

NYS Pollution Prevention Institute



Rochester Institute of Technology (RIT)

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Tools for Businesses

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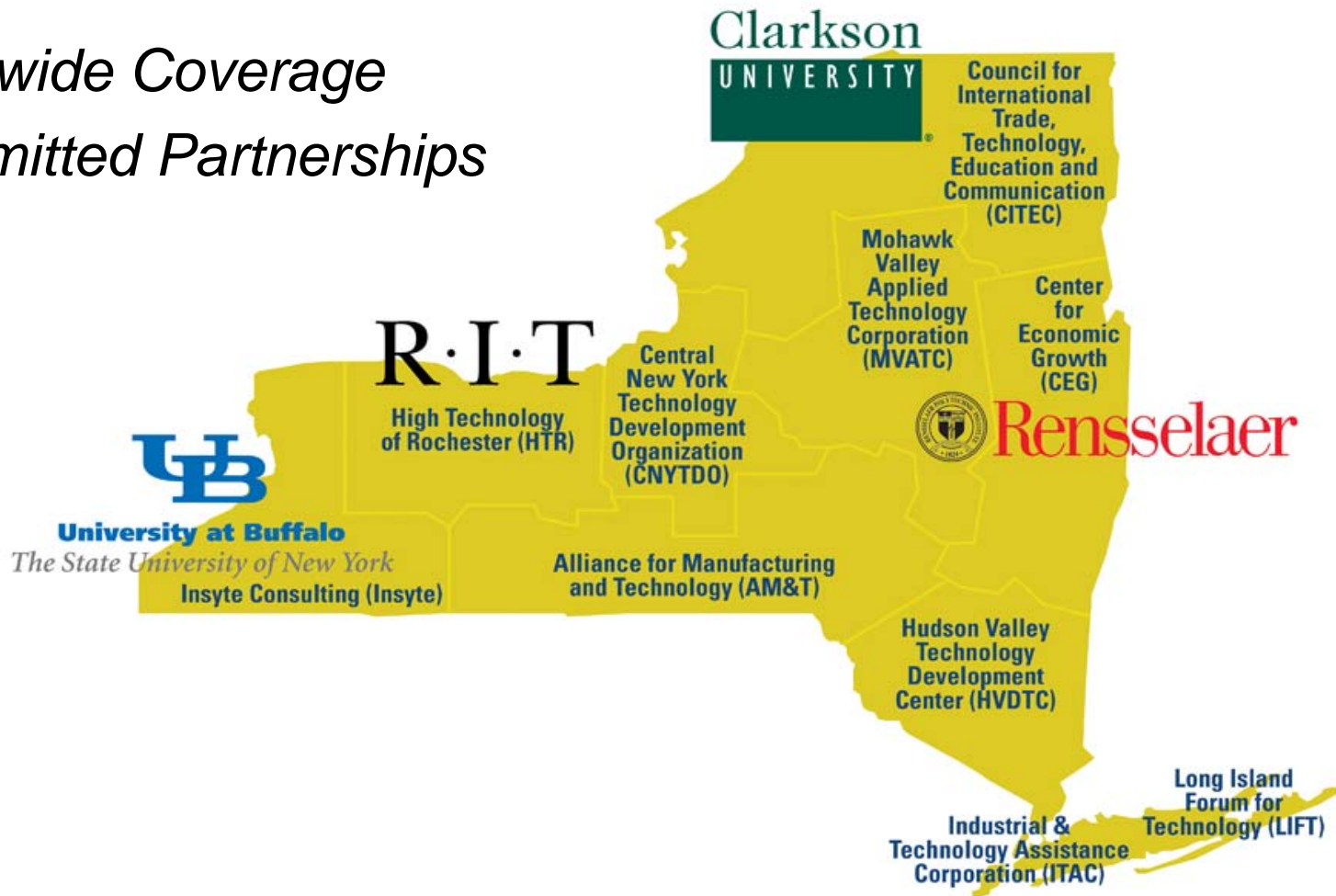
Funding provided by New York State Department of Environmental Conservation



New York State Pollution Prevention Institute

New York State Pollution Prevention Institute

- *Statewide Coverage*
- *Committed Partnerships*



New York State Pollution Prevention Institute

NYSP2I

Research & Development

- Led by Technical Advisory Committee (TAC)
- Four Partner Universities:
 - Clarkson
 - RIT
 - RPI
 - University at Buffalo
- Short & Long-term research

Direct Assistance

- Facilitate the use of P2 for solving environmental problems
 - Assessment & Implementation
 - LE2: Lean/Energy/Environment

Community Grants

- Provide financial & technical support to community organizations
 - Raise awareness & understanding of P2

Professional Training/ Outreach

- Workshops & Training conducted for clients
 - Areas of interest for stakeholders
 - Specific Training
 - Design for the Environment & Life-Cycle Assessment

Sector Projects

- Projects that have the potential to impact NYS on a high level
 - Dry Cleaning
 - Hospitality
 - E-waste
 - Auto body shops



Tangible results towards...

...a sustainable New York!



New York State Pollution Prevention Institute

NYSP2I's LE2 Pilot Project

- Process:
 1. Screening
 2. Assessment
 3. Implementation
- 22 companies screened
- 15 companies received LE2 assessments
- 3-4 companies will implement with NYSP2I LE2 program equipment funds
- Several others will implement with alternate funding program assistance (NYSERDA Existing Facilities Program, Utility funded programs, DOE)



Food Processor (NYC)

About the Company: A food processor, located in Brooklyn, NY, is a producer of various specialty fish products such as smoked salmon. They purchase frozen fish and thaw them with city water as the first processing step. **Acme uses approximately 30 million gallons of water per year at a cost of \$245,000.**

Work Performed: The NYSP2I, in collaboration with ITAC, food processor, and Energy Concepts:

- Determined the amount of heat available from an on-site CHP system
- Developed fish thawing models
- Ran fish thawing tests
- Documented incoming city water temperatures: **54°F average for 2009 with a low of 35°F**

Results: The Analysis determined that:

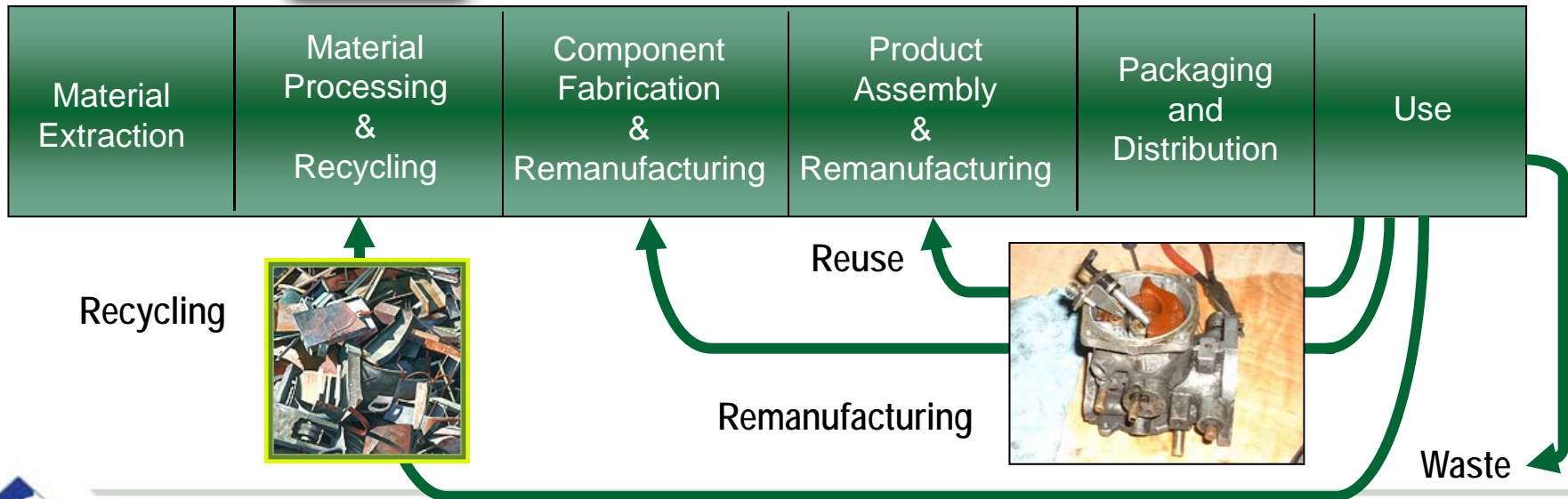
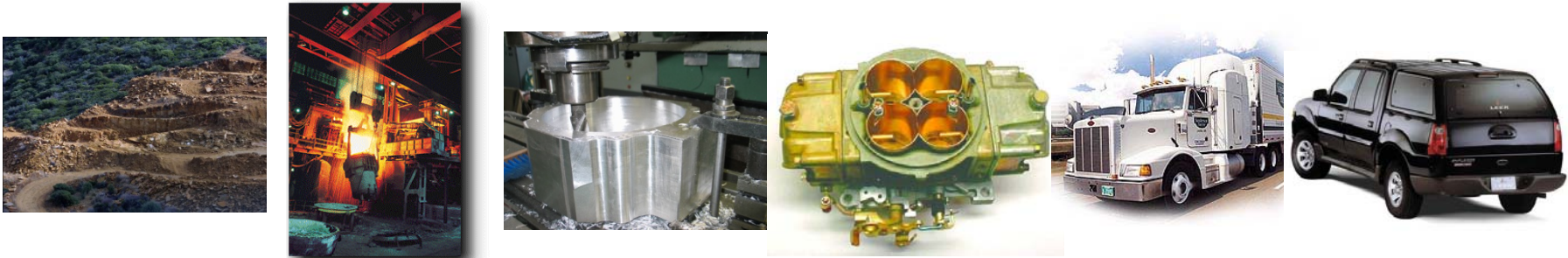
Additional waste heat from the CHP can provide enough hot water to thaw fish year round with 63°F water. The estimated water use would become 7.8 million gallons per year at a cost of \$57,000.

- **Water reduction of 74%.**
- **Cost savings of \$188,000 per year.**

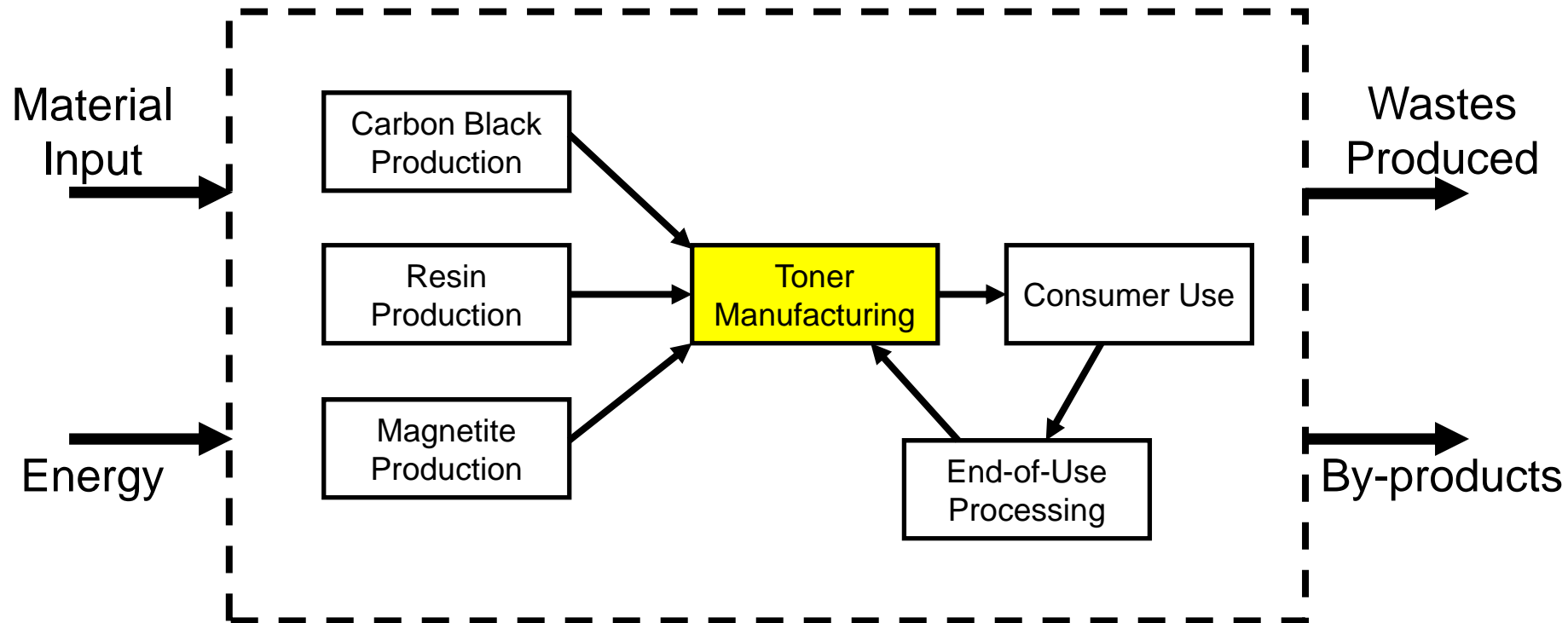


Life Cycle Assessment

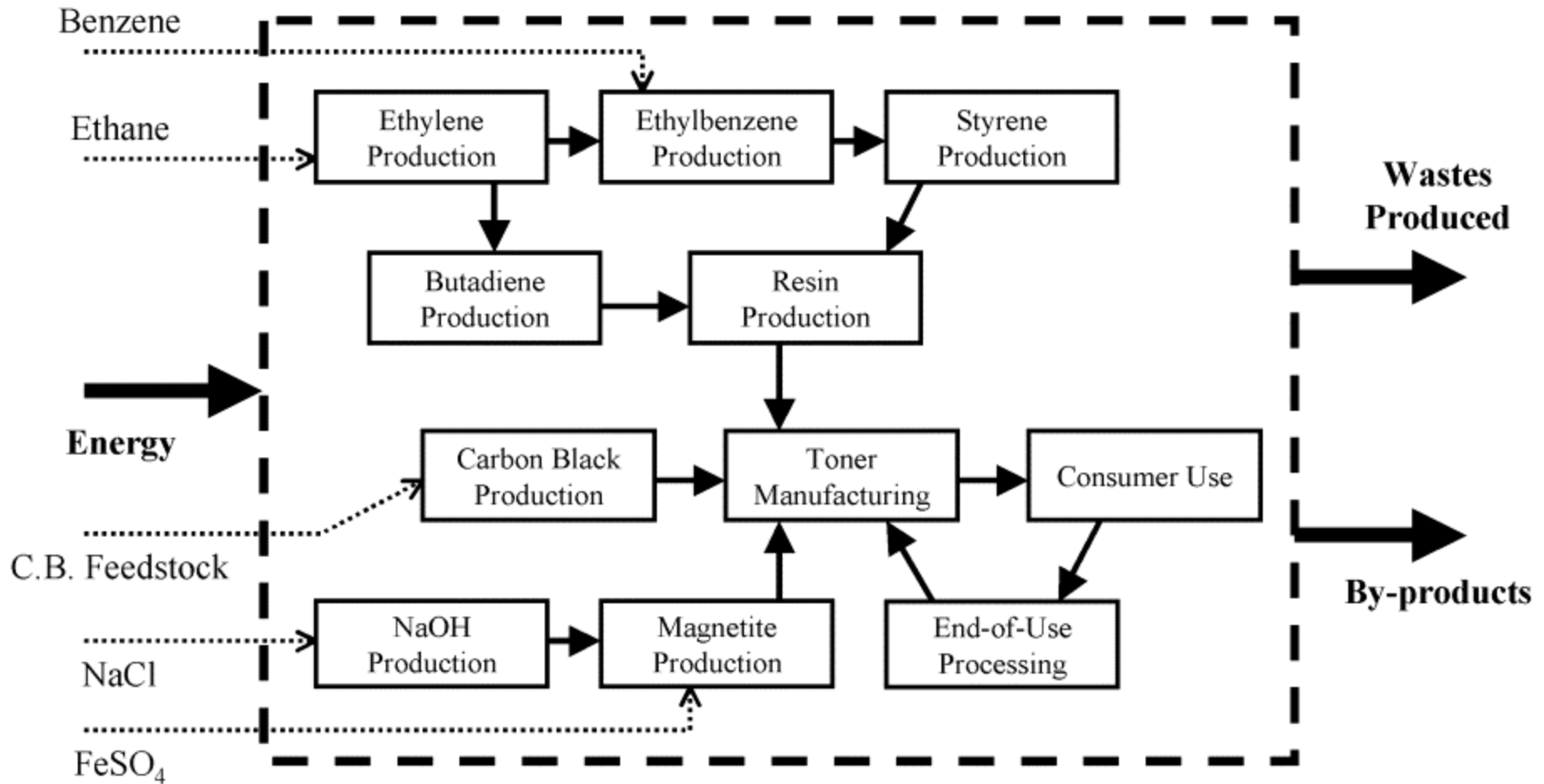
Life Cycle Assessment (LCA) is a technique used to quantify the environmental impact of a product from raw material acquisition through end of life disposition. (cradle-to-grave)



Defining the Boundaries



Toner Life-cycle Inventory



Ref: A.Ahmadi,et.al, J.Clean.Prod., 2003

Toner Life-cycle Inventory

