



Lowell Center for Sustainable Production

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MINUTES A ROUNDTABLE DISCUSSION TO ADVANCE CLEAN TECHNOLOGIES IN THE MERRIMACK VALLEY

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On November 13 2008, close to 30 people from government, business, labor, and academia participated in the Merrimack Valley Clean Tech Roundtable. The Roundtable was sponsored by the Lowell Center for Sustainable Production (the Lowell Center) at the University of Massachusetts, Lowell, and the Merrimack Valley Economic Development Council, and was hosted by Ozzie Properties at their Osgood Landing Commerce Center in North Andover.

The Roundtable was part of a series of three regional roundtables held throughout the state as part of the Lowell Center's *Clean Tech Initiative*. The goals of the Clean Tech Initiative are to make the case for orienting our economy around all clean technologies, identify technologies in which Massachusetts is poised to lead, and recommend policies and actions to achieve this leadership. The Initiative's initial report, *Clean Tech: An Agenda for a Healthy Economy*, identified five fields in which Massachusetts already possesses leadership:

- clean energy,
- green buildings,
- emerging materials (such as bio- and nano-based materials),
- materials reuse and recycling, and
- safer alternatives to toxic chemicals.

Information on the Clean Tech Initiative, the initial report, and notes from other regional roundtables and attendees, can be found at <http://sustainableproduction.org/proj.tech.abou.shtml>

The purpose of the Roundtables is to learn about strengths, challenges, and opportunities for growing the clean tech economy in the regions and state; to raise awareness about the importance of clean tech to the environment and economy; to gain information to that will inform key policy makers and activists; and to help create partnerships that will ultimately help move the clean tech economy forward. The other two Roundtables covered Western Massachusetts and the 495/Metrowest regions of the state.

The discussion opened with welcoming remarks by Bob Halpin, President and CEO of the Merrimack Valley Economic Development Council. Mr. Halpin explained that the MVEDC is a partnership that has organized public and private sector leaders across 24 communities to advance the economic interests of the valley through improved collaboration, communication, coordination and communication. The MVEDC focuses its efforts on the growth of certain important export-oriented industrial clusters, including clean tech. Clean Tech industries are especially important to the older cities of Lowell, Lawrence, and Haverhill where the 'green agenda' matches well with their rebirth and renewal story. Orit Goldstein, President of Ozzie Properties, welcomed the group to Osgood Landing and invited attendees to learn about and use the 1.5 million square foot facility. The former Lucent site boasts environmental attributes such as the state's largest photovoltaic solar array and high efficiency boilers. Cathy Crumbley, Program Director of the Lowell Center for Sustainable Development at UMass Lowell, explained how the Clean Tech project grew out of the Lowell Center's background in toxic use reduction, green chemistry, innovation, and economic development.

Amy Perlmutter, consultant to the Clean Tech Initiative, provided some additional background to the project and findings from the Initial Clean Tech report and led the discussion with participants. In summary, among the region's strengths are its proximity to schools—from voc techs to community colleges to universities—and expertise in manufacturing a wide range of products. This makes it a prime place for early stage manufacturing that turns innovative ideas into new products. The diversity of products made in the region also allows companies to find much of their supply chain needs within a short distance. This and other factors make the region less expensive than many other parts of the state to both work and live.

The region is challenged, however, by the state-level emphasis on a knowledge economy over a manufacturing economy, and the lack of clarity about how the two can intersect to give Massachusetts a competitive advantage. State leadership on environmental education and purchasing could also be improved.

Opportunities for growth in the Merrimack Valley region include building partnerships among schools and businesses to identify future job needs, as well as business to business partnerships to create more local supply chain links. Businesses and others can also come together to build the region's identity as *the* place for taking innovative ideas into production, and providing information to companies and individuals that will support the transition to clean tech. And the proximity of farms, old building stock, experience in lead-free manufacturing, and presence of plastics manufacturing and UMass Lowell's Plastic Engineering Department create clean-tech business opportunities in composting, energy efficiency retrofitting, green chemistry, and bio-based and recycled plastics. Additional ideas and details are outlined below.

The crossroads of knowledge and manufacturing, along with affordability, environmental awareness, and proximity of local supply chains, are among the **strengths** of the region:

- Manufacturing
 - All three industrial cities in the region have room for growth in manufacturing
 - There is a wide range of companies in the region that can be part of a supply chain—70% of Solectria's supply chain is in the Merrimack Valley. This is not a unique situation
 - Manufacturing is important to the economy, it accounts for 20% of all employment in the region, and manufacturing wages have increased as percentage of total income to 25-28%
 - High-tech manufacturing can be better done here than China, the resources exist within a 150-mile radius to design or build anything
 - The region has design/build capacity and talent, and can do rapid small-scale prototyping
 - Companies in the region already understand many clean tech technologies
- Education and Research
 - There is a historic and current presence of plastics, including the only accredited plastics engineering program in the country at UMass Lowell
 - There is a high concentration of schools, from UMass Lowell to community colleges and Voc Techs
 - The region boasts leading research activity in ethanol, plastics, nano-materials, bio-materials, toxics use reduction and green chemistry
- Intersection of knowledge and manufacturing
 - Both knowledge and manufacturing economies co-exist, providing unique opportunities for early stage company and related product development
 - Manufacturing is part of the region's identity, its strength is in putting things together, and in being flexible in transitioning to meet new demands
 - The skilled management and workforce throughout the supply chain know how to work together, are highly trainable and know how to make manufacturing work
 - The region is good for high-end manufacturing that uses sophisticated processes
 - The Toxic Use Reduction Institute-formed lead-free consortium has helped companies be compliant with international standards and has grown New England-wide

- The Young Entrepreneurs Alliance at the Voc Tech's, creating school-based businesses, can focus on clean tech
- Awareness
 - Concentration of brownfields and waste disposal facilities has helped increase environmental awareness
- Cost
 - The region is less expensive for working and living than the area inside of Route 128

Challenges to growing the regional clean tech economy include state policies and perceptions that don't favor manufacturing, difficulties in proactively creating a workforce to meet future demands, as well as creation of demand for cleaner products by businesses and individuals

- State policy
 - The State de-emphasizes manufacturing, pushing instead for a knowledge economy, and doesn't seem to grasp that these are not mutually exclusive or that together they create a unique strength
 - The process to get on the State's Environmentally Preferable Purchasing list of approved vendors only opens every 4-5 years, which hinders companies from getting new products on the list in a time-frame that follows new product cycles
 - The job training infrastructure in the state is fragmented, with 14 job training agencies
- Education
 - Education of consumers that would lead to demand for cleaner products is lacking
 - It is difficult to find out which companies are doing the right thing environmentally
 - Shorter product cycles and lack of communication with businesses regarding future trends and needs make it challenging for community colleges and voc tech schools to develop training curricula to meet business and student needs
- Other
 - Competition from China and other low-cost manufacturing countries makes it difficult to compete on cost alone
 - It is difficult for businesses to be proactive rather than reactive, and build a consortium for products we don't know yet (vs. the Lead-Free Consortium model run by TURI)

Opportunities

- Partnership Building
 - Create a regional *Clean Tech Roundtable* to advocate for industries, promote networking
 - Hold subcontractor conferences similar to defense industry conferences to identify partnerships and needs
 - Take advantage of 'buy local' awareness to encourage more local supply chain collaborations and purchasing
 - Use the TURI lead-free consortium as model for other clean tech activities
 - Educational institutions can work with industries in a more predictive way to develop education and training programs; find ways to embed future needs into current courses rather than developing new curricula; and determine basic skill sets that can be taught that will allow students to meet needs of changing businesses
 - Community Colleges and Voc Techs can be sited in industrial areas to build partnerships with businesses
- Identity
 - Create an identity for Merrimack Valley as the place where knowledge and manufacturing intersect for clean tech innovation and adoption, and position the region as the place where first production runs happen after concept
 - Pool resources of companies to create a strong media presence
 - Create a visual, interactive map of clean tech companies in the region
 - Identify good success stories, including cost savings and local supply chains
- Business Opportunities
 - Work to strengthen existing companies currently in, and who should be part of, clean tech

- Pursue the low hanging fruit of energy efficiency and conservation to help companies be more competitive
- Look for more opportunities where knowledge, innovation and manufacturing intersect, such as early stage manufacturing
- Use the momentum about clean energy as an entre to other clean tech areas, such as green chemistry
- The 2008 Farm Bill and MA energy bills can provide incentives to farmers for clean energy generation
- The proximity to farms provides opportunity to compost urban organics
- Increase efforts in bio-based and recycled plastics
- Build on the awareness of local food issues to build interest in buying local for supply chains and end-products
- Education and Information
 - Create a central place where consumers and companies can find out about cleaner products and technologies, an ‘Angie’s list’ type list for clean tech
 - Help link manufacturing with new technology/knowledge
- State policy
 - Government should take more risk on ventures that meet its environmental priorities, but for which venture capitalists may not see enough return on investment.
 - The state should set more standards in order to create a market for environmental products