Proposal for a Green Chemistry & Eco-Industrial Networking Center at Bradford College Campus in Haverhill

Creating a Magnet for Innovative Practices in Industry & Sustainable Economic Development

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It's not enough to be competitive. To profit in the global environment, communities have to lead. Think *Silicon Valley* and *Triangle Park*. Today, the Merrimack Valley once again has that chance.

The infrastructure and know-how are here, as is the will. What's missing, we believe, is a single galvanizing focus on innovation. This focus would seek to make economic activity in the valley not only competitive, but exemplary. It would align this region with the pulse of the future.

To help achieve this, we are proposing a Green Chemistry and Eco-Industrial Networking Center to be hosted at the Bradford College campus in Haverhill in conjunction with a nearby manufacturing facility.

The center will improve the competitiveness of the region by being a magnet for training in, and demonstration of, the leading edge in industry.

The training component will allow managers and technicians from a wide breadth of industry sectors to be brought up to speed on the benefits of emerging practices, while the manufacturing component will provide cost-effective, "proof-of-concept" services for local companies. Additionally, the Bradford College campus reuse would preserve the intellectual legacy of this historic landmark.

One of the two innovations at the heart of this proposal is Green Chemistry. This is the rapidly growing practice by which toxicity is removed from the manufacturing process, thereby creating safer products for consumers and employees.

The field of Green Chemistry was created in the valley and its leading authority, Dr. John Warner, heads the nation's first Ph.D. program at UMass Lowell. According to Dr. Warner, Green Chemistry is essential to the future of industry, as the cost of compliance and cleanup is becoming prohibitive. As Warner explains, "companies that have products that are more environmentally benign will have a competitive advantage. That's unequivocal."

Additionally, Green Chemistry methodologies are non-energy intensive and thus provide significant cost savings. As such, the practice is quickly gaining with overseas competitors who have much higher energy costs.

China, for example, according to Dr. Warner, has five Green Chemistry institutes, and the Japanese Ministry of Trade and Commerce has issued a mandate that industry should adhere to Green Chemistry principles. Also, according to Dr. Warner, last year was the first time the U.S. was not the world leader in Ph.D.s in chemistry. As Dr. Warner warns, "The myth that the U.S. will always be the innovator isn't holding. We don't have a lock on creativity and innovation."

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Dr. Warner's vision is that a Green Chemistry Center located in the valley would be a boost for the region. It would provide training to managers, chemists, and technicians, while also serving as a demonstration center for new manufacturing processes.

Ideas could be prototyped in a manner that was cost effective for medium-sized regional businesses. Additionally, the center would serve an important role in workforce development, creating a new generation of skilled workers versed in the science and techniques of environmentally safe manufacturing.

Complementing the Green Chemistry Center would be a regional center for Eco-Industrial Networking (EIN). This is an emerging practice in industry that is stimulating growth while reducing environmental impacts. Specifically, it entails the coordination of resources among diverse industries in close proximity. The Merrimack Valley is ideally suited to benefit from an EIN initiative because of its rich density of industrial and manufacturing interests. According to Peter Lowitt of the Devens Enterprise Commission, a focus on EIN can create a market advantage for regional businesses. The precedent for a regional EIN effort has been established in England with its National Industrial Symbiosis Program (NISP). The program facilitates resource and material flows management across the entire country.

A single facility that provided training and demonstration services on cutting edge practices in industry can be a valuable contribution to the economic welfare of the region. We believe Bradford College campus has many compelling qualities to serve as this center, and that a business case can be made to support it.

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For starters, there is a compelling value proposition for potential investors. If our research holds true, Green Chemistry will become one of the next growth industries, following computers, the Internet, and nanotechnology. In fact, Green Chemistry has been considered the nanotechnology of the future.

Likewise, Eco-Industrial Networking is becoming an essential component of industrial competitiveness. Additionally, on the team providing guidance to the project are two luminaries we are privileged to have in our neck of the woods: Dr. John Warner of the University of Massachusetts at Lowell, the recognized global expert in Green Chemistry, and Peter Lowitt, who has led Eco-Industrial Networking parks in Londenderry, N.H., and at the former Fort Devens military base.

In fact, the Devens reuse plan that Lowiit has been involved with has many lessons that can be applied to the proposed Bradford reuse. Similarly, the recent awarding of $5 million to the University of Massachusetts at Lowell for the advancement of nanotechnology is a positive sign for this region's future as a nexus for innovation.

Concerning the Green Chemistry component, it is envisioned that major interests in the chemical industry, such as DuPont, Pfizer and Merck, would lease space to collaborate at the proposed center. Manufacturing companies would lease space at the nearby industrial parks. Companies would send their scientists to learn from the best advisors. They would have the added benefit of staying at a beautiful New England college campus.

Another potential strategy is to match growth industries. The Project on Emerging Nanotechnologies (www.nanotechproject.org), in cooperation with the Environmental Protection Agency, is sponsoring a series of live webcasts to explore the potential of matching green chemistry and nanotechnology. As explained by David Rejeski, from the Project on Emerging Nanotechnologies, "…we believe that nanotechnology can be 'green' and help to enable a better environment."

"We also think the U.S. could be a global leader in green nanotech, and that government policy incentives should be directed toward this goal. We know that green nanotechnology can be a source of American jobs and company profits in the future."

Why not demonstrate these ideas here in the Merrimack Valley? Why not take a leadership role in industry, repurpose a historic landmark, and make a profit at the same time?

The Innovation Valley initiative seeks to help stimulate economic growth and quality-of-life enhancements in the Merrimack Valley. Every month we will report on innovative businesses, practices, and ideas that are helping to make Merrimack Valley the place to be. Look for our article in print media and online at www.ivalley.org.

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