

CLEAN ENERGY FIRST: MN'S TRANSFORMATIONAL OPPORTUNITY



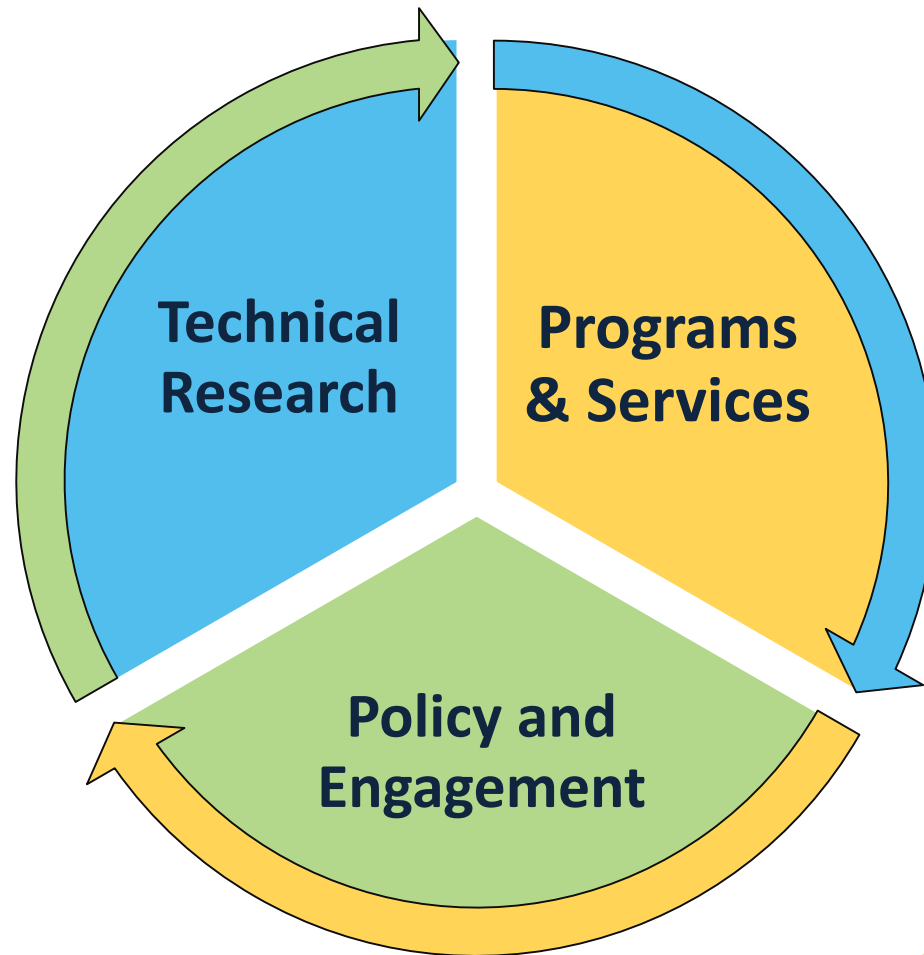
**Mike Bull, Director
Policy and External Affairs**

**ACEEE National Conference
on Efficiency as a Resource**

November 1, 2017



• WE FOCUS ON REDUCING ENERGY WASTE



CEE'S APPROACH TO OUR MISSION



DATA DRIVEN

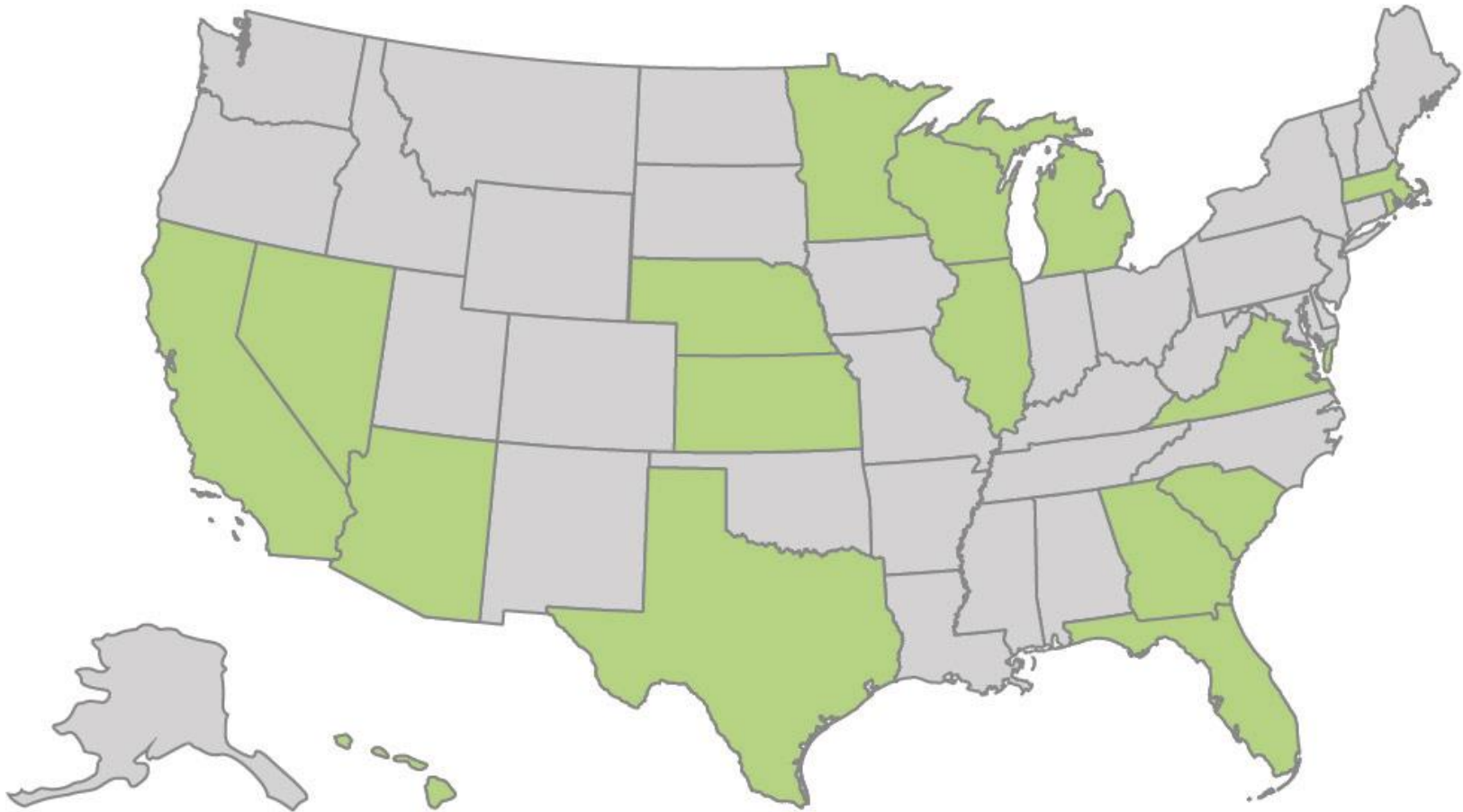


COMMUNITY BASED



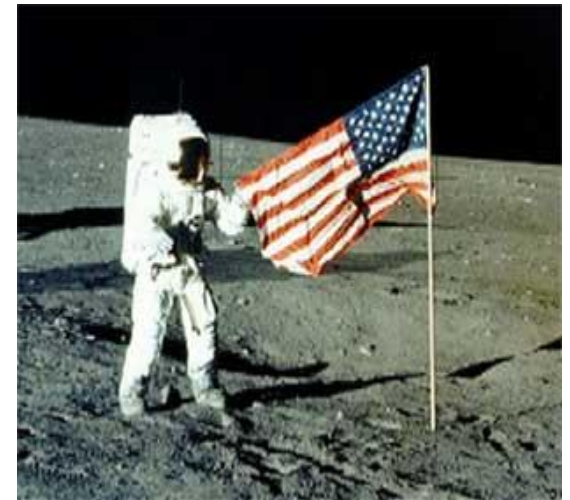
CONSUMER FOCUSED

OUR IMPACT AROUND THE COUNTRY

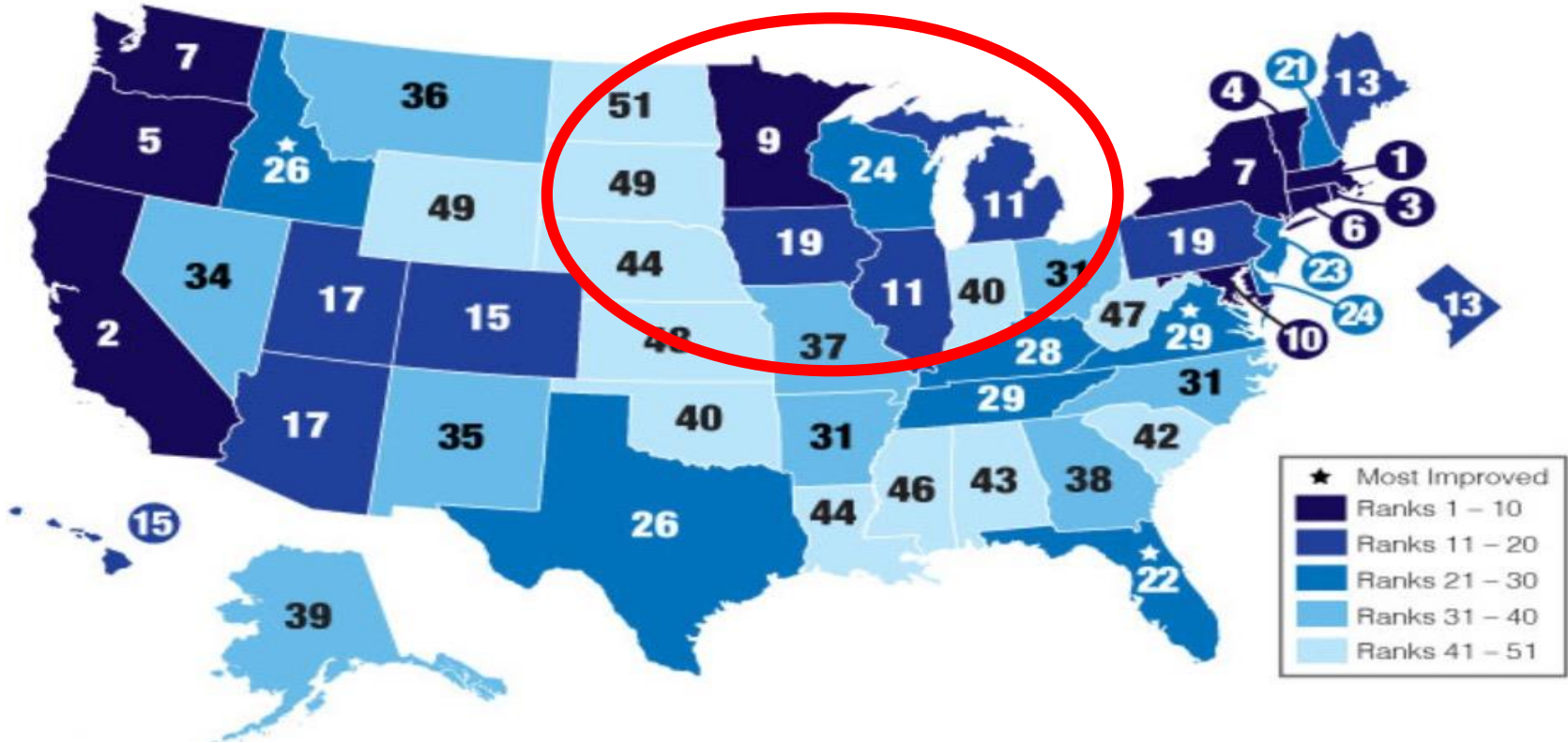


• KEY TAKEAWAYS FOR TODAY

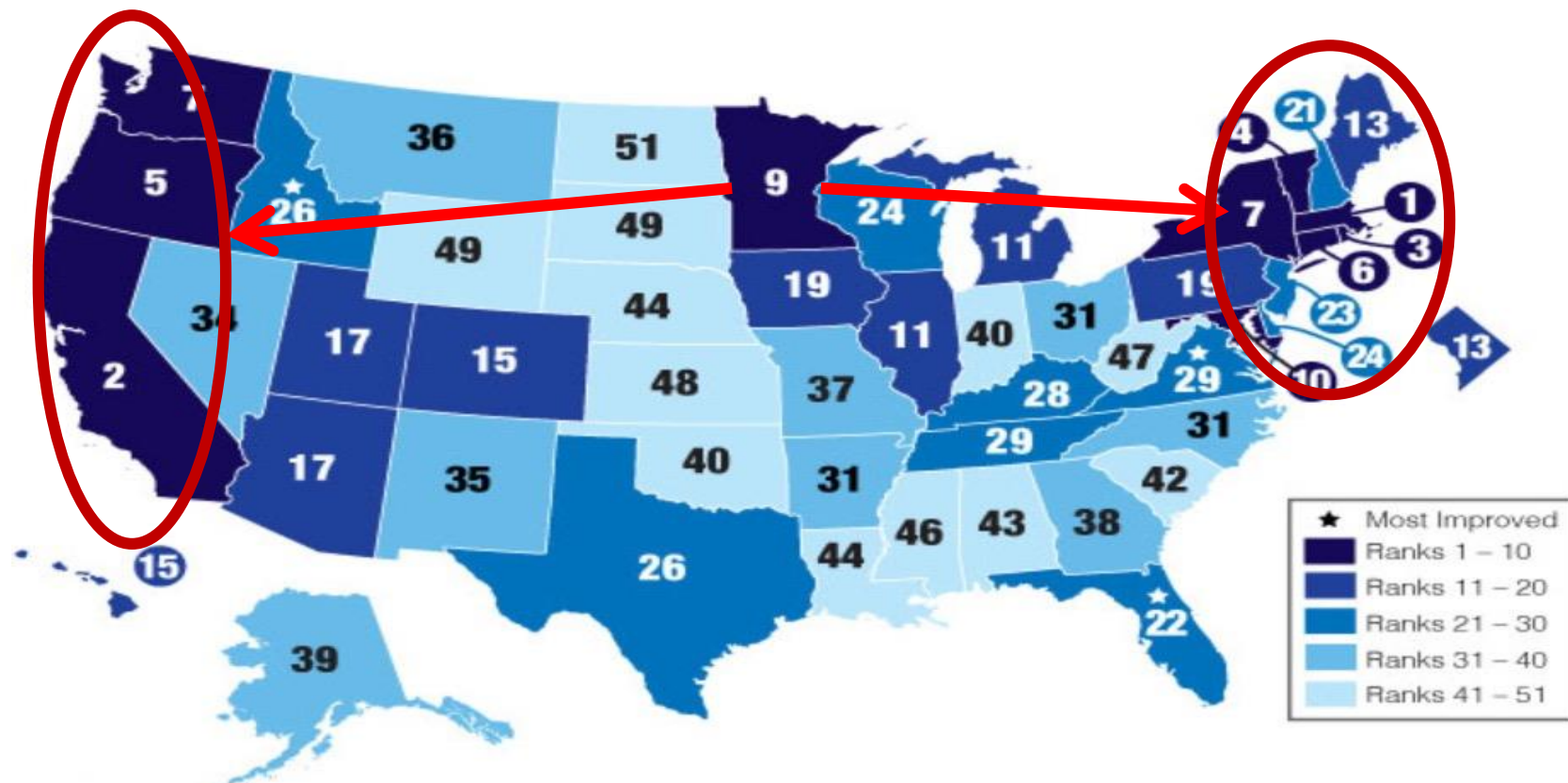
- **MN HAS A MASSIVE OPPORTUNITY FOR A CLEAN ENERGY TRANSFORMATION**
 - Over 95% of MN's 2015 power sector CO2 emissions come from fossil fueled plants that are retiring or retireable in the next 20 years
- **EQUALLY MASSIVE CHALLENGES**
- **MUST MAXIMIZE EFFICIENCY**
- **COLLABORATION WILL BE KEY**



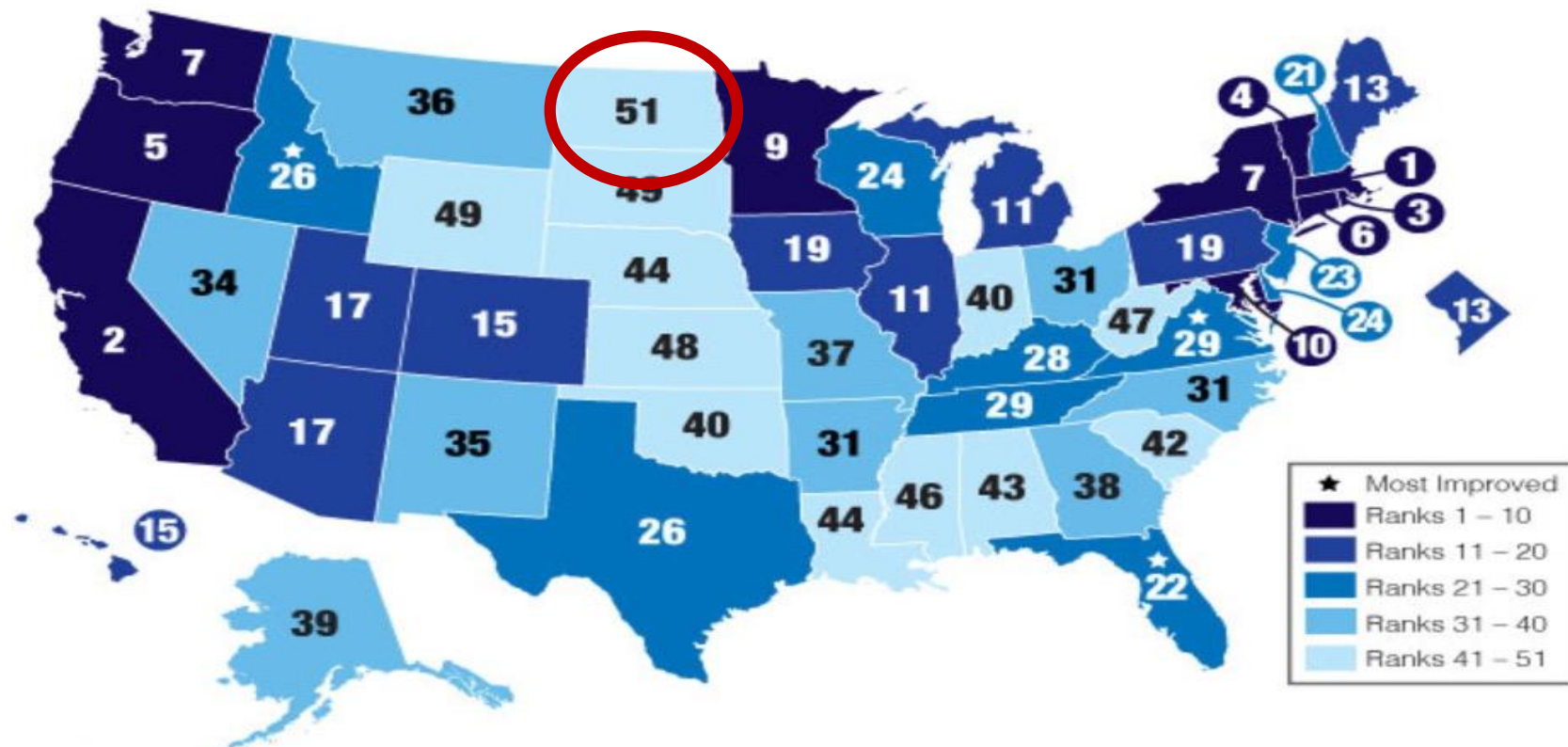
MN: ONLY MIDWEST STATE IN ACEEE TOP 10



• ONLY NON-COASTAL STATE IN ACEEE TOP 10



GET IT TOGETHER, NORTH DAKOTA





TODAY'S FOCUS

1. ENERGY EFFICIENCY RESOURCE STANDARD

- **Used as a Guidepost in Resource Planning**
- **Establishes the Target for the Three-Year Efficiency Resource Acquisition Process**

2. RESOURCE PLAN “LOADING ORDER”

- **Establishes the Priority Order for Adding Resources to Meet Customer Needs**
- **Resource Planning Sets the Utility Target for Efficiency as a Resource Over a 15 Year Term**

#1: ENERGY EFFICIENCY RESOURCE STANDARD

- **“CONSERVATION IMPROVEMENT PROGRAM”**
 - **1.5% of Retail Sales (more if cost-effective)**
 - **Applies to All Utility Types (IOU, Co-op, Muni)**
 - **And to Both Electric and Natural Gas Utilities**
 - **Annual Savings Tracked on a “First Year” Basis**
 - **Associated Spending Requirement**

CIP: MN's Most Successful Energy Policy



Minnesota has saved **\$6 Billion** in the last *20 years*

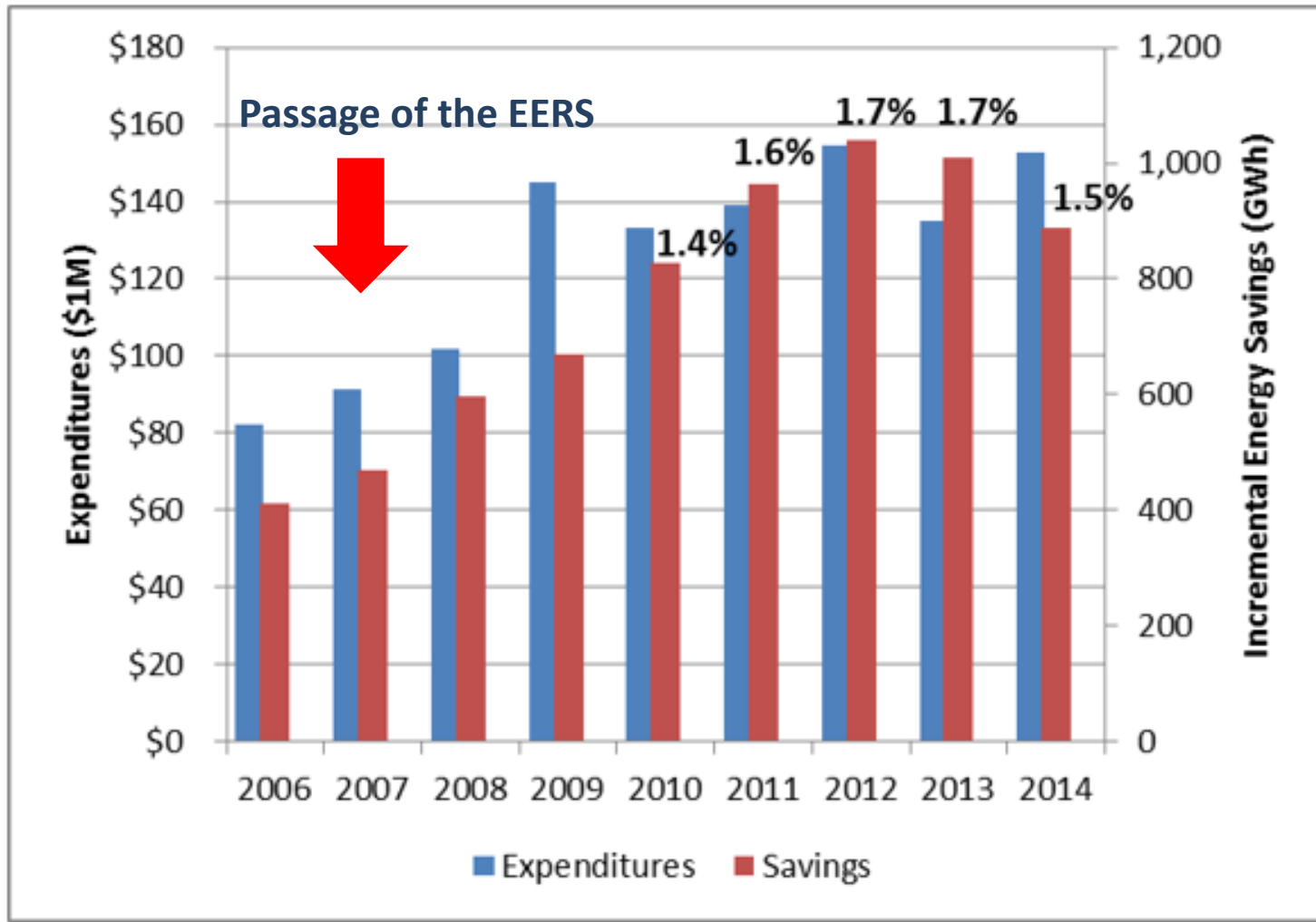
ENERGY EFFICIENCY supports over **50,000 Minnesota jobs**



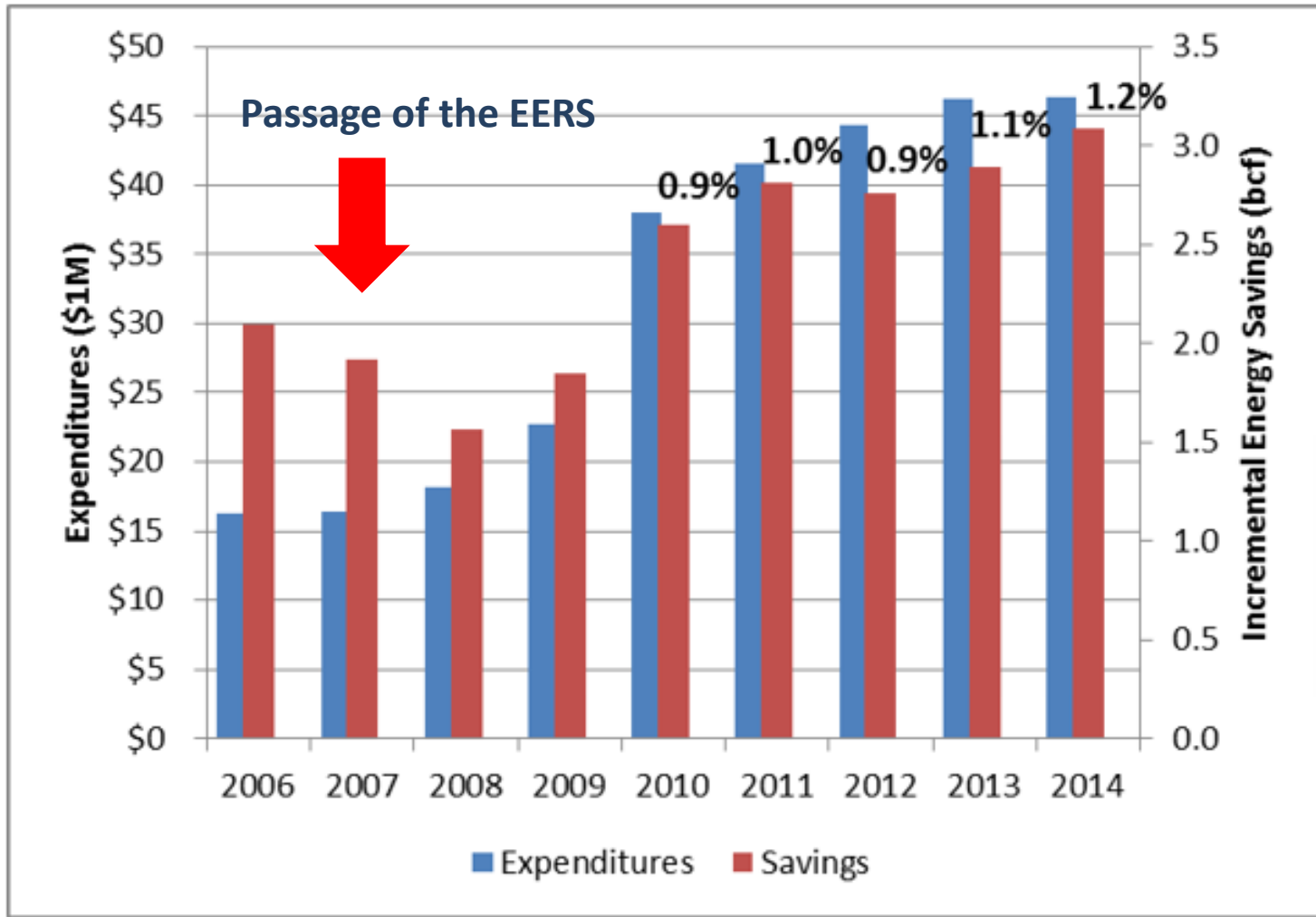
Generates **\$4 in benefits** for every **\$1 invested**
- Cadmus Group



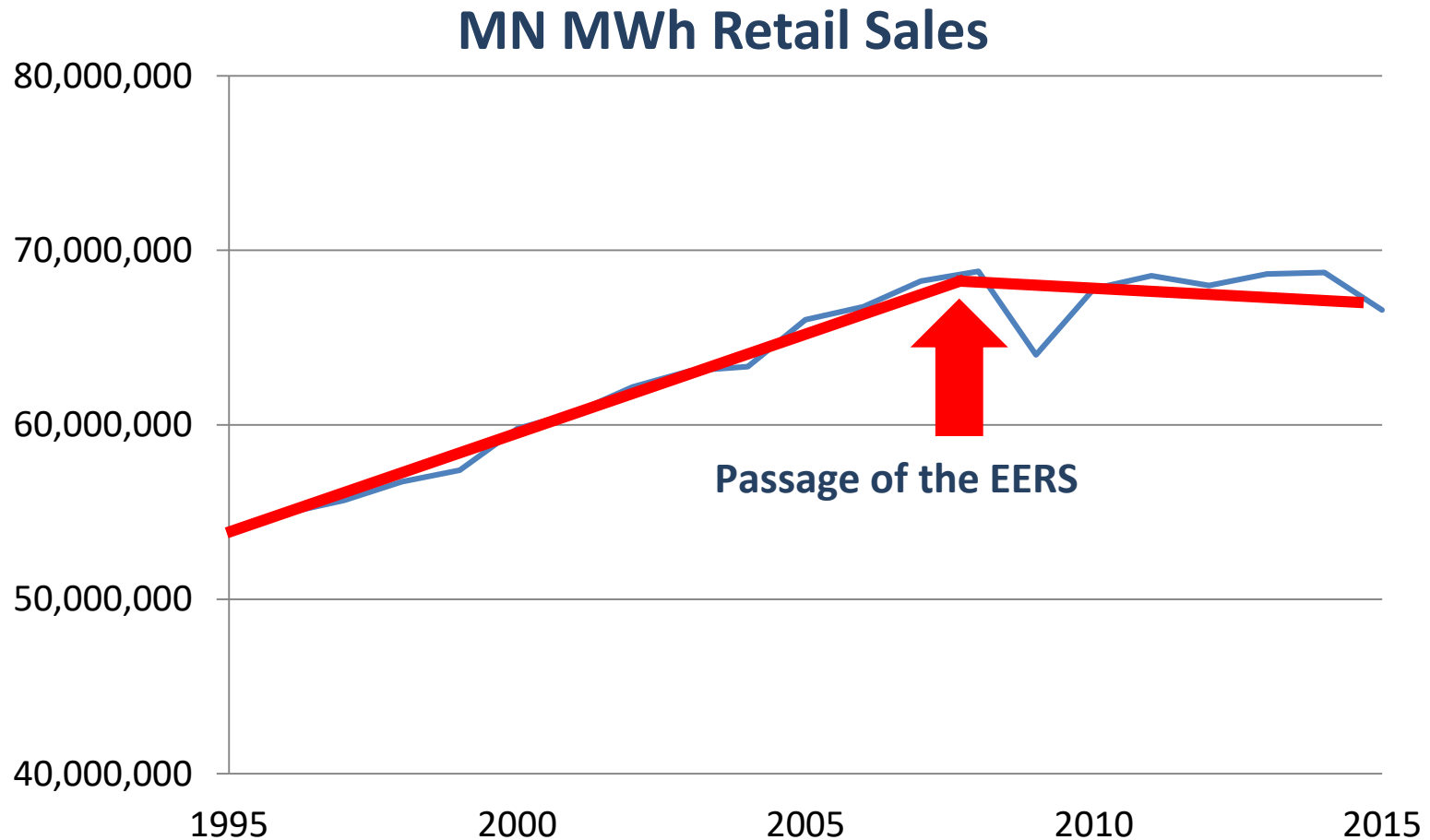
STATEWIDE ELECTRIC SAVINGS AND SPENDING



STATEWIDE GAS SAVINGS AND SPENDING

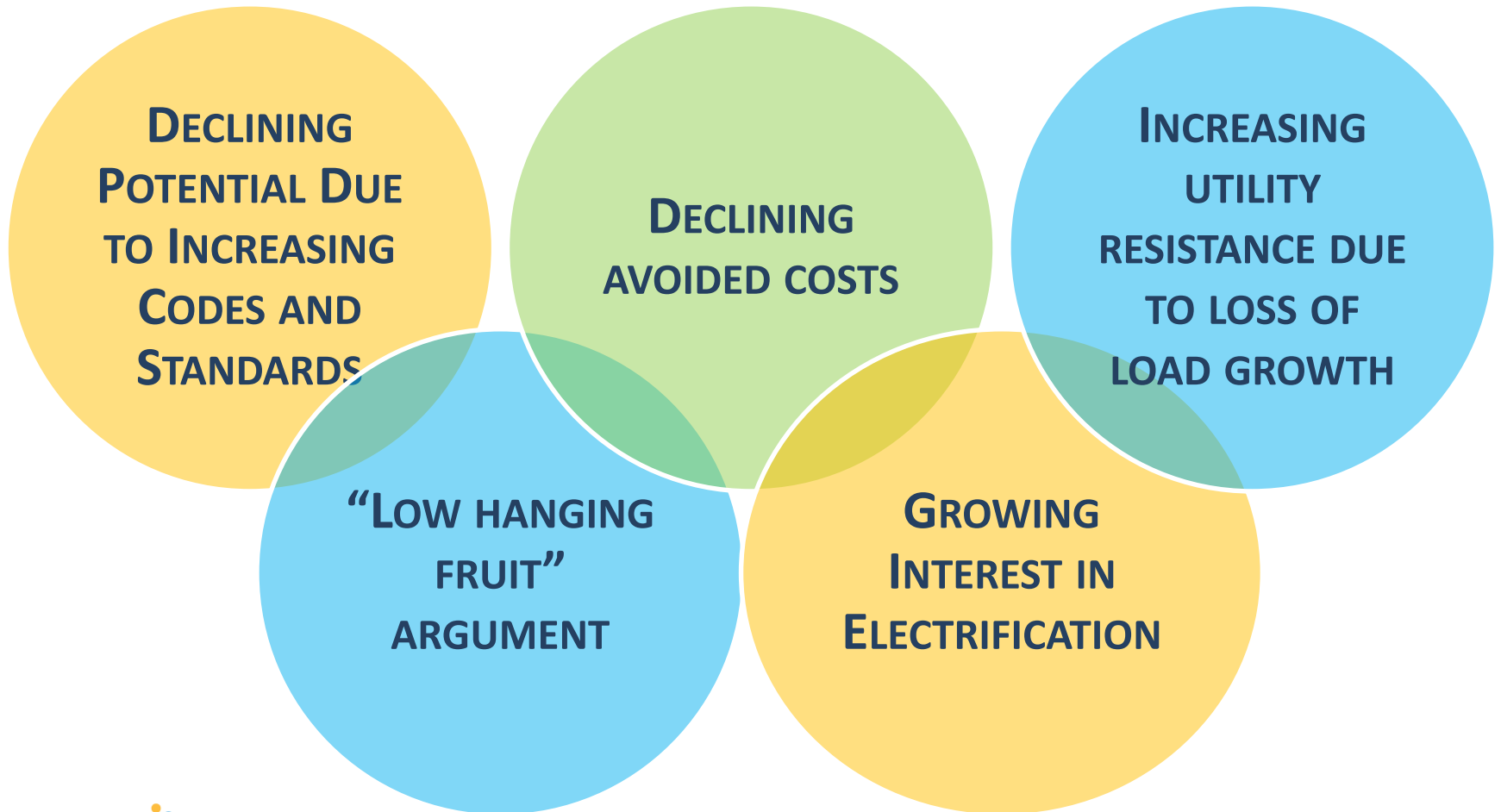


LOAD GROWTH IS BEING MET BY EFFICIENCY





 **CHALLENGES WE'RE FACING**





MN COMMERCE: STATEWIDE DSM POTENTIAL STUDY

- 1. ESTIMATE STATEWIDE NATURAL GAS AND ELECTRIC ENERGY EFFICIENCY AND CARBON SAVING POTENTIAL IN MINNESOTA FOR 2020 – 2029**
- 2. PRODUCE ACTIONABLE DATA RESOURCES FOR UTILITIES**
- 3. PROVIDE MULTIPLE OPPORTUNITIES FOR STAKEHOLDERS TO PARTICIPATE IN THE PROJECT TO HELP ADVANCE ROBUST ENERGY POLICIES AND CIP PROGRAMS IN MINNESOTA**

This project is supported by a grant from the Minnesota Department of Commerce, Division of Energy Resources through the Conservation Applied Research and Development (CARD) program.

STATEWIDE DSM POTENTIAL STUDY TEAM

Center for Energy and Environment



Jenny Edwards
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Mike Bull
Stakeholder Work +
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Carl Nelson
Project Manager
+ Programs



Dave Bohac
Emerging Tech



Chris Plum
Emerging Tech +
Contract Admin

Optimal Energy



Matt Socks
Modeling + Data



Phil Mosenthal

Seventhwave



Jeanette LeZaks



Scott Pigg



Doug Ahl

Behavior programs + Market Studies + Data

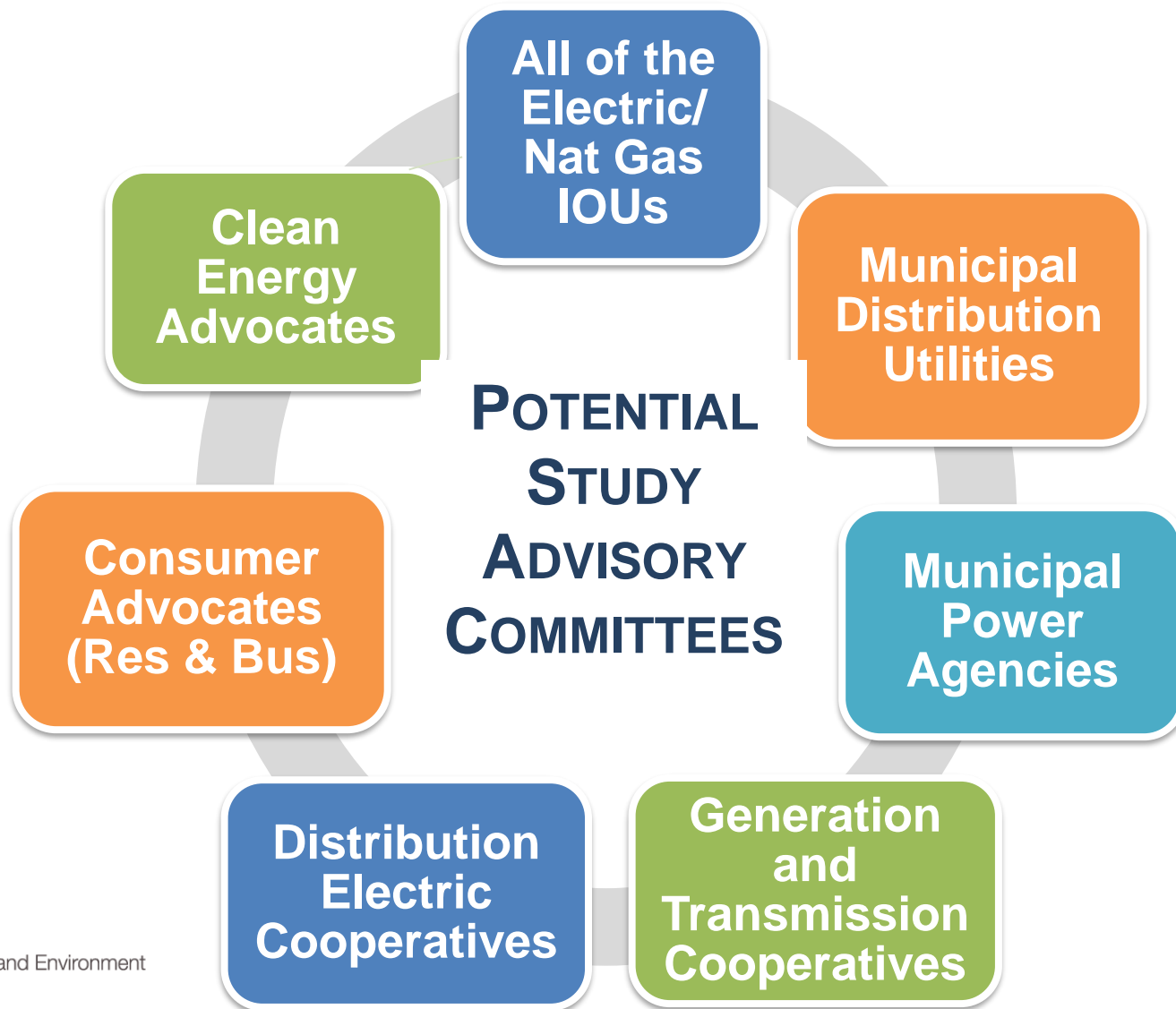
ACEEE

National Best Practices

E SOURCE

Emerging Tech, Programs

POTENTIAL STUDY STAKEHOLDER ENGAGEMENT



#2: RESOURCE PLAN “LOADING ORDER”

Efficiency First

MN Stat.
216B.2401

- Cost-effective energy savings are “preferred over all other energy resources” and are “to be procured systematically and aggressively”

Renewable Preference

MN Stat
216B.2422

- MN PUC may not approve non-renewable resource unless the utility has demonstrated the renewable resource is not in the public interest

Non- Renewable Resources

- Only after all cost-effective energy savings and all renewable resources that are in the public interest are included are non-renewable resources to be considered

HUGE AMOUNT OF CO₂-PRODUCING CAPACITY RETIREABLE IN THE NEXT 20 YEARS

| Fuel | Capacity (MW) | % of Total State MW | % of State MWh |
|--------------------------|---------------|---------------------|----------------|
| Retiring/Retireable Coal | 5,287 | 31.4% | 49.1% |
| Retireable Gas | 1,667 | 9.9% | 9.0% |
| Total | 6,954 | 41.3% | 58.1% |

**EMISSIONS FROM THESE UNITS MAKE UP
95% OF MN 2015 POWER SECTOR CO₂ EMISSIONS¹**

ALSO, SIGNIFICANT NUCLEAR CAPACITY

| Utility | Plant | Capacity (MW) | % of Total State MW | % of State MWh ⁴ | Retireable Date |
|--------------|------------------|---------------|---------------------|-----------------------------|-----------------|
| Xcel | Monticello | 671 | 3.9% | 7.1% | 2031 |
| Xcel | Prairie Island 1 | 550 | 3.2% | 6.1% | 2033 |
| Xcel | Prairie Island 2 | 550 | 3.2% | 5.1% | 2034 |
| Total | | 1,771 | 10.5% | 18.3% | |



2019 WILL BE A BIG YEAR

- **ALL OF MN'S MAJOR ELECTRIC UTILITIES WILL FILE RESOURCE PLANS IN 2019**
 - **Xcel Energy – February 2019**
 - **Otter Tail Power – June 2019**
 - **Minnesota Power – October 2019**
 - **Great River Energy – December 2019 (projected)**



REASONS TO MAXIMIZE ENERGY EFFICIENCY IN RESOURCE PLANNING

HELPS AVOID A
“RUSH TO GAS”

MINIMIZES UTILITY
INFRASTRUCTURE
INVESTMENTS

CONTAINS CUSTOMER
COSTS, MAINTAIN
AFFORDABILITY

REDUCES RISK OF
POOR INVESTMENTS

DEFERS DECISIONS
UNTIL NECESSARY

REDUCES FUEL
IMPORTS, IMPROVES
LOCAL ECONOMY



FOR ALL OF THIS, STAKEHOLDER COLLABORATION CRITICAL

WORK THROUGH ISSUES IN GOOD FAITH

POOL KNOWLEDGE AND EXPERTISE

CAPTURE GRAND BARGAIN OPPORTUNITIES

IDENTIFY SURPRISING OUTCOMES

HEDGE REGULATORY RISK OF POOR OUTCOME



**KEEP
CALM
AND
START
COLLABORATING**

Thank you!

