

Summary of REPoCC meeting - Research & Development / Business Services workgroups

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The first session of the Minnesota Renewable Energy Proof of Concept Center planning grant included two work groups representing Research & Development, and Business Services. A broad spectrum of administrative and academic research professionals from the Twin Cities, Duluth and campuses throughout the state were represented among the 15 persons attending the R & D group. The work group of seven Business Services Advisory professionals was also diverse, representing regional economic entities, statewide organizations such as EDAM and MnREM, and an energy engineering firm. Another six members of the REPoCC core team attended, conducting portions of the meeting, participating, and tracking comments.

Five areas of progress were highlighted through this initial discussion process. General agreement was reached on the need for a Proof of Concept Center process in Minnesota; a wide array of unmet coordination was identified – and this meeting only began the process of recognizing the potential; applied research must access bridge financing as a next step (typically prior to the Angel Investment process); the University of Minnesota (several campuses) is now strongly engaged in the REPoCC process; and the interest in fully engaging the Minnesota business sector is strong.

After a brief overview of the project, the new DEED Commissioner, Katie Clark, provided a welcoming introduction, commenting that “we are really excited about this initiative.” Clark indicated that she looks forward to the outcome, with a goal to position Minnesota as globally competitive economically with a competitive workforce to match. Shortly after the Clark presentation, the two work groups split up to address specific questions intended to more clearly delineate the greatest potential for coordinating emerging renewable energy commercialization.

Research & Development Work Group

A basic question was raised regarding how the REPoCC defines “renewable energy,” asking why the stock Department of Energy definition was not used. While the DoE definition helped broadly frame the question, ultimately emerging technologies ready for commercialization at a national and global scale is the main focus of the REPoCC project.

The challenges of Intellectual Property were discussed, and the hesitations of new firms delivering a new product are an evident concern. At the same time, bridging the Intellectual Property divide can be viewed as an opportunity (Eric Hockert – Office for Technology Commercialization).

In several ways, the R & D group returned to a familiar refrain regarding bridge financing that takes the very next step after applied research, but often resulting in “the Valley of Death.” The theme was variously expressed as “venture capital ready” and the need for a greater partnership involving federal, state, venture capital, and industry resources.

Participants did not hesitate in describing where Minnesota falls short. Several other states already have greater integration of renewable energy programs, sources of dedicated funds, and a system of promotion. Unique, successful approaches were identified in Indiana, Tennessee and Iowa. Minnesota faces an additional challenge with the pending loss of IREE as a generator of renewable energy technological opportunities. While industry associations are making good progress on participating business inventories, the state would especially benefit

from inventories of Human Resources and Facilities. A question was raised whether or not a tangible, physically identified Proof of Concept Center is needed to fulfill goals (challenging a presumption made as part of the EDA grant process).

Several state and federal policy concerns were raised. For instance, as both small scale and large scale wind technologies become more efficient and cost effective, barriers to accessing the electrical grid remain a challenge. State policy regarding solar energy has favored investment in PV solar (one project in particular) to the disadvantage of solar thermal and related technologies. Several participants indicated that a more concerted effort to educate the public and inform policy leaders regarding how renewable energy often can be a more cost effective alternative, overcoming the outdated notions about its tangible costs. Of particular concern at OTC is the idea that Minnesota is known to have much to offer to companies in Canada, Europe and other foreign countries, but the University may be underutilized in its own state.

The group addressed specifically where the greatest Minnesota development potential exists in the areas of energy storage, next-gen biofuels, biodigesters, carbon sequestration, wind (small scale, medium and large), PV solar, solar thermal, geothermal, and hydro electric. Not only did this exercise identify areas of potential development, it served to show how broadly applied emerging renewable energy technologies can penetrate even the more-established industries such as wind and hydro. In conclusion, it was suggested that the potential for integrating two or more of these technologies in a demonstration project should be explored.

Suggestions for potential partners in the entire process that should be more actively involved numbered more than 20. Several of these potential partners were mentioned more than once, including the Department of Defense (DARPA), DoE (ARPA-E), small and larger businesses and associations such as the Chambers of Commerce, NSF / National Labs, DEED, and the state Division of Energy Resources.

Business Services Work Group

The group started out by going over the business support services participants provide. In the private sector, the engineering firm assists with design of technologies, land surveys, and feasibility studies. For the regional and county economic development organizations, services include revolving loan funding, structuring deals, direct assistance in business and operational plans, finding access to capital. The Small Business Development Centers specialize in business support services through specific training programs specific to needs, coordination of a multitude of partners and providing the pathway for companies and technical assistance providers. It was mentioned that all business support providers work with a diverse group of partners that include the UofM, the MnSCU system and private colleges.

The Business Services group participants work with a variety of entities providing business support services, access to capital and other business needs, such as SBDCs, SBA, USDA, MPCA and EPA (typically enforcement related), NRRI, HUD Sustainable Communities Program, AURI, several state departments including DEED, MTO, Agriculture and DER, Minnesota Initiative Funds, U of M Extension, CERTs, US Commercial Service, US Department of Commerce, regional development commissions, and various business-to-business activities.

Participants were asked who they would like to align and leverage their resources with to provide enhanced renewable energy business support services. Answers included: angel investment groups, other agencies that have understood “areas of excellence,” the state legislature and policy leaders supporting renewable energy,

groups with the relevant infrastructure such as AURI, and other potential financial backers such as AgStar, USDA, SBA, the Minnesota Bankers Association, and the FDIC.

Asked what is currently missing to make Minnesota more competitive in Renewable Energy commercialization at a national and global scale, several process-related obstacles were listed. They included: the need for a process to assess the value of new technologies and making good appraisals; defining the market and a process to evaluate cost-effective systems; high permitting barriers; customized training in workforce development; and technology transfer.

Participants agreed that there is a significant amount of unmet need for all business services and technical assistance surrounding Renewable Energy. Not much funding exists for localized technical assistance.

Of course, the problem could be effectively addressed if designated funds were made available for technical assistance and business services targeted to renewable energy, that said, given our limited funding resources, business support providers would never want to designate a Renewable Technical Assistance / business services bucket of funding that would limit the ability to be flexible in providing business support services to other growing clusters. It was agreed upon that funding for business support services maximizes our business success rates and exercises good use of private and public sector investments.

To move forward with the current business service programs offered by the participants, it would be helpful if: a lower matching amount is required from funders; a review board of renewable energy technologies could prioritize commercialization opportunities; provide what essentially would be a **traveling CFO** for private sector technical assistance; staff training; assess the economic impacts of renewable energy investments; and work with bankers and the FDIC to better explain how to gain access to capital.

Some areas that are already working well, and need continue emphasis include: fully support SBDCs; communicate better with private sector business providers, the banking community (bankers, associations, examiners, FDIC), and the state Department of Revenue; make conversations intentional (not just networking); promote the Community Reinvestment Act; replicate other successful cluster development models such medical technology and manufacturing in Minnesota; identify and understand our supply chain; expand business-level workforce skills with on-the-job training by utilizing the Workforce Investment Boards and MnSCU.

Other ideas to make the process work better (if you were King or Queen for the day): remain flexible and responsive in dealing with the business sector (directed at the agencies); respect people's time by minimizing need for reports (especially those tied to funding); co-agency application with only one agency reporting; and learn how to maximize use of untraditional workers. To be most effective, policy makers should be kept in the loop (the Governor, DEED commissioner), as well as small business groups, workforce development entities, state and regional economic development agencies, and associated farm groups.

Summary

More detailed notes from the two working groups are available from core team members upon request. All who were invited and participants at the Nov. 7 meeting are encouraged to remain involved through receiving updates, participation in other working groups (such as Private Sector, Capital Access, and Policy), and suggesting others who can contribute to the conversation. Both working groups will continue to work in one or two more meetings with the goal of creating a document that moves the REPoCC process forward toward full implementation.