

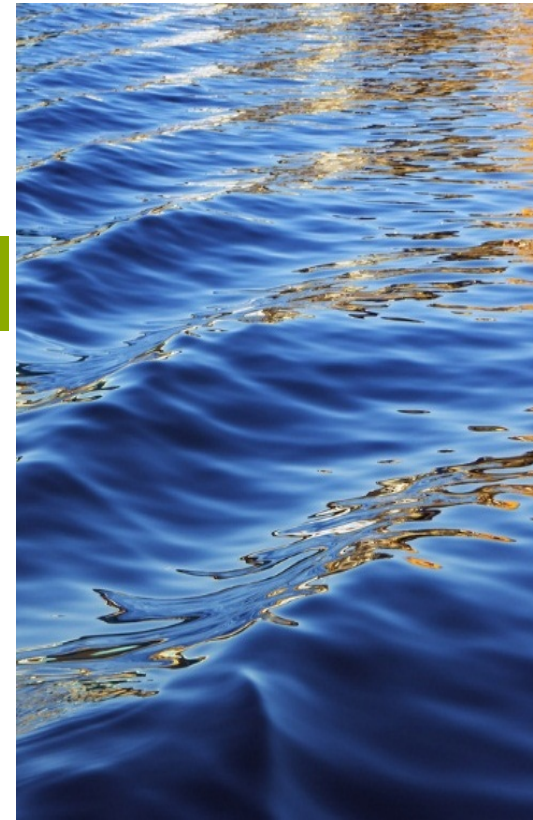


Leaders in Energy

Coming Full Circle with Sustainability:

**A Workshop on Building a Circular Economy in
the DMV Region**

**Leaders in Energy
University of the District of Columbia
September 28, 2017**



Sector Presenters



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Commission



Eco-industrial parks

“ A **community of businesses** that cooperate with each other and with the local community to **efficiently share resources** (information, materials, water, energy, infrastructure and the local habitat) leading to economic **gains**, gains in environmental quality, and equitable enhancement of human resources **for the business and local community**.” (PCSD, 1996)

Some key characteristics:

- planning with the ecological capacity of the area in mind;
- energy production based increasingly on renewable resources;
- buildings designed and built to optimize conservation of materials and energy;
- industries selected based in part on their compatibility for symbiosis;
- webs of businesses involving producers and consumers, scavengers and decomposers;
- redundancy in material sources built into the structure of the system;
- water and wastewater infrastructure that recovers and reuses;
- information management system which facilitates networking;

(Cote and Cohen-Rosenthal, 1997)



Eco-industrial park characteristics

- Efficient sharing of resources: symbiosis but what else?
- Economic gains: financial benefits to businesses, to local community?
- Gains in environmental quality: air quality, water use and reuse? Solid waste reduction and recycling?
- Equitable enhancement of human resources for business: risk reduction? employee engagement?
- Equitable enhancement of human resources for the community: long term jobs? education and training?
 - Based on Chertow, 2003

Listing of US Eco-Industrial Parks

November 2013

1. Devens Eco-Industrial Park, Devens, MA
2. Camden Eco Industrial Park, Camden, NC
3. ReVenture Park, Charlotte, NC
4. Catawba Eco Complex, Piedmont, NC
5. Infinitus Renewable Energy Eco-Industrial Park, Hillsboro Co. FL
6. Tiverton Eco Industrial Park, Tiverton, RI
7. Noisette Companies, North Charleston, SC
8. Star Eco Industrial Park, Star, NC
9. Fairfield Eco Industrial Park, Baltimore, MD
10. New Market District, Boston, MA
11. New Bedford initiative, New Bedford, MA
12. USBCSD Mobile, AL
13. Hudson Eco Industrial Park, Hudson, OH
14. Port Townsend Eco Industrial Park, Port Townsend, WA
15. Eco Industrial Districts, King County, WA
16. USBCSD Puget Sound, WA
17. Port of Portland Eco Industrial Project, Portland, OR
18. City Initiative, Reno, NV
19. Forsyth Co Eco Industrial Park, Forsyth Co, GA
20. Silver Bay Eco Industrial Park, Silver Bay, MN
21. Green Institute, MNPLS, MN
22. Itasca Eco Industrial Park, Grand Rapids, MN
23. Gaylord Eco Industrial Park, Gaylord, MI
24. USBCSD Detroit, Lansing MI
25. Anderson Eco Industrial Park, Anderson, IN
26. USBCSD Kansas City, MO
27. USBCSD Chicago, IL
28. The Factory, Chicago, IL
29. Sustainable South Bronx EIP, Bronx, NY
30. Central NY Agri-Business Park, NY
31. Campbell Industrial Park, Honolulu, HI
32. Keystone Eco-Industrial Port Complex, Bucks Co., PA
33. Spiritwood, ND
34. New Belgium Brewery, Fort Collins, CO
35. Houston Ship Channel, Houston, TX
36. USBCSD Austin, TX
37. Industrial Park, Fort Dodge, IA
38. Industrial Park, Blair, NE
39. Stonegate Eco Industrial Park, Anderson, CA
40. EcoMaine EIP, Portland, ME
41. Rialto Eco Industrial Park CA
42. Intervale Food Center, Burlington, VT
43. Londonderry Eco Industrial Park, Londonderry, NH

Source: International Perspectives on Industrial Ecology, 2015 Eco-Industrial Development in the United States. Lowitt

Devens Overview

- 5.5mil. sq.ft. of dev.
- 6,000+/- jobs created
- 4,400 ac dev/1800 ac. OS
- Top economic development site
- 400+ residents
- MassDevelopment - Landowner
- DEC – Regulatory Authority



Devens Recycling

- 2007 MA DEP Waste Ban
- C&D recycling
- Waste diversion: 80,000 tons of materials 2012-2016
- On-site processing into new material/feedstocks
- Opportunities for synergistic co-location





Devens Sustainable Housing Pilot Case Study

- Showcase EE & WE, sustainable & affordable construction (\$225-\$350K)
- LID components (reduced pavement widths, porous walkways, on-site roof runoff infiltration (no gutters) and bio-filtration rain gardens)
- IAQ/GHG reduction
- Cluster/OS protection, smart loc.
- Climate adaptation - more resilient buildings & infrastructure

ENERGY-POSITIVE HOMES IN DEVENS, MASS



HERS -36 for single family, enough excess power an EV for 30,000 miles/yr.

