Consumers Energy
Count on Us®

2021 Clean Energy Plan

EXECUTIVE SUMMARY

Leading Michigan's Clean Energy Transformation

Landmark plan provides reliable electric supply, ends coal use to protect planet

Solar Gardens power plant at Grand Valley State University.

In June 2021, Consumers Energy filed a sweeping proposal **to end coal use by 2025** — 15 years faster than the current timeline.

The plan positions our company as a national leader in the clean energy transition and provides a 20-year blueprint to:

- Supply cleaner electricity faster and more reliably to our state's homes and businesses over the next 20 years.
- Protect the environment for generations of Michiganders.
- Ensure affordability in the transition.

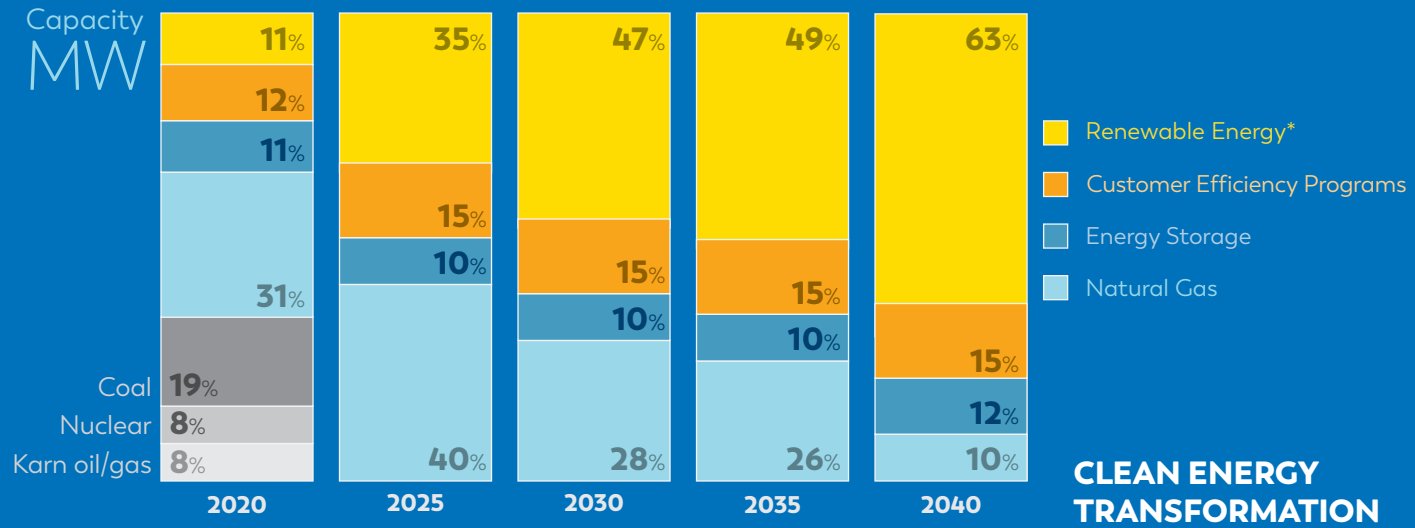
The proposal — an update of our Clean Energy Plan requiring regulatory approval — focuses heavily on increasing renewable energy and energy efficiency to meet Michigan's energy needs and to continue the journey to net zero carbon emissions by 2040.

Accelerating retirements of our remaining coal-fired power plants will help Michigan's environment over the life of the plan by:

- Reducing carbon dioxide (CO_2) emissions by more than 63 million tons. That's the equivalent of taking 12.4 million passenger vehicles off the road for one year.
- Dramatically reducing emissions by criteria pollutants such as sulfur dioxide (SO_2), nitrogen oxides (NOx), mercury and particulate matter.
- Avoiding more than 220 billion gallons of water usage from our system each year.
- Avoiding more than 3 billion cubic yards of coal ash waste from our system.

> Our Clean Energy Plan focuses heavily on increasing renewable energy and energy efficiency to meet Michigan's energy needs and to continue the journey to net zero carbon emissions by 2040.

Electric Capacity by Fuel Source



*Does not include renewable energy credits.

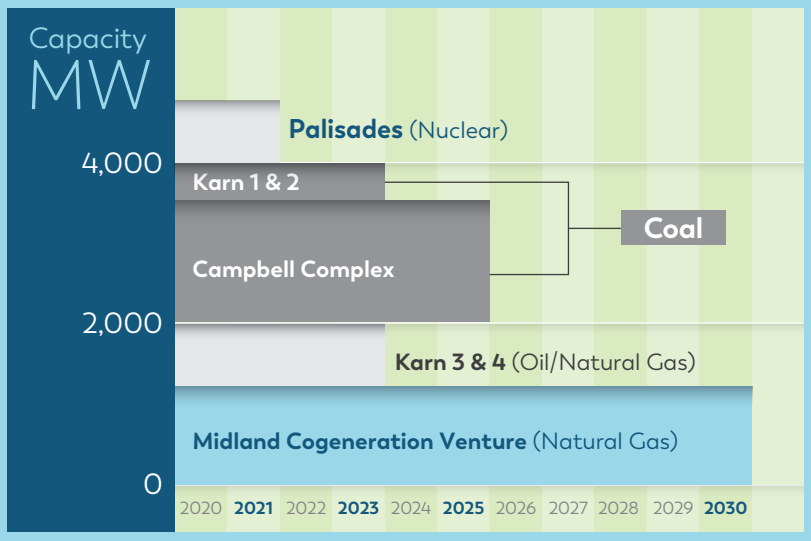
CLEAN ENERGY TRANSFORMATION

The Clean Energy Plan is a sea change that will transform our operations and create a brighter energy future for Michigan.

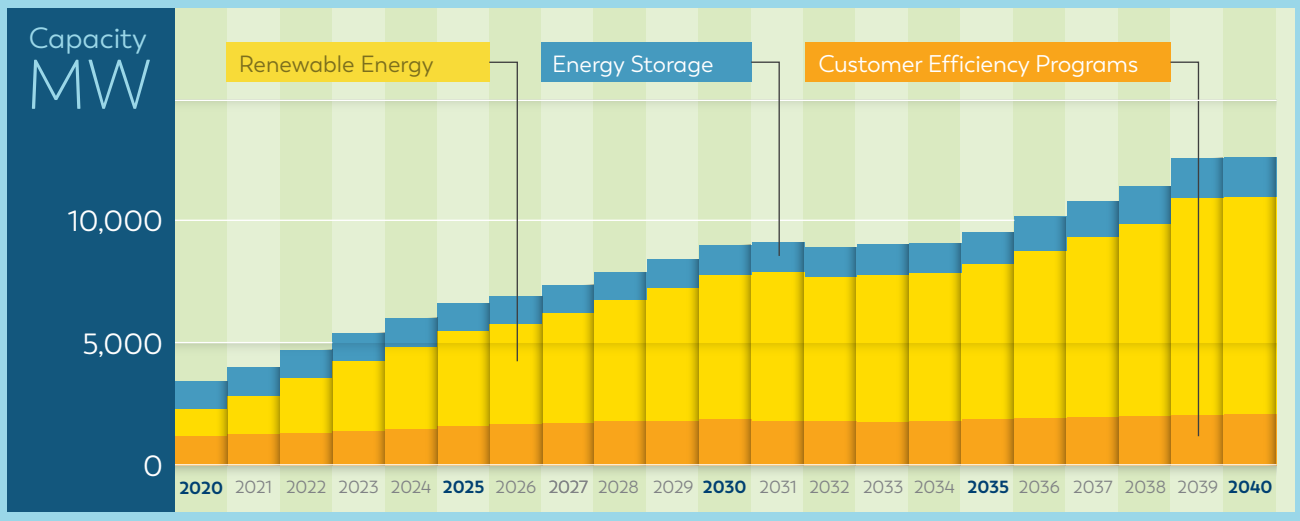
Accelerating the end of coal use to 2025, dramatically boosting the contribution of solar energy and using natural gas as a bridge fuel will help us meet the state's energy needs reliably while protecting the environment for generations to come.

By 2040, clean, renewable fuel sources such as solar and wind will comprise more than 60 percent of our electric capacity. Combining that growth with advances in energy storage and customer efficiency will allow us to meet customers' needs with 90 percent clean energy resources.

Ending an Era



Powering Michigan's Future



PLAN HIGHLIGHTS

Eliminate coal

All coal-fired plants would be retired by 2025. Ending the use of coal as a fuel source for electricity will improve air quality, cut greenhouse gas emissions and save water.

More renewable energy

By 2040, more than 60 percent of our electric capacity will come from renewable sources. We've already begun tapping more solar power and plan to add nearly 8,000 megawatts by 2040

Net zero emissions

Our plan keeps us on course to eliminate the impact of carbon emissions created by the electricity we generate or purchase for customers by 2040.

A smarter grid

Energy efficiency, demand response and emerging technologies such as grid modernization and battery storage will help us lower peak customer demand for electricity and deliver exactly what Michigan needs.

More control and savings for customers

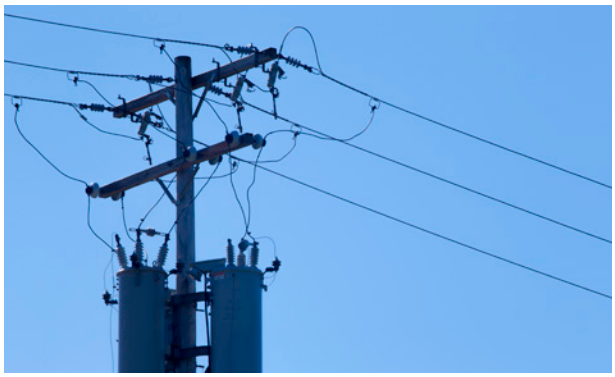
We'll provide customers with the power to reduce energy waste and lower bills through energy efficiency and demand response programs. Their participation is key to our success.

Flexible strategy

Our plan is designed to respond to emerging needs, adapt to changing conditions and embrace emerging innovative technologies as we work to achieve net zero carbon emissions.

Affordability

Our plan creates price stability and will save customers about $650 million through 2040 compared to our current plan.



Karn Generating Complex

ENDING THE COAL ERA

If approved by the Michigan Public Service Commission, the updated plan would speed the closure of our three coal-fired units at the Campbell generating complex near Holland.

- Campbell 1 and 2, collectively capable of producing more than 600 megawatts of electricity, would retire in 2025 — roughly six years sooner than their scheduled design lives.
- Campbell 3, capable of generating 840 megawatts, would also retire in 2025 — roughly 15 years sooner than its scheduled design life.

The company previously announced plans to accelerate retirement of two coal-fired units at the Karn generating complex near Bay City in 2023. The updated proposal also calls for moving up closure of Karn 3 and 4, units that run on natural gas and fuel oil and can generate more than 1,100 MW to meet peak demand, to 2023 — about eight years sooner than their design lives.

Since 2016, we've retired seven coal-fired units at three sites: the Weadock Plant near Bay City, the Cobb Plant in Muskegon and the Whiting Plant in Luna Pier.

Consumers Energy is committed to a just transition away from coal as a fuel source for electricity. We supported employees and communities impacted by our 2016 coal retirements by finding new roles for workers who wanted to stay, fulfilling our environmental responsibilities at the sites and helping local leaders pursue new economic possibilities. We plan to follow the same philosophy to help those affected by the proposed Campbell and Karn retirements. About 310 people work on site at the Campbell complex and about 200 work on site at the Karn complex.

EXPANDING RENEWABLES

Tapping clean, renewable fuel sources for electricity — especially solar power — is the key to building a brighter energy future for Michigan. That's why our plan dramatically expands the amount of renewable energy we'll supply to customers in the coming decades.

Our plan forecasts renewable energy capacity levels of:

- 35 percent by 2025
- 47 percent by 2030
- 63 percent by 2040

The rapid transition to clean, renewable sources includes the addition of nearly 8,000 megawatts of solar power. Our solar ramp-up has started and will continue throughout the 2020s.

In addition to its environmental benefits, solar is increasingly cost competitive with other fuel sources. We can add solar gradually by competitively bidding solar supply to ensure we keep energy bills affordable. Solar also provides flexibility to respond to emerging needs, adapt to changing conditions, embrace innovative technology and allow for further cost decline in the technology — without having to bet on building a large, new fossil fuel power plant..

A SMARTER GRID

Most of our emissions come from fossil fuel power plants. Thus, retiring fossil fuel power plants and investing in renewables is a big piece of this reduction strategy. But just as importantly, we will use emerging tools and technologies such as energy efficiency, demand response, grid modernization and battery storage to optimize customer demand. For the first time, we'll have the ability to cut waste and precisely produce the right amount of power Michigan needs.

Michigan's peak energy needs are driven almost exclusively by air conditioning for homes and commercial businesses. In the past, meeting peak demand required a large system with many fossil fuel power plants to ensure we could keep the electrons flowing on the hottest days of the year. The Clean Energy Plan will allow us to lower that peak demand and deliver exactly what we need to power homes and businesses. Our energy waste reduction programs already have saved 3 million megawatt-hours of electricity since 2009 and, under our plan, are projected to save about 9.5 million megawatt-hours by 2040.

Battery technology will help us store electricity generated by solar and other renewable energy sources to help meet demand for power on the grid. Our Ludington Pumped Storage Facility, a large hydroelectric plant on the shores of Lake Michigan, will continue to serve as one of the world's biggest electric batteries capable of providing energy at a moment's notice.

Dearborn Industrial Generation

EXISTING ASSETS ENSURE RELIABILITY AND AFFORDABILITY TO ACCELERATE COAL RETIREMENT

To ensure continued resilient, reliable and affordable energy for Michigan and the Midwest during this historic transition away from coal and oil generation, Consumers Energy proposes buying four existing natural gas-fired power plants in the state.

- Covert Generating Station is a highly efficient, 1,176-megawatt natural gas-fired combined cycle generating unit in Van Buren County.
- Dearborn Industrial Generation (DIG) is a 770-megawatt (MW) natural gas and waste gas co-generation power plant in Wayne County.
- The Kalamazoo River Generating Station, a 75-megawatt plant in Kalamazoo County used primarily to meet peak demand.
- The Livingston Generating Station, a 156-megawatt plant in Otsego County used primarily to meet peak demand.

These natural gas plants — along with Consumers Energy's current natural gas-fired power plants in Zeeland and Jackson — would supply reliable, on-demand electricity to meet Michigan's energy needs when renewables and other sources are not available.

Collectively, these gas plants are foundational for our strategy to eliminate carbon and pollutants for Michigan by 2025, creating an immediate positive impact for the planet. Our plan would reduce carbon emissions by 63 million tons from 2023-2040. That's a reduction of about 60 percent 15 years earlier than planned.

AFFORDABILITY

Our plan creates price stability and, by using natural gas as a fuel source to generate baseload power, will save customers about $650 million through 2040 compared to our current plan. Further, the increased use of demand management tools such as energy waste reduction programs will give customers more control over their monthly energy bills, equipping them to save energy and money over the long term.

The proposal also would cut by half the amount of electricity Consumers Energy plans to buy through market purchases by 2032, reducing potential energy price volatility. Our incremental and flexible strategy allows us to adapt to needs and changes in the energy landscape. We will continue to competitively bid new electric generation supply to ensure the best value for our customers.

Furthermore, customers will benefit from the operational flexibility of our natural gas facilities, which we can ramp up and down to more closely meet market conditions. If natural gas prices are low, for example, we can turn down or even take gas plants off line because they're more nimble than coal-fired plants.

OUR CUSTOMERS AS PARTNERS

Not so long ago, protecting the planet and customers' pocketbooks might have felt like an impossible choice. Today, we can do both by operating smarter, cleaner and more efficiently. The Clean Energy Plan will help customers reduce energy use and lower their bills while also helping Michigan's environment.

We need help from our customers to fully realize the plan's potential for Michigan.

The main way customers can work as Clean Energy partners is to take part in the energy waste reduction and renewable energy plans that will help cut coal and achieve net zero carbon emissions by 2040.

From using more efficient light bulbs and appliances to powering your air conditioner at the best time or subscribing to a community solar program, there are many ways to help create a new energy future for Michigan. Whether at home or at their business, we're giving customers the information they need to save energy and lower their bills. They can choose from a variety of rebates and demand response programs customized to their needs. From installing smart thermostats to charging their electric vehicles, our plan provides energy solutions to lead Michigan's clean energy transformation. Our energy waste reduction programs have already saved customers nearly $4 billion since 2009.

Learn more at ConsumersEnergy.com/change.

THE PROCESS

We are listening to the people of Michigan. We created our Clean Energy Plan in 2018 after hearing stakeholders around the state tell us they were concerned about affordability and reliability, as well as issues such as air quality, water management and greenhouse gas emissions.

And the voices of Michiganders were equally influential as we updated the plan in 2021, making the transformative decision to accelerate the elimination of coal while continuing to provide affordable, reliable energy for our customers. Despite challenges presented by the global pandemic, we implemented a comprehensive stakeholder engagement plan that included a series of four widely promoted virtual public forums to give stakeholders an opportunity to provide input:

- August 2020: Our Bright Future Begins Here
- September 2020: The Road to Renewable Energy
- October 2020: Protecting Michigan and the Planet
- November 2020: A Smarter Energy Future

The online events were open to the public and designed as basic informational sessions with the chance to ask wide-ranging questions about topics such as renewable energy, energy efficiency and emerging technology. In all, more than 315 people took part. The public also submitted questions, suggestions and comments through our website.

We hosted a series of technical conferences — one in-person event at our corporate headquarters in Jackson in 2019 and two virtual events in 2020 — tailored to meet the needs of stakeholder groups with deeper knowledge of energy issues and the planning process.

Prior to filing, we engaged closely with key stakeholders from government, customer groups, environmental groups and non-utility energy providers with a variety of positions, opinions and energy-related goals.

At those meetings, we looked to better understand what stakeholders believed would make the best plan for Michigan and communicated our desire to work collaboratively in the best interests of the state and our customers.

PROPOSED RETIREMENT OF CAMPBELL COMPLEX, KARN 3 AND 4

The retirement of the three Campbell units would continue a move away from coal as a generation fuel source that began in April 2016. Campbell 1 and 2 began producing power in the 1960s. Campbell 3, the largest and youngest unit in our coal fleet, came online in 1980.

Karn 3 and 4, which began operations in the late 1970s, are aging "peaker" units that run on natural gas and fuel oil. Used sparingly in recent years, they've supported Michigan's grid by delivering power to meet peak demand, often during extreme circumstances.

Accelerating closure of Karn 3 and 4 to align with the retirement of Karn 1 and 2 in 2023 will save the roughly $25 million cost to separate the units. Pursuing potential future use opportunities for the Karn site may prove more efficient and economical with all four units on the same decommissioning schedule.

We value the dedicated employees who have operated and maintained the Campbell and Karn units so safely and productively for decades. We will support our co-workers affected by the proposed retirements of those facilities and, in alignment with our union partners, work to help those who want to keep a role with the company.

We'll also support West Olive (Campbell), Hampton Township (Karn) and those communities and their respective regions as they re-imagine their local economic landscapes after the plants are retired. That means working closely with stakeholders to identify and meet challenges related to the closures through the economic transition.

Many of the impacted employees are operating, maintenance and construction (OM&C) workers and members of the Utility Workers Union of America. Their union contract has provisions to decide how, where and in what role the impacted employees would be placed within the company. Company human resources policies will decide how, where and in what role exempt and non-exempt employees would be placed within the company.

As we have done with previous coal plant closures, we will continue to exercise care with both our co-workers and communities as we transition through plant closure and retirement.