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VIA EMAIL
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Ms. Jessica Burdette
Minnesota Department of Commerce, Division of Energy Resources
85 7th Place East, Suite 500
St. Paul, MN 55101-2198

RE: Comments from Great Plains Institute – Issues and Factors Affecting CHP Deployment in Minnesota

Dear Ms. Burdette,

On behalf of the Great Plains Institute (GPI) thank you for the opportunity to provide comments on issues and factors affecting combined heat and power (CHP) deployment in Minnesota. GPI appreciates the opportunity to provide comments and applauds the leadership of the Division of Energy Resources (DER) to engage stakeholders in meaningful discussions about the barriers and opportunities to CHP deployment in Minnesota. GPI has participated in the first two stakeholder meetings and looks forward to participating in future discussions.

GPI has an interest in CHP deployment as a strategy to improve the efficiency of the energy system and to reduce greenhouse gas (GHG) emissions. There are multiple policy and regulatory pathways that could aid in the efficient deployment of CHP in MN. The stakeholder discussions are essential in identifying the pathways that will work best for Minnesota's industrial, commercial, and public sector entities and our regulatory and policy environment.

I. Future of the Utility Regulatory Framework and Business Model

Under the current regulatory model, utilities have little incentive to pursue increased CHP deployment or other distributed generation options. Yet, increased customer demand for distributed generation, dramatic improvements in technology, and a number of other market drivers beg for a new regulatory framework and utility business model that better aligns the way regulated utilities earn revenue and the demands of both customers and Minnesota state policy. Toward this end, GPI and our partners have been convening a broad set of stakeholders as part of an e21 Initiative to examine how a new or adapted regulatory and utility business model could enable utilities to earn a fair return achieving an agreed-upon set of performance measures, including all cost-effective energy efficiency, which would necessarily include CHP.

Stakeholders have been meeting over the last several months and are in the process of developing a set of recommendations that, if implemented, will make it profitable to achieve a sustainable, reliable, and affordable energy system. GPI is highlighting the e21 Initiative in our comments because, if successful, it may enable the profitable deployment of CHP systems. However, we do think it is critical to keep pursuing the CHP specific stakeholder discussion, policy review, and technical potential analysis. The CHP stakeholder discussions can enable early progress on CHP deployment. The more we can broaden the knowledge base and improve the understanding of where and when CHP can be efficiently utilized, the faster and more cheaply we can achieve a low-carbon energy system for the 21st century.

II. Proposed Policy Options and Questions to Address

The resources prepared in advance of the stakeholder meetings by FVB Energy Inc. and ICF International are comprehensive and robust materials on Minnesota CHP policy and technical potential. GPI appreciates the time and effort that has gone into preparing these resources and believe they provide a sound foundation upon which to build the next round of CHP discussion.

The FVB report, *Minnesota Combined Heat and Power Policies and Potential,* presents five groups of policies that were closely examined. Each group presents a unique set of challenges and opportunities for increasing CHP deployment. Based on the technical analysis, policy options in group three show the greatest potential for new CHP installed capacity.[1] However, a CHP program that would take advantage of the low weighted average cost of capital (WACC) from utilities and design a system of policies to encourage utilities to own and/or operate CHP is a relatively unknown approach. GPI is not currently aware of any other Midwestern state that has these factors as main elements in a CHP program. Therefore, as the stakeholder discussion continues it would be extremely helpful to hear the perspective of Minnesota natural gas and electric utilities on this proposed approach. Key questions include:

- If utilities were able to rate base CHP investments, is there an appetite to do so? What are the greatest risks, challenges or opportunities with this approach?
- Are additional incentives, such as Conservation Improvement Program (CIP) credits needed to make utility investment more attractive? Would investment happen without an additional incentive?
- Would rate-based CHP investments be more attractive at larger industrial facilities that would have a larger generation capacity? What would make investment attractive at commercial sites that might have a smaller generation capacity?
- How could/would utility CHP investment aid in compliance with the EPA Clean Power Plan?

[1] FVB Energy Inc. July 2014. Minnesota Combined Heat and Power Policies and Potential. Page 72.

In addition to the utility perspective, it is also essential to hear the perspective of potential CHP host facilities, either industrial or commercial applications. Key questions include:

- What are the risks, challenges or opportunities to utility CHP ownership and operation at your facility? Is there a mix of options around investment, ownership, and operation that would be most attractive?
- Would additional incentives help to mitigate risks?
- Are there potential host locations where this concept could be piloted?

Based on the FVB technical analysis, the policy options in groups one, two, and four would result in the least amount of increased CHP capacity of the five options examined.[2] Compared to group three policy options (CIP with utility WACC), group five (Alternative Portfolio Standard) has the highest potential of new CHP capacity. Stakeholder discussions to date have not spent much time looking at this option and we encourage the Department to devote a small amount of time to exploring this policy option during the remaining stakeholder discussions.

Finally, in the FVB and ICF International report, *Assessment of the Technical and Economic Potential for CHP in Minnesota,* the technical and economic potential for waste heat to power (WHP) was examined. It was determined that there is a technical potential of 145.8 MW of WHP with the majority of the potential in the Xcel service territory.[3] Additional analysis of this opportunity could map the waste heat opportunities across all sectors. Minnesota could benefit from mapping its waste heat sources to better match them to potential users or implement WHP if a thermal co-location opportunity is not technically or economically viable.

III. Additional Issues for Consideration

Public Sector Participation

The State of Illinois is currently in the process of accepting applications from public sector entities interested in implementing CHP systems at publically owned facilities. Selected entities will be eligible for incentives during the design, construction, and production phases of a CHP project.[4] Illinois is implementing this program as a pilot.

Minnesota also has a significant public sector infrastructure resource that would be suitable for CHP system implementation. For example, municipal wastewater treatment facilities have an on-site source of fuel (biogas) that could be a prime mover in a CHP system. Stakeholder discussions to date have not examined or presented

[2] Ibid.
[3] FVB Energy Inc. and ICF International. July 2014. Assessment of the Technical and Economic Potential for CHP in Minnesota. Page 26.
[4] Illinois Department of Commerce & Economic Opportunity. Public Sector Combined Heat and Power (CHP) Pilot Program. http://www.illinois.gov/dceo/whyillinois/keyindustries/energy/pages/chpprogram.aspx

the perspective of public sector CHP implementation. GPI encourages the Department to include public sector perspectives in future stakeholder discussions. There are a few examples of CHP system implementation at wastewater treatment facilities in Minnesota and we encourage the Department to provide the perspective of these operational systems in future discussions.

Integrated Resource Planning

Integrated Resource Planning (IRP) was discussed in the FVB CHP policy report as a mechanism to provide context for CHP projects. It was recommended to add a preference for CHP consideration as part of the utility IRP process. This would require utilities to assess the opportunity for CHP in their service territory and determine greenhouse gas, grid resiliency, and other benefits.[5] It would be helpful to have additional stakeholder discussion on the CHP consideration requirement in a utility IRP submission. Adding this as a requirement could further increase the CHP knowledge base and determination where CHP implementation would be most efficient and cost-effective.

IV. Additional Opportunities for Stakeholder Comments

GPI encourages the Department to have another comment period at the conclusion of the stakeholder meetings. It would be beneficial to provide stakeholders the opportunity to lay out a complete set of arguments of why some policy options might be more preferential to encourage CHP implementation over other options that have been discussed. Written comments could also aid the Department in development of a CHP Action Plan.

Additionally, we think stakeholders would also like the opportunity to comment on the draft CHP Action Plan currently under development as a part of this process and funded by the Department of Energy grant.

V. Conclusion

Thank you for the opportunity to submit comments and we looking to engaging in future discussions about how best to move forward the most efficient and cost effective CHP systems . If you have any questions about any of the issues discussed in these comments, please do not hesitate to contact me.

Regards,

[5] FVB Energy Inc. July 2014. Minnesota Combined Heat and Power Policies and Potential. Page 64.

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About the Great Plains Institute: Founded in 1997, GPI is a non-partisan, non-profit organization that takes a pragmatic approach to energy and climate change challenges – working with diverse interests to transform the way we produce, distribute, and consume energy to be both environmentally and economically sustainable. Through research and analysis, consensus policy development, technology acceleration, and local action, we are leading the transition to environmentally and economically sustainable energy.