

Minnesota CHP Stakeholder Engagement

*Facilitating informed dialogue
for effective action planning*



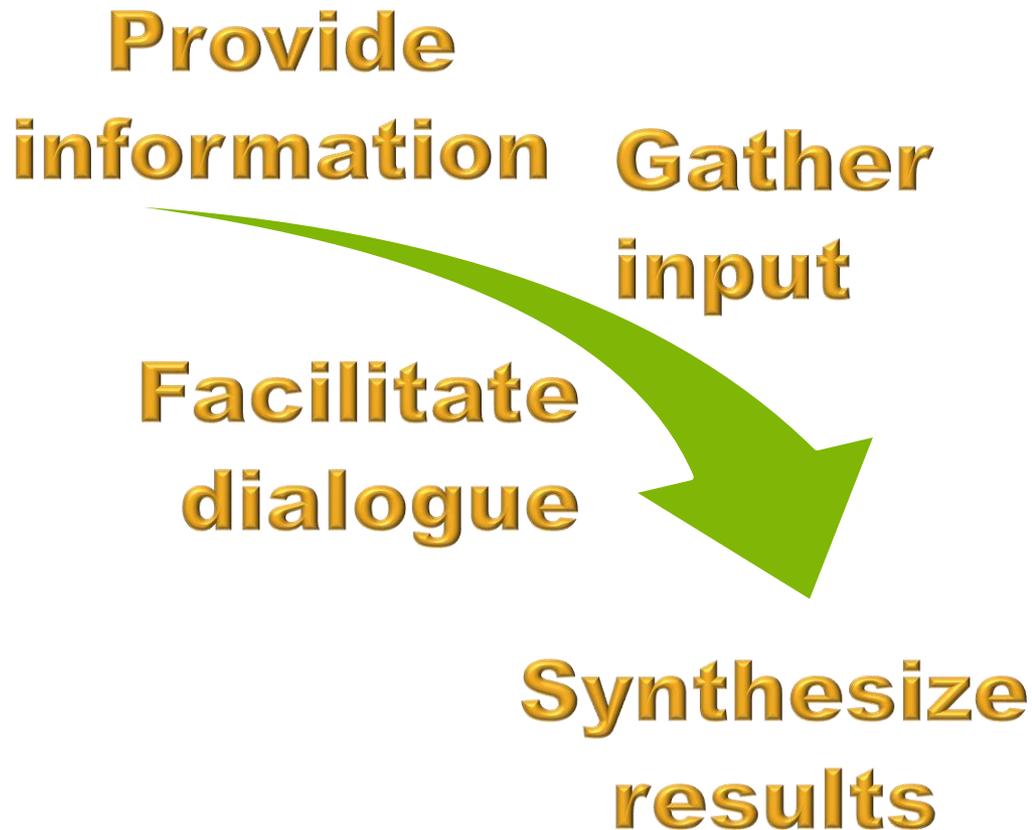
Minnesota CHP Stakeholder Meeting #2
State CHP Policies and Programs, Standby Rates, and Net Metering
Sept. 24, 2014 | Wilder Center, St. Paul, Minn.

Under contract to
Minnesota Department of Commerce,
Division of Energy resources.
Project made possible by a grant
from the U.S. Department of Energy.

I. CHP Stakeholder Meeting #2

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- Objectives and agenda
- II. Review Highlights from CHP Meeting #1
- III. Summary of Proposed CHP Policy Options
for Discussion

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 Presentations and Path Forward

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

Agenda, Goals, and Methodology

Comment Period – September 24 through October 10

Minnesota Department of Commerce, Division of Energy Resources (DER), invites stakeholders to submit written comments regarding issues and factors affecting CHP deployment in Minnesota.

Possible topics for comment may include, but are not limited to:

- FVB Energy's Proposed CHP Policy Options
- Alternative mechanisms and approaches to facilitate economically efficient deployment of CHP in Minnesota
- Current barriers and issues hindering CHP projects
- Resource planning, strategic, and regulatory factors affecting CHP options and potential
- CHP education and training needs and recommendations

Please submit written comments in PDF format no later than Oct. 10, 2014, to the following email address:

cip.contact@state.mn.us

Agenda, Goals, and Methodology

Meeting #2 Working Agenda:

State CHP Policies and Programs, Standby Rates, and Net Metering

Agenda

- 1:00 - 1:15 Introduction (Commerce)
- 1:15 - 1:30 Review Meeting #1 highlights and proposals (MGI)
- 1:30 - 2:00 CHP policy context – state and federal (DOE Midwest CHP TAP)
- 2:00 - 2:30 Strategies for engaging utilities in CHP (The Brattle Group)
- 2:30 - 3:00 Moderated Q&A
- 3:00 - 3:15 BREAK
- 3:15 - 3:30 Summary of Generic Standby Rates proceeding (Commerce)
- 3:30 - 4:00 Standby rates – barriers to CHP and recommendations (ERC)
- 4:00 - 4:30 Moderated discussion (MGI)

Goals

- Inform stakeholders re: current opportunities and policies
- Ensure common understanding of issues and options
- Gather stakeholder input to guide policy planning and development

Methodology

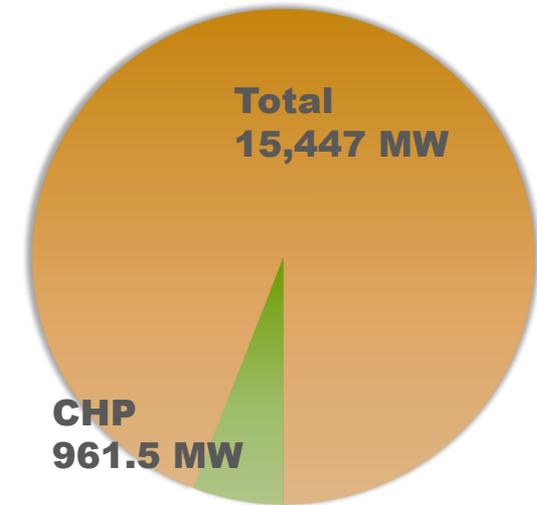
- Formal presentations on CHP issues and options
- Moderated Q&A and discussion
- Synthesize, analyze, and report outcomes

II. Review CHP Meeting #1

CHP Baseline, Value Proposition, and Path Forward

Sept. 3, 2014 meeting provided an overview of CHP baseline, technical and economic potential, financing and regulatory issues, and policy options.

- Minnesota has almost 1,000 MW of existing CHP capacity
- About another 1,000 MW of potentially economic new CHP exists today, of approximately 3,000 MW of new technical potential
- Proposed policy options seek to help facilitate cost-effective CHP deployment

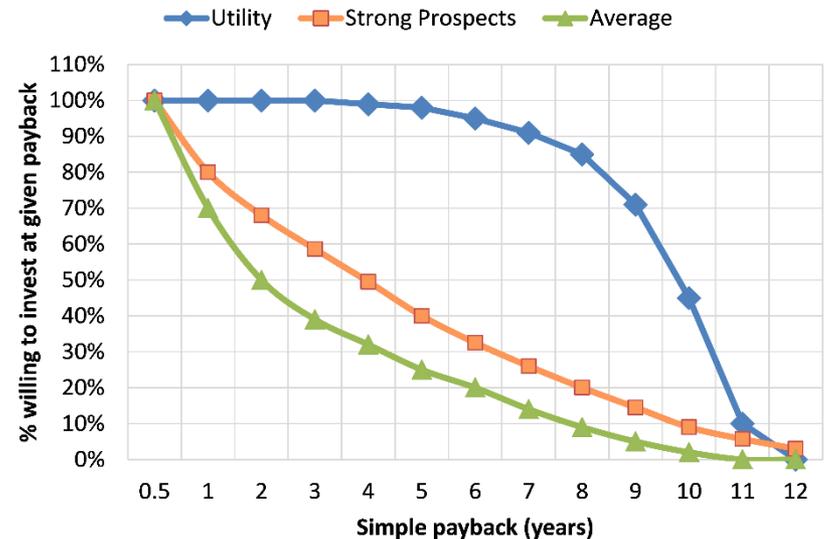


CHP Economics and Financing

Market factors and financing costs affect CHP potential

- 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

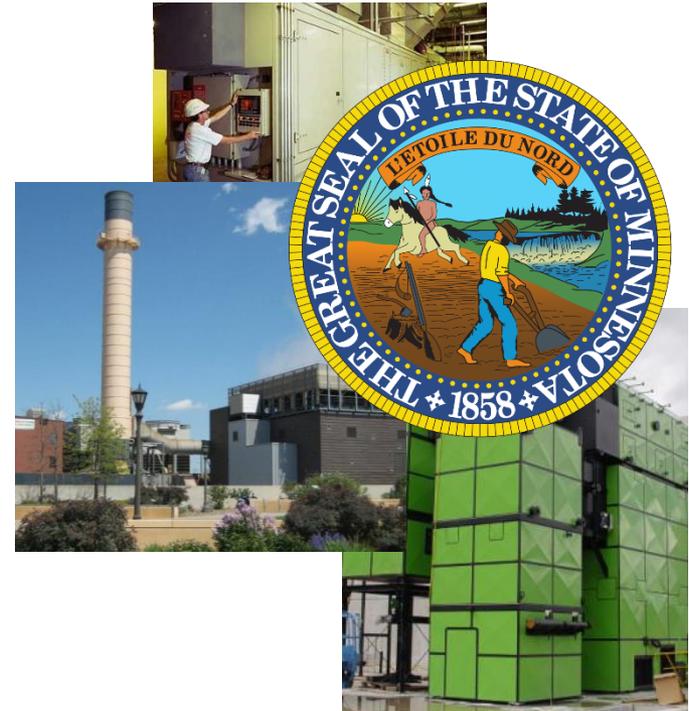
CHP Payback and Acceptance Curves



Minnesota Energy Policies and CHP

Current Minnesota policies affect CHP potential

- The potential role of CHP in Minnesota's Conservation Improvement Program (CIP) is unclear
- Only biofueled CHP can be credited toward Minnesota's Renewable Portfolio Standard (RPS)
- Utility standby rate policies create perceived barriers to CHP deployment



III. FVB Energy Proposed CHP Policy Options

Minnesota could facilitate CHP deployment in several ways

Proposed policy options focus 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)

FVB Energy Proposed CHP Policy Options *(continued)*

Conservation Improvement Program revisions

FVB Energy proposed potential CIP adjustments allowing CHP systems to qualify for credits and incentives

Policy Option Groups 1 and 2	Policy Option Group 3
New CHP Tier in utility CIPs	CIP credit for utility-owned CHP capacity
<p style="text-align: center;">Natural gas utility CIPs Electric utility CIPs Both gas and electric utility CIPs</p>	
<p>CIP incentives for CHP-owning customers and third parties:</p> <ul style="list-style-type: none"> • Capital incentives • Operating incentives 	<p>CIP incentives for CHP-owning utilities <i>and</i> for customers and third parties:</p> <ul style="list-style-type: none"> • Operating incentives • CIP credits for utilities

FVB Energy Proposed CHP Policy Options *(continued)*

Utility Portfolio Standard revisions

FVB Energy proposed options including revisions to Minnesota's existing Renewable Portfolio Standards, and creating a new Alternative Portfolio Standard

Policy Option Group 4	Policy Option Group 5
RPS 'carve-out' for biofueled CHP	Alternative Portfolio Standard
Biomass- or biogas-fired CHP only	Irrespective of fuel source
Specific CHP requirement in existing or expanded utility RPS <ul style="list-style-type: none"> • Biomass- or biogas-fired CHP only • 1.5% by 2030 for IOUs • 0.6% by 2030 for munis and coops 	New requirement for electric utilities to derive a percentage of sales from CHP <ul style="list-style-type: none"> • Irrespective of fuel source • 8% or 12% by 2030 for IOUs • 3.2% or 4.8% by 2030 for munis and coops

FVB Energy Proposed CHP Policy Options *(continued)*

CHP CIP provisions vs. Alternative Portfolio Standard

	CIP	APS
Advantages	<ul style="list-style-type: none"> • Program well established and familiar to stakeholders • Provides both ‘carrot’ and ‘stick’ incentives 	<ul style="list-style-type: none"> • New program can avoid complexities of adapting CIP to include CHP
Disadvantages	<ul style="list-style-type: none"> • Disparities in CHP opportunities among different utilities <i>(Possible solution: Tradable credits)</i> • Lack of statutory clarity re: applicability of CHP in CIP <i>(Solution: Clarifying legislation)</i> • Enforceability may be uncertain <i>(Solution: Clarifying legislation)</i> • Many major energy users have opted out of CIP <i>(largely mitigated if utility CHP investments are in rate base)</i> 	<ul style="list-style-type: none"> • Legislation required to create new program, which likely will face greater political challenges • Primarily a ‘stick’ approach to incentives

Meeting #1 Outcomes

Meeting #1 yielded questions for further review:

- What barriers to utility investment in CHP can be effectively addressed with state policies or programs?
- How should revenue streams from utility-owned CHP capacity be treated, for regulatory accounting purposes? How might that treatment affect CHP investment factors for utilities?
- How would utilities claim CIP credits for CHP investments?
- Given the policy drivers of improving primary energy efficiency and reducing GHG emissions, what's the most effective CIP credit structure to facilitate the most productive deployments?

Meeting #1 Outcomes

Questions for further review (continued):

- How do CHP investments compare to other CIP investments, in terms of performance per ratepayer dollar invested?
 - How do CHP benefits compare or contrast among various end-use applications – *i.e.*, industrial, commercial, and institutional?
 - How should incentives be balanced to ensure equitable treatment of CHP investments by utilities, customers, and third parties?
 - How do the proposed policy options compare, contrast, and complement **CHP programs and policies in other U.S. states and the federal government?**
 - **How do standby rates and net metering policies affect CHP deployment?**
- Topics to be addressed in CHP Meeting #2*

Contact us



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