



House Energy Committee
February 24, 2021

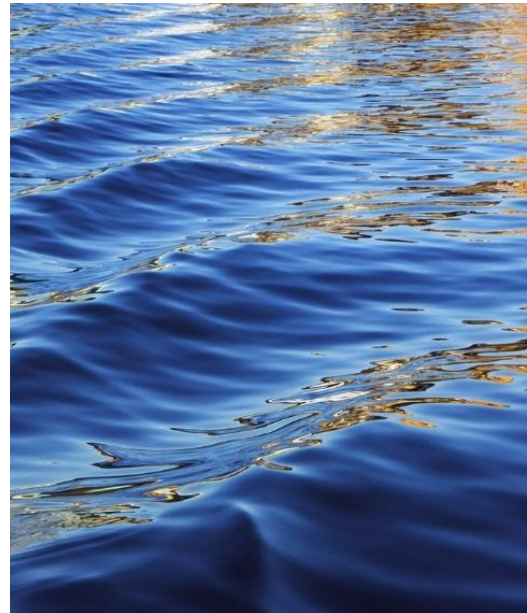


MICHIGAN
ENVIRONMENTAL
COUNCIL



Overview

- Introduction to Michigan Environmental Council
- Michigan energy profile
- Cost of energy
- Rate setting
- Policy tools to make rates more affordable



Who is the Michigan Environmental Council?

- Six leading environmental organizations came together in 1980 to create a new non-partisan non-profit charged to be the voice for Michigan's environment in the State Capitol.
- Today, we have a staff of 15, including a team based in Detroit.
- Board is a mix of member organizations and at-large leaders.
- Striving to be a positive, forward-looking instrument for innovative policy solutions to statewide challenges.
- We have been actively engaged in utility rate cases on behalf of residential ratepayers for over ten years.

Our Member Groups

- ACCESS
- AFFEW
- Adrian Dominican Sisters
- Alliance for the Great Lakes
- Alliance to Halt Fermi 3
- Anglers of the Au Sable
- Au Sable River Watershed Committee
- Citizens for Alternatives to Chemical Contamination
- Citizens Climate Lobby
- Clean Water Fund
- CLEARCorps / Detroit
- Clinton River Watershed Council
- Detroit Audubon
- Detroit RiverFront Conservancy
- East Michigan Environmental Action Council
- Ecology Center
- Environment Michigan
- Environmentally Concerned Citizens of South Central Michigan
- Friends of the Detroit River
- Friends of the Jordan River Watershed
- Friends of the Rouge
- Grand Traverse Band of Ottawa and Chippewa Indians
- Great Lakes Mediation
- Groundwork Center for Resilient Communities
- Huron River Watershed Council
- Izaak Walton League – Michigan IKEs
- Kalamazoo Environmental Council
- Kalamazoo River Cleanup Coalition
- Kalamazoo River Watershed Council
- League of Michigan Bicyclists
- League of Women Voters of Michigan
- Legacy Land Conservancy
- Liaison for Inter-Neighborhood Cooperation
- Lone Tree Council
- Michigan Association of Railroad Passengers
- Michigan Audubon
- Michigan Botanical Club
- Michigan Citizens Against Toxic Substances
- Michigan Energy Options
- Michigan Interfaith Power and Light
- Michigan Land Trustees
- Michigan League of Conservation Voters Education Fund
- Michigan Nurses Association
- Michigan Organic Food and Farm Alliance
- Michigan Recycling Coalition
- Michigan Trails and Greenways Alliance
- Michigan Trout Unlimited
- Michigan Waterfront Alliance
- Mid-Michigan Environmental Action Council
- Midwest Energy Efficiency Alliance
- Muskegon Save Our Shoreline
- NAACP – Michigan State Conference
- Northern Michigan Environmental Action Council
- Preserve the Dunes
- Scenic Michigan
- Sisters, Servants of the Immaculate Heart of Mary
- Six Rivers Regional Land Conservancy
- Southeast Michigan Land Conservancy
- Stewardship Network
- Tip of the Mitt Watershed Council
- Transportation Riders United
- Upper Peninsula Environmental Coalition
- Voices for Earth Justice
- West Michigan Environmental Action Council



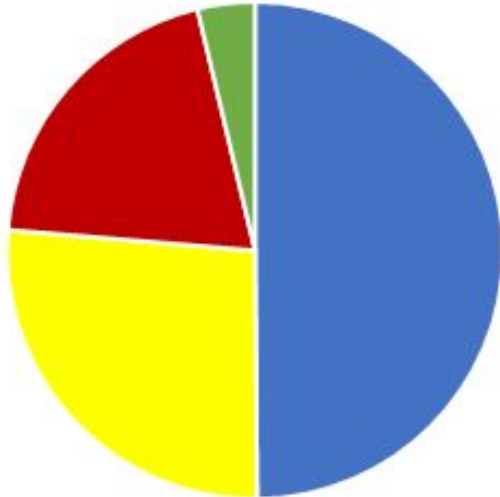
Road to Cleaner, More Affordable Energy



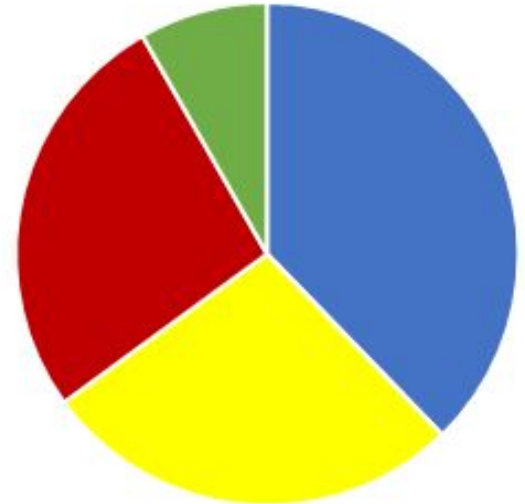
Michigan's Changing Energy Portfolio

Net Electricity Generation by Source

2012



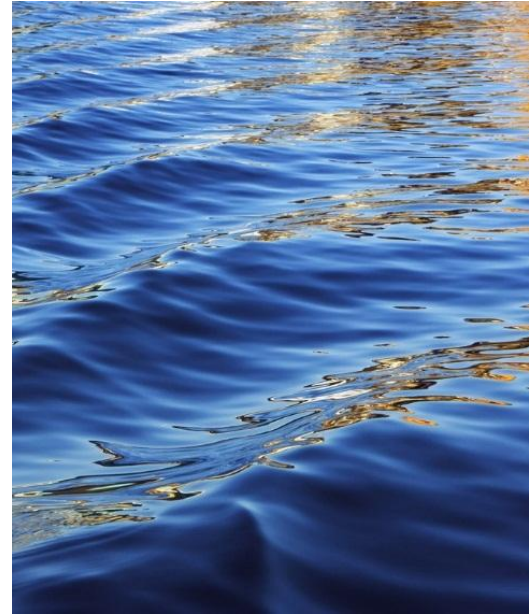
2018



- Coal
- Natural Gas
- Nuclear
- Renewable



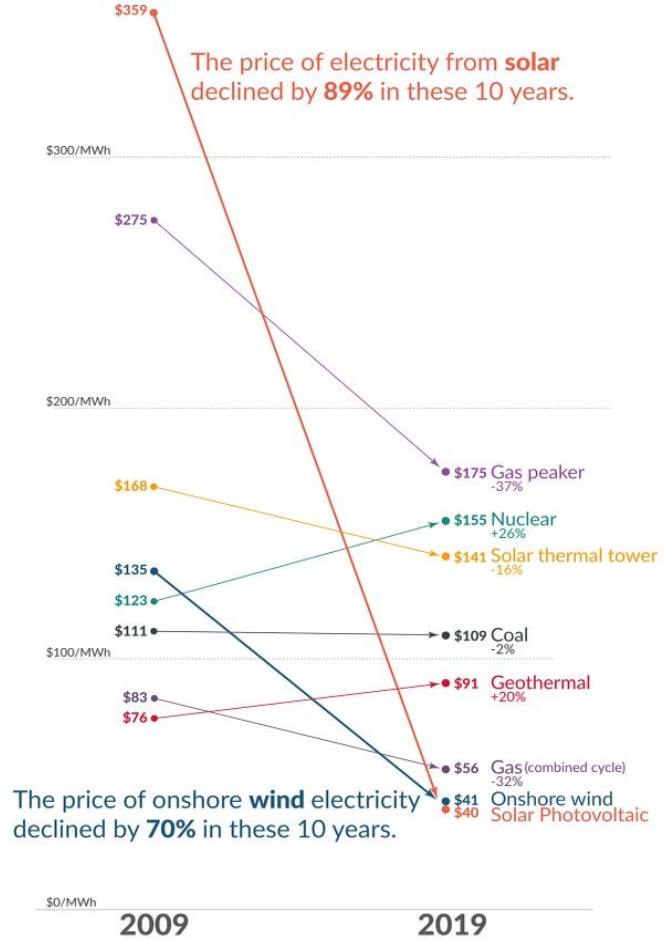
Cost of Energy



Cost of Energy



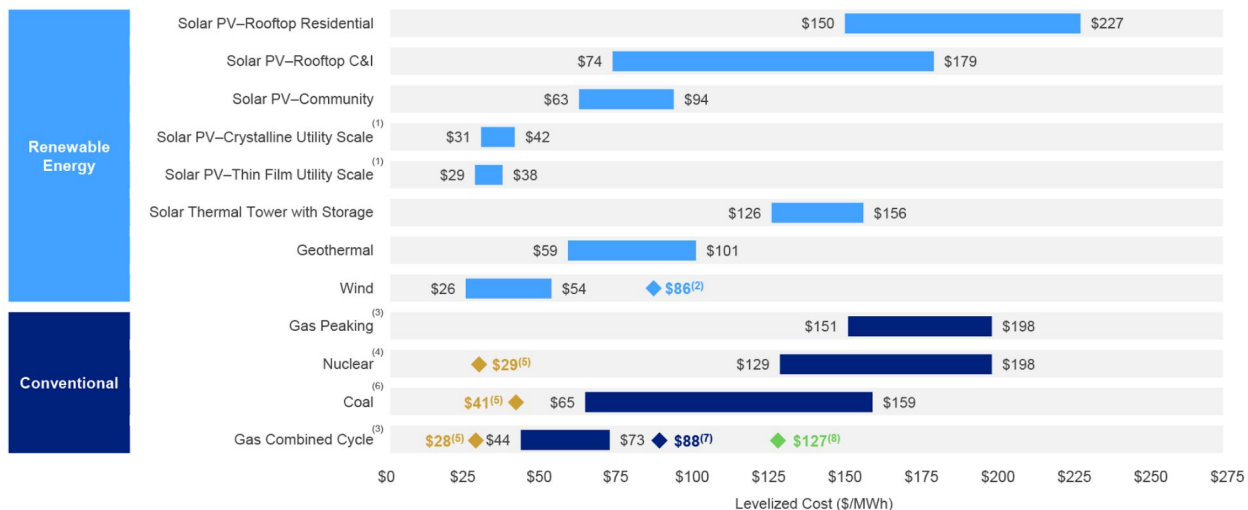
Price of Electricity from New Power Plants



Levelized Cost of Energy

Levelized Cost of Energy Comparison—Unsubsidized Analysis

Selected renewable energy generation technologies are cost-competitive with conventional generation technologies under certain circumstances



Source: Lazard estimates.

Note: Here and throughout this presentation, unless otherwise indicated, the analysis assumes 60% debt at 8% interest rate and 40% equity at 12% cost. Please see page titled "Levelized Cost of Energy Comparison—Sensitivity to Cost of Capital" for cost of capital sensitivities. These results are not intended to represent any particular geography. Please see page titled "Solar PV versus Gas Peaking and Wind versus CCGT—Global Markets" for regional sensitivities to selected technologies.

(1) Unless otherwise indicated herein, the low case represents a single-axis tracking system and the high case represents a fixed-tilt system.

(2) Represents the estimated implied midpoint of the LCOE of offshore wind, assuming a capital cost range of approximately \$2,600 – \$3,675/kW.

(3) The fuel cost assumption for Lazard's global, unsubsidized analysis for gas-fired generation resources is \$3.45/MMBTU.

(4) Unless otherwise indicated, the analysis herein does not reflect decommissioning costs, ongoing maintenance-related capital expenditures or the potential economic impacts of federal loan guarantees or other subsidies.

(5) Represents the midpoint of the marginal cost of operating fully depreciated gas combined cycle, coal and nuclear facilities, inclusive of decommissioning costs for nuclear facilities. Analysis assumes that the salvage value for a decommissioned gas combined cycle or coal asset is equivalent to its decommissioning and site restoration costs. Inputs are derived from a benchmark of operating gas combined cycle, coal and nuclear assets across the U.S. Capacity factors, fuel, variable and fixed operating expenses are based on upper- and lower-quartile estimates derived from Lazard's research. Please see page titled "Levelized Cost of Energy Comparison—Renewable Energy versus Marginal Cost of Selected Existing Conventional Generation" for additional details.

(6) High end incorporates 90% carbon capture and storage. Does not include cost of transportation and storage.

(7) Represents the LCOE of the observed high case gas combined cycle inputs using a 20% blend of "Blue" hydrogen, (i.e., hydrogen produced from a steam-methane reformer, using natural gas as a feedstock, and sequestering the resulting CO₂ in a nearby saline aquifer). No plant modifications are assumed beyond a 2% adjustment to the plant's heat rate. The corresponding fuel cost is \$5.20/MMBTU.

(8) Represents the LCOE of the observed high case gas combined cycle inputs using a 20% blend of "Green" hydrogen, (i.e., hydrogen produced from an electrolyzer powered by a mix of wind and solar generation and stored in a nearby salt cavern). No plant modifications are assumed beyond a 2% adjustment to the plant's heat rate. The corresponding fuel cost is \$10.05/MMBTU.

Renewable Energy and Energy Waste Reduction Standards

In 2016 Michigan's legislature adopted a 15% renewable energy standard and renewed our 1% annual energy waste reduction standard; **both standards sunset this year**

Energy Waste Reduction:

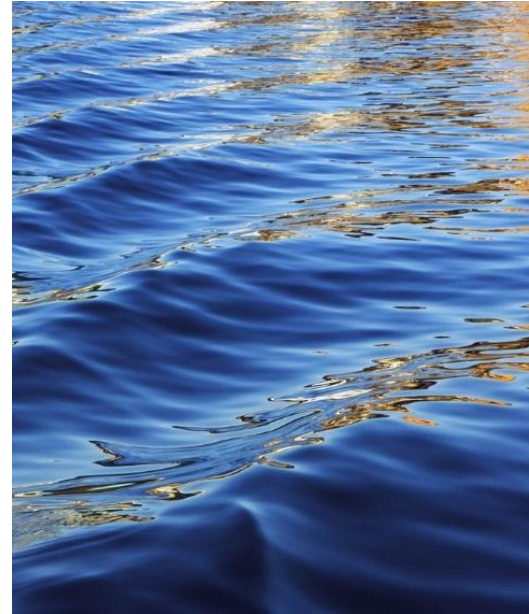
- The combined total of nearly \$347 million on EWR programs by all of the state's electric and natural gas utilities is expected to save customers nearly \$1.2 billion over the 12-year lifecycle of EWR efforts adopted in 2019.
- For every \$1 spent on EWR programs in 2019, customers will see a savings of \$3.30.
- EWR cost only \$16.61 per MWh in 2019; significantly cheaper than building new generation

Renewable Energy Standard:

- Utility-scale wind turbines accounted for 72% of renewable generation in 2019, hydroelectric facilities accounted for 11%, biomass 6%, landfill gas 5% and solar installations and municipal solid waste 3%.
- Since P.A. 295's passage, \$4.3 billion has been invested to bring about 2,276 MW of new renewable energy projects online through 2020



Rate Setting



Rate Setting

How Big is the Pie?

- Revenue Requirement
- How much does it cost to supply energy safely and reliably?

How Big is Each Slice of Pie?

- Cost Allocation to customer classes

Billing

- Collecting the costs from each individual customer
- Rate design

In Michigan utilities are regulated- can make back their costs plus a reasonable profit



Rate Setting

Production, Distribution, Transmission Costs

- Capital costs and staffing/admin
- Return on investment on capital
- Power supply costs (power purchases, production plant costs, fuel, etc.)
- Infrastructure (poles, meters, substations, etc.)

Costs Divided Between Customer Classes

- MI Statute – MPSC establishes rates equal to cost of providing service to each customer class
- Based on customer class usage patterns and contribution to peak- variable costs
- Cost of service study breaks costs down into production, transmission, distribution and classifies costs by customer and allocates costs to customer classes

Rate Design

- Recovery of costs through rates and charges



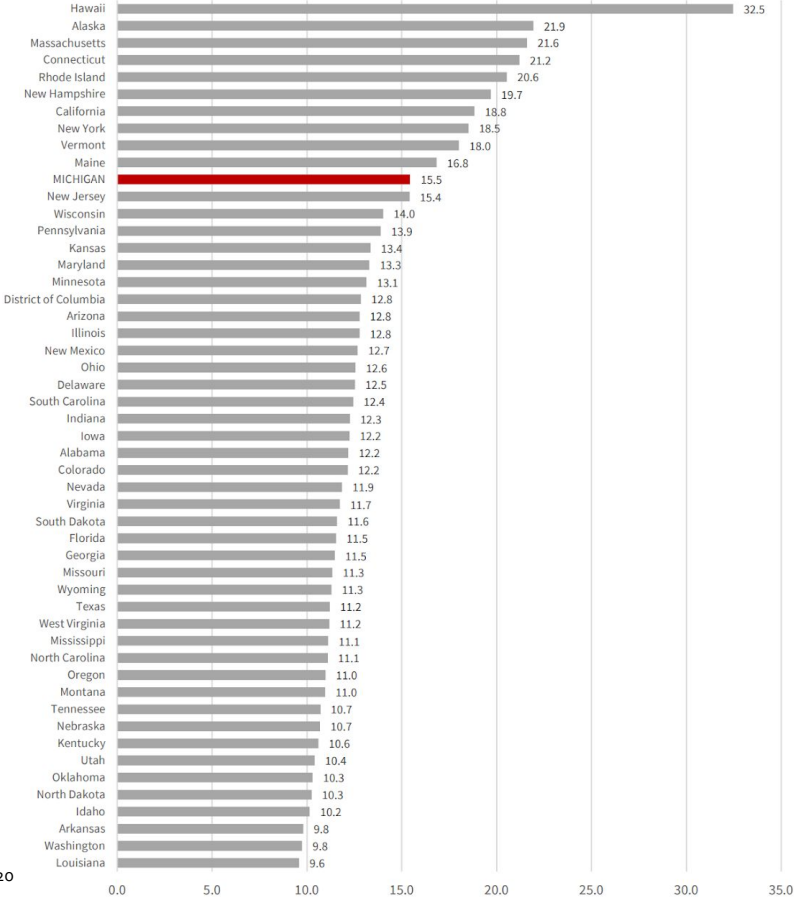
Smart Rate Design

- A customer should be able to connect to the grid for no more than the cost of connecting to the grid.
- Customers should pay for grid services and power supply in proportion to how much they use these services and how much power they consume.
- Customers who supply power to the grid should be fairly compensated for the full value of the power they supply.

Fixed Service Charges

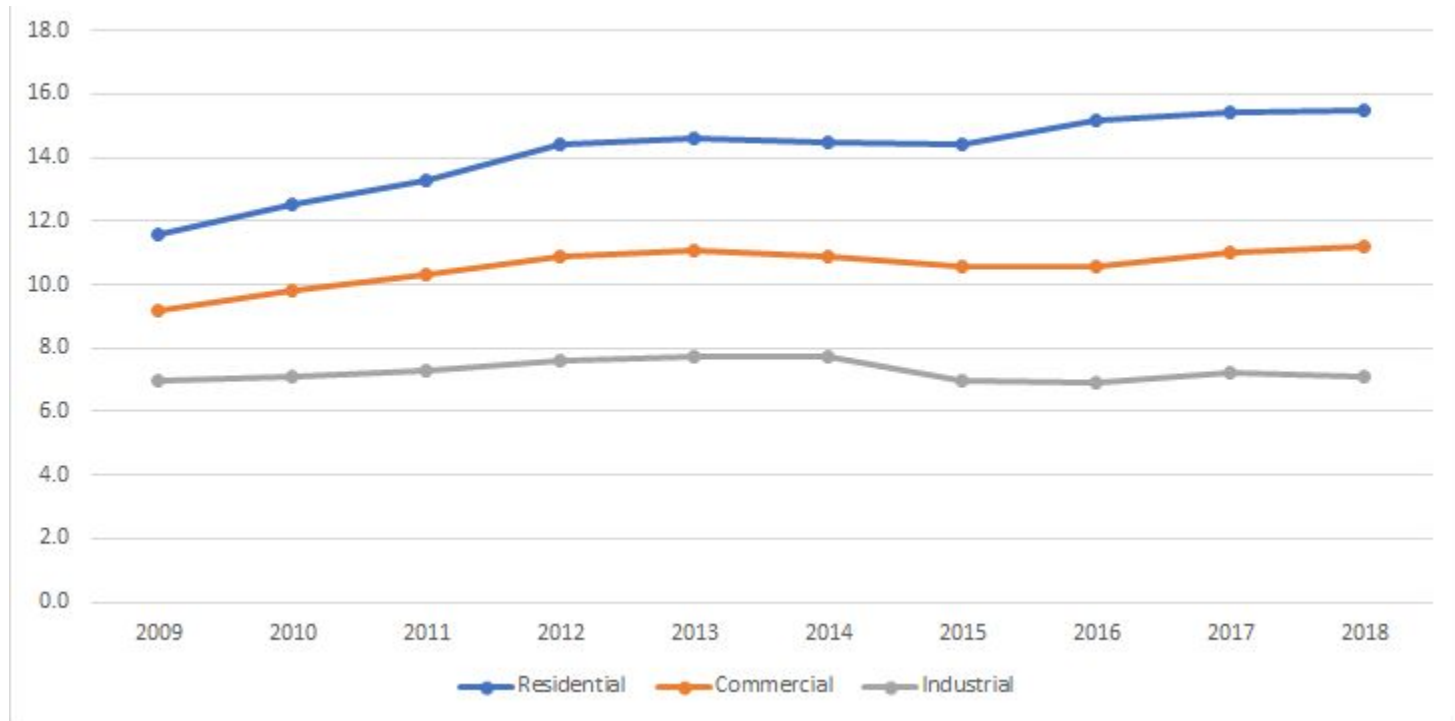
- Huge mansions with high energy usage are paying the same service charge as small apartments
- Fixed charges = the costs to add a new customer regardless of usage.
- For low-income and low-usage customers this charge makes up a larger percentage and burden
- Ensuring variable costs are not included in this charge is an important component of equity.

2018 Average Price of Electricity Residential Sector



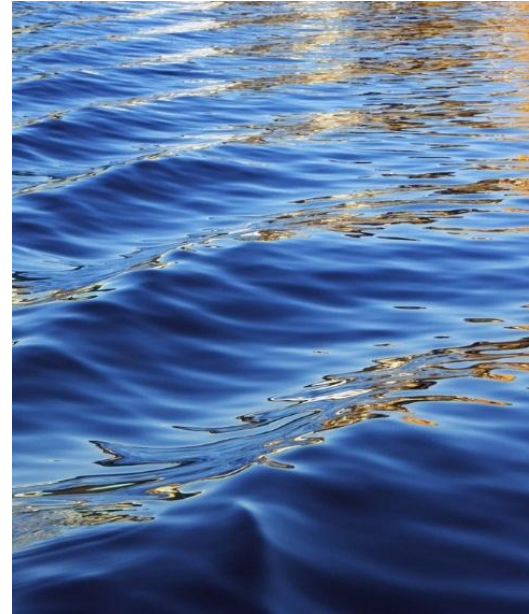
Source: Citizens Utility Board of Michigan, Utility Performance Report 2020

Michigan Average Price of Electricity to Customer Class





Tools to Make Rates More Affordable



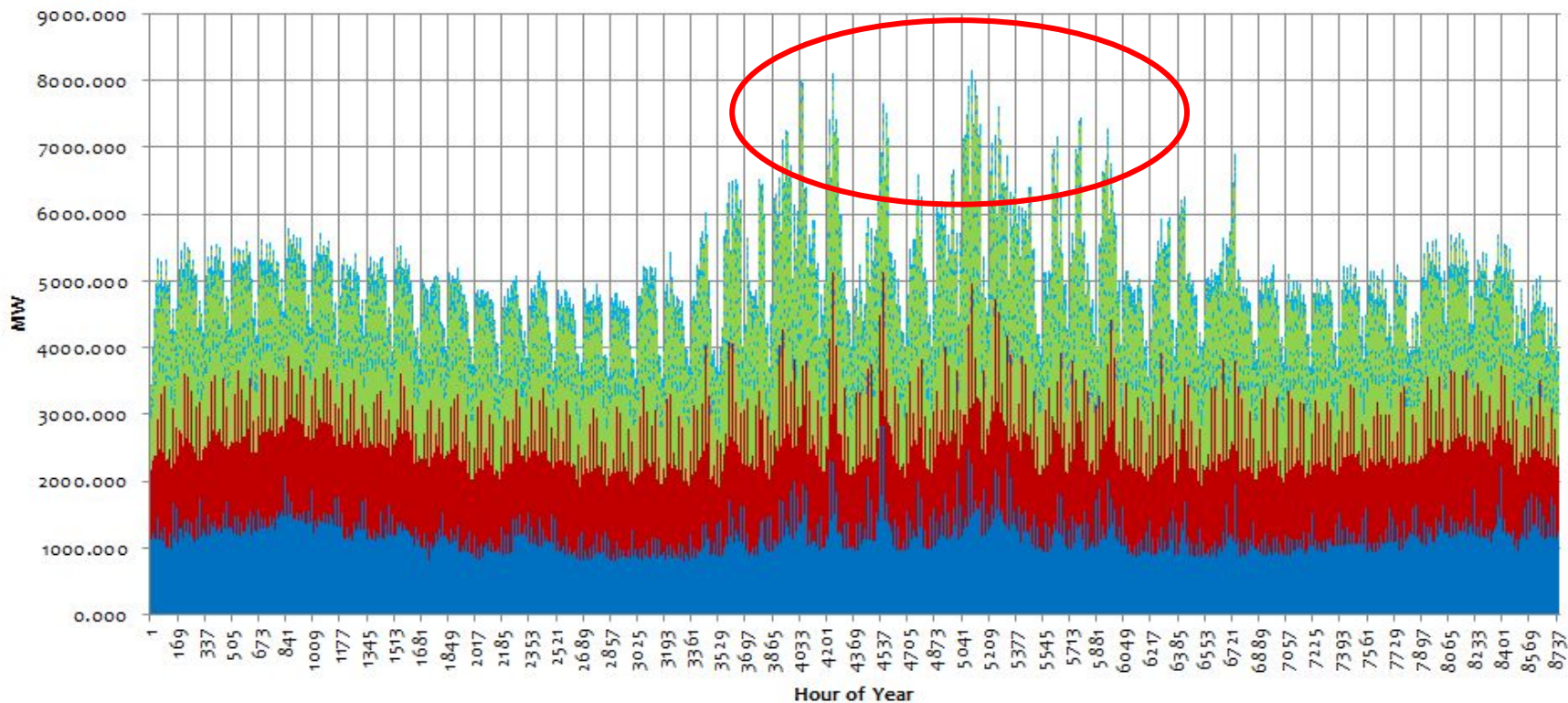
Policies to Reign in Costs

- Ramp up energy efficiency
- Increase use of demand response
- Reduce line-loss
- Maximize use of and access to low cost, low risk renewables
- Close uneconomic coal units
- Explore performance-based ratemaking



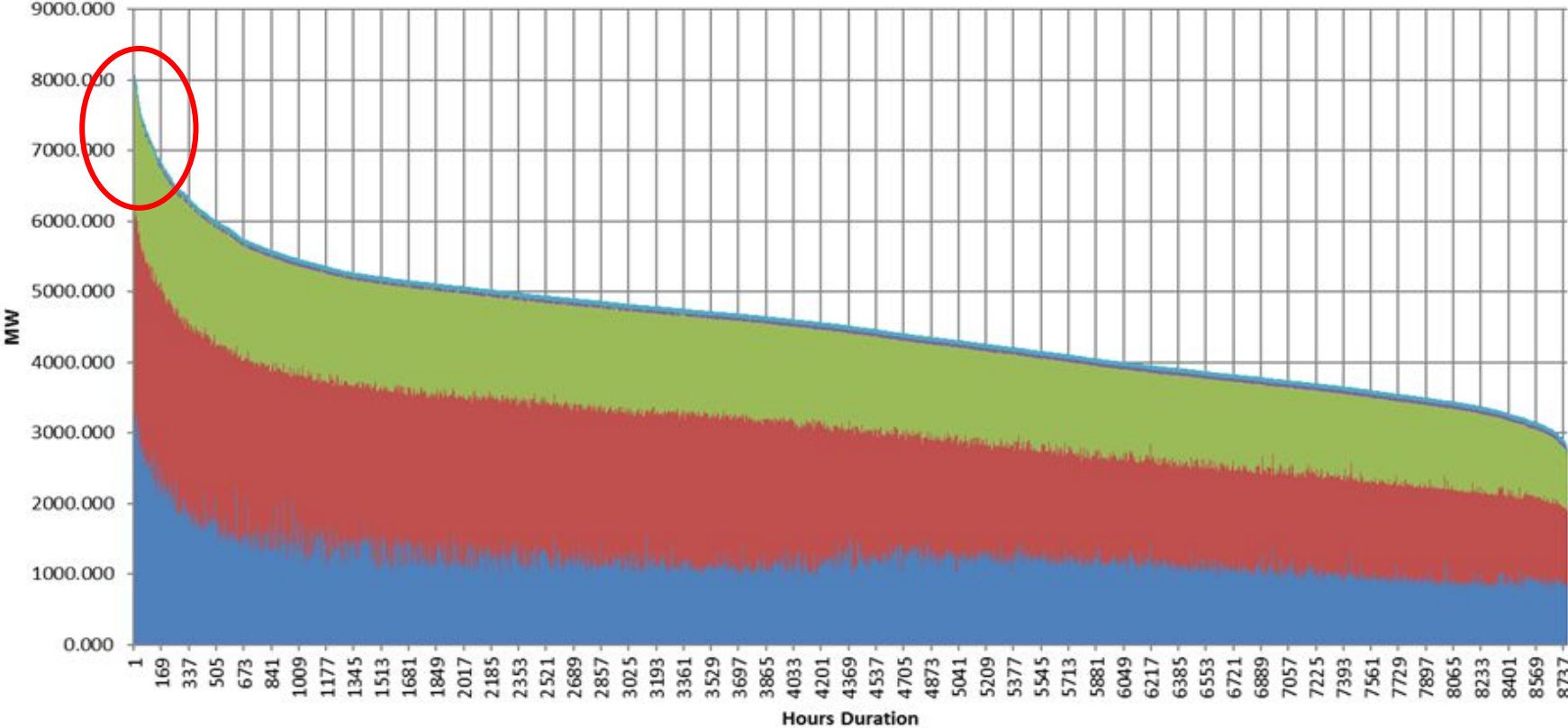
Electricity Load by Class – Consumers Energy

■ Residential ■ Commercial ■ Industrial ■ Streetlighting ■ Wholesale



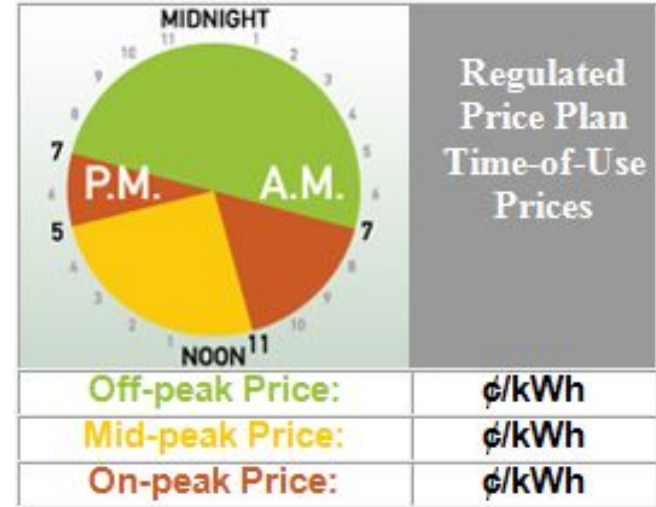
Electricity Load Duration by Class - Consumers Energy

Residential Commerical Industrial Streetlighting Wholesale



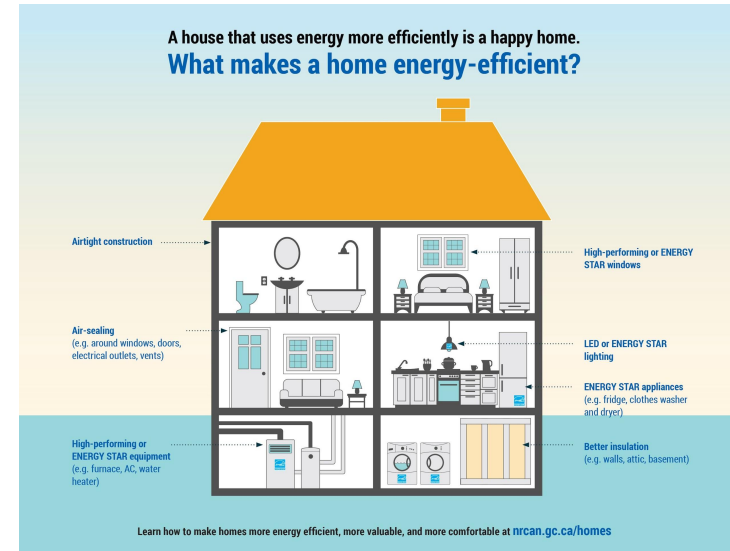
Reduce Peak Demand

- **Demand Response:** giving customers tools and incentives to adjust their energy consumption during specific times to relieve stress on the grid
- Advanced meters allow for ***time of use pricing***
 - Time of use pricing better matches cost of service
 - Electricity does not cost the same all the time; rates should reflect that
- Expanding time of use to all customer classes could reduce utility costs by over \$200 million a year



Energy Waste Reduction

- Both DTE and Consumers are ramping up to 2% annual energy waste reduction
- Benefits:
 - Lowering energy burden and bills
 - Avoiding utilities building new generation and reducing distribution infrastructure costs
 - Improving reliability and helping people weather outages and extreme temperatures better
 - Creating jobs
- Michigan should double down on energy waste reduction and focus heavily on deep retrofits (building shell)
 - Renew Michigan's energy waste reduction standard
 - Scaling up funding and financing- low income weatherization, on-bill financing, Michigan Saves, Commercial PACE



Energy Waste Reduction – Low-Income

- Michigan low-income customers on average spend 15% of their income on energy (heating and electric)
- 34% of DTE and 35% of Consumers customers are low-income qualified (200% of FPL)
- In 2018 only just over 10% of EWR spending went to low-income
- In Detroit alone, deferral rate for weatherization is 75%

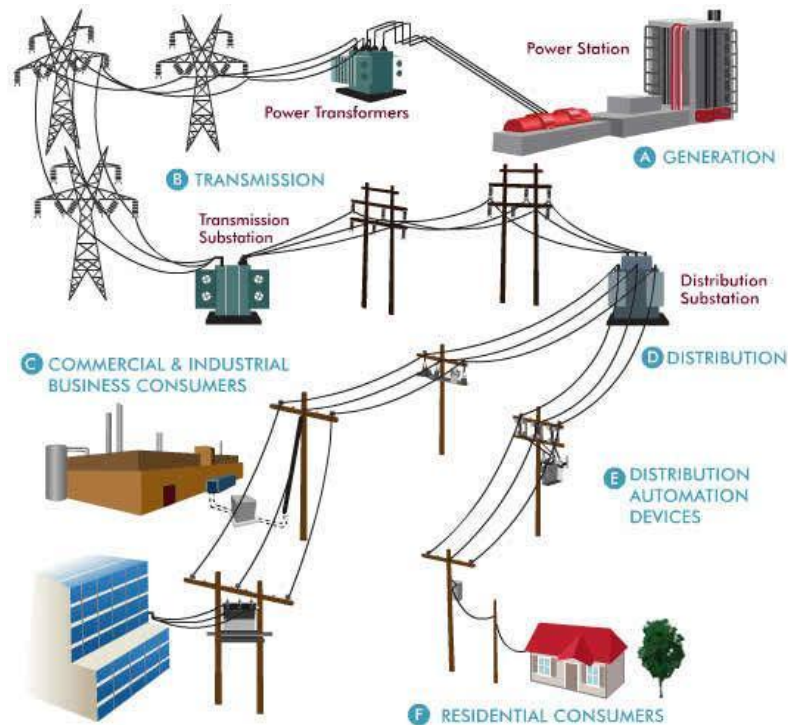
Solutions:

- Achieve 2% energy waste reduction and 1% gas waste reduction
- Explore a carve out in EWR programs for low-income
- Increase weatherization assistance funding
- Health and safety fund to reduce deferrals, improve health and comfort of homes overall

Distribution Costs

Initial DTE and Consumers Distribution Plans have a combined \$7.2 billion in spending planned over the next 5 years

- Reduce line loss – currently in the 7% to 8% range in Michigan, which is above national average
- Maximize non-wires alternatives (energy efficiency, demand response, distributed generation, dynamic rates)
- Give customer access to their data



Affordable Renewable Energy

- Solar is the cheapest form of new generation and produces during peak times
- Consumers adding 6 GWs of solar over the next several years and utility integrated resource plan modeling consistently picks solar (in addition to efficiency and demand response) as the least cost resource
- In state and out of state wind is also very cost-effective



Agricultural Benefits Renewable Energy



- On farm cost reductions
 - Grain dryers
 - Heating homes, livestock building, etc
- Utility scale production opportunities
 - Can be designed to allow (select) crop production
 - Allows for grazing opportunities
- PA 116- Farmland and Open Space Preservation Act
 - MDARD policy change in 2019 to allow commercial solar on PA 116 land - previously prohibited
 - Deferred tax benefit for length of solar project
 - PA 116 changes also includes provisions around pollinator habitat plantings

Clean Energy Standards

- Currently Michigan has a 15% by 2021 renewable energy standard and a 1% annual energy efficiency standard. Both sunset in 2021.
- Mitigating climate change requires strong clean energy standards paired with provisions to protect and benefit EJ communities and fossil fuel industry workers
- Biden administration called for 100% carbon-free power sector by 2035
- Need legislation to extend our energy efficiency standard and to set a new, higher clean energy/zero emission standard



Cap on Distributed Generation

- Distributed generation (small scale solar) is capped at 1% right now
- Consumers Energy hit the 1% cap already and UPPCO hit it for a second time after they voluntarily increased it to 2%
- Support legislation to remove the cap



Community Solar

- Community solar refers to local solar facilities shared by multiple community subscribers who receive credit on their electricity bills for their share of the power produced.
- Critical program for people who don't have a south facing roof, rent, have an HOA that prohibits it, or for other reasons don't want or can't have solar on their property.
- Michigan doesn't have a community solar program and many utilities don't offer community solar options
- Need legislation to create a community solar regulatory framework and require utilities to offer community solar options





**MICHIGAN
ENVIRONMENTAL
COUNCIL**

We lead Michigan's environmental movement to achieve positive change through public policy solutions

Questions?

Charlotte Jameson, Program Director for Legislative Affairs,
Energy, and Drinking Water

Email: charlotte@environmentalcouncil.org

Abby Wallace, Energy Policy Specialist

Email: abby@environmentalcouncil.org

Thank You!



**MICHIGAN
ENVIRONMENTAL
COUNCIL**

Michigan Environmental Council
602 W. Ionia Street | Lansing, MI 48864

www.environmentalcouncil.org
Facebook.com/MichiganEnvironmentalCouncil
Twitter.com/MichEnvCouncil