Applying the NSPM to Minnesota CIPs Workshop #1

Tim Woolf | Synapse Energy Economics

Courtney Lane | Synapse Energy Economics

May 4, 2022

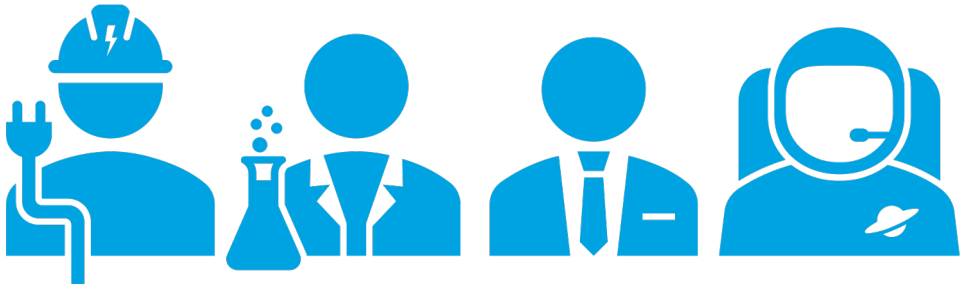
Agenda

- Introduction and purpose of these discussions
- Background
  - NSPM five-step process
  - The role of energy policy goals
  - Primary and secondary tests
- Discuss relevant energy policy goals
  - High-level cost-effectiveness directives
  - Detailed energy policy goals
- Next steps
  - Next workshop
  - Homework assignment

Hello! Meeting Registrant List

Name	Organization
Adam Zoet	Commerce
Adway De	Commerce
Amalia Hicks	Cadmus
Anna Roberts	Otter Tail Power
Anthony Fryer	Commerce
Audrey Partridge	Center for Energy and Environment
Becky Billings	Xcel Energy
Brian Edstrom	Citizens Utility Board of Minnesota
Chris Baker	Willdan
Chris Davis	Commerce
Cory Hetchler	Connexus Energy
Courtney Lane	Synapse Energy Economics
David Siddiqui	Oracle
Ethan Warner	CenterPoint Energy
Gregory Ehrendreich	Midwest Energy Efficiency Alliance
Grey Staples	The Mendota Group
Jamie Fitzke	Center for Energy and Environment
Jamie Stallman	Great River Energy
Jared Hendricks	Owatonna Public Utilities
Jason Grenier	Otter Tail Power
Jeremy Petersen	Xcel Energy
Jessica Burdette	Commerce
Jill Eide	Great River Energy
Joe Dammel	Fresh Energy
Joe Reilly	Minnesota Energy Resources Corp
John O'Neil	Southern Minnesota Municipal Power Agency

Name	Organization
Jon Vesta	Frontier Energy
Josh Mason	Rochester Public Utilities
Julie Michals	E4TheFuture
Kathy Baerlocher	Great Plains Natural Gas
Katie O'Rourke	Minnesota Energy Resources Corp
Kavita Maini	Minnesota Chamber of Commerce
Kevin Lawless	The Forward Curve
Kristine Anderson	Greater Minnesota Gas
Kyle Schleis	Connexus Energy
Kurt Hauser	Missouri River Energy Services
Laura Silver	Commerce
Lisa Beckner	Minnesota Power
Lloyd Kass	Franklin Energy
Marty Kapsch	CenterPoint Energy
Marty Kushler	American Council for an Energy-Efficient Economy
Matt Haley	Frontier Energy
Matt Wisnefske	Cadmus
Michael Hinde	Minnesota Valley Electric Cooperative
Michelle Rosier	Minnesota Public Utilities Commission
Mike Bull	Minnesota Rural Electric Association
Nick VanDuzee	CenterPoint Energy
Peter Scholtz	Office of Minnesota Attorney General
Russ Landry	Center for Energy and Environment
Sami Khawaja	Cadmus
Tim Woolf	Synapse Energy Economics
Tom Sagstetter	Elk River Municipal Utilities



Background

Purpose of These Workshops

The Advisory Committee is tasked with providing input on cost-effectiveness:

- The primary cost-effectiveness test
  - Electric utilities
  - Gas utilities
  - Efficiency fuel switching
  - Load management
- Secondary cost-effectiveness tests
- Based on the process recommended in the National Standard Practice Manual (NSPM)

Commerce is seeking both verbal input during the meetings and written input after them.

This input will be used by Commerce to determine the tests to apply in the 2024-2026 IOU Triennial Plans

NSPM: Fundamental BCA Principles

1. Recognize that DERs can provide energy system needs and should be compared with other energy resources and treated consistently for BCA.
2. Align cost-effectiveness test with jurisdiction's applicable policy goals.
3. Ensure symmetry across costs and benefits.
4. Account for all relevant, material impacts (based on applicable policies), even if hard to quantify.
5. Conduct a forward-looking, long-term analysis that captures incremental impacts of DER investments.
6. Avoid double-counting through clearly defined impacts.
7. Ensure transparency in presenting the benefit-cost analysis and results.
8. Conduct BCA separate from Rate Impact Analyses because they answer different questions.

NSPM: Process for Developing a Jurisdiction's Primary Test

STEP 1 Articulate Applicable Policy Goals

Articulate the jurisdiction's applicable policy goals related to DERs.

STEP 2 Include All Utility System Impacts

Identify and include the full range of utility system impacts in the primary test, and all BCA tests.

STEP 3 Decide Which Non-Utility System Impacts to Include

Identify those non-utility system impacts to include in the primary test based on applicable policy goals identified in Step 1:

- Determine whether to include host customer impacts, low-income impacts, other fuel and water impacts, and/or societal impacts.

STEP 4 Ensure that Benefits and Costs are Properly Addressed

Ensure that the impacts identified in Steps 2 and 3 are properly addressed, where:

- Benefits and costs are treated symmetrically.
- Relevant and material impacts are included, even if hard to quantify.
- Benefits and costs are not double-counted.
- Benefits and costs are treated consistently across DER types.

STEP 5 Establish Comprehensive, Transparent Documentation

Establish comprehensive, transparent documentation and reporting, whereby:

- The process used to determine the primary test is fully documented.
- Reporting requirements and/or use of templates for presenting assumptions and results are developed.

Overview of This Process

Workshop (May 4)

- Step 1: Identify and discuss Minnesota applicable policy goals

Workshop (May 18)

- Step 2: Identify all utility system impacts to include in BCA tests
- Step 3: Determine which non-utility system impacts to include in the primary test
- Step 4: Ensure costs and benefits are properly addressed
- After this workshop Synapse will prepare a Straw Proposal for discussion

Workshop (early June)

- Discuss Straw Proposal
- Discuss additional topics, e.g., secondary tests, discount rates
- Step 5: Ensure transparency

Energy Policy Goals

Policy Goals come in many forms:

- Statutes
- Commission orders
- Energy plans
- Executive orders

- Statutory goals sometimes require interpretation
  - First by stakeholders, ultimately by the Commission
  - Statutes sometimes do not address issues that need to be resolved for BCA purposes
- Policy goals can evolve over time
  - For example, the ECO Act changed some of the Minnesota EE goals

Policy Goals Determine Which Non-Utility System Impacts to Include in the Primary Test

Type	Societal Impact	Description
Participant	Participant	Costs and benefits to participants (including non-energy impacts)
	Other Fuels	Fuels that are not provided by the utility implementing the program
	Low Income: Participant	Health, safety, energy burden
	Water	Impacts on water consumption from the program
	GHG Emissions	GHG emissions created by fossil-fueled energy resources
Societal	Other Environmental	Other air emissions, solid waste, land, water, and other environmental impacts
	Economic and Jobs	Incremental economic development and job impacts
	Public Health	Health impacts, medical costs, and productivity affected by health
	Low Income: Society	Poverty alleviation, environmental justice, reduced home foreclosures, etc.
	Energy Security	Energy imports and energy independence

Primary and Secondary Tests

Primary test answers the key question:

- *Which resources have benefits that exceed costs and therefore merit utility acquisition or support on behalf of their customers?*

Secondary tests answer different questions:

- *How much will utility bills on average be reduced? (Utility Cost Test)*
- *How much will cost-effectiveness change if an additional policy goal is added or removed from the primary test?*

Example: New Hampshire

Type	Impact	Previous Practice	Granite State Test	Secondary Test	Secondary Test
Utility System	Utility System	partially	✓	✓	✓
Participant	Participant costs	✓	x	x	x
	Participant benefits	partially	x	x	x
Other fuels	Other fuels	✓	✓	✓	x
Water	Water	✓	✓	✓	x
Low-income	Low-income	✓	✓	✓	x
Societal	GHG emissions	x	x	✓	x
	Other environmental	x	x	x	x
	Public health	x	x	x	x
	Macroeconomic	x	x	x	x
	Energy Security	x	x	x	x
	Energy Equity	x	x	x	x

Distinguish the Tests and the Inputs to the Tests

The primary test should include impacts based upon:

- All utility system impacts
- Other impacts dictated by policy goals
- Regardless of the magnitude or how difficult the impacts are to calculate

The inputs used in applying the primary test depend upon:

- The likely magnitude. Will it have a material impact?
- The priority of the impact.
- The costs required to develop reasonable inputs.

Discuss Minnesota Energy Policy Goals

Minnesota's Historical (Pre-Eco) Practice: Cost-Effectiveness Tests

Minnesota utilities historically calculated results for:

1. Societal cost test:
   - The societal cost test is the primary test for cost-effectiveness screening.

2. Utility cost test:
   - This functions as a secondary test.
   - This test is also used to determine utility CIP performance incentives.

3. Ratepayer impact measure test
   - This functions as a secondary test but is not used for cost-effectiveness screening.

4. Participant cost test
   - This functions as a secondary test but is not used for cost-effectiveness screening.

ECO Act: EFS Cost-Effectiveness: Electric Utilities

A fuel-switching improvement is deemed efficient if... the improvement meets the following criteria, relative to the fuel that is being displaced:

(1) results in a net reduction in the amount of source energy consumed for a particular use, measured on a fuel-neutral basis;

(2) results in a net reduction of statewide greenhouse gas emissions... over the lifetime of the improvement.

(3) is cost-effective, considering the costs and benefits from the perspective of the utility, participants, and society; and

(4) is installed and operated in a manner that improves the utility's system load factor.

- Minn. Stat. § 216B.241, 11(d)(1) and (2)

ECO Act: EFS Cost-Effectiveness: Gas Utilities

A Minnesota public gas utility may propose one or more programs to install electric technologies that reduce the consumption of natural gas by the utility's retail customers as an energy conservation improvement.

The commissioner may approve a proposed program if the commissioner determines that

- The electric technology meets the criteria established under section 216B.241, *subd. 11(d)(1) and (2)*; and
- The program is cost-effective, considering the costs and benefits to ratepayers, the utility, participants, and society.

- Minn. Stat. § 216B.241, subd. 12(a).

Commerce 3/15 ECO Decision: EFS Cost-Effectiveness

- Electric and natural utilities... should include cost-effectiveness evaluations based on the Societal Test, the Utility Test, and the Participant Test (natural gas utilities shall also include the Ratepayer Impact Test in their evaluations). (page 45)
- The primary cost-effectiveness determinant regarding whether an EFS measure is deemed “efficient,” according to the ECO Act, will be whether it passes the Societal Test, unless or until the Department updates the primary test Minnesota utilities will use to evaluate demand-side programs. (page 45)
- Utilities implementing an EFS improvement for customers whom they do not provide either the beginning or the ending fuel shall, nonetheless, include the avoided (and increased supply as may be the case) costs for the non-served fuel in their cost-effectiveness calculations. (page 46)
- EFS cost-effectiveness will be reviewed and approved at the program level. (page 45)

High-Level Cost-Effectiveness Directives

Program	Reference	Society	Utility	Participants	Ratepayers
General	Minn. Stat. 216B.241, Subd. 1c.(f)	✓	✓	✓	✓
Load Management	Minn. Stat. §216B.241, Subd. 13(b)	✓	✓	✓	✓
Fuel Switching: Electric	Minn. Stat. §216B.241, Subd. 11(d)(3)	✓	✓	✓	
Fuel Switching: Gas	Minn. Stat. §216B.241, Subd. 12(a)(2)	✓	✓	✓	✓
Fuel Switching	Commission Decision on ECO Act (p. 45)	primary			

Summary of Minnesota Energy Policy Goals (Part I)

Policy	Citation	Policy Impacts Reflected in Policies						
		Least Cost	Fuel Diversity	Risk	Reliability	Low-Income	Customer Choice	Environmental
Energy savings policy goal	Minn. Stat. § 216B.2401	X	X					X
Legislative findings	Minn. Stat. § 216B.01	X			X			
Next Generation Energy Act of 2007, general provisions	NGEA § 2, subd. 1		X	X	X			X
Next Generation Energy Act of 2007, per capita fossil fuel use	NGEA § 2, subd. 2		X					X
Greenhouse gas emissions control, GHG emissions-reduction goal	Minn. Stat. § 216H.02, Subd. 1							X
Energy conservation improvement, peak demand deficit	Minn. Stat. § 216B.241, subd. 1a (d)			X	X			
Energy conservation improvement, energy-savings goals	Minn. Stat. § 216B.241, subd. 1c (b)	X	X					X
Energy conservation improvement, cost-effectiveness	Minn. Stat. § 216B.241, subd. 1c (f)	X	X					X
Energy conservation improvement, technical assistance	Minn. Stat. § 216B.241, subd. 1d (a)				X			
Energy conservation, free choice of measures and installers	Minn. Stat. § 216B.241, subd. 2(a)						X	
Energy conservation improvement, less expensive than new supply	Minn. Stat. § 216B.241, subd. 2(b)	X						
Energy conservation improvement, Department decisions	Minn. Stat. § 216B.241, subd. 2(e)					X	X	
Energy conservation improvement, low-income programs	Minn. Stat. § 216B.241, subd. 7(a)					X		

Summary of Minnesota Energy Policy Goals (Part II)

Policy	Citation	Policy Impacts Reflected in Policies						
		Least Cost	Fuel Diversity	Risk	Reliability	Low-Income	Customer Choice	Environmental
Reasonable rate	Minn. Stat. § 216B.03	X						
Renewable energy objectives, eligible energy objectives	Minn. Stat. § 216B.1691, Subd. 2		X					
Renewable energy objectives, local benefit	Minn. Stat. § 216B.1691, Subd. 9	X	X		X			
Resource planning, resource plan filing and approval	Minn. Stat. § 216B.2422, Subd. 2(c)	X	X					
Resource planning, long-range emission reduction planning	Minn. Stat. § 216B.2422, Subd. 2c							X
Resource planning, environmental costs	Minn. Stat. § 216B.2422, Subd. 3(a)		X					X
Resource planning, preference for renewable energy facility	Minn. Stat. § 216B.2422, Subd. 4		X		X			
Distributed energy resources, generation projects	Minn. Stat. § 216B.2411, Subd. 1 (b)	X					X	X
Minnesota's 2025 Energy Action Plan	Report, page 7	X		X	X			X
Climate solutions and economic opportunities	Report, page 3							X
ECO Act: Efficient Fuel Switching	Minn. Stat. § *	X	X					X
ECO Act: Load Management	Minn. Stat. § *	X						X

Which Non-Utility System Impacts Should be Included in the Minnesota Primary Test?

Type	Impact	Current Practice	Policy Goals	Primary Test
Participant	Participant costs	✓	?	?
	Participant benefits	partially	?	?
Other fuels	Other fuels	partially	?	?
Water	Water	x	?	?
Low-income	Low-income	✓	?	?
Societal	GHG emissions	✓	?	?
	Other environmental	✓	?	?
	Public health	x	?	?
	Macroeconomic	x	?	?
	Energy Security	x	?	?
	Energy Equity	x	?	?

Next Steps

Follow-Up Workshops

Workshop (May 4)

- Step 1: Identify and discuss Minnesota applicable policy goals

Workshop (May 18)

- Step 2: Identify all utility system impacts to include in BCA tests
- Step 3: Determine which non-utility system impacts to include in the primary test
- Step 4: Ensure costs and benefits are properly addressed
- After this workshop Synapse will prepare a Straw Proposal for discussion

Workshop (early June)

- Discuss Straw Proposal
- Discuss additional topics, e.g., secondary tests, discount rates
- Step 5: Ensure transparency

Homework Assignments

Provide responses to today's discussion.

- Fill in table of which impacts to include in the primary test.
- To facilitate the discussion in the next workshop.
- Please provide to Adam Zoet by May 11

Review the following to prepare for the next workshop.

- Synapse MN NSPM Report, Chapter 5, pages 31-38
- NSPM for DERs, Sections 4.2 and 4.3

Provide input on utility system impacts

- Fill in the table on the next slide.
- To facilitate the discussion in the next workshop.
- Please provide to Adam Zoet by May 11

Homework Assignment #1
Which Impacts to Include in the Primary Test?

	Impact	Include In Primary Test?	Reasons / Comments
Participant	Participant costs		
	Participant benefits		
Other fuels	Other fuels		
Water	Water		
Low-income	Low-income		
Societal	GHG emissions		
	Other environmental		
	Public health		
	Macroeconomic		
	Energy Security		
	Energy Equity		
	Resilience		

Homework Assignment #2
Utility System Impacts Currently Included: Electric Utilities

		Xcel	Otter Tail	Minnesota Power
Generation	Energy			
	Capacity			
	Environmental Compliance			
	RPS Compliance Costs			
	Market Price Effects			
Transmission	Transmission			
Distribution	Distribution			
General	Financial Incentives			
	Program Administration			
	Utility Performance Incentives			
	Credit and Collection			
	Risk, Reliability, Resilience			
Other	Other (specify)			

Homework Assignment #2
Utility System Impacts Currently Included: Gas Utilities

		Xcel	Center Point	Greater MN Gas	Great Plains	MN Energy Resources
Commodity / Supply	Fuel					
	Capacity and Storage					
	Environmental Compliance					
	Market Price Effects					
Transportation	Transportation					
Delivery	Delivery					
General	Financial Incentives					
	Program Administration					
	Utility Performance Incentives					
	Credit and Collection					
	Risk, Reliability, Resilience					
Other	Other (specify)					

Thank You!

Tim Woolf

twoolf@synapse-energy.com

Courtney Lane

clane@synapse-energy.com