

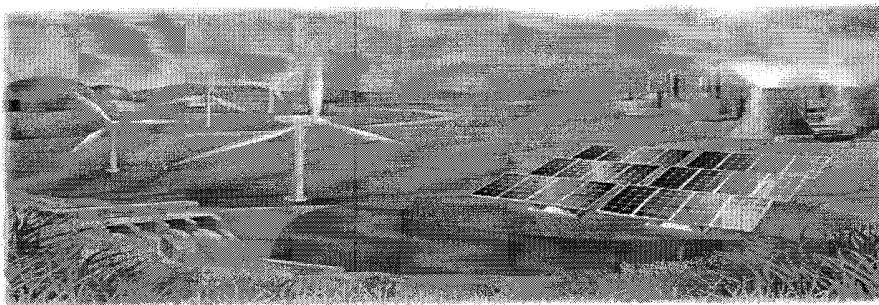
CLEAN ENERGY FIRST ACT

Moving Minnesota's Energy Resources to a
Reliable, Affordable and Carbon-Free Future

State Senator David Senjem

SHAPING MINNESOTA'S ENERGY PORTFOLIO

Many considerations face policy makers as they review our energy portfolio to meet Minnesotans' needs; including reducing emissions, striving for energy independence and economic growth, and ensuring our health for decades to come.

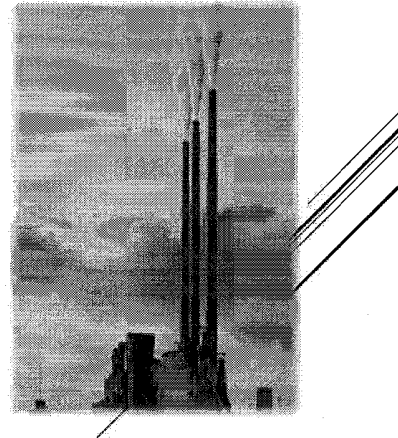


MINNESOTA'S ENERGY

Many of the large power plants currently serving Minnesotans will likely be retired over the next 20 years.

Clean Energy First Act legislation will help Minnesota accomplish this transition affordably, reliably and with increasingly carbon-free electrical supply-through improvements to utility resource planning and coordinated transmission planning.

With a focused attention on communities that host potentially retiring power plants, Clean Energy First Act will promote opportunities for high-quality jobs in constructing new electricity generation with a focus on how to assist current host communities as their plants retire.



Retiring/Retireable Coal Generation

Utility	Plant	Capacity (MW)	% of Total State MW ¹	Retireable Date
OTP	Hoot Lake 2 & 3	140	0.8%	2020 ²
MP	Taconite Harbor	225	1.3%	2020 ²
MP	Boswell 1 & 2	135	0.8%	2022 ²
Xcel	Sherco 1 & 2	1360	8.0%	2023, 2025 ²
GRE	Coal Creek	1100	6.5%	2028 ³
Xcel	Sherco 3	876	5.2%	2030 ⁴
MP	Boswell 3 & 4	940	5.6%	2035, 2036
Xcel	Allen S. King	511	3.0%	2028 ⁴
Total		5,287	31.4%	

cee
Center for Energy and Environment

FN 1: Includes all MN electric capacity, plus Coal Creek
 FN 2: Retirement dates announced, approved
 FN 3: Date based on accelerated depreciation schedule announced by GRE
 FN 4: Xcel Proposed Retirement Date per settlement

Retireable Natural Gas Generation

Utility	Plant	Capacity (MW)	% of State MW	Retireable Date
Xcel-PPA	Mankato Energy Center 1	375	2.2%	2026
Xcel	Black Dog	282	1.6%	2032
Xcel	High Bridge	540	3.2%	2038
Xcel	Riverside	470	2.8%	2039
Total		1,667	9.9%	

Almost 7,000 MW of CO2 Producing Capacity Retireable before 2040

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 Emissions⁴

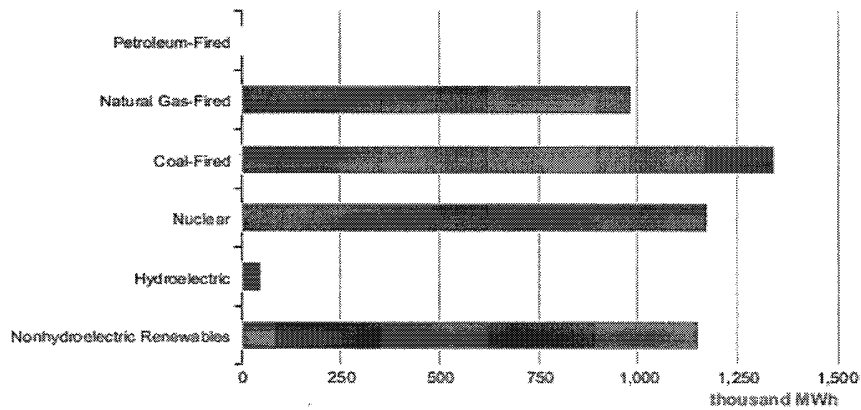
But, Over 1700 MWs of Nuclear Capacity Also Retireable in this Time Frame

Utility	Plant	Capacity (MW)	% of Total State MW	% of State MWh ⁴	Retireable Date
Xcel	Monticello	671	3.9%	7.1%	2030 ⁵
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%	

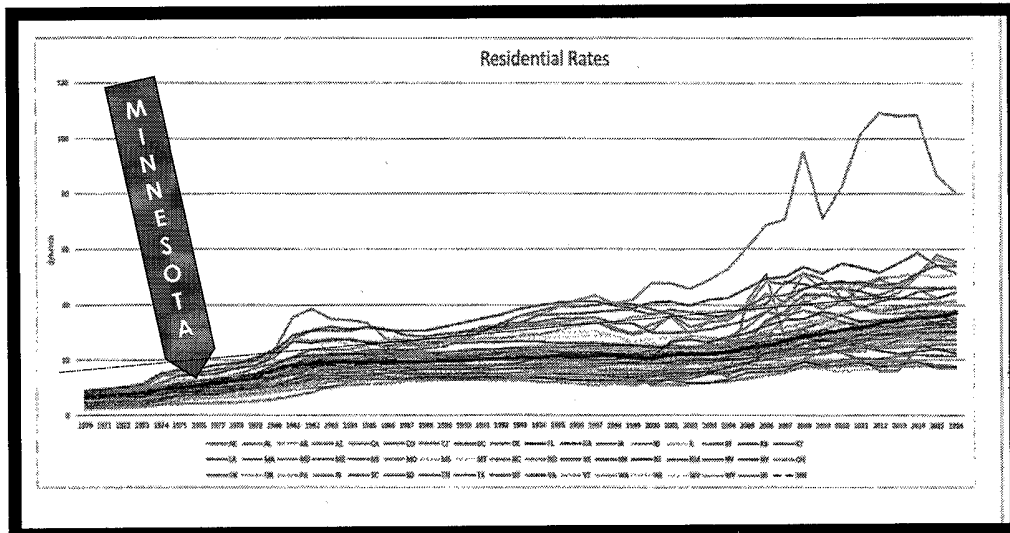
FN 5: Xcel is proposing to extend the operating life of the plant to at least 2040, with an option to extend to 2050



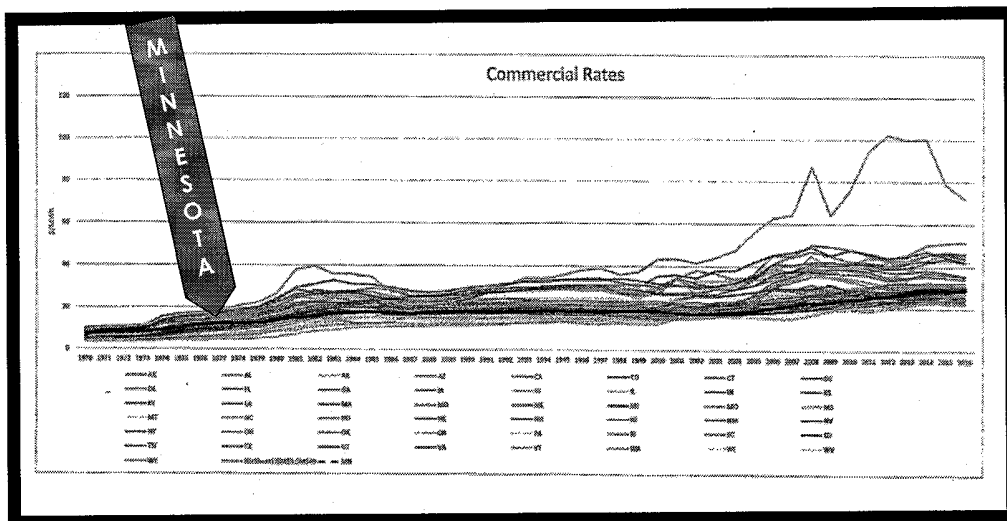
Minnesota Net Electricity Generation by Source, Sep. 2019



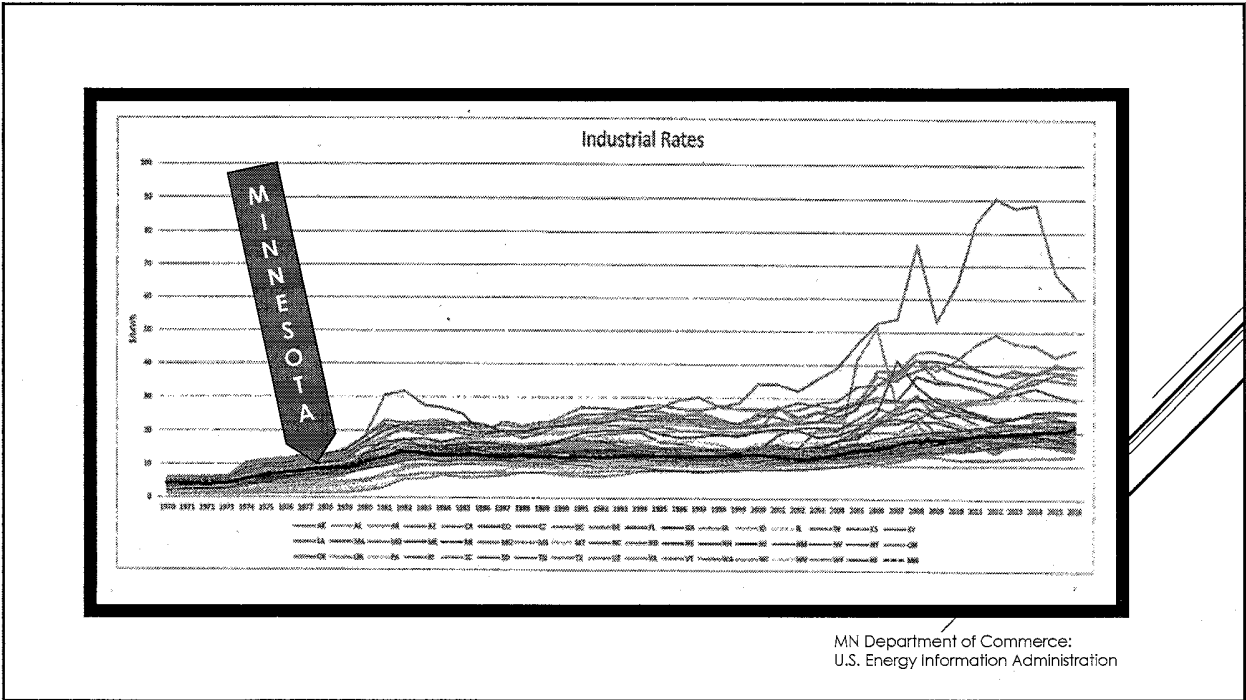
eia Source: Energy Information Administration, Electric Power Monthly




MN Department of Commerce:
U.S. Energy Information Administration



MN Department of Commerce:
U.S. Energy Information Administration



 **PUBLIC OPINION STRATEGIES**

MEMORANDUM

TO: INTERESTED PARTIES

FROM: GLEN BOLGER/JIM HOBART

RE: KEY FINDINGS – SURVEY OF REPUBLICANS AND INDEPENDENTS IN MINNESOTA’S 1ST, 2ND, AND 3RD CONGRESSIONAL DISTRICTS

DATE: MARCH 26, 2018

Methodology
Public Opinion Strategies conducted a telephone survey of Republican and Independent likely voters in Minnesota’s 1st, 2nd, and 3rd congressional districts. The survey was completed with 500 likely voters, with interviews equally distributed across the three congressional districts. Forty-percent (40%) of interviews were conducted with cell-phone respondents. The survey was completed, March 21-24, 2018, and has a margin of error of ±4.38% in 95 out of 100 cases.

Key Findings

1. ***Republicans and Independents in these three key Congressional districts strongly support Minnesota pursuing an all-of-the-above energy strategy.***

Voters were read the following statement:

Minnesota should pursue an all-of-the-above energy strategy, which means lowering our heavy dependence on fossil fuels over time and allowing an increase in electricity generation from renewable energy sources as well as more energy efficiency, and I support taking action to accelerate the development and use of clean energy in Minnesota.

Fully 73% of Republican and Independent voters agree that Minnesota should pursue an all-of-the-above energy strategy, with 34% saying they strongly agree. Just 25% disagree with this statement.

Support for an all of the above energy is consistent with men (71% agree) women (74% agree), and is especially strong with voters age 18-34 (91% agree).

A national post-election survey of 800 voters who participated in the 2018 election.

Voters favor government action to accelerate the development and use of clean energy in the U.S.

A whopping 81% of voters support government action to accelerate the development and use of clean energy in the United States, including over half (54%) who strongly support such action.

Support for such action is bipartisan, with 67% of Republicans, 76% of Independents, and 95% of Democrats in support.

Suburban women (85%) are notably outpacing the topline support for government action to accelerate the use of clean energy in the U.S.



Rochester Public Utilities (RPU) is moving forward with plans to use 100% renewable energy by 2030.

Board members are looking at two options:

- The first provides energy through a combination of wind, solar and hydro. It would require building a combustion turbine as an emergency backup and comes with the price tag of just over \$1 billion.
- The second option also provides energy through wind, solar and hydro ... except it's "fossil free", using battery power as the backup. The emergency supply from batteries may only be able to sustain Rochester for about 4 hours and this option comes with a price tag of \$1.165 billion.

(ABC 6 News)

CLEAN ENERGY IS ONE OF THE FASTEST GROWING SECTORS OF MINNESOTA'S ECONOMY



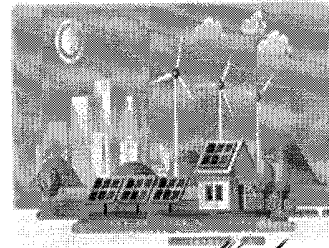
- Presently, clean energy technology is now the lowest cost choice for generating new electricity even without subsidies.
- Supporting a common sense approach in driving clean energy production and innovation will help make Minnesota a "national leader."
- Smart energy policies build on Minnesota's mandated renewable energy standard (RES) which requires most of the state's utilities to obtain 25% of their electricity from renewable sources by 2025.

MN SENATE'S CLEAN ENERGY FIRST LEGISLATION

The core of this legislation is aimed at changing how Minnesota's Public Utility Commission (PUC) make decisions on our future long-term energy needs.

The legislation directs the PUC to consider whether new energy projects proposed by utility companies are in the public interest and now will need to **consider carbon-free technology first.**

The PUC would only be able to approve new fossil-fuel power if the utility is "unable affordably and reliably" to meet its power needs with new carbon-free energy technology first.



SENATE'S - CLEAN ENERGY FIRST LEGISLATION

- Included in the legislation is updating the definitions of carbon-free energy and includes energy storage systems plus power-efficiency technology.
- Nuclear, solar, wind, hydro, carbon sequestration, and municipal solid waste are included for consideration of carbon-free energy.
- The Senate's Clean Energy First legislation allows utilities meet energy needs with a combination of different kinds of carbon-free saving needs.
- The Clean Energy First legislation would ensure research and investment in new technology would progress faster in Minnesota as we transition replacing coal plants with affordable and reliable carbon-free energy.

