CHP Workgroup notes from 7/1/2014 – Additions from MWERC meeting on 7/8/2014
Last updated 8/21/14

Comments from those not attending meeting:

- CHP potential in Wisconsin is great. The biggest, most cost effective CHP opportunity in Wisconsin is for utilities to sell steam or hot water from existing coal fired power plants, since nearly every utility coal-fired steam turbine has steam taps whereby steam could be extracted and sold. This would, however, reduce the overall electrical output of the plants, but there is excess capacity in the state. Research was done a few years ago and it is fairly easy for utilities to sell steam to nearby customers.

CHP Group

This group is to primarily focus on CHP from AD systems.
At the onset of the breakout sessions, the CHP group wished to conduct the conversation to address two primary veins: (1) what is achievable; and (2) what is desirable (What is desirable would be used as a vehicle for what is achievable). E.g. formulating an action plan on phosphorus trading and regulation would likely be ineffective without the appropriate expertise on the matter, therefore, it is *desirable* to bring in experts from the DNR at an upcoming conference to inform them about phosphorus issues before deciding what is *achievable* and coming to a decision regarding an action plan.

The following is a list of primary priorities beginning with *achievable* items and ending with *desirable* items that could later be added to the achievable column or removed altogether depending on the outcome of further study and advising.

What is achievable?

1. **CHP Potential Study** - A big-picture evaluation of CHP – CHP Potential Study – Form Group to develop scope for a CHP potential study, if necessary.
    A. **First step** is to research current state of CHP in WI GPI may have this already completed).
    B. **Second step** is to research whether a Potential study has ever been done in WI. If so, when and obtain the study
    C. If a study has been done, review the study and determine if a new study is needed.
    D. If a study is needed, it would be achievable for this group to develop the scope of the study with that being included in the action plan at the end of two years (unless we can find funding to conduct a potential study prior to the end of the funding period).
2. **Making the CHP Business Case.** Approach High Level Plant Managers to make the CHP business case. (linked with IEE group) – Develop combo CHP/IEE group to develop best strategy for doing this.
    a. **First step** is to determine whether this has already been done. If so, how was it done, who was approached by whom and what was the result (impact, feedback, etc.) – Focus on Energy/Leidos/WMEP/etc.
    b. **Next,** based on the findings in the first step, formulate a plan for approaching high level plant managers.

c. Some ideas from the first meeting were that there is a greater likelihood of project completion when bringing ideas to the highest-ranking actors. Furthermore, clarity about specific details of the project is very important to gaining approval and funding.
d. Another approach would be to reach out to the environmental managers at the facility, or the people who present this information to the high ranking actors and make the case to them, and then lay out the "sale" to the decision makers in a very SIMPLE way.
e. How can the relevant information be translated into the appropriate language of the plant manager or environmental manager of an industrial plant. Does it need to be highly technical or should it be simplified?

3. **Securing Financial Assistance** Form group to work on this, but make sure to include caveat below.
    a. May help in the attempt to build the Business Case – this is very important for education and outreach. The group should compile and list those that are available in WI to use (federal, state local), determine if any others are within reach in the next two years. If so, list those and determine path to pursue those. If not, use compiled incentives for education and outreach materials/information (a "How-to for financing a project")
        A. . Revolving loans funds, tipping fees, financing modes, Baker Tilly study/economic modeling tools, etc. etc.
4. **Evaluating Economic Benefits of CHP for Utilities** (including positive and negative externalities) – **(See PDF doc - *Utilities and the CHP Value Proposition*)** Gather group to review this study (especially before WPUI January meeting to see if there are issues that could be potentially addressed at that meeting).
    a. First step would be to review the document mentioned above and search out additional resources on this topic specific to WI and then make this information specific to Wisconsin and make available in our website
    b. This also should possibly be included in the potential study.
    c. **Utility participation in CHP markets:** CHP installations can be increased by allowing utilities to participate in CHP markets, either by owning CHP facilities directly, or by providing packages of services to customers who own their own CHP
5. **Regulatory Barriers -** How do we get around regulatory Barriers? Gather group to review this topic. We could gather a group to identify various solutions that would be feasible for implementation in Wisconsin and then identify specific experts who have been working on those types of solutions and set up a conference call with them.
    a. First look into existing resources listing barriers and solutions to overcome these barriers.
    b. Some policies and regulation regarding the development of CHP should certainly be included in the final report and action plan.
    c. A sub-group could evaluate solutions to CHP barriers, what has already been done and what is left to do to sidestep the barriers, and how it is all applicable to the development of CHP in Wisconsin. This evaluation could be completed before the next stakeholder meeting in late October with findings brought forward at that point for discussion.

d. The group could also make distinctions about rather these particular goals can be accomplished in the short- or long-term, and rather or not they are able to be addressed by members of the stakeholder group or externally.
    A. If they are to be addressed by an external party, who does the group believe would be best able to do so?
e. If lobbying is necessary, how is this best accomplished? Local outreach and lobbying
    A. **First step** would be to get a group together to evaluate what efforts are being undertaken in WI
    B. **Then** evaluate other states efforts and federal efforts to determine which should pursue to act on in WI.

6. **Regulations** Explaining or clarifying regulations on various AD gas outputs. Do people really know what the rules are for certain applications of biogas? What are the regulatory issues to think about beyond the DNR? Different sizes or classifications of digesters operate under different rules; can this be simplified or otherwise clarified? Manure is not so complex, the complexity of regulation comes in with other feedstocks (industrial waste, food waste, etc.). (get group to work on this – clarify difference between purpose of this group and purpose of above group).
    a. Build a sub-committee for putting together regulatory and permitting information.
    b. Sub-committee can provide a document with a menu of current rules and must-know information impacting AD/CHP in Wisconsin and gather the information through partnerships with city and county governments, WI DNR, DATCP, etc.
7. **Permitting** - A template for permitting issues to consider when considering an AD system is needed. (Gather group to work on permitting issue).
8. **Trading -** Resolving issues concerning Trading Instruments (Phosphorus, RECs, Carbon). Gather group to research this. Do calls with DNR on P Trading, PSC on RECs and MRETs, someone from California about California Carbon Market. Also, talk with people utilizing these markets and have them explain process to get to the point where could make money from them.
    a. It would be helpful to develop *specific* questions from the group about these components (phosphorus trading, RECs, Carbon Markets) to be delivered to experts. What are the exact issues need to be addressed.
    b. Information gathered can be utilized in education and outreach.
    c. **(see PDF docs – *Analysis of Phosphorus Control Costs and Effectiveness for Point and Nonpoint Sources in the Fox-Wolf Basin* and *Guide to Using Combined Heat and Power for Enhancing Reliability and Resiliency in Buildings*)**

<u>What is desirable?</u>

1. **Outreach & Education** (Gather Group to attack this and make a plan to put in the Wisconsin Action Plan)
    a. Must show that there is some value for CHP in Wisconsin. Is there economic value, jobs, environmental benefits, etc. that come with CHP development? (potential study)
        i. **First step** would be to research and gather existing information (best practices, economic modeling, mapping, education tools, etc).
        ii. **Second,** determine what needs to be researched more.
        iii. **Finally,** compile in a format easily usable on a website (outreach and education tools)

2. **Case Studies -** Gather Case Studies for presentation on our website (Survey to have people send us existing case studies they like and names of new CHP projects (specifically AD) that can be showcased on website and we can develop cast studies for) – before October Meeting
    A. **Clint is pulling these together.**
    B. Group should reach out to these people to see if they are interested in participating in our workshops, speak about their experiences without compromising IP.
    C. AGSTAR may be a great resource in finding solutions to CHP development. **SEO will review website and call AgStar.**
3. **Workshops (SEO will plan with help of group).** We will utilize information from the small groups work towards development of action plan. Coordinate with Focus/MWERC. Also, working with Sam for WPUI event.
    a. SEO can do the legwork for these workshops. We will look at past agendas to build an up-to-date workshop.
4. **Standby Rates – (see PDF docs – *Learning From CHP/WHP Bright Spots* and *Standby Rates for CHP Systems*) – Clint/Mandy do more research to see if we want to make a group for this. Design of standby rates:** encourage customer-generators to use electric service most efficiently and minimize costs they impose on the electric system. (include in survey to group about what might want to talk about at Jan WPUI meeting.)
5. **111(d) -** Survey group to see if the group wants to submit broad supportive comments for IEE and CHP being included in 111(d); Public Comments end October 16, 2014: Docket ID# - EPA-HQ-OAR-2013-0602
6. **Fixed Consumer Charge and Performance-Based Rate Setting** (Survey group to think about topics they want to discuss at WPUI meeting January 2015. See if this is one of them; ask them to provide other information).
7. **Excess power sales:** where markets for it exist, additional revenue streams from excess power sales can help CHP projects move forward. (include in survey to group about what might want to talk about at Jan WPUI meeting.)
8. **Modular VS Community scale for Small Digesters.** Coordinate with Focus on Energy on this. Gather group to evaluate plan to see how we could coordinate.
    A. How do we approach individuals or groups interested in implementing small and large CHP technology? **Which one? Small or Large?**
    B. Compile more information on digester types and ownership models. (think AgStar has this)
9. **CHP in critical infrastructure:** CHP offers the opportunity to improve critical infrastructure resiliency, mitigating the impacts of an emergency by keeping critical facilities running without any interruption in service. (Survey…anyone interested in forming group to talk about this?)

<u>General CHP Resources</u> –
PDFs available on Wisconsin State Energy Office website - ***Guide to the Successful Implementation of State Combined Heat and Power Policies, CHP for State Energy Officials,* ACEEE's *Wisconsin CHP Fact Sheet,***

- Websites – Wisconsin CHP installations: http://www.eea-inc.com/chpdata/States/WI.html,
- CHP Technical Assistance Partnerships: http://midwestchptap.org/,
- Iowa Economic Development: http://www.iowaeconomicdevelopment.com/Energy/CHP,

- CHP in Ohio: http://www.puco.ohio.gov/puco/index.cfm/industry-information/industry-topics/combined-heat-and-power-in-ohio/,
- MN website: http://mn.gov/commerce/

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1. **Process Improvement** (L/E) - **Identify Right Delivery Channel -** opening lines of communication between consultants and plant managers to ensure project progression/completion. (Gather a group with the IEE group to work on this). How do ESCOs do this? This will increase Profitability and Sustainability.
    a. **Are there best practices for this?** Do research
    b. **Evaluate the Focus Model** - Staffing Grant Engineers on site paid assistance to energy experts. Liaisons. Share the resources.
    c. Performance Assessment Grants
2. **Coordinate Common Interests** (S/I plan, L/E execution) Survey Question: Who are we missing in the stakeholder group. What expertise do we need at the table? OEM, Consultants, ESCOs, Industry, Utilities, Others
    a. Develop an action plan involving these actors to keep the group going after this 2-year grant. Future coordination with SEO may be needed.
3. **Education and Outreach** (S/I) (Gather Group to work on this)**.**
    a. **Best Practices** – First, research information already out there. Apply to WI to determine if applicable. Post on web, Have a webinar, part of conference
    b. Better Plants
        i. What do we want to do with this? Need more info and plan?
    c. **Demand Response** (L/E)
        i. Develop a plan for outreach and education on this (NGA Pilot)
    d. **Move the market toward IEE/CHP technologies adoption:** Identify and promote programs and policies that demonstrate emerging technologies and practices.
4. **Build the workforce**: (Gather Group to work on this)
    a. Identify and call attention to the needs within the industrial sector for education, training, and workforce programs.
5. **Financing –** (Gather group to work on this)
    a. Gather all of the information out there related to financial incentives for IEE, post on website, determine if there are strategies in other states we want to try to apply/enforce in WI.
6. **Identify Low/Non-Participants** (Gather group who wants to work on putting together a survey for low participating or non participating industry in Focus program)
    a. Focus on Energy, for the meeting in October 2014, will be gathering the names of the industrial users who have not participated in Focus Program. Will do gap analysis.
    b. Develop Survey
7. **Benchmarking and EM&V (L/E)** (Gather group to work on this) (Clint, speak with Megan about this)
    a. **This group can evaluate benchmarking models out there to determine what model would be best to implement. However, this might be outside of our expertise and scope. So, put in Action Plan/**

8. **111(d)** Carbon Rules (S/I, group comments) (See CHP information on this. Same thing here)
9. **Utility Incentive for Energy Efficiency** (L/E) (Ask group to determine what questions it would have for the utilities at the WPUI meeting).
    a. Rate of Return on Energy Efficiency Investments **EERS**
        i. How can we fulfill IEE goals under proposed rate structures?
10. **End Use Pricing** (L/E) (Ask group to determine what questions it would have for the utilities at the WPUI meeting)
11. **Funding Research and Development (**L/E)
    a. Allowable in Utility ROR (ask group if wants to discuss at WPUI meeting)
    b. Focus on Emerging Tech (S/I)
12. **Strategic EM** (S/I) – (ask group who would like to evaluate Focus Program and try to develop long term, sustainable plan to put in WAP).
    a. Long term, external. Leidos will be compiling info. Get leaders to come in and talk. Northeast energy efficiency partnership. Highlights case studies. Business summit. No paper survey, must be phone survey.
    b. Evaluating the Results of Sub-metering **(see PDF doc – *Nissan Submetering*** *Case Study*)
13. **Stakeholder Value**
    a. Utility – Rate of Return
    b. Customer – Energy Savings
    c. Community Organizations
    d. Economic Development
    e. Jobs
14. **Fixed-Rate Structures and Energy Efficiency Incentives** (ask group if they want to talk about this at WPUI meeting in January)

Check into Rockford Freedom Fields - Chet…what are they doing there. They have a sewage treatment plant where storing energy. How? What are the incentives in the PJM market? EE incentives? CHP incentives. Does MISO have these incentives?

General IEE Resources –

- PDFs available on Wisconsin State Energy Office website –
    - *Energy Efficiency in U.S. Manufacturing: The Case of Midwest Pulp and Paper Mills*,
    - *Industrial Energy Efficiency: Designing Effective State Programs for the Industrial Sector*,

General CHP and IEE Resources –

PDFs available on Wisconsin State Energy Office website –

- *Guide to the Successful Implementation of State Combined Heat and Power Policies*,
- *Cryptic Barriers to Energy Efficiency*

Websites –

- Midwest Energy Efficiency Alliance: http://mwalliance.org/,

- Minnesota DOC – Energy Savings Goals Program: http://mn.gov/commerce/energy/topics/resources/energy-legislation-initiatives/studies-and-reports/energy-savings-goals-study.jsp,
- MEEA Case studies page: http://www.midwestindustrial.org/resources/case-studies

Other Survey Questions:

- Speakers for next meeting? Do we want speakers? If so, on what topic? How long should we have speakers?
- Hours for next meeting?
- Location for next meeting?
- Feedback from first meeting?
- Goals for Next Meeting? (e.g., remember January meeting with WPUI and utilities – speakers for that meeting)