

Minnesota CHP Stakeholder Engagement

*Facilitating informed dialogue
for effective action planning*



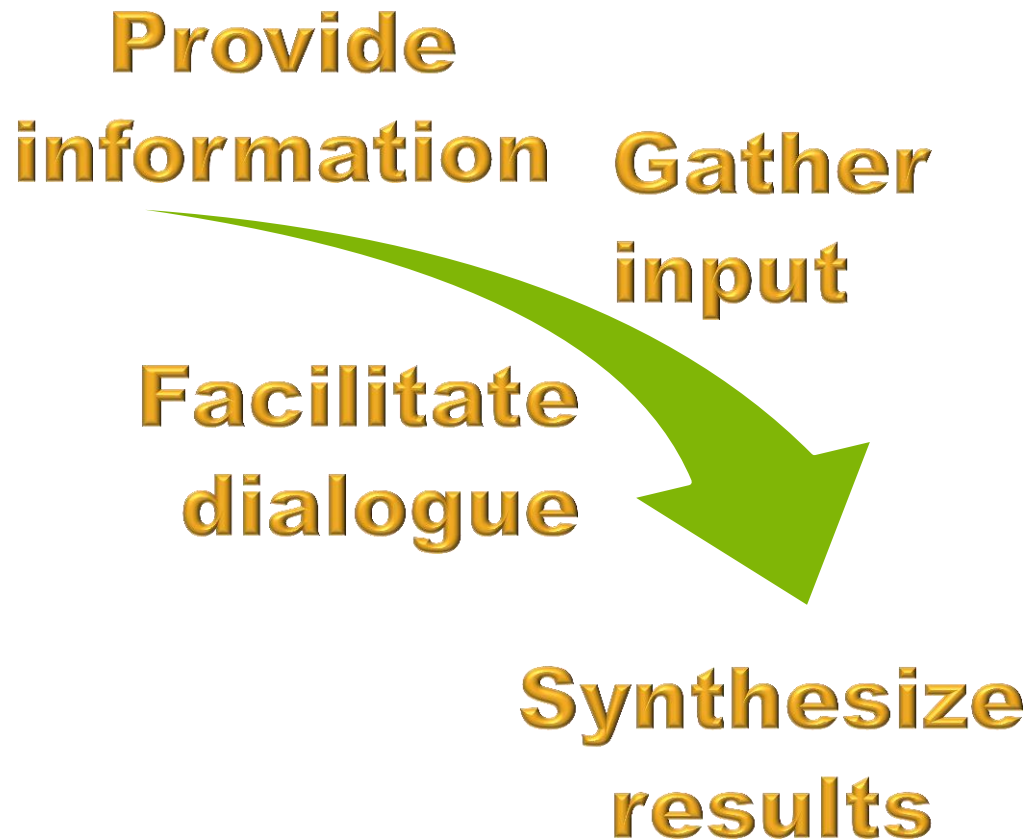
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Minnesota CHP Stakeholder Meeting #3
Stakeholder Forum: CHP Potential & Policy Options
Oct. 15, 2014 | Wilder Center, St. Paul, Minn.

I. CHP Stakeholder Meeting #3

- I. CHP Stakeholder Meeting #3 –
Process and agenda
- II. Review Highlights from CHP Meeting #2
- III. Summary of Stakeholder Comments
- IV. Stakeholder Panel Introductions

CHP Meeting Process



Meeting #1 (9/03):
**CHP Baseline, Value Proposition,
and Path Forward**

Meeting #2 (9/24):
CHP U.S. Policy Context + Standby Rates

Public Comment Period
9/24 to 10/10

Meeting #3: (10/15):
Stakeholder Panels:
CHP Economic Potential, Policy Options

Meeting #4: (11/05):
**Education and Training Needs, Synthesis
of Information, Next Steps**

CHP Meeting #3 Agenda

Meeting #3 Working Agenda:

Stakeholder Forum – CHP Market Potential and CHP Policy Options

8:30 – 9:00: Introduction (Minnesota Department of Commerce)

9:00 – 9:30: CHP Stakeholder Comments Summary Report (Microgrid Institute)

9:30 – 10:45: **Panel #1**

CHP Market Potential – Economics, outlook, and financing

Minnesota Power

Western Lake Superior Sanitary District

BlueGreen Alliance

LLS Resources

11:00 – 12:15: **Panel #2**

CHP Policy Options – Pros, cons, and questions for consideration

Xcel Energy

Minnesota Municipal Utility Association

Center for Energy and Environment

CenterPoint Energy

Ever-Green Energy

12:15 – 12:30 Conclusion / Next Steps

II. CHP Meeting #2 Review

MN CHP Stakeholder Meeting #2: *(Sept. 24, 2014)*

Meeting #2 Agenda

- Introduction: Jessica Burdette, Department of Commerce
- Meeting #1 Review: Michael Burr, Microgrid Institute

Section 1:

- U.S. CHP Policy Context and Trends: Cliff Haefke, DOE CHP TAP-Midwest
- CHP and Utility Engagement: Ahmad Faruqui, The Brattle Group
 - *Q&A and discussion*

Section 2:

- Generic Proceeding on Standby Rates: Lise Trudeau, Department of Commerce
- Analysis of MN Standby Rates and Net Metering Policies: Graeme Miller, Energy Resource Center
 - *Q&A and discussion*

CHP Meeting #2 Review *(continued)*

Meeting #2 Topics and Discussion – *Section 1*

CHP Policy Context and Trends (*Cliff Haefke, DOE CHP TAP-Midwest*)

- CHP in renewable portfolio standards (RPS): (*CO, CT, HI, ME, NV, and NC*)
- CHP in energy efficiency resource standards (EERS): (*MA, OH, IL, and MD*)
- Alternative portfolio standards (APS): (*MA*)
- Illinois EERS CHP pilot program

CHP and Utility Engagement (*Ahmad Faruqui, The Brattle Group*)

- Type I Utilities: *Blocking CHP* with deferral discounts, ratcheted demand charges, exit fees, discriminatory standby service tariffs
- Type II Utilities: *Accommodating CHP* by working with customers to take advantage of CHP without exiting the grid
- Type III Utilities: *Pursuing CHP as an opportunity*, providing interruptible rates, dispatch schedules, and considering investment in CHP on customer sites

CHP Meeting #2 Review *(continued)*

Meeting #2 Topics and Discussion – *Section 2*

Generic Proceeding on Standby Rates (*Lise Trudeau, MN Dept. of Commerce*)

- MN PUC order for Commerce investigation of need and scope for standby rate proceeding
- Sept. 11 meeting summary – Methodology, appropriateness, application, and terms and conditions of standby rates

Analysis of Minnesota Standby Rates and Net Metering Policies (*Graeme Miller, Energy Resources Center*)

- Characteristics and purposes of standby rates
- ERC analysis of standby rate principles
 - *Transparency*: Clear, unbundled pricing
 - *Flexibility*: Treatment of varying customer loads, system benefits, etc.
 - *Economically Efficient Consumption*: Peak-sensitive pricing, economic demand management

III. Stakeholder Comments Summary

Comment Period – Sept. 24 - Oct.10, 2014

11 Stakeholder Comment Submissions Received

Utilities	Customers / Non-Utility Developers	Advocacy Groups
<i>CenterPoint Energy</i>	<i>Cummins Power Generation</i>	<i>BlueGreen Alliance</i>
<i>Great River Energy</i>	<i>Western Lake Superior Sanitary District</i>	<i>Fresh Energy</i>
<i>Minnesota Power</i>		<i>Great Plains Institute</i>
<i>Otter Tail Power</i>		<i>Minnesota Chamber of Commerce</i>
<i>Xcel Energy</i>		

Comment Topic Categories

- **FVB Proposed Policy Options – CIP, RPS, APS, IRP**
- **Capital Costs and Utility Investment Prospects**
- **Economic Potential and Value Proposition**
- **Standby Rates**
- **Training and Education Needs**

Stakeholder Comments Summary *(continued)*

FVB Proposed Policy Options – CIP, RPS, APS, IRP

- The policy options aren't mutually exclusive
- APS option has highest potential and is simplest, but so far has received the least attention
- CIP capital cost incentives could work, but may be complex
- Electric utilities oppose any new mandated targets and view including CHP in CIP as complex, unfair, and contrary to the spirit of the statute
- IRP processes might foster greater understanding but also pose challenges in making long-range plans around uncertain and shifting trends in CHP development
- Any option faces 50 MW size limitation from 216H

Stakeholder Comments Summary *(continued)*

Capital Costs and Utility Investment Prospects

- Upfront costs are key barrier and third-party and utility investment could help to unleash low-cost capital
- Utility investments would avoid load-loss concerns
- Policies shouldn't over-emphasize IOU economics and control
- IOU investments should avoid exposing ratepayers to undue risks
- Cost-recovery decisions must be based on more than just cost
- Tax-benefit financing isn't always an option for utilities
- Alternative regulation offers potential path forward

Stakeholder Comments Summary *(continued)*

Economic Potential and Value Proposition

- CHP provides a range of benefits that justify state incentives
- CHP should be considered as part of a full menu of options for addressing similar goals
- Societal benefits are difficult to measure, verify, quantify
- Options should not only incentivize large-scale industrial CHP
- Policies should encourage renewable CHP
- Mapping “high-value” sites could help clarify market potential and prioritize CHP deployment
- Separate study of NSP territory shows 234 MW of new CHP potential
- Cutting capital costs in half or removing standby rates doesn’t dramatically increase potential

Stakeholder Comments Summary *(continued)*

Standby Rates

- PUC 2004 order provides “solid foundation,” changes are unnecessary and won’t appreciably change CHP potential
- Current standby rates “severely limit” CHP potential
- Current standby rates don’t provide transparency or flexibility

Training and Education Needs

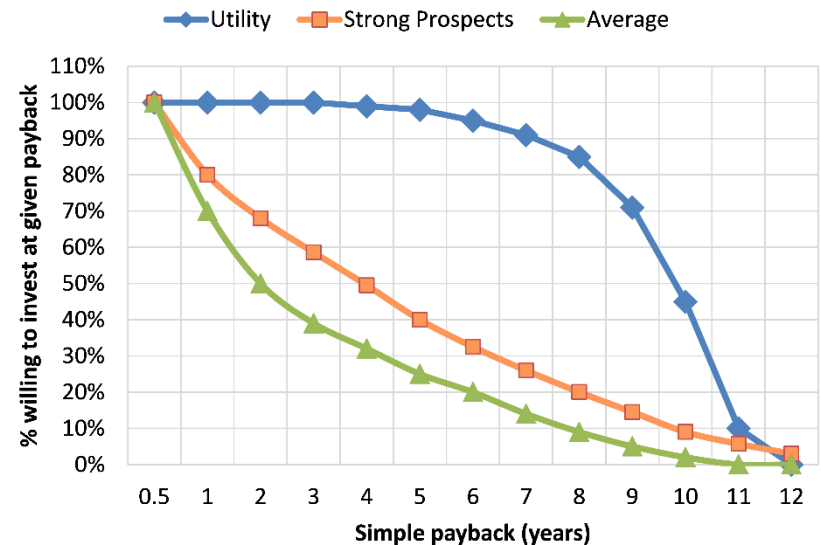
- CHP engineering, O&M resources are considered adequate
- Potential hosts lack knowledge and expertise required to recognize and exploit CHP opportunities
- Complexities involving law, regulation, finance discourage development
- Low-cost or no-cost education and resources could facilitate CHP exploration and development

IV. Panel #1 Introduction

Panel #1: CHP Market Potential – Economics, outlook, and financing

- Minnesota's average power prices are lower than those in many states, reducing the comparative cost-effectiveness of CHP
- Payback periods and weighted average costs of capital (WACC) affect investment prospects for CHP project sponsors
- Utilities' low WACC and experience owning and operating power plants make them well-suited to invest in new CHP capacity

CHP Payback and Acceptance Curves



Panel #1 Introduction *(continued)*

Panel #1 Participants

*Tim Gallagher,
Implementation Supervisor,
CIP Programs
Minnesota Power*

*Marianne Bohren,
Executive Director
Western Lake Superior Sanitary
District*

*Sara Letourneau, Director of Field
BlueGreen Alliance*

*Larry Shedin,
LLS Resources*

Panel #2 Introduction *(continued)*

Panel #2: CHP Policy Options – Pros, cons, and questions for consideration

FVB Energy proposed policy options focusing on new CHP provisions in Minnesota’s Conservation Improvement Program and electric utility portfolio standards

Policy Option Groups 1,2 and 3		Policy Option Groups 4 and 5	
Conservation Improvement Program (CIP) provisions		Portfolio Standards for electric utilities	
CIP incentives for CHP-owning customers and third parties	CIP credits for CHP-owning utilities <i>and</i> customers and third parties	Biomass CHP ‘carve-out’ in Minnesota RPS	New Alternative Portfolio Standard (APS)

Panel #2 Introduction *(continued)*

Panel #2 Participants

*Paul Lehman, Manager,
Compliance & Filings
Xcel Energy*

*Bill Black,
Government Relations Director
Minnesota Municipal Utility
Association*

*Sheldon Strom, President
Center for Energy and Environment*

*Nick Mark, Manager for Conservation
and Renewable Energy Policy
CenterPoint Energy*

*Ken Smith, President and CEO
District Energy St. Paul & Ever-Green
Energy*

FVB Energy Proposed CHP Policy Options

Policy Option Group 1:

Separate new CHP tier in natural gas utility CIP, providing incentives to customers or third parties

Option 1.1. Capital incentives (\$100 per 1000 Btu/hr thermal output)

Option 1.2. Operating incentives (\$0.75 per MMBtu)

Option 1.3. Both capital and operating incentives

Policy Option Group 2:

Separate new CHP tier in electric utility CIP, providing incentives to customers or third parties

Option 2.1. Capital incentives (\$500 per kW)

Option 2.2. Operating incentives (\$10 per MWh)

Option 2.3. Both capital and operating incentives

Policy Option Group 3:

Separate new CHP tier is established in either gas utility (Option 3.1) or electric utility (Option 3.2) CIP

Operating incentives for customer- or third party-owned CHP

CIP credit for utilities equivalent to the operating incentive that would be provided to others

Utilities encouraged to use their low weighted average cost of capital to fund CHP systems

Policy Option 4:

Specific carve-out for bioenergy CHP in either existing or expanded RPS

1.5% by 2030 for IOUs

0.6% by 2030 munis and coops

Policy Option Group 5:

Alternative Portfolio Standard (APS) requiring electric utilities to obtain a given % of sales from CHP (regardless of fuel) by a given year

Option 1.1. Capital incentives (\$100 per 1000 Btu/hr thermal output)

Option 1.2. Operating incentives (\$0.75 per MMBtu)

Option 1.3. Both capital and operating incentives

Contact us



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