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MICHIGAN'S CLIMATE GOALS AT A CROSSROADS

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INTRODUCTION

Many states have had great early success in cutting their carbon emissions since enacting ambitious net-zero targets at the start of the 2020s. The declines occurred thanks mostly to the switch from coal to natural gas, though heavy investments in solar, driven by Biden-era tax credits, also played a role.

Today, those states are now grappling with rising demand, rising prices, and the Trump administration's hostility to renewable development. This is necessitating a fresh look at the climate goals set in a much different economic and political time.

Passed and signed into law at the end of 2023, Michigan's Clean Energy Future Plan mandates 100% clean energy by 2040. This aggressive timeline in the face of increasing load demand and rising costs now risks energy reliability and economic repercussions in a state whose energy-intensive automotive manufacturing industry makes up two-fifths of the state's GDP.

By switching from coal to gas generation, Michigan has cut carbon emissions by two-thirds since 2005. This rate was faster (1.6% per year) than across the country as a whole (1.2% per year). Cool summers increase residential efficiency, lowering the state's per capita energy consumption to 9% below the national average. Michigan's total per capita energy spending is 11% below the national average.

Michigan is the country's eleventh-largest electricity generator and exports surplus power to neighboring states. Fossil fuels accounted for 67% of in-state generation in 2023, and the proportion had decreased only slightly from 70% in 2005. Coal-fired generation has been cut by two-thirds, mostly replaced by gas, which has increased fourfold. Non-fossil generation comes mostly from nuclear, but the share from wind and solar has grown fast. Nuclear generation has fallen in recent years following the shutdown of the Palisades nuclear power plant for decommissioning in 2022. But plans to re-open Palisades are at an advanced stage. The facility has received new fuel assemblies, and the main turbine generator and cooling systems are being refurbished. Reopening the Palisades nuclear power plant, targeted for 2026, promises 800MW of new, carbon-free firm generation.

Despite these positive developments, Michigan faces a looming supply-demand collision. As demand grows through data center development and policy-driven electrification efforts for EVs and heat pumps, firm supply must keep pace with the growth. Advocates of closing firm and efficient natural gas generation in the face of rising demand are ignoring the looming economic and climate ramifications.

Policies that accelerate reductions in firm generation without replacements make energy more expensive, threatening the core manufacturing base of the state. This is neither economically nor politically wise. Driving jobs from the state to areas with more affordable energy is a recipe for disaster for the climate and for the economy.

Fortunately, there is an off-ramp. The Clean Energy Plan offers a mechanism to delay closures of needed generation if it is required to meet demand. Michigan can take this offramp while continuing to reduce carbon emissions through coal-to-gas switching and accelerating renewable development. To ignore this opportunity risks political blowback that only worsens the likelihood of reducing emissions.

AMBITIOUS MANDATES MEET REALITY

Even a brief glance at Michigan's current generation mix makes plain that the Clean Energy Future Plan goals are beyond reach without a dramatic, expensive, and unlikely shift in power sources and consumer habits.

Renewable Generation: MI aims to reach 60% renewables by 2030. Currently, renewable, excluding hydro, account for just 7% to 11% of the state's power.

Electric vehicles: MI aims to have 2 million EVs on the road by 2030. As of Nov 2025, there were only 120,917 active EV and PHEV registrations.

Grid Capacity: MI is aiming for 100% clean generation by 2040, but MISO is warning of insufficient capacity by 2028.

Policy makers must be honest with themselves and voters when looking ahead. A pragmatic approach should be the path forward that continues the state's progress in reducing emissions without putting workers out of their jobs and without driving manufacturers to other states with more reasonable policies.

POLICY RECOMMENDATIONS

Maintain Natural Gas for Critical Reliability: Premature retirement of efficient gas plants threatens industrial strength, jobs, and energy affordability for all Michigan residents.

Leverage Firm Baseload: Beyond the refurbishment of Palisades, Michigan should lead in the deployment of Small Modular Reactors for clean, carbon-free baseload power. This reliable baseload power enables additional renewable generation development without risking reliability and spiking costs.

Re-evaluate and Scale the EV Mandate: The goal of 2 million EVs by 2030 is currently misaligned with the reality of roughly 120,000 EVs on the road in 2025. Continued investments in charging infrastructure are needed to encourage new EV adoption. However, clinging to unrealistic mandates risks a political backlash to the entire endeavor.

CONCLUSION

The overarching requirement for Michigan's energy policy is a pivot toward outcomes, specifically emissions per capita, rather than rigid technological fuel-mix mandates. Michigan is already an efficiency leader; the state's energy-related CO2 emissions stand at 14.0 metric tons per capita, already lower than the U.S. average of 14.2 metric tons.

To maintain this leadership without jeopardizing the automotive manufacturing sector, policy should prioritize firm, non-intermittent power. Whether through the pragmatic use of legislative off-ramps or a market-driven infrastructure overhaul, Michigan must secure a diverse energy portfolio. The state cannot afford to let ideological mandates override the physical reality of a 90GW average demand and a 2028 MISO capacity shortfall. Success will be measured by Michigan's ability to remain an affordable, reliable, and competitive industrial leader.

APPENDIX:
MICHIGAN STATE ENERGY CONSUMPTION AND EMISSIONS

Michigan's energy consumption per person is well below the national average, and emissions are slightly below, according to data from the U.S. Energy Information Administration.[1] Coal-fired generation has been cut by two-thirds since 2005, replaced by gas and, to a lesser extent, wind. More gas-fired generation is under construction and will come online in the next few years. Nuclear generation has fallen following the shutdown of the Palisades nuclear power plant for decommissioning in 2022 but plans to re-open are at an advanced stage. Total spending per person on electricity, gas and gasoline is more than 10% below the national average. But the state's economy is energy-intensive, with motor manufacturing accounting for nearly two-fifths of GDP. Spending is high relative to the modest valuation of economic output.

Michigan's total emissions rank (10th) in line with its population (10th) but a bit higher than the size of its economy (14th). The state has been more successful than most at lowering them in the last two decades. Emissions were cut to 141 million metric tons in 2023 from 190 million in 2005. The decline was faster (1.6% per year) than across the country as a whole (1.2% per year), mostly because gas has replaced coal-fired electricity generation, while population has been flat.

Emissions per person are aligned with the national average and have fallen at a similar rate to the country as a whole. Per capita emissions were cut to 14 tons in 2023 from 19 tons in 2005. Emissions per person ranked 25th, making Michigan the median state. Emissions were about the same as Australia (14 tons) and Canada (15 tons), but much higher than Germany (7 tons) or Japan (8 tons).[2]

Emissions are relatively high in relation to the size of the economy because of its industrial structure. Michigan's principal economic activity is auto manufacturing which is very energy-intensive. Motor vehicle and parts manufacturing accounts for nearly two-fifths of state GDP. The state emitted 255 tons for every $1 million of output in 2023 down from 385 tons in 2005, after adjusting for inflation. But emissions per $1 million of output were more than 20% above the national average (211 tons). Michigan emits almost three times as much CO_2 as New York and twice as much as Connecticut to produce the same amount of output.

The state has made average progress in reducing the carbon intensity of its energy system. Fossil fuels accounted for 82% of primary energy consumption in 2023, down only marginally from 85% in 2005, but there has been a shift to lower-emission gas from oil and especially coal. As a result, Michigan emitted 52 metric tons of CO_2 for every 1

[1] Unless stated otherwise, all the data and rankings in this profile are taken from the most recent online edition of the State Energy Data System (SEDS) published by the U.S. Energy Information Administration and cover energy consumption and emissions through 2023. Emissions are restricted to carbon dioxide (CO_2) from combustion of fossil fuels, excluding fugitive methane, other greenhouse gases, and emissions from land use, land-use change and forestry.

[2] International comparisons are taken from the Emissions Database for Global Atmospheric Research (EDGAR) published by the Joint Research Centre of the European Union.

billion British thermal units of energy supplied in 2023, down from 60 tons in 2005. Carbon intensity is only marginally above the national average (51 tons) but well above low-carbon leaders Vermont (38 tons), New Hampshire (39 tons) and South Carolina (40 tons).

Michigan is the country's eleventh-largest electricity generator and exports surplus power to neighboring states. Fossil fuels accounted for 67% of in-state generation in 2023, and the proportion had decreased only slightly from 70% in 2005. Coal-fired generation has been cut by two-thirds, mostly replaced by gas, which has increased fourfold. Non-fossil generation comes mostly from nuclear but the share from wind and solar has grown fast. Nuclear generation has fallen in recent years following the shutdown of the Palisades nuclear power plant for decommissioning in 2022. But plans to re-open Palisades are at an advanced stage. The facility has received new fuel assemblies, and the main turbine generator and cooling systems are being refurbished.[3]

ENERGY CONSUMPTION

Energy consumption per person (252 million British thermal units) was 9% *below* the national average (278 million BTUs) in 2023. But the state consumed about 11% *more* energy to produce each $1 million of output (4.59 billion BTU) than the national average (4.13 billion BTU) because of its concentration on motor manufacturing. Since 2005, the state has been falling further behind in terms of energy intensity, with energy consumption per unit of output declining more slowly (1.9% per year) than the country as a whole (2.2% per year).

Michigan is moderately urbanized. Population density (178 inhabitants per square mile) is nearly double the national average (94), putting it towards the middle of the pack (18th). At the time of the last Census in 2020, just under 74% of the population lived in areas classified as urban by the U.S. Census Bureau, compared with 80% across the country as a whole. A much higher share of people live in single-family homes (71%) than in the country as a whole (62%). The share is much higher than New York (40%), California (57%), Illinois (57%), Florida (58%), or Pennsylvania (60%). Larger dwellings use more energy for heating, cooling, lighting, and power, other things being equal. But that impact of larger dwellings is offset by the state's relatively cool summers, which keep air conditioning demand low.

Michigan's highways recorded 98 billion vehicle-miles traveled in 2023, ranking 10th in the country, in line with the state's population. The volume of driving (9,748 vehicle miles per resident) was almost exactly in line with the nationwide average (9,640). Michigan has a low level of transit use because of its moderate rate of urbanization and low intra-urban density. Nonetheless, state residents consumed less oil (16 barrels per person per year) than in the country as a whole (22 barrels). Michigan's oil consumption per person (42nd) is among the lowest in the nation, which keeps energy spending down.

[3] *New Fuel Arrives at Palisades to Power Its Imminent Restart* (Holtec International, 20 October 2025).

Residential electricity prices (19.3 cents per kilowatt hour) were 17% higher than across the country as a whole (16.5 cents) in 2023. But residential use ranked fairly low (43rd) (3,226 kilowatt-hours per person) and 25% below the average (4,305 kWh per person) in 2023 keeping bills down. Summers are cooler than in most other states, reducing air conditioning. Residential electricity consumption per person has declined at an average annual rate of 0.6% since 2005 as a result of efficiency improvements.

Gas consumption by all sectors, including generators, increased by almost a fifth to 110 million BTU per person in 2023 from 92 million in 2005. Per capita gas use is high (17th) and 9% above the average (100 million BTU). Cold winters boost gas consumption for heating. Gas use per person has increased at an average annual rate of 1.0% since 2005 as a result of the increase in gas-fired generation. But residential gas prices ($10.80 per thousand cubic feet) are about 25% below the national average ($14.60), keeping bills low.

Total energy prices for electricity, gas and gasoline are about 5% below the national average. Total spending per person is about 11% below average. As a result, residents spend about $500 per year less on energy than is typical across the country. But spending is high in relation to the state's low GDP. Spending as a share of the state's economic output is 10% above average. Energy costs absorb more than 6.2% of state GDP compared with 5.7% in the United States as a whole.

RECENT DEVELOPMENTS IN ELECTRICITY PRICES (2019-2025)

Since 2019, Michigan's electricity prices have increased more slowly than most other states. Retail prices for residential customers increased by almost 23% between 2019 and 2024. But nearly all the increase was attributable to inflation, with the consumer price index excluding volatile food and energy items up by more than 21%. In real terms, residential prices increased by 1% compared with an increase of more than 4% nationwide. Real power prices have risen more slowly (0.2% per year) than large states such as Texas (1.0% per year), Pennsylvania (1.2% per year), Ohio (1.3% per year), New York (2.4% per year), and California (6.6% per year).

Michigan is part of the transmission area and wholesale electricity market covered by the Midcontinent Independent System Operator (MISO). So far, the region has been less affected than others by the growth of data centers. Nonetheless, capacity constraints are expected to emerge as large loads are added faster than new generation. There is a high risk that the region will have insufficient generation capacity by 2028, according to the North American Electric Reliability Corporation (NERC).[4]

Upward pressure on electricity prices is starting to emerge. Wholesale power costs increased sharply during the summer of 2025 as MISO paid much more to procure enough generation capacity.[5] Rising wholesale costs are filtering through to higher

[4] *Long-Term Reliability Assessment* (North American Electric Reliability Corporation, 29 January 2026).
[5] *MISO Quarterly Report* (Potomac Economics, 15 January 2026).

residential rates. Residential prices jumped by 4% in the first eleven months of 2025 compared with the same period in 2024.

ABOUT THE AUTHORS

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Neel is Managing Director at PPI where he helped build the Energy and Climate Solutions Initiative, which is widely respected and relied on by Members of Congress, Senators, and their staff for pragmatic proposals and solutions.

Neel is deeply engaged in PPI's international efforts, frequently engaging with policymakers and think tanks in Europe on energy issues and other policy and political topics.

Before joining PPI, Neel was the President of Legis Media, an advocacy communications firm that he founded in 2004. He has extensive experience in advocacy advertising, grassroots organization, and coalition building. He spent over seven years working on Capitol Hill and political campaigns.

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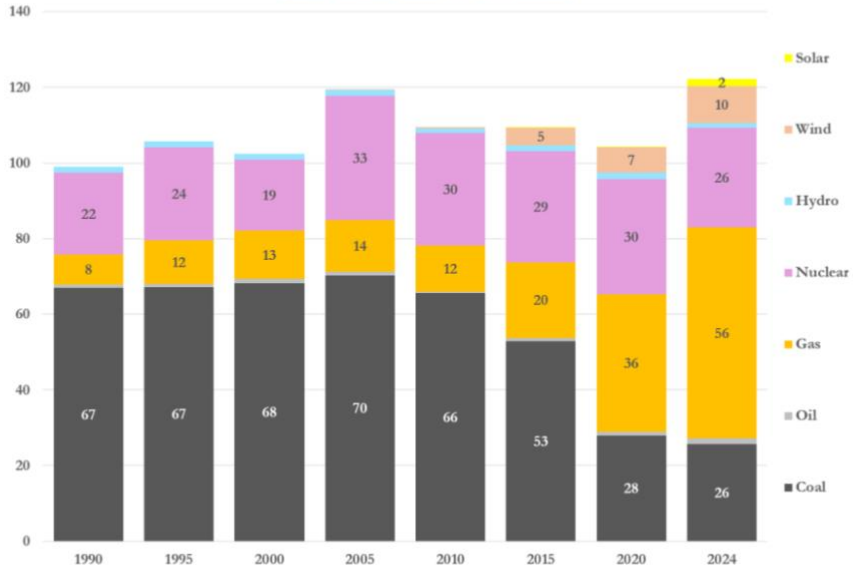
He curates a daily digest of "Best in Energy" news and research from all sources sent via email to more than 15,000 energy market professionals with readership over 13,000 per week.

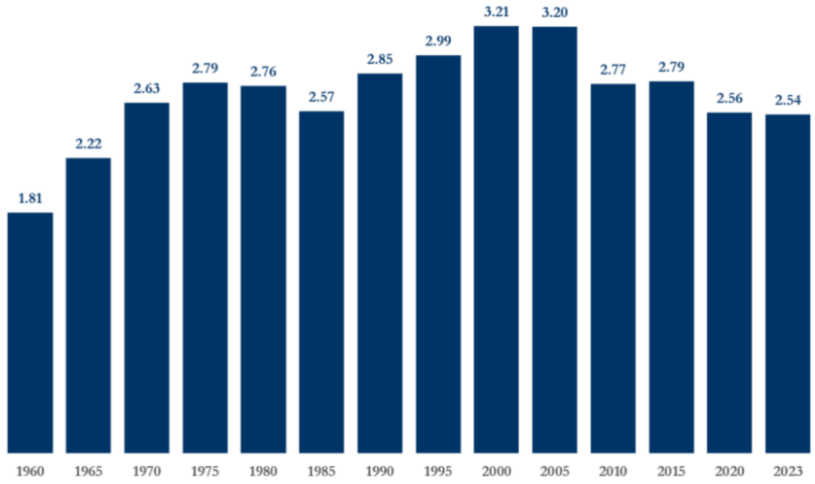
He also publishes a newsletter three times a week analyzing major developments across most sources (oil, gas, coal, renewables and electricity) and regions (North America, Europe, China, India, Southeast Asia and Latin America).

Figure 1: Michigan state electricity generation, 1990-2024
billion kilowatt-hours (TWh), annual



Source: Electric Power Annual (U.S. Energy Information Administration, 2025)

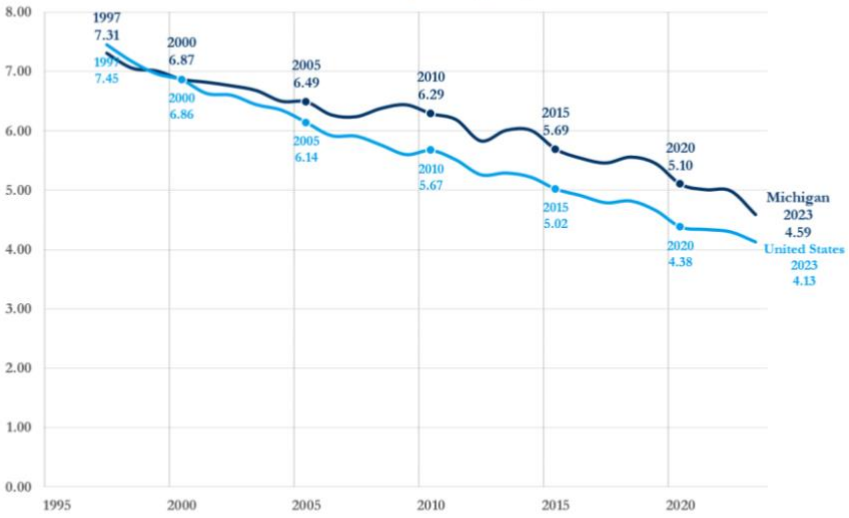
Figure 2: Michigan state energy consumption, 1965-2023
quadrillion British thermal units per year



Source: State Energy Data System (U.S. Energy Information Administration, 2024)

Figure 3: Michigan state energy-intensity of GDP, 1995-2023

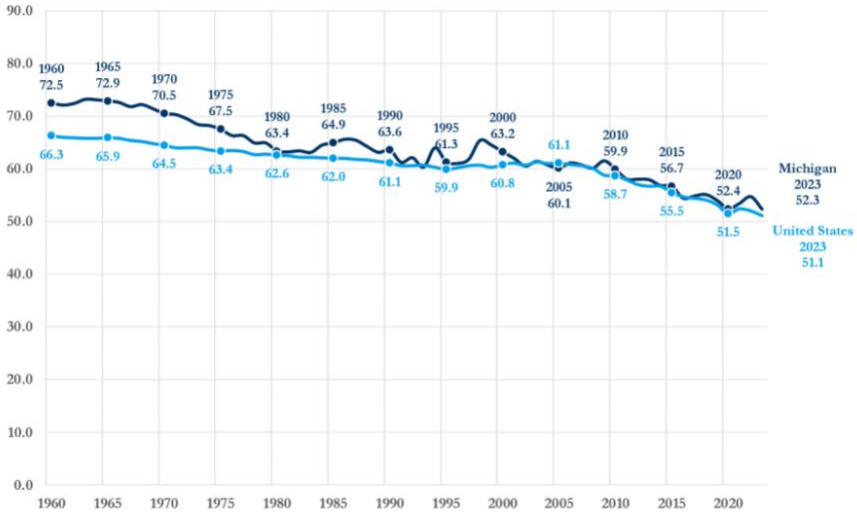
thousand BTUs per U.S.$ (2017) of GDP



Source: State Energy Data System (U.S. Energy Information Administration, 2024)

Figure 4: Michigan state emissions-intensity of energy, 1960-2023

metric tonnes of carbon dioxide per billion British thermal units



Source: State Energy Data System (U.S. Energy Information Administration, 2024)

Figure 5: State-level energy-related carbon dioxide emissions in 2023
metric tons per U.S.$(2017) 1 million