstock for another, and seeking innovative methods for reducing mat

ACCOUNTABILITY Accountability extends beyond legal requirements to product and land as well as open communications and responsiveness to all stakeholders. Park occupants ar to activities such as ecological performance assessment to substantiate and report to stakeh

STRIVING FOR CONTINUOUS IMPROVEMENT AND INNOVATION Eco-Park o committed to the continuous improvement of processes and business practices. Setting toward far reaching goals provides opportunities to enhance a business's competitivenes

2011 IS Study

Core Objectives

- Survey & assess material & energy flows of Londonderry industrial area
- Identify opportunities for resource sharing
- Identify rules & regulations governing material & energy sharing
- Begin to cultivate relationships

Key Deliverables

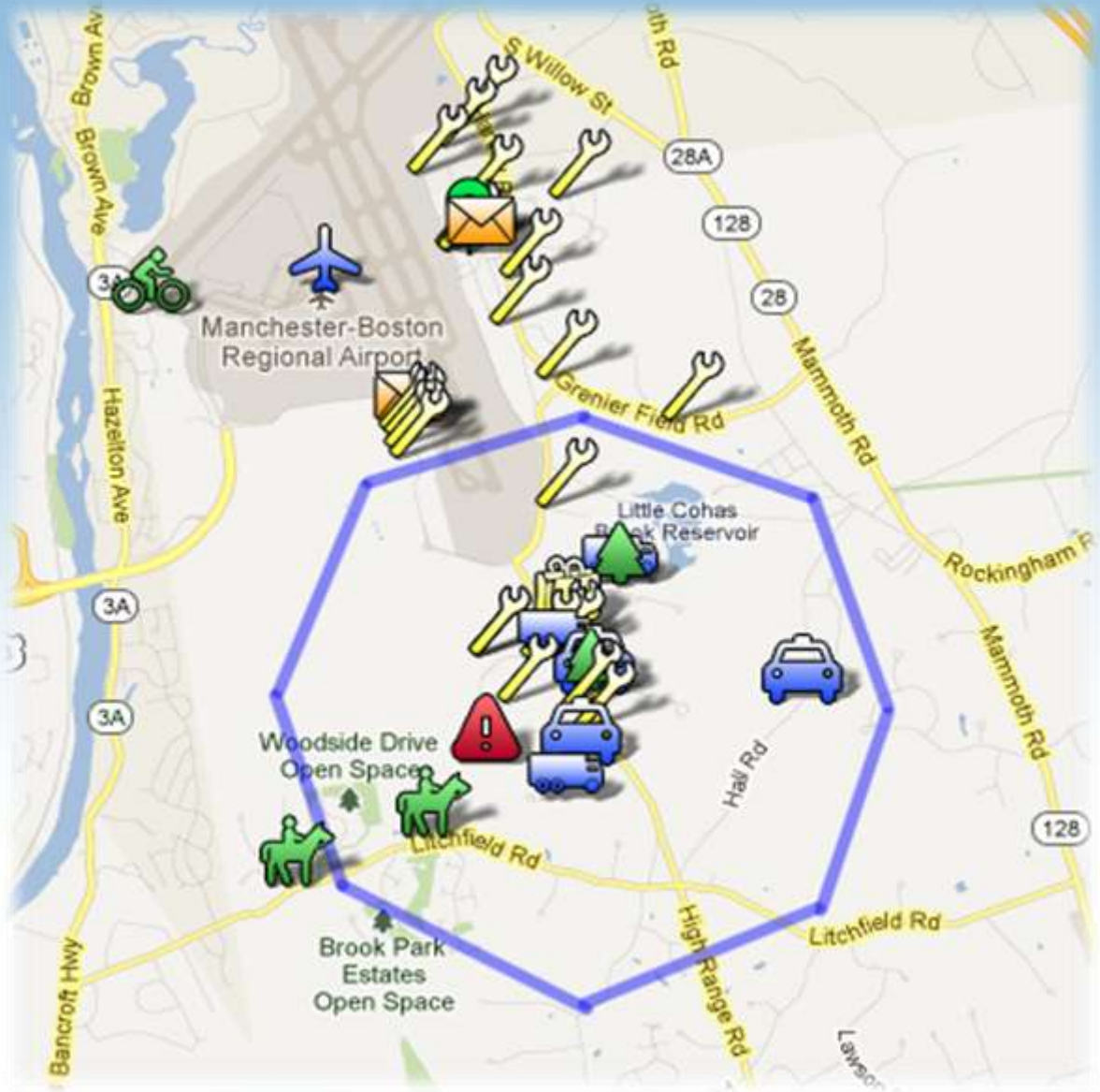
- Map our relevant industrial units
- Input-Output (Material Flow) analysis
- Summary of rules & regulations
- Final report, recommendations

2011 IS Study

Companies Contacted: **42**

The Count:

- 21 Manufacturing
- 3 Distribution
- 3 Automotive
- 2 Landscaping
- 2 Shipping
- 2 Farms
- 9 Other

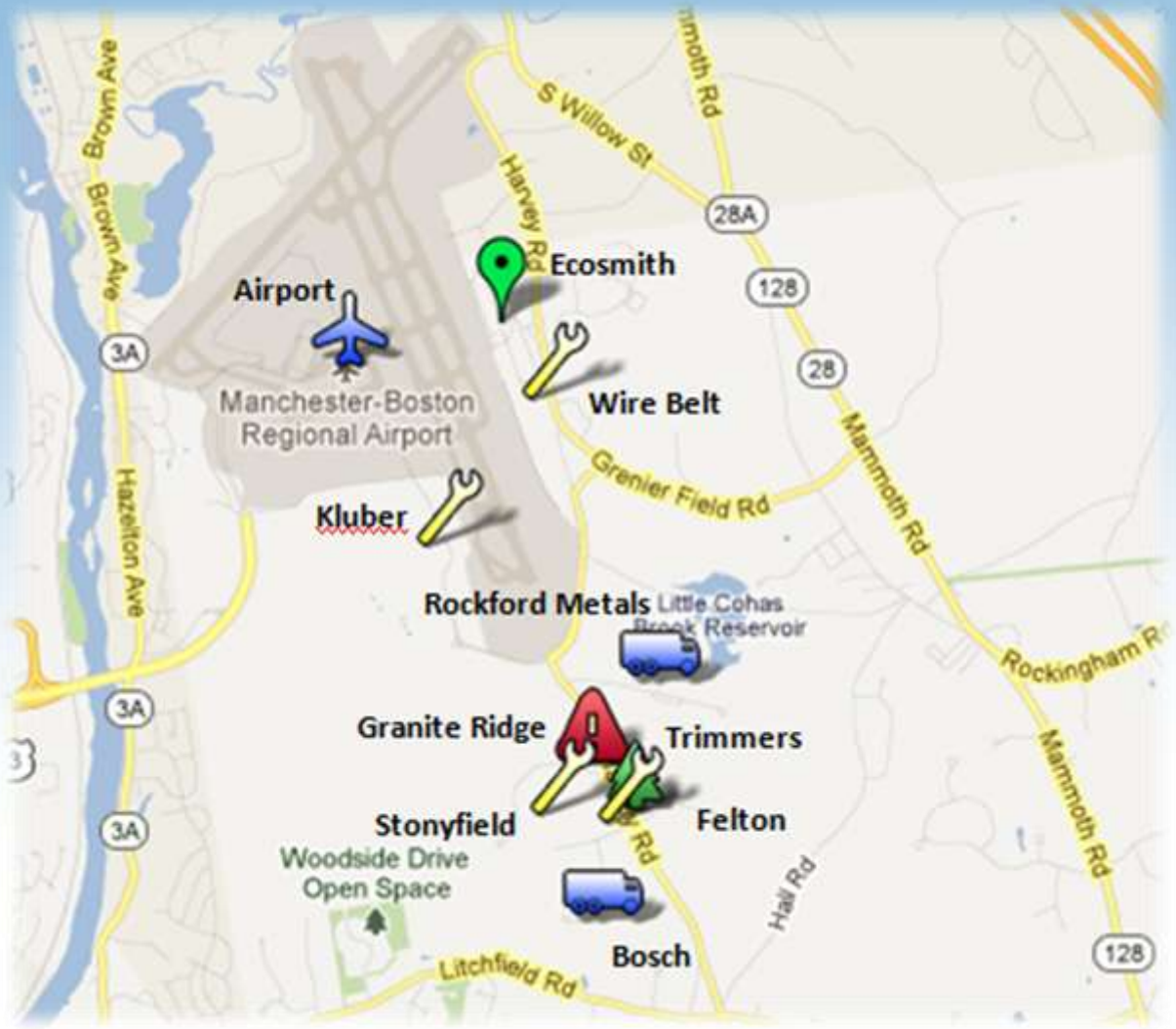


2011 IS Study

Companies Participating: **10**

The Count:

- 4 Manufacturing
- 2 Distribution
- 1 Airport
- 1 Power Plant
- 1 Landscaping
- 1 Recycler



2011 IS Study - Results

- 10 companies answered surveys
- A few showed interest in coordinating recycling pickups for cost savings
- Small potential project between Stonyfield & neighboring power plant
- Potential for "waste oil" to be used by power plant
- To date, no known action on opportunities

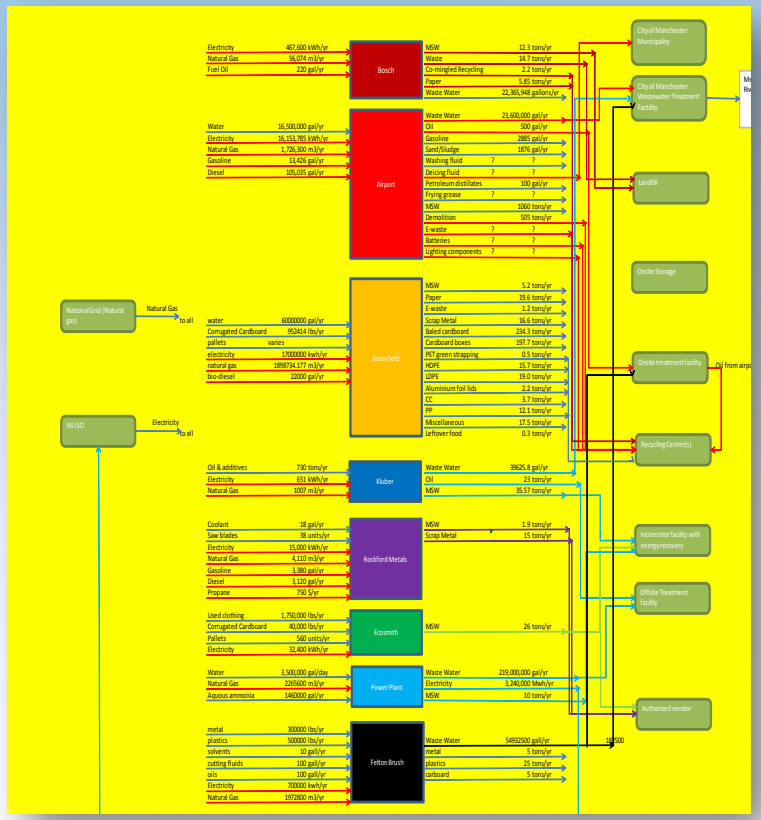


Image of input-output flow chart developed during study

Lessons learned

- 3rd party help should be located nearby
  - Better if they are on site vs. remote (low response rate to surveys)
- Need leadership to remind and motivate
- Networking is key
  - Maintaining communication needs to be done via leadership
- Mutual wins gain the most traction

Alignment of the organization to create a culture of environmental sustainability

- ✓ Commitment
- ✓ Knowledge
- ✓ Accountability

MAP
Mission Action Program

Transportation

Zero Waste

SWOT

Facility GHG Emissions

Milk

Water

Sustainable Packaging

Sustainable Ingredients

Green Chemistry

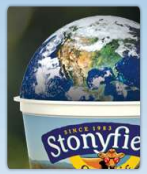
Zero Waste Champions

- New project to motivate employees to reduce waste even further
- Site recycling rate = 85% (national = 18%)
- Target: manufacturing waste
- Champions lead by example and are recognized for their efforts

Since MAP began in 2006…

✓ Achieved 34% absolute reduction in transportation GHG

$14,700,000 avoided



✓ Increased packaging efficiency every year

$6,100,000 avoided

✓ Achieved 17% absolute reduction in facility energy use & GHG

$2,600,000 avoided

✓ Reduced waste to incinerator by 81%

$900,000 avoided

TOTAL AVOIDED COSTS SINCE 2006: $24,300,000

Our sustainable packaging journey so far

Stonyfield

We switched cup packaging material from HDPE to polypropylene—a lighter weight plastic. This prevented the manufacture and disposal of 100 tons of plastic annually.

Recycline® started making toothbrushes from recycled Stonyfield yogurt cups—they still do!

We invested in a form, fill and seal packaging machine for multipacks, reducing packaging by over a third.

We switched our multipack cup material from petroleum-based polystyrene to plant-based plastic. This will reduce our carbon footprint by 1,875 metric tons of CO_2 in the first year.

We changed all smoothie and drinkables bottles from petroleum-based HDPE (#2) plastic to a plant-based HDPE derived from sugar cane. This switch reduces the CO_2 emissions from our bottles by about 65%.

1990s — 2000 — 2003 — 2006 — 2010 — 2011 — Future

We began a take-back program for all Stonyfield packaging.

We hired the University of Michigan's Center for Sustainable Systems to perform a Life Cycle Assessment (LCA) of our packaging systems. It's still used today by Stonyfield and our customers.

We replaced the plastic lids on small cups with foil lids. This cut energy use by 15%.

MAP Mission Action Program

We created a Sustainable Packaging Team from diverse areas of the business. The team has achieved packaging reductions of over one million lbs. and now monitors our packaging impact against a packaging scorecard it created. The scorecard is based on eight environmental criteria: material consumption, energy, GHG emissions, bad actors, water, travel distance, product/package ratio, and resource recovery.

We'll continue to work to develop emerging technologies, constantly looking forward to the next step in sustainability.

preserve gimme 5

Your #5 recycling efforts underwritten by:

Stonyfield Organic

BRITA

Supporting partners: Tom's of Maine, BURT'S BEES®

Drop your #5s at these retail locations

Mail us your #5s

Questions?

Thank You

Mary Fischer

Carbon Master

mfischer@stonyfield.com