

Now That's Good Chemistry!

Turning ideas into dollars and jobs: A report on The Green Chemistry Business Summit

Seth Itzkan

"I was very impressed with the Green Chemistry Business Summit. This has to be the wave of the future" - Jim Fiorentini, Mayor of Haverhill

With that comment, Haverhill Mayor Jim Fiorentini captured the sentiment of most who attended the Green Chemistry Business Summit held at Northern Essex Community College in Haverhill last week. The Summit was an unprecedented gathering of scientists, investors, industry executives, and regional planners, specifically for the purpose of harnessing the economic and workforce development potential of nontoxic manufacturing through Green Chemistry.

"Our challenge as a community", continued the Mayor, "is to find ways that this new technology can take hold locally. That is our challenge, and we intend to meet that challenge here in Haverhill".

By the looks of it, there will be plenty of opportunity to rise to the occasion. The speakers and attendees at this summit represented a regional, state, national, and global who's-who of talent and resources ready to help make it happen. "I bring you greetings from the Governor", said Greg Watson of the Executive Office of Energy and Environmental Affairs. Hearing Mr. Watson's welcoming message were no less than three state representatives, 2 senior state officials, 2 college presidents, 2 directors of regional economic development programs, and, at least 1 mayor, not to mention the many leaders in finance and industry.

"You have an opportunity to create jobs, stimulate an economy, and get students to stay in school", said Dr. John Warner, co-founder of Green Chemistry and a native son of Massachusetts. "There are so many ways that this infiltrates society that we need an opportunity to get it all together, and here in the Merrimack Valley we may have the tools to do it".

Adding the power of the Governor's office to Warner's vision, Mr. Watson explained that the work being done regionally in Green Chemistry compliments perfectly the objectives of New England Clean Energy Alliance,

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that's number one priority for the state is to help grow the clean energy economy. In fact, a recently completed clean energy "census" commissioned by the Massachusetts Technology Collaborative shows that clean energy is the fastest growing industrial sector in The Commonwealth.

Of course Green Chemistry isn't technically an energy industry, but it is complimentary, because, as Mr. Watson further explained, to have a completely benign energy sector, we must be able to manufacture wind turbines, solar cells, biofuels in ways which are themselves nontoxic and energy frugal. Green Chemistry helps close the loop in what is otherwise an expensive and environmentally burdensome manufacturing process.

As impressive as this is, those of you who have been regularly reading this column know well that Green Chemistry offers promise far beyond the clean energy sector. It's application spans the manufacturing spectrum, from electronics to pharmaceuticals, and includes industrial products, building materials, consumer goods, personal health care, apparel, and everything in between - all items that can be manufactured or have a research component here in the Merrimack Valley. As Dr. John Warner, reminds us, "Every product made involves chemistry", and as the twin specters of high fuel costs and environmental regulation tighten the screws on America's traditional manufacturing base, the appeal of Green Chemistry grows.

"Green Chemistry represents a cost savings to industry", explains Warner, "because it avoids all the incidental costs of handling hazardous materials, waste disposal, and regulatory fees. It is inherently more cost effective".

This point was echoed by Dr. Berkeley Cue, former Vice President of the

pharmaceutical giant Pfizer. "Green Chemistry can save the pharmaceutical industry approximately \$10 billion per year", he said, adding that this equates to "\$700 million over the lifespan of a typical pharmaceutical drug". Many other examples of new products on the market created through Green Chemistry applications were presented, including products from companies that had won the "Presidential Green Chemistry Challenge", and national awards program that Dr. Warner and his colleague and fellow speaker, Dr. Paul Anastas helped establish through the EPA. Dr. Cue informed the audience that with over 200 bio-pharmaceutical companies in Eastern Massachusetts, there was abundant local opportunity to learn from the exemplary Green Chemistry products on the market and to harness the cost saving potentials.

"I think this could be the new Microsoft", said one of the attendees. "And why not", I would add myself. After all, chemistry is nature's software.

The Summit covered 5 themes: (1) Green Chemistry Science, (2) Economic Opportunity for Industry, (3) Investment Opportunities, (4) Workforce Development, and (5) Technology Transfer & "Open Innovation".

Addressing the investment opportunities, Daniel Hullah of Rockport Capital Partners said Green Chemistry fit perfectly within their three portfolio areas: Energy and Power, Advanced Materials, and Process and Prevention. Rockport Capital Partners is one of the leading venture capital houses specializing in green technologies, but they aren't alone. This is a fast growing sector within the finance community, and if Green Chemistry fits nicely within their portfolio, we can assume it will have wide VC appeal.

Dr. David Hartleb, President of Northern Essex Community College, Dr.

Mahesh Sharma, President of Cambridge College, and Dr. Amy Cannon, Co-founder of the Beyond Benign Foundation, each discussed the workforce development opportunities for Green Chemistry and other green technologies. Dr. Cannon elucidated the activities of the Beyond Benign Foundation that is helping to build a robust regional network of New England colleges active, or becoming active, in Green Chemistry education. These include Cambridge College, Hampshire College, Simmons College, Bridgewater State College, and others. Ms. Cannon also discussed the role of Green Chemistry is supporting regional economic development. The benefits include attracting and maintaining companies, creating a steady supply of jobs, and using local resources.

Dr. Eugene Buff of Yet2.com, and Dr. Jon Cronin of InnoCentive, each discussed a compelling new approach to rapid R&D called "Open Innovation". In the Open Innovation model, intellectual property is shared and brokered on the "online supermarket of ideas" through a trusted brokering service. This breaks the "silos" of traditional R&D departments and allows for much faster idea generation and product development. It creates avenues for cross industrial and industry-collegiate collaboration.

One of the key findings from the Summit is that a regional innovation network for Green Chemistry and other emerging green technologies should be developed here in the Merrimack Valley.

State representatives present at the Summit included Cory Atkins, Harriett Stanley, and Brian Dempsey. Senior state administrators, in addition to Greg Watson, include Pat Cloney, Director, Massachusetts Office of Business Development, and Art Roberts, Industry Specialist for Defense and Alternative Energy.

Also present were Jim Jajuga, President of the Greater Haverhill Chamber of Commerce, Bob Halpin, President of the Merrimack Valley Economic Development Council, and Susanne Ferrara, Executive Director of the Merrimack Valley Venture Forum.

The summit was organized by John Michitson, former Haverhill City Council President, and Seth Itzkan, President, Planet-TECH Associates.

A full summary of the report including speaker comments is available on the Innovation Valley website, ivalley.org.



Seth Itzkan is president of Planet-TECH Associates, a consulting agency identifying innovations in economic development.

Recently, Mr. Itzkan helped The Boston Foundation to conceptualize and implement its Hub of Innovations tool. You can email him at seth.itzkan@gmail.com. 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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The Valley Patriot's Green Chemistry experts, John Michitson (l) and Seth Itzkan (r) with keynote presenter, Dr. John Warner, (center) at the Green Chemistry Business Summit held at Northern Essex Community College in Haverhill.