



Workshop Summary

TechRealization was a half-day event hosted by Pacific Northwest National Laboratory, to reconvene the region's clean technology leaders and Tri-Cities Research District stakeholders to "realize" the progress, update local and regional stakeholders, and plan the next steps for creating a home for clean technology development and demonstration in the Pacific Northwest.

The event drew more than 90 participants who witnessed the unveiling of the TCRD master plan, heard from research park leaders for the TCRD and Sandia S&T Park, interacted with government officials, and learned about innovations in clean tech from both the supply and demand side. The participants worked together to identify success factors and recruiting opportunities for the Research District.

Opening Remarks and Introduction

Mike Schwenk, PNNL, served as the master of ceremonies for the workshop. He started the workshop by welcoming the participants and speakers and thanking them for coming to TechRealization. A year ago, a workshop entitled TechMagination was held to elicit ideas from the region's clean technology leaders and stakeholders regarding plans for the development of the Tri-Cities Research District and to get input for a proposal to become one of Washington State's Innovation Partnership Zones (IPZ). Much has happened since that event, and Schwenk explained that TechRealization would provide an overview of the past year's progress. He reported that the TCRD was designated as an IPZ shortly after TechMagination. He indicated that throughout the remainder of the day the participants would hear progress about the TCRD and how local businesses were involved in clean tech; how other regions around the state were implementing their IPZs and incorporating clean technology; and learn about the experiences of research park in another part of the country. Schwenk also tasked the participants with thinking about partnerships and connections for the TCRD and how they could be leveraged.

Schwenk then introduced the key note speaker, Jackie Kerby Moore, executive director of Sandia Science and Technology Park. Ms. Kerby Moore was the

inaugural speaker of a series of speakers that will cover topics related to the Research District over the coming year.

Key Note Address

Jackie Kerby Moore, executive director of the Sandia Science & Technology Park, was the key note speaker. She has managed the 200+ acre technology community located adjacent to Sandia National Laboratories in Albuquerque, New Mexico since 1998. In her role as executive director, Jackie oversees all aspects of the Park – including the management, marketing, recruiting of tenant companies, and securing of funding for infrastructure improvements. The Park now serves as home for 27 organizations employing more than 2,100 people; total investment in the Park exceeds \$301 million.

Ms. Moore discussed five success factors she credits with Sandia's success. She believes they are critical to the success of other such parks: 1) affiliation with an R&D institution 2) high level champion, 3) public / private partnership, 4) political support, and 5) a continued focus on results. She also shared lessons learned with the workshop participants. She suggested marketing to industry partners across the country, developing a multi-tenant building to house new businesses, developing signage early on, and lastly, attracting food services. She also suggested celebrating successes frequently to keep the momentum going.

Unveiling the Master Plan

R.J. Johnson and Tim Wybenga, TVA Architects, shared the master plan that has been developed for the largely undeveloped core of the Research District. The master plan vision is to be a world-class sustainable and socially cohesive community for companies to innovate, promote, and collaborate for the advancement of science, technology, and education. The Research District is to promote and demonstrate its technological innovation and focus on sustainability as the main attractors for new businesses and people, retention of existing businesses and people, cultivation of young regional talent, and to foster local and regional growth.

With those goals in mind, the master plan is focused on 292 acres within the TCRD and incorporates clean energy and water systems, mixed residential, retail, laboratory, office and recreation space, as well as open space. The plan shows easy pedestrian, bicycle, and vehicle paths/roads as well as parks, an amphitheatre, and nine-hole golf course. In addition, the plan calls for demonstrations of sustainable technologies and practices throughout the Research District. The architects explained how the plan ties into the existing properties and takes advantage of the natural elements such as the river. A few questions were asked by participants, but because of time constraints,

participants were encouraged to meet and talk with TVA during the breaks to discuss specific elements of the plan. While near-final, there are still a few changes being made to the plan. A final plan will be made available in October 2008.

Clean Technology Sources

The next session of the workshop featured three presentations from local clean technology organizations with particular focus on the research, development, and use of clean technology in the TCRD. Peter Brehm of Infinia was the first to speak. He described how Infinia is developing solar-thermal energy technology to produce power. Infinia is expecting its first large-scale shipments in April 2009, after multiple financing rounds and product development. Infinia's sterling engine-based solar collectors are anticipated to be used for power within the TCRD.

Jeff Surma, CEO of InEnTec, described the Plasma-Enhanced Melter (PEM) technology that the company is working on. The technology takes waste and converts it into clean renewable fuel. InEnTec's waste-to-fuels technology is planned to be deployed in the City of Richland's landfill. Surma indicated that he may be able to locate a PEM unit within the TCRD because of the unit's modular design.

Keith Thomsen, Washington State University's Center for Bioproducts and Bioenergy, spoke to participants about the joint PNNL/WSU Bioproducts, Sciences, and Engineering Laboratory that recently opened on the Tri-Cities campus. He described the BSEL mission to develop and transform bioresources through targeted research, development, demonstration and commercialization of bioproducts, bioprocesses and bioenergy. Another mission is to provide a rigorous education in the sciences and engineering required to conduct an active program of research, discovery, and commercialization while integrating the teaching and research missions. He explained how partnerships were key to the success of BSEL and explained why the focus was on bioresources and the specific capabilities of BSEL.

Clean Technology Demand

After hearing about some of the renewable and clean energy technologies that are in the TCRD (or could be incorporated), the participants heard about the need for renewable energy beyond the district. Tom MacLean, Customer Renewable Energy Program Manager for Puget Sound Energy, discussed the demand for renewable energy in the Northwest. Specifically, he talked about Puget Sound Energy's strategy for incorporating renewable power utilizing solar,

geothermal, wind, wave and tidal, and biomass. He discussed issues related to cost and transmission from production site to customers. MacLean provided a renewable energy “outlook” for the Northwest.

TCRD Progress

Diahann Howard, TCRD Executive Director, and Bob Price, Solaris Group, both outlined the progress that has been made in the Research District over the past year. Howard reiterated that the Research District had been designated as an Innovation Partnership Zone and has a new focus on recruiting and real estate with a new board. She reminded participants that the TCRD is an asset for all of the Tri-Cities, not just Richland. Clean energy, biosciences, environmental technologies, and computation/software are the target industries for the Research District. An annual work plan has been developed for the TCRD, and much progress has already been made. Several new buildings, including BSEL, have been added since last year, key researchers have been hired, and funding and in-kind support has been contributed by stakeholders for marketing, key initiatives, and development. Howard called for participants to continue following the progress and to watch for marketing and branding efforts including a new website signage for the Research District. She also asked for collaborative partnerships with the private sector in building up the TCRD and for technologies that can be demonstrated and deployed within the Research District.

Bob Price, CEO of Solaris Group, reiterated the progress already made in the Research District and spoke specifically about the new multi-tenant buildings that have been constructed. He talked about the rationale for the location of the Research District and his belief that the TCRD has all the right attributes for success, as evidenced by the investments to date.

Washington State and Clean Technology

While much is going on in the Research District with regard to clean technology, Emmy-winning producer Hal Calbom of the Royer Group showed that it is part of a larger effort around the state. He gave a preview of several segments of a video that he is producing for the Washington Clean Tech Alliance to help showcase Washington State as a clean technology leader. The documentary-style video showed technologies being developed, candid commentary from political leaders and their opinions about the need for clean technology, and technology developers leading the charge. The premier of the documentary will be in Seattle in November, 2008.

Lunch Speaker – IPZ Update

During lunch, Julie Anderson, Washington State Department of Community, Trade and Economic Development, spoke to the workshop participants about the status of the IPZs throughout the state. The IPZ program was created in 2007 by Governor Gregoire and the Washington State Legislature, through SHB 1091 as one of many efforts to stimulate the growth of industry clusters and to build regional economies. IPZs are intended to bring together research, workforce training, and globally-competitive companies all within compact, geographically-distinct boundaries to stimulate cooperative, research-based efforts that will lead to new commercially viable products and jobs. To date, 11 IPZ have been designated and six have received funding, including the Tri-Cities Research District. Anderson spoke candidly about concerns that have been voiced regarding the IPZs and comments and recommendations that have made to in support of the IPZs. The IPZ program is one of a set of programs that are designed to work together to encourage innovation and economic development within the State.

Brainstorming Session

Egils Milbergs, Washington Economic Development Commission, gave a brief presentation about the Research District's innovation ecosystem being "the network of relationships, linkages and resources through which we create customer value by transforming new knowledge and technologies into useful products, services and processes for global markets—resulting in economic growth, productivity and higher standards of living." The presentation was designed to encourage workshop participants to think broadly about the needs of the Research District (relationships, linkages, and resources) as Milbergs led the group through a brainstorming session. Participants worked in small groups to answer the following questions:

- What are the critical success factors for the TCRD?
- What resources and opportunities for recruiting should be targeted by the Research District?

Each small group then reported to the full group. Here is a summary of the responses.

QUESTION 1: WHAT ARE THE CRITICAL SUCCESS FACTORS FOR THE TCRD?

- Long-term perspective - patience
- Short-term successes to spur momentum
- Multi-tenant building capacity
- Unique incentives to companies locating in the IPZ need to be marketed

- Strong commitment from PNNL to spin off within the zone
- State and Federal champions and & powerful labor support
- Governors science and discovery fund focused within the zone
- Celebrate accomplishments
- Market real estate and attract developers
- Focus on technical capabilities
- Infrastructure (hardware, software, and local culture)
- Marketing plan – connected people, image and mindset
- Need to understand “Who are the customers? What do they need?”
- Synergy – supply and demand perspective
- Commercial partners
- Be bold with alternative energy options (even if gas prices fall)
- Culture of commercialization - understand market pull
- Build on success – clusters of innovation – focus AND flexibility
- Set the tone quickly
- No assumptions about candidates, screen carefully
- Link to lab and get a 20-year buy-in
- Start-ups and VC companies = success (local success breeds more local success)
- Small town atmosphere for business, build a community within the TCRD, the small town atmosphere attracts families
- Outdoor environment (enhance and promote)
- Tap into the regional area attributes (wine) and market with it
- Transportation is key (better air and rail service into the region)
- Use local people/talent
- Use sustainability to attract
- Continuity
- Growth and stability
- Find synergies to keep people
- Amplify and accelerate – rainmaker strategy, recruit companies and people

QUESTION 2: WHAT RESOURCES AND OPPORTUNITIES FOR RECRUITING SHOULD BE TARGETED?

- Focus on what it takes to get the STARS and other support (\$\$) here (Tri-Cities)
Direct travel (a flight that is direct). We need to make getting here easy.
- Connect with the young professionals groups. There are many things about the Research District that will appeal to them (mass transit, bike trails, urban and suburban feel, etc.) Market the district to young professionals
- Bring alumni back to the area
- Bring the R&D division of a major energy company (like Conoco-Phillips) in

- Target Lockheed Martin's other lines of business to locate in the TCRD (not just those related to Hanford work)
- Bring in Hanford Contractors' other business sectors into the TCRD
- Educate people throughout the Tri-Cities about what is going on north of the Uptown in Richland. Unless you work in North Richland, you don't know much about what is going on out here.
- Focus on PNNL's commercial partners and their spinoffs.
- Target WSU spinoffs, too (not just from the TC campus).
- Recruit entrepreneurs who are capable of taking companies from R&D to commercial.
- Tap into the knowledge base that exists (retired experts) and use them as mentors
- Invest in developing relationships with funding partners (VCs, etc.)
- Go after federal and other matching grants (EPA, NSF)
- Link with venture capitalists and other sources of funding
- Help the existing companies grow (don't just focus on recruiting)
- Develop relationships with local schools
- Conduct data analysis of "hot" research areas and recruit the STARS conducting the research
- Build an incubator building for BSEL (right next to BSEL)
- Reconnect with the sister technology district in Taiwan
- Use STEM high school as a recruiting tool (offers opportunities for kids of the people that we want to move into the district)

Closing Remarks

Gary Spanner, TCRD Chair, closed the workshop by briefly recapping the day's events, the progress the TCRD has made to date, and encouraging everyone to stay tuned for more to come.