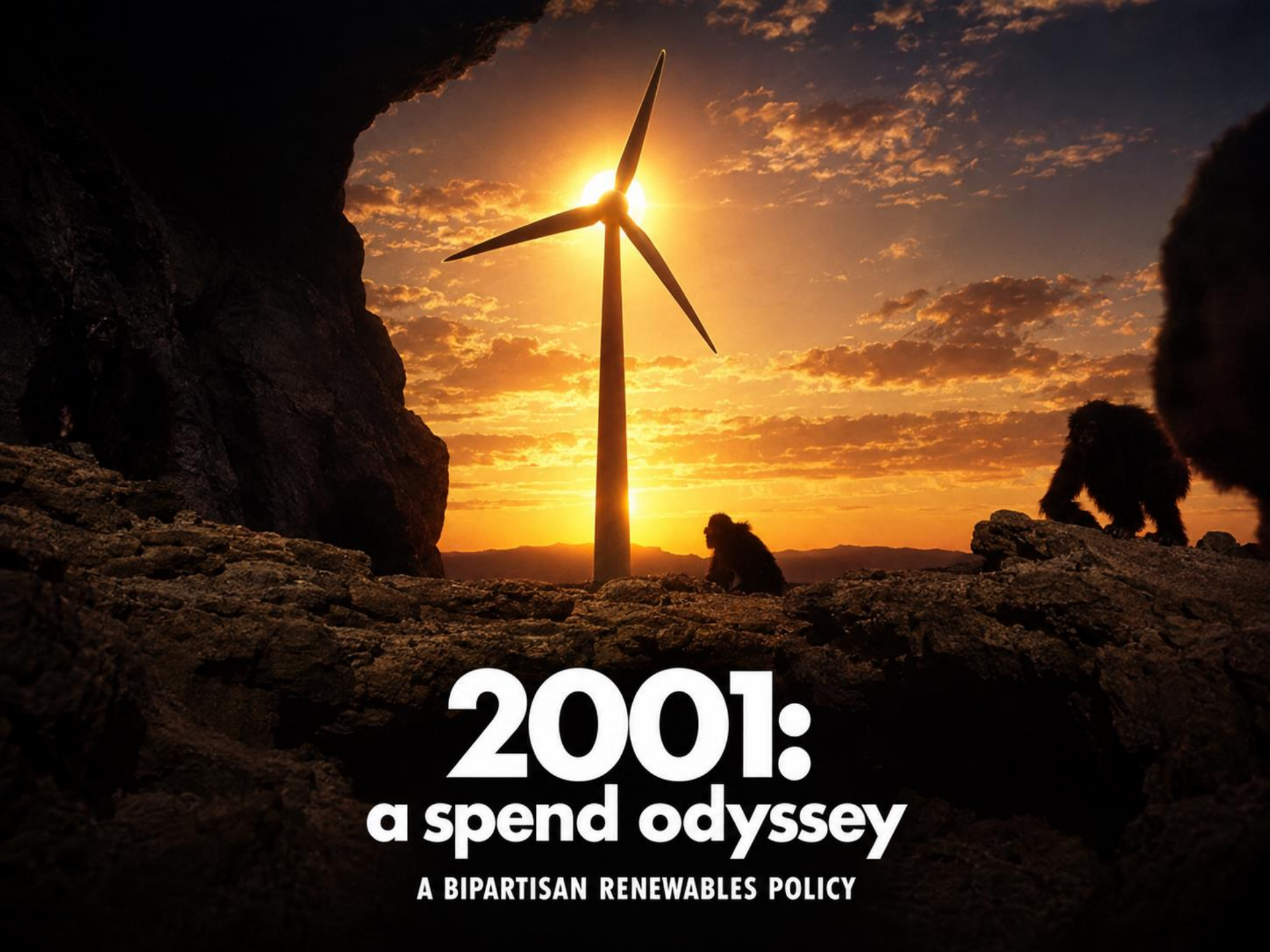


A wind turbine stands on a rocky outcrop, with the sun positioned directly behind its hub, creating a silhouette effect. The sky is filled with orange and yellow clouds from the setting or rising sun. In the foreground, two gorillas are silhouetted against the bright light; one is sitting on the left and another is standing on the right. The overall scene is a surreal juxtaposition of modern renewable energy and prehistoric nature.

2001: a spend odyssey

A BIPARTISAN RENEWABLES POLICY

Introduction



Darren Nelson
Policy Fellow

- I am the Energy Policy Fellow at the Center of the American Experiment. I only started there on June 1, 2026.
- I was a competition policy, public utilities and regulatory economist in Australia for much of my career.
- My thesis is electricity unaffordability has been driven by renewables since 2001 in MN, MW and US.



**ENERGY &
ENVIRONMENT**

Economics



- Scarcity is the fundamental economic problem of having limited resources to satisfy unlimited wants.—Investopedia
- Economics is the science of human action.—Ludwig von Mises
- The economic law of supply and demand is sounder science than the law of gravity in physics.—Me

Source: 2024
University of
Portland Lecture
on Inflation Econ

Economics



- Economics, like all disciplines, have multiple schools of thought.
- Left ones include Keynesianism, Marxism & Environmentalism.
- Center ones include Classical, Neoclassical & Institutional.
- Right ones include Austrian, Chicago & Public Choice.

Source: 2024
University of
Portland Lecture
on Inflation Econ

Economics



- Left economists dominate 21st century energy policy in the West.
- Left energy economists include Malthus, Pigou & Galbraith.
- Center energy economists include Jevons, Coase & Field.
- Right energy economists include Simon, Reisman & Cordato.

Source:
[Ideas Have](#)
[Consequences](#)

Economics



- Highlights from Center Field.
- Abundant & affordable energy fuels greater economic growth.
- Public goods & negative externalities are over emphasized.
- Government failures often initiate, & make worse, market failures.
- Renewables raise prices, reduce energy & require subsidies.

Source:
[Energy](#)
[Economics 101](#)

Popularity



- Recent KSTP/SurveyUSA election poll found inflation 37% out 100%, with fraud 14% & healthcare 12%.
- Inflation was tops for 41% women & 32% men, 45% liberals, 41% moderates & 27% conservatives.
- Recent AE poll also found affordability top, with fraud 45%, healthcare 34% & energy 19%.

Source:
[Affordability](#)
[Election Polls](#)

Popularity



- Recent Pew polls found:
 - Nuke support expanding (Apr '25).
 - Public utilities inflating (May '26).
 - Renewables pop waning (Apr '26).
- Renewables popularity sunk 22% from 79% in 2020 to 57% in 2026.
 - Solar affordability worse for 30%, same for 31% & better for 37%. {61% not better}
 - Wind affordability worse for 28%, same for 35% & better for 34%. {63% not better}

Source:
[Pew Renewables](#)
[Popularity Poll](#)

Mix



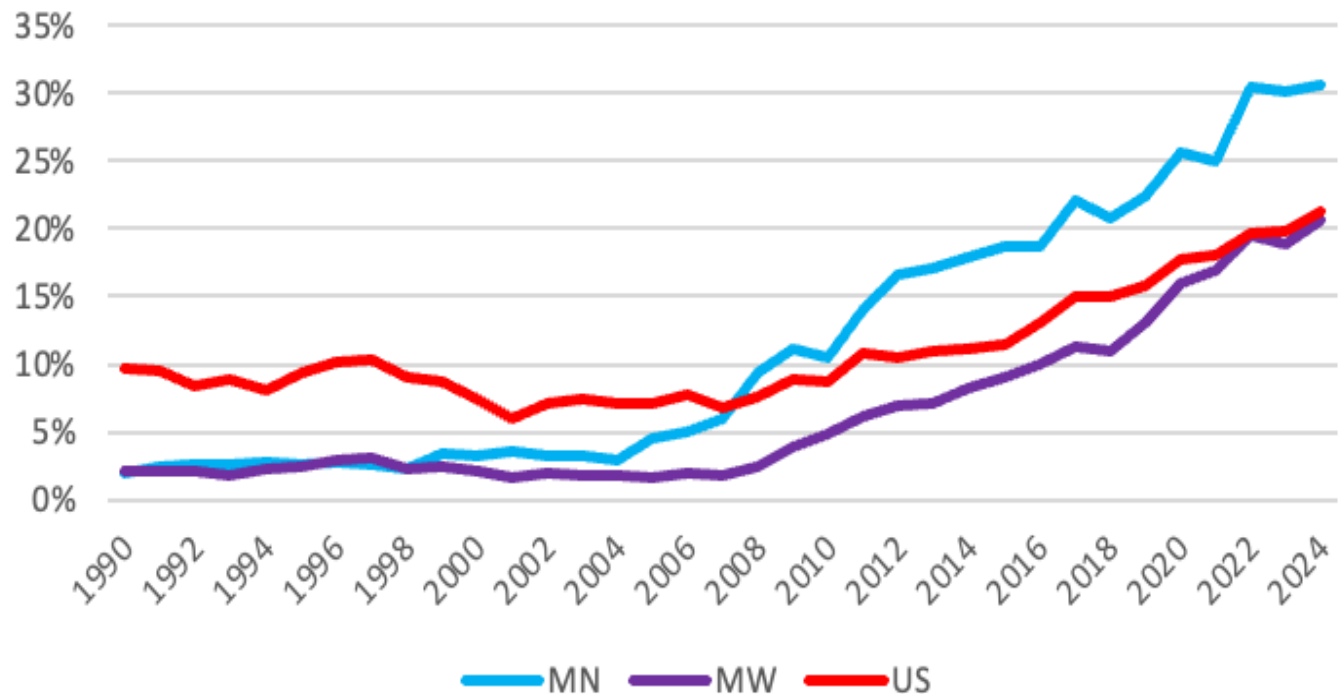
- EIA electricity generation sources for 2002-2004. Renewables include hydro, solar & wind.
 - MN renewables ↑3-31%, nuclear ↓26-20% & fossil ↓67-47%.
 - MW renewables ↑2-21%, nuclear ↓21-20% & fossil ↓75-58%.
 - US renewables ↑7-21%, nuclear ↓20-18% & fossil ↓68-59%.

Source:
[Meteoric Rise in Renewables](#)

Mix



MN-MW-US Electricity Generation (EIA.gov)
Renewables Ratio (Out of 100%)

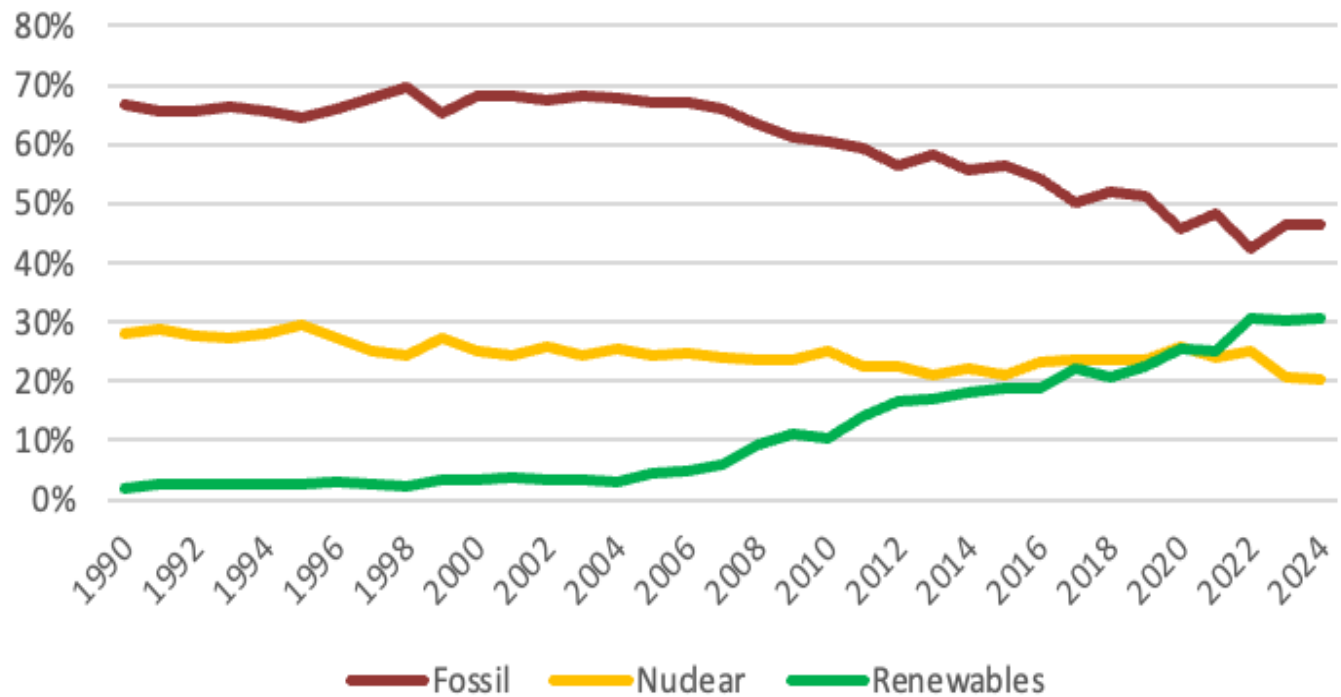


Source:
[Meteoric Rise in Renewables](#)

Mix



MN Electricity Generation (EIA.gov)
Fossil vs Nuclear vs Renewables (Ratio of 100%)

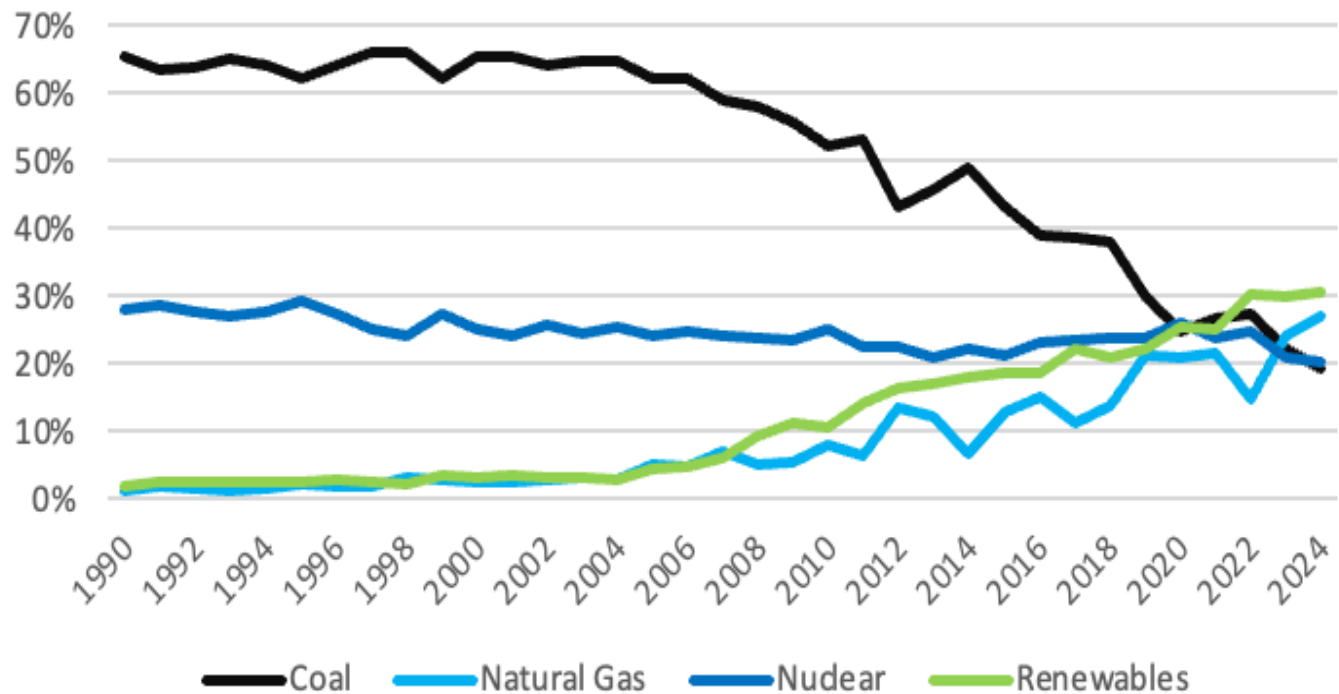


Source:
[Meteoric Rise in Renewables](#)

Mix



MN Electricity Generation (EIA.gov)
Coal vs Natural Gas vs Nuclear vs Renewables (MWh)



Source:
[Renewables are
unreliables](#)

Reliability



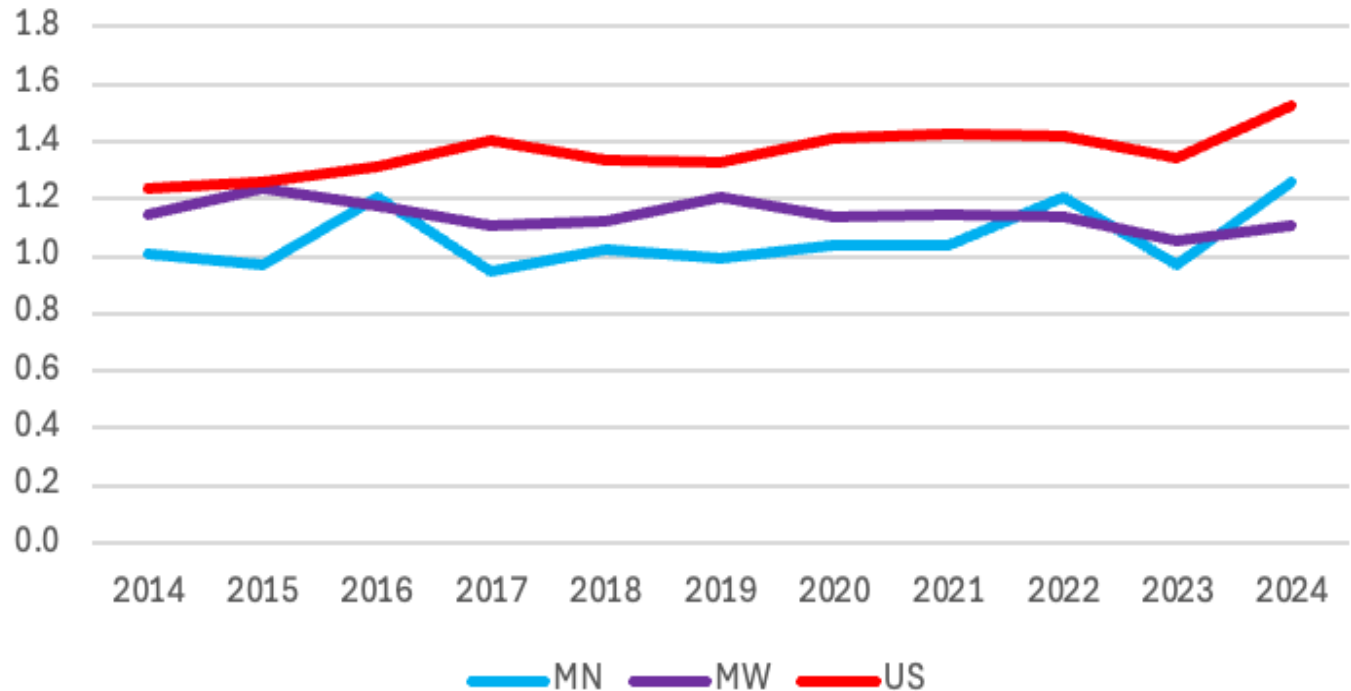
- EIA electricity reliability of SAIFI, SAIDI & CAIDI for 2014-2024.
- MN SAIFI change of 25%, spread of 32% & volatility of 11%.
- MW SAIFI change of -3%, spread of 18% & volatility of 4%.
- US SAIFI change of 23%, spread of 23% & volatility of 6%.

Source:
[Renewables are
unreliables](#)

Reliability



MN-MW-US Electricity Reliability (EIA.gov)
System Average Interruption Frequency Index (SAIFI)



Source:
[Renewables are
unreliables](#)

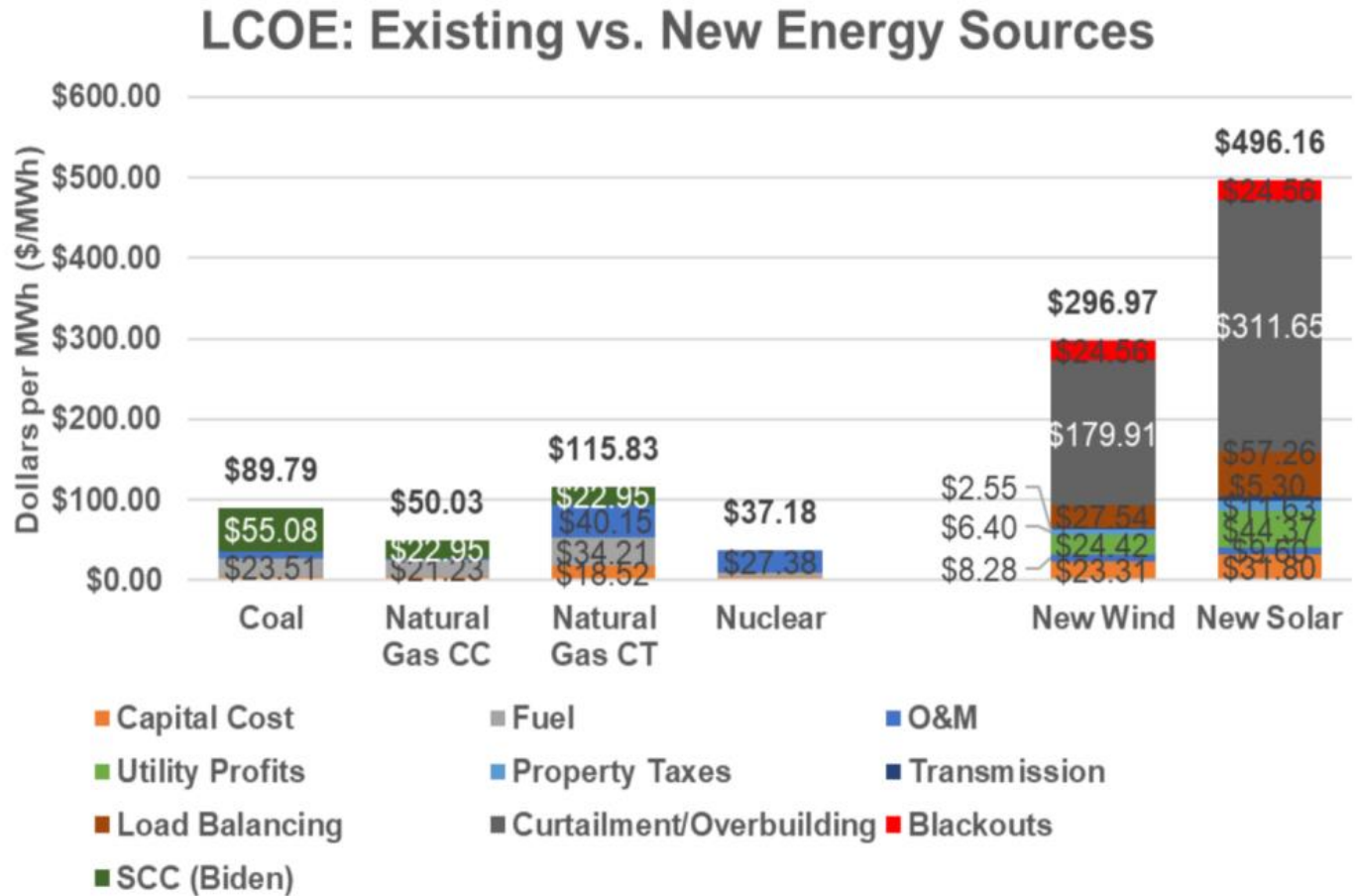
Reliability



- In 2024, Isaac Orr & Mitch Rolling calculated full LCOE with LCOB.
- Nuclear at \$37.18 per MWh was *less expensive*:
 - 1.3x than combined cycle at \$50.03;
 - 2.4x than coal at \$89.79;
 - 3.1x than natural gas at \$115.83;
 - 7.9x than wind at \$296.97; and
 - 13.3x than solar at \$496.16.

Source:
[Nuke the
Mandate. Free
the Nukes!](#)

Reliability



Source:
[Nuke the Mandate. Free the Nukes!](#)

Sustainability



- In 2025, Sarah Montalbano [documented](#) environmental costs of renewables like excessive:
 - mining quantities & varieties, often from polluting foreign sources;
 - land & natural habitat use;
 - wildlife loss & fragmentation;
 - landfill use & hazardous materials;
 - decommissioning & repowering.

Source:
[Nuke the
Mandate. Free
the Nukes!](#)

Sustainability



- MN AG Keith Ellison challenging MN PUC approved ROE & rates rise for renewables driven Xcel.
- Rate base excessive, ROE not:
 - had 9.25%, asked 10.3%, got 9.6%;
 - power utilities range 10.4%→12.4%;
 - other utilities & energy 9.7%→20%;
 - total market & transport 17%→29%;
 - coal -2.5% & renewables -7.4%.

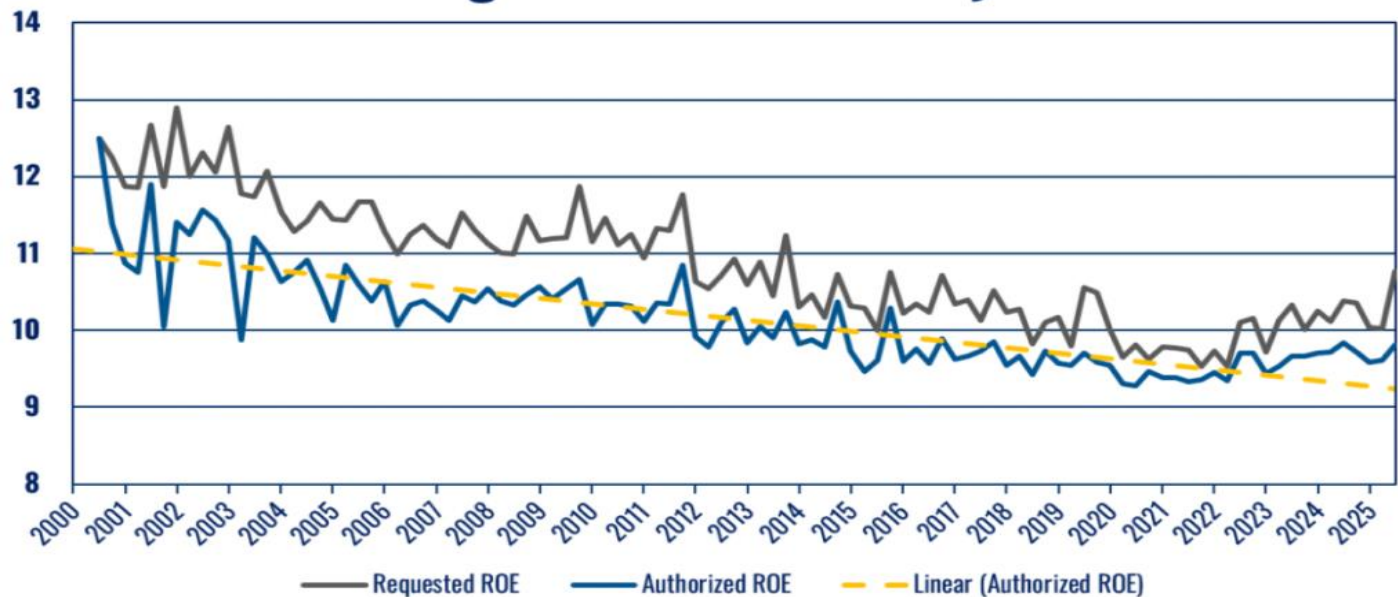
Source:
[Keith Ellison](#)
[challenges PUC](#)

Sustainability



$$\mathbf{R} = \mathbf{O\&M} + \mathbf{D} + \mathbf{T} + \mathbf{Rb}$$

Average U.S. Electric Utility ROE



Source: S&P Global Market Intelligence, Regulatory Research Associates

Figure 3: Average U.S. Electric Utility ROE¹⁶

Source:
[Keith Ellison](#)
[challenges PUC](#)

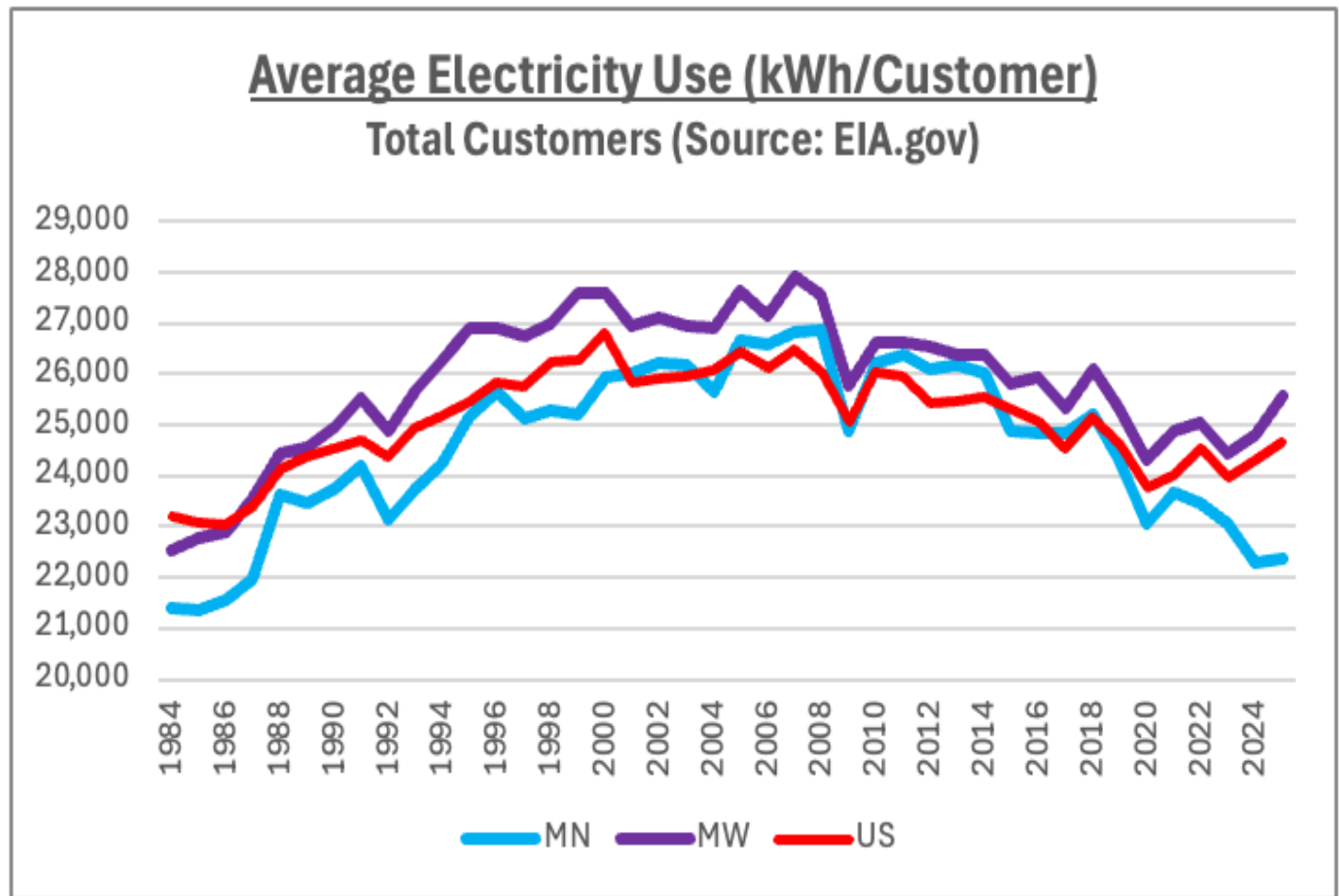
Usage



- EIA electricity use per residential, commercial & industrial customer.
- MN use grew +25% in 1984-2007 & use shrunk -17% in 2008-2025.
- MW use grew +24% in 1984-2007 & use shrunk -7.1% in 2008-2025.
- US use grew +14% in 1984-2007 & use shrunk -5.3% in 2008-2025.

Source:
[Electricity Use Shrinks](#)

Usage



Source:
[Electricity Use Shrinks](#)

Affordability



- 2024 University of Chicago study.
- RPS caused electricity price increases of 11% after 7 years & 17% after 12 years.
- Electricity prices start to rise due to RPS from 2002 onwards, after declining from 1990 until then.
- Renewables, franchise monopolies & PUCs drove this.

Source:
[University of Chicago](#)
[Renewable Study](#)

Affordability



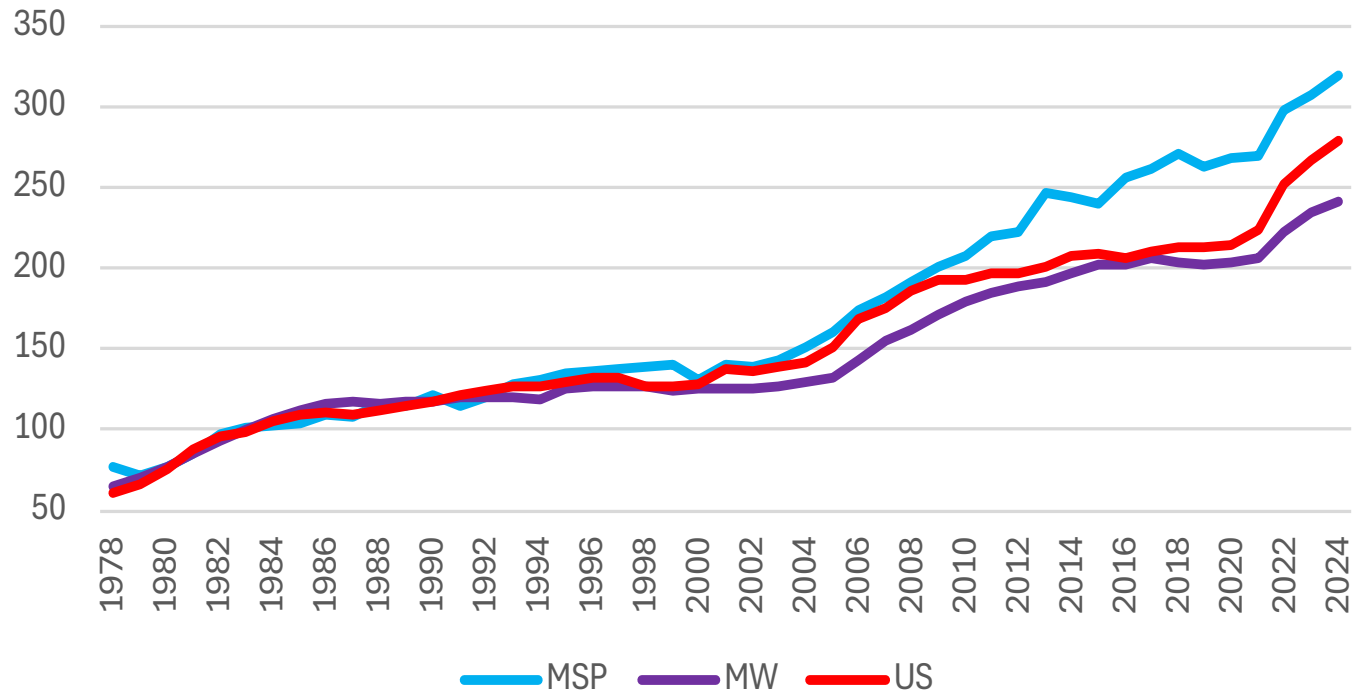
- BLS electricity CPI for MSP, MW & US skyrockets from 2002-2024.
- MSP inflation of 131%, volatility of 23% & misery of 154%.
- MW inflation of 92%, volatility of 19% & misery of 111%.
- US inflation of 105%, volatility of 19% & misery of 124%.

Source:
[Renewables](#)
[Raise Electricity](#)
[Inflation](#)

Affordability



Electricity Consumer Price Index (BLS.gov)
Twin Cities vs Midwest vs US (100=1982-84)



Source:
[Renewables](#)
[Raise Electricity](#)
[Inflation](#)

Affordability



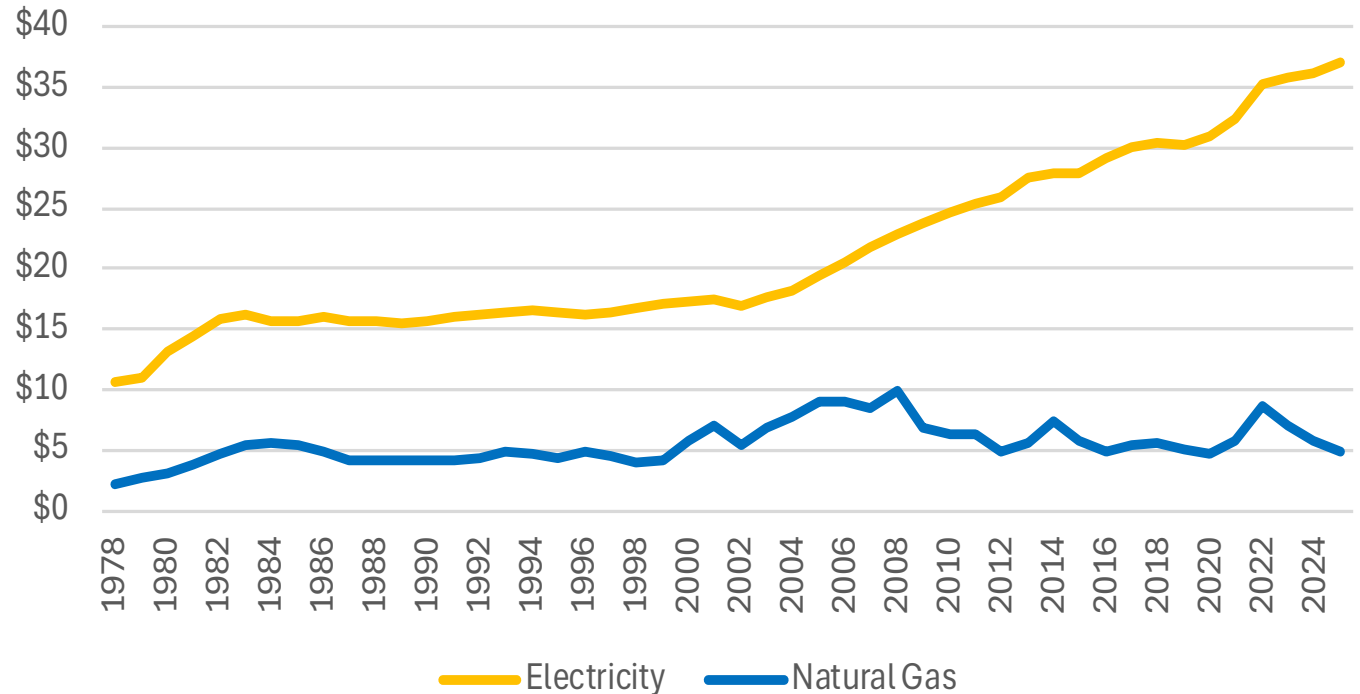
- EIA electricity v natural gas prices takes off for MN in 2002-2025.
- Electric inflation of 113%, volatility of 22% & misery of 135%.
- Natural gas inflation of -9%, volatility of 23% & misery of 14%.
- E/NG prices ratio inflation of MN 444%, MW 195% & US 170%.

Source:
[Renewables](#)
[Raise Electricity](#)
[Prices](#)

Affordability



MN Energy Prices (EIA.gov)
Electricity vs Natural Gas (\$/MMBtu)



Source:
[Renewables](#)
[Raise Electricity](#)
[Prices](#)

Conclusion



Darren Nelson
Policy Fellow

- Economic theory & statistical data both confirm what President Barack Obama said in January 2008:
 - “Under my plan ... electricity rates would necessarily skyrocket.”
- The Right have always seen this as bad.
- The Center and Left appear to increasingly see this as bad too.



**ENERGY &
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Postings



Darren Nelson
Policy Fellow



ENERGY &
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Electricity	Natural Gas	Other
Renewables reliability	End two bans	ENREnomics 101
Nuclear moratorium	Natural gas fraud	PUC challenge
Nuclear submission	Natural gas ban	Affordability poll
Renewables generation	CenterPoint gas ban	NIMBYnomics 101
Renewables inflation	Xcel gas ban	Renewables poll
Nuclear study	Energy volatility	Electricity 101
Data centers	Energy misery index	PUC deep state
PUC black box	Natural gas affordability	DFL & GOP policies
Electricity affordability	Natural gas innovation	Energy poll
German nuclear	Heat pumps	NARUC conference
Ideas have consequences		
57 Postings = 43 Essays + 14 News		