

Following the Framework – NSPM and NEIs in the Midwest



Presented at the 2023 ACEEE National Conference on Energy Efficiency as a Resource

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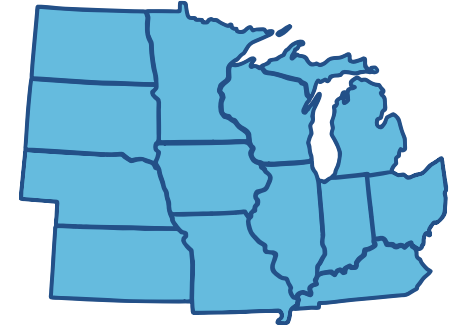


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Midwest Energy Efficiency Alliance

The Midwest Energy Efficiency Alliance (MEEA) is a collaborative network, promoting energy efficiency to optimize energy generation, reduce consumption, create jobs and decrease carbon emissions in all Midwest communities.



MEEA is a non-profit membership organization with 150+ members, including:



Energy service
companies &
contractors



State & local
governments



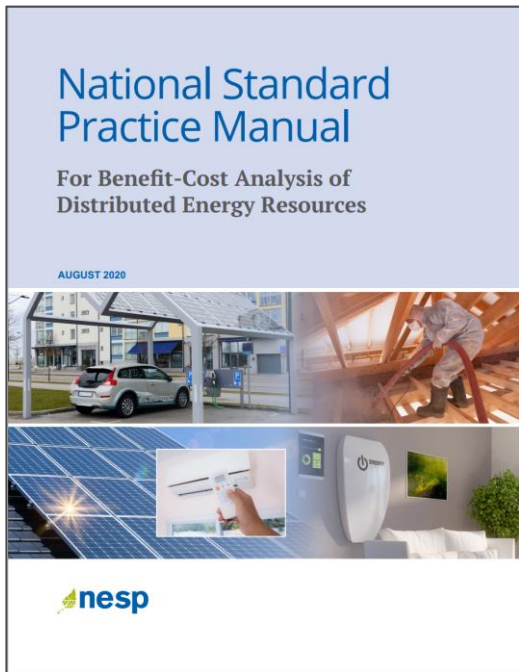
Academic &
Research institutions



Electric &
gas utilities

Valuing Energy Efficiency

National Standard Practice Manual (NSPM)



- Originally released in 2017 just for EE, re-released in 2020 to include all DERs
- National best-practices from a broad range of experts
- MEEA is a partner of NESP and is on the advisory committee
- NSPM has been referenced in 300+ public proceedings and presentations since 2017

<https://www.nationalenergyscreeningproject.org/national-standard-practice-manual/>

Where NSPM has been applied in the Midwest

Three states, three different types of cases, three very different proposed Jurisdiction-Specific Tests



Minnesota

- Developing test for utility EE programs.
- Docket No. E,G999/CIP-23-46



Michigan

- Developing test for DER pilot programs.
- Docket No. U-20898



Ohio

- Proposed test for EE plan in AEP Ohio SSO case.
- Docket No. 23-23-EL-SSO

Minnesota Overview



Dept. of Commerce staff-led investigation into updating BCA for Conservation Improvement Program (CIP).

8 meetings of **Cost-Effectiveness Advisory Committee** throughout 2021-2022.

Process went on hold during legislative debate over *ECO Act*, then refocused to align with the Act after it passed.

Docket Details

- **Docket E,G999/CIP-23-46**
 - *In the Matter of 2024-2026 CIP Cost-Effectiveness Methodologies for Electric and Gas Investor-Owned Utilities*
 - Search “23-46” at [eDockets](#)
- [Decision](#) from DOC Deputy Commissioner
 - [Staff proposed decision](#)
 - [Meeting 1-3 notes](#)
 - [Meeting 4-6 notes](#)
 - [Meeting 7-8 notes](#)

Michigan Overview



Commission investigation into integrated distribution planning issues. Focusing on **New Technologies and Business Models workgroup recommendations** from **Phase II of MI Power Grid**

Utilities directed to submit proposed BCA by 7/27/2022 Order. Also establishes a multi-phase, proceeding
Phase I: Pilot programs
Phase II: "Other areas of investment"

Proposal from DTE & Consumers is for a JST that would cover DERs except for EE, as well as some possible areas not addressed in the NSPM (e.g., undergrounding, hydrogen)

Docket Details

- **Docket [U-20898](#)**
 - *In the matter, on the Commission's own motion, to commence a collaborative to consider issues related to new technologies and business models.*
- Document [U-20898-0022](#) 2/1/2023
 - *DTE Electric Company's and Consumers Energy Company's Proposed Requirements and Further Guidance on Benefit-Cost Analyses for Pilot Initiatives*

Ohio Overview



After HB6 repealed the EERS in 2019, **electric EE ended in Ohio.**

Multiple utilities have made **unsuccessful attempts to get voluntary EE plans approved** at the PUCO over the last 3 years.

AEP Ohio SSO (standard service offer) rate case was the most recent attempt and referenced the NSPM.

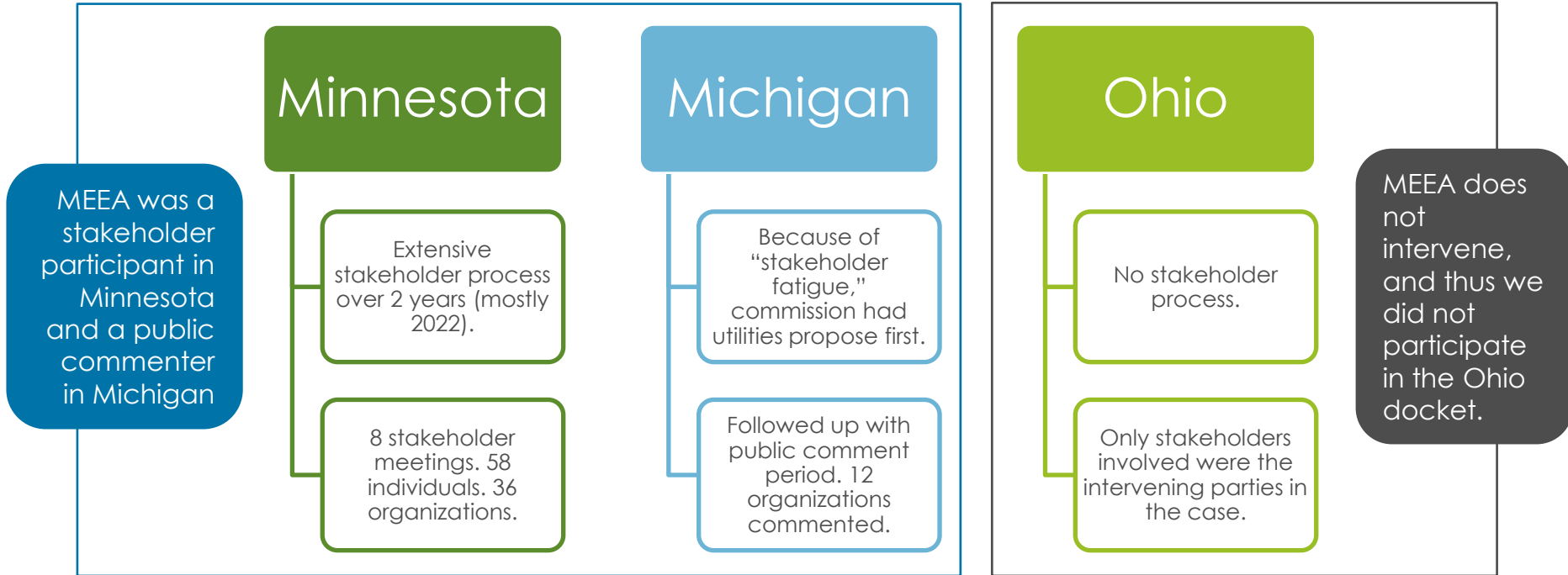
Proposed \$43M annual suite of EE programs (as one small part of the case).

Docket Details

- **Docket [23-0023-EL-SSO](#)**
 - *In the Matter of the Application of Ohio Power Company for Authority to Establish a Standard Service Offer*
- *Direct Testimony and Exhibits of Brian F. Billing electronically filed by Mr. Steven T. Nourse on behalf of Ohio Power Company. (01/06/2023)*
 - [Testimony record](#)
 - [Testimony document](#)

Stakeholder Engagement

Widely varied approaches



NSPM Framework

5-step process

- **Steps 1-3** will be the focus of the presentation.
- **Step 4** will be noted where applicable, but I'm not going to dig deep into it today.
- **Step 5** will be obvious.

Defining Your Primary Cost-Effectiveness 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; and
 - 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; and
 - Reporting requirements and/or use of templates for presenting assumptions and results are developed.
-

Step 1

STEP 1 Articulate Applicable Policy Goals

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



Minnesota

- Detailed, stakeholder-driven review.



Michigan

- Barely addressed by proposing utilities.



Ohio

- Limited review by proposing utility.

Minnesota Policy Inventory

Highly detailed
Appendix C of Staff
 Proposed Decision



- 4 summary tables.
- 45 pages of relevant policy excerpts.

Table 4. PUC Statutes

Table 3. CIP Statutes

Table 2. Other Policies

Table 1. Statewide Policy Goals

I. Minnesota Energy Policy Summary Tables

Policy	Citation	Policy Impacts Reflected in Policies																Resilience	Other
		Societal																	
		Participant	Other Fuels	Water	Low-Income	GHG	Air	Waste	Water	Land	Other Environ	Health	Economic	Security	Equity	Resilience	Other		
Statewide Policy Goal (ECO 2021), Energy savings and optimization policy goal	Minn. Stat. § 216B.2401		X			X							X	X			X		
Statewide Policy Goal (NGEA 2007), Energy planning	Minn. Stat. § 216C.05, Subd 1	X										X		X		X			
Statewide Policy Goal (NGEA 2007), Energy policy goals	Minn. Stat. § 216C.05, Subd 2										X			X					X
Statewide Policy Goal (NGEA 2007), GHG emissions-reduction goal	Minn. Stat. § 216H.02, Subd. 1					X													

Michigan Policy Inventory

No detailed review of relevant policies

- A paragraph and a bullet list.
- Generic policy principles rather than specifics.

The development of the JST begins with the identification of relevant policies and their related goals and objectives. The Companies have a very broad set of policy goals and objectives covering a wide spectrum of energy programs and initiatives. In recognition of the potential wide scope of utility pilots, however, the Companies propose that the Michigan policy goals and objectives of most relevance for purposes of its JST for pilots are high level and overarching.

The policy goals and objectives therefore relevant to Michigan utility pilots (recognizing their diversity) are:

- Safety
- Reliability
- Affordability
- Resiliency
- Environmental Justice and Equity
- Decarbonization

Ohio Policy Inventory

Limited review of one statute

- **Looks only at a single statute**
 - the plan “encourages the state policy objectives in **Ohio Revised Code 4928.02.**”
- **Only addresses BCA indirectly**
 - e.g., “cost-effective technologies generating other benefits”
 - but does not detail how policies support inclusion of any specific impacts.

Figure BFB-3

Policy Objective	EE Plan Contribution
(A) Ensure the availability to consumers of adequate, safe, efficient, nondiscriminatory, and reasonably priced retail electric service	<ul style="list-style-type: none">• Helping customers manage their peak demand, ensuring adequate and efficient service. (Exhibit BFB-1, Section III., Programs)• Increasing customers’ home or business energy efficiency while also managing demand helps to ensure reasonable cost of energy. (Exhibit BFB-1, III., Programs)
(D) Encourage innovation and market access for cost-effective supply- and demand-side retail electric service including, but not limited to, demand-side management, time-differentiated pricing, waste energy recovery systems, smart grid programs, and implementation of advanced metering infrastructure	<ul style="list-style-type: none">• The EE Plan is positioned to respond to current, and adjust to new, opportunities for energy efficiency, demand response, and maximize the smart grid benefits.• Pilot opportunities are included to support innovation and adopt new approaches for cost-effective energy efficiency customer solutions. (Exhibit BFB-1, Section III. c., Cross Sector Programs).
(J) Provide coherent, transparent means of giving appropriate incentives to technologies that can adapt successfully to potential environmental mandates	<ul style="list-style-type: none">• The EE Plan is designed to provide incentives for cost-effective technologies generating other benefits, including environmental, that will be captured and reported. (Exhibit BFB-1, Section IV.e., Benefits - Greenhouse Gas Reductions)
(L) Protect at-risk populations, including, but not limited to, when considering the implementation of any new advanced energy or renewable energy resource	<ul style="list-style-type: none">• The EE Plan has a focus on low-income programs and low-income geographic area support to provide both programming and incentive levels that are aligned with means (Exhibit BFB-1, Section III., Programs)
(M) Encourage the education of small business owners in this state regarding the use of, and encourage the use of, energy efficiency programs and alternative energy resources in their businesses	<ul style="list-style-type: none">• Small Businesses will have a dedicated budget in midstream to allow for energy efficiency audits, to help customers identify savings opportunities. After the audit customers will be eligible for increased incentives to participate in the Midstream program (Exhibit BFB-1, Section III., Programs).
(N) Facilitate the state’s effectiveness in the global economy	<ul style="list-style-type: none">• The EE Plan supports economic development through a focus on improving the energy density of products and services, reducing the cost of those products and services and making customers more competitive.• The EE Plan is an added benefit for new business and industry considering local communities throughout the Company’s service territory.

Step 2 & Step 3

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.



Minnesota

• Multi-step process: Homework, straw proposal, discussion, summary report.



Michigan

• Included many NEIs but not for the right reasons.



Ohio

• Potential study measured some C&I non-energy impacts; those impacts were included.

Minnesota Impact Determination

Final Decision

Straw Proposal

Table 2 - Synapse Straw Proposal

	Category	Impact	Straw Proposal	Map to Policy	Homework Assignment		
					Yes	Maybe	No
Utility System	Electric Utility System	All	✓	N/A			
	Gas Utility System	All	✓	N/A			
Non-Utility System	Other Fuels	Other Fuels	✓	✓	9	3	0
	Water	Water	-	-	7	2	3
Participant	Participant Costs	Participant Costs	✓	✓	7	4	1
	Participant Benefits	Participant Benefits	✓	✓	5	6	1
Low-Income	Low-Income	Low-Income	✓	✓	7	3	1
Societal	GHG Emissions	GHG Emissions	✓	✓	12	0	0
		Criteria Air Emissions	✓	✓	6	5	0
	Solid Waste	Include in Other Environmental	✓	✓	1	6	5
		Water Impacts	Include in Other Environmental	✓	✓	4	5
	Land Impacts	Include in Other Environmental	✓	✓	1	6	5
		Other Environmental	✓	✓	1	8	3
	Public Health	Public Health	-	-	3	7	2
	Economic and Jobs	Economic and Jobs	✓	✓	1	7	3
	Energy Security	Energy Security	✓	✓	6	3	3
	Energy Equity	Energy Equity	✓	✓	5	6	1
Resilience	Resilience	-	-	4	6	1	

- Straw Proposal based on stakeholder homework feedback.
- Extensive discussion followed to decide which impacts were relevant.
- Test in includes all relevant impacts, even if they aren't quantified yet. (This is part of **Step 4.**)
- Does not include participant impacts, either costs or benefits. (Also **Step 4**)

Include all utility system impacts

“Impacts that do not have an * symbol are not currently quantified as part of the MCT and/or do not have an approved estimation methodology. **These impacts should be assigned a value equal to 0** for the IOUs' 2024-2026 CIP cost-effectiveness analyses using the MCT.”

Table 23. MCT Impacts

Type	Utility	Category	Impact
Utility System	Electric Utility	Generation	Energy Generation*
			Capacity*
			Environmental Compliance
			Renewable Portfolio Standard Compliance
			Market Price Effects*
		Transmission	Ancillary Services*
			Transmission Capacity*
			Transmission System Losses*
		Distribution	Distribution Costs*
			Distribution System Losses*
		General	Program Incentives*
			Program Administration Costs*
			Utility Performance Incentives*
			Credit and Collection Costs
			Risk
Reliability			
Resilience			
Gas Utility	Commodity / Supply	Fuel*	
		Capacity and Storage*	
		Environmental Compliance*	
	Market Price Effects		
	Transportation	Transportation*	
	Delivery	Delivery*	
	General (same as Electric)	(see electric section)	
Non-Utility System	Both	Other Fuels	Other Fuels
Societal	Both	Societal Impacts	GHG emissions*
			Criteria air emissions*
			Other environmental
			Economic and Jobs (Macroeconomic)
			Energy Security
Energy Equity			

Michigan Impact Determination

Table 1: The Companies' Proposed Jurisdiction-Specific Test (JST)

Impact Category	Impact	Include impact in JST?
Electric Utility System Impacts	Generation: Energy Generation	Yes
	Generation: Capacity	Yes
	Generation: Environmental Compliance	No
	Generation: RPS/CES Compliance	No
	Generation: Market Price Effects	No
	Generation: Ancillary Services	Yes
	Transmission: Capacity	Yes
	Transmission: System Losses	Yes
	Distribution: Capacity	Yes
	Distribution: System Losses	Yes
	Distribution: O&M	Yes
	Distribution: Voltage	Yes
	General: Financial Incentives	Yes
	General: Program Administration Costs	Yes
	General: Utility Performance Incentives	Yes
	General: Credit and Collection Costs	Yes
	General: Risk	Yes
	General: Reliability	Yes
	General: Resilience	Yes
	Energy: Fuel & Variable O&M	Yes
Gas Utility System Impacts	Energy: Capacity	Yes
	Energy: Environmental Compliance	No
	Energy: Market Price Effects	No
	General: Financial Incentives	Yes
	General: Program Administration Costs	Yes
	General: Utility Performance Incentives	Yes
	General: Credit and Collection Costs	Yes
	General: Risk	Yes
	General: Reliability	Yes
	General: Resilience	Yes
Societal Impacts	Resilience	No
	Greenhouse Gas Emissions	Yes
	Other Environmental Impacts	No
	Public Health	Yes
	Economic Development and Jobs	Yes
Host Customer / Participant Impacts	Energy Security	No
	Measure Costs (Host)	Yes
	Transaction costs (Host)	No
	Interconnection Fees	Yes
	Risk	Yes
	Reliability	Yes
	Resilience	Yes
	Tax incentives and donations	Yes
	Non-Energy Impacts (Low Income)	Yes
	Non-Energy Impacts (non-LI)	Yes
Other Fuel	Yes	

10. APPENDICES

i. Application of NSPM's 5-Step Process for Developing a JST

Table 3: Reasoning for Impacts Included or Not Included in JST

Impact Category	Specific Impact	Include Impact	Reasoning and Documentation
Electric Utility System Impacts	Generation: Energy Generation	Included	Included per NSPM's Step 2 for developing a JST.
	Generation: Capacity	Included	Included per NSPM's Step 2 for developing a JST.
	Generation: Environmental Compliance	Not Included	Impact not material across examples of pilot at-scale.
	Generation: RPS/CES Compliance	Not Included	Utilities are fully compliant with state RPS.
	Generation: Market Price Effects	Not Included	Impact not material across examples of pilot at-scale.

- Rationale for not including utility system impacts.
- But could have included and set to zero like Minnesota.

But...

Included	Included per NSPM's Step 2 for developing a JST.
Included	Included per NSPM's Step 3 for developing a JST.
Included	Included in NSPM's Step 4 for developing a JST to ensure that cost-effectiveness practices are symmetrical.



- NSPM is **not prescriptive**
- Reason to include should be that **they support policy goals. (Step 3)**

Ohio Impact Determination

- Limited range of NEIs that apply to **only some customers, only some measures**.
- The justification seems to be, essentially, *‘these are the ones that have been quantified’*.

Sec V, Part a.

“AEP Ohio **has incorporated additional non-energy benefits into the UCT**, such as the quantification of C&I non-energy benefits... Also included are the reduction of charge offs and reduced collections from Universal Service fund...”

Appendices

III. AEP Ohio C&I Non-Energy Benefits Study

- “[Consultant] recommends inclusion of NEIs in regulatory cost-effectiveness testing for EE programs.
- [Consultant] recommends using **O&M cost savings** derived from the life-cycle cost analysis **for the lighting, motors, VSD, custom, and “other” (agriculture and compressed air) measure categories**. ...
- [Consultant] recommends using industry specific estimates of **NEIs resulting from productivity or sales increases for HVAC, VSD, compressed air, and lighting measures**.”

IV. CAP Non-Energy Benefits

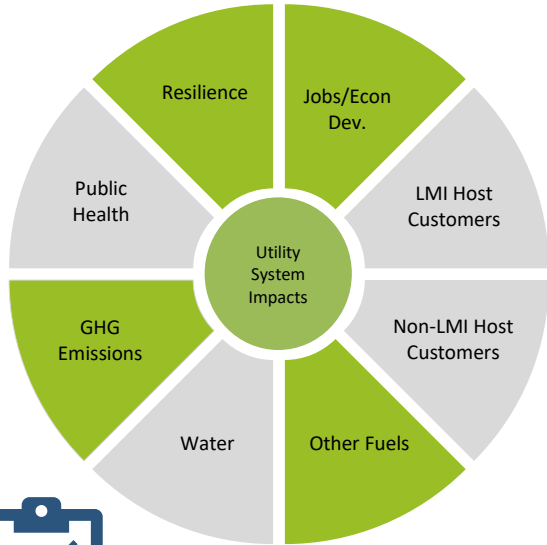
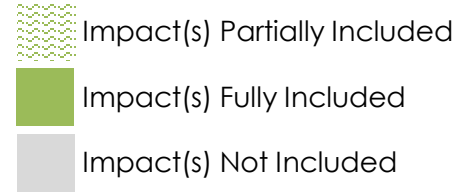
“There are substantial Non-Energy Impacts associated to the Community Assistance Program such as:

1. Reduced Charge offs
2. Increased Safety
3. Increased Indoor Air Quality
4. Increased Comfort and Health
5. Reduced bill collections through USF
6. Economic Development and Job Creation
7. Other Fuel Benefits
8. Water and Other Resource Benefits

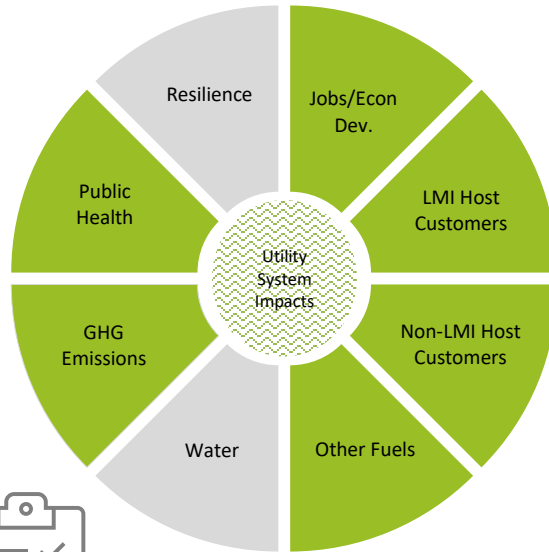
For this plan, **we have only quantified the reduction in Charge offs and the reduction in collections needed for the Universal Service Fund...**”

The Proposed Tests

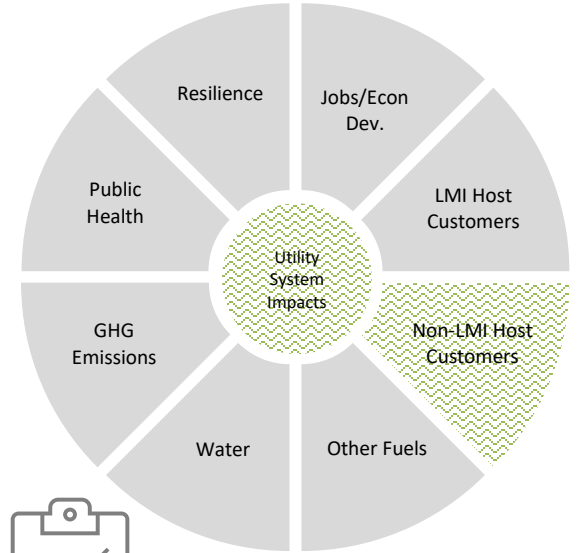
Only one gets full marks for following the NSPM framework



Minnesota



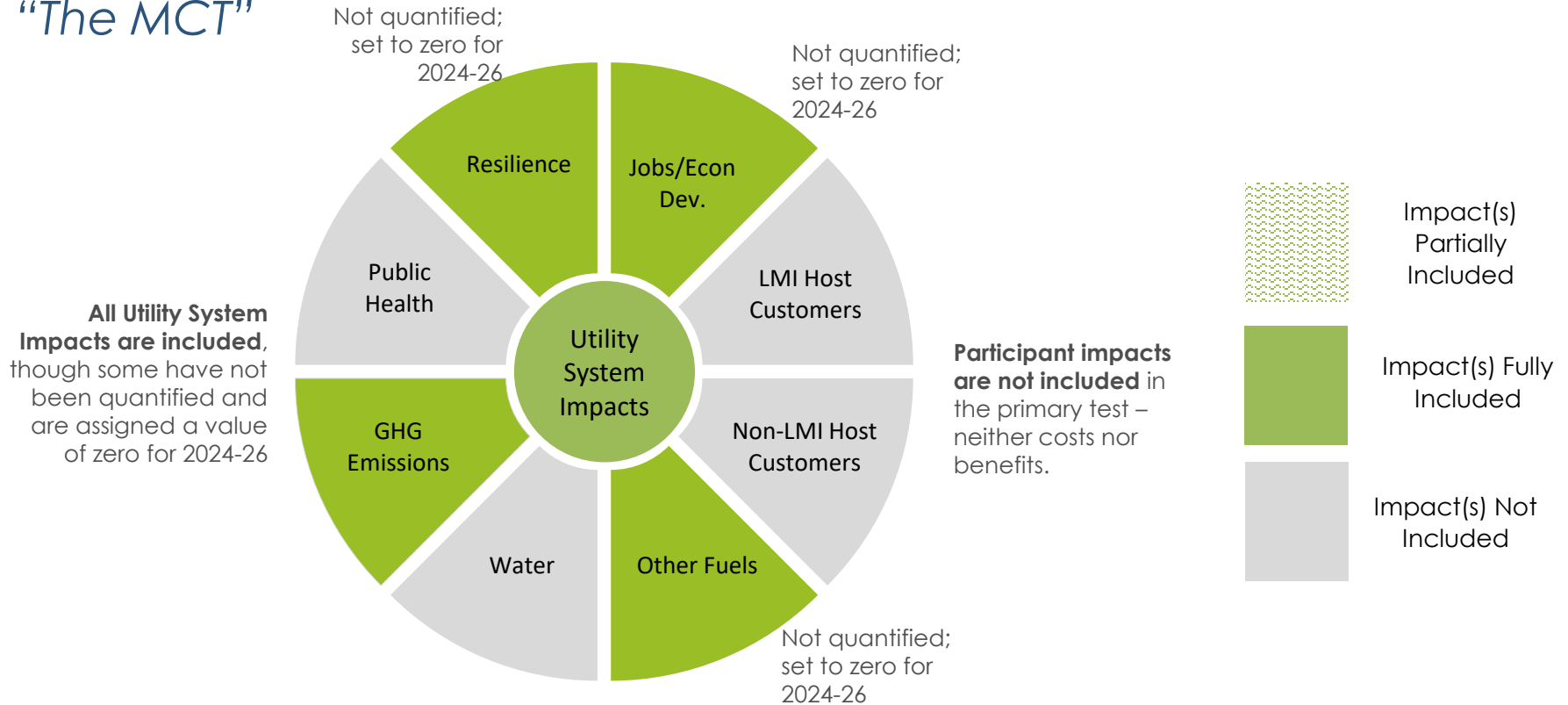
Michigan



Ohio

Minnesota Cost Test

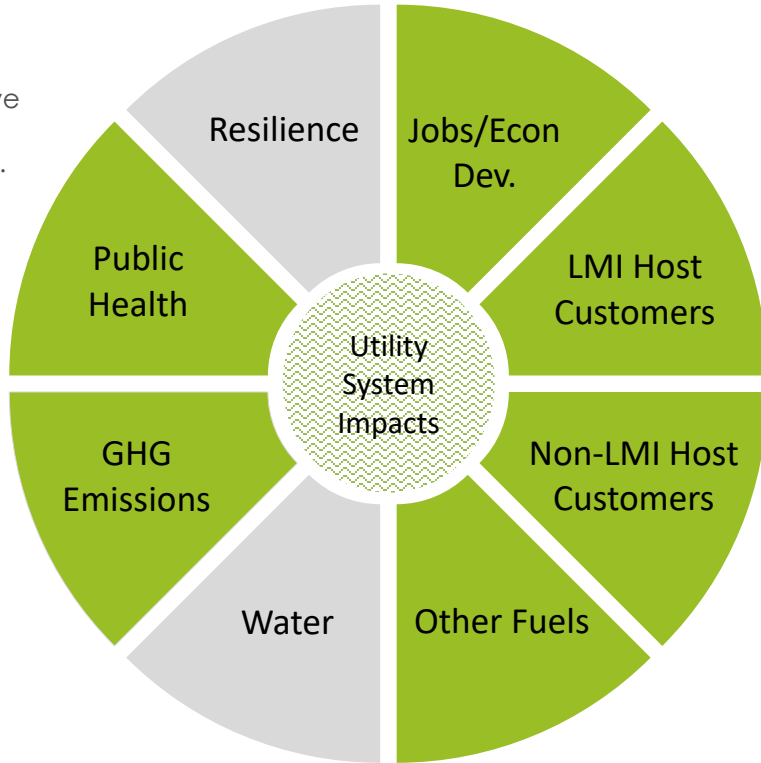
“The MCT”



Michigan Proposed Test

“Pilot JST”

Societal Impacts have not been justified by relevant policy goals. Though those goals may exist and be relevant, this has not been sufficiently explored.

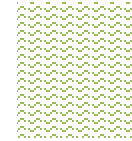


Utility System Impacts that are not included

have reasonable justification, but NSPM principles would have them included as relevant but set to zero or qualified in some fashion instead.

Participant Impacts

have not been justified by relevant policy goals. Though those goals may exist and be relevant, this has not been sufficiently explored.



Impact(s)
Partially
Included



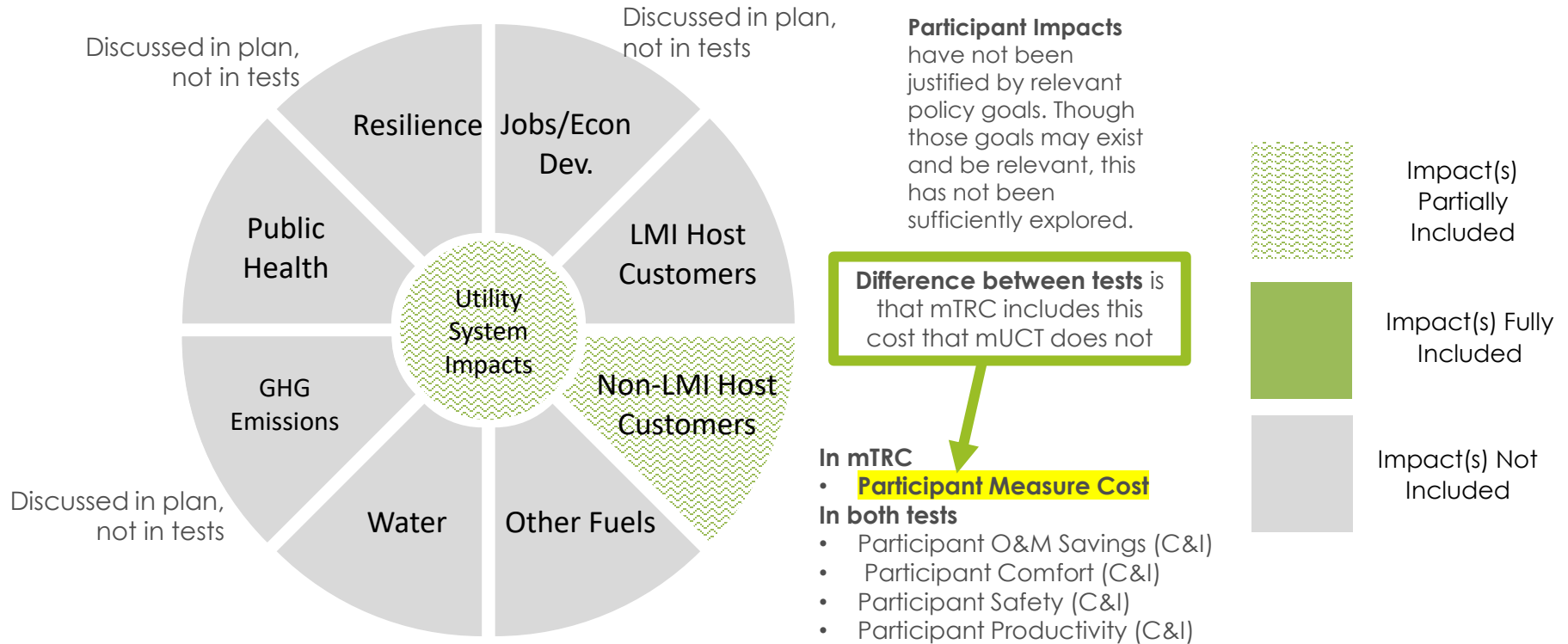
Impact(s) Fully
Included



Impact(s) Not
Included

Ohio proposed tests

“mUCT” & “mTRC”



Takeaways

Involve Stakeholders.

Follow the Framework.

Minnesota

- Followed the step-by-step NSMP framework.
- Strong stakeholder engagement.
- Because they followed the framework, they got meaningful and actionable results.

Michigan

- Starting with a detailed policy inventory would have enhanced understanding & informed the inclusion of impacts.
- Involving stakeholders afterwards for comments meant utilities had less guidance in the proposal development process.

Ohio

- On the plus side, they have obviously been listening and it's great that they tried to use the NSPM for guidance.
- On the minus, they did it on their own without stakeholder expertise.
- Fell short in practice, because they didn't follow the steps of the framework.

Status



Minnesota

- **Approved**
- Being used as the primary test for CIP in 2024-2026 cycle.



Michigan

- **Pending**
- Case is ongoing but no new filings have occurred since the BCA proposal comments in late June.
- Comments, in general, felt the proposal was missing necessary elements.



Ohio

- **Dead**
- EE was cut in 9/6/2023 [stipulation](#) except \$12M LI-Wx
- No EM&V requirement.
- No BCA requirement.

SAVE
THE DATE

2024
MIDWEST
ENERGY
SOLUTIONS
CONFERENCE

January 30 - February 1
CHICAGO



APPENDIX: Additional Slides

Minnesota Test Approved Utility System Impacts

Category	Impact	Included in Minnesota Test
Generation	Energy Generation	TRUE
	Capacity	TRUE
	Environmental Compliance	TRUE <i>(not quantified)</i>
	Renewable Portfolio Standard Compliance	TRUE <i>(not quantified)</i>
	Market Price Effects	TRUE <i>(not quantified for gas)</i>
	Ancillary Services	TRUE
Transmission	Transmission Capacity	TRUE
	Transmission System Losses	TRUE
Distribution	Distribution Costs	TRUE
	Distribution System Losses	TRUE
General	Program Incentives	TRUE
	Program Administration Costs	TRUE
	Utility Performance Incentives	TRUE
	Credit and Collection Costs	TRUE <i>(not quantified)</i>
	Risk	TRUE <i>(not quantified)</i>
	Reliability	TRUE <i>(not quantified)</i>
	Resilience	TRUE <i>(not quantified)</i>

Michigan DER Pilots Proposed Utility System Impacts

Category	Impact	Included in Michigan Proposed Test
Generation	Energy Generation	TRUE
	Capacity	TRUE
	Environmental Compliance	FALSE
	Renewable Portfolio Standard Compliance	FALSE
	Market Price Effects	FALSE
	Ancillary Services	TRUE
Transmission	Transmission Capacity	TRUE
	Transmission System Losses	TRUE
Distribution	Distribution Costs	TRUE
	Distribution System Losses	TRUE
General	Program Incentives	TRUE
	Program Administration Costs	TRUE
	Utility Performance Incentives	TRUE
	Credit and Collection Costs	TRUE
	Risk	TRUE
	Reliability	TRUE
	Resilience	TRUE

AEP Ohio's Proposed Utility System Impacts

Category	Impact	Included in AEP Proposed Test
Generation	Energy Generation	TRUE
	Capacity	TRUE
	Environmental Compliance	FALSE
	Renewable Portfolio Standard Compliance	FALSE
	Market Price Effects	FALSE
	Ancillary Services	FALSE
Transmission	Transmission Capacity	TRUE
	Transmission System Losses	TRUE
Distribution	Distribution Costs	TRUE
	Distribution System Losses	TRUE
General	Program Incentives	TRUE
	Program Administration Costs	TRUE
	Utility Performance Incentives	FALSE
	Credit and Collection Costs	TRUE*
	Risk	FALSE
	Reliability	FALSE
	Resilience	FALSE

*For LI customers in Community Assistance Program