

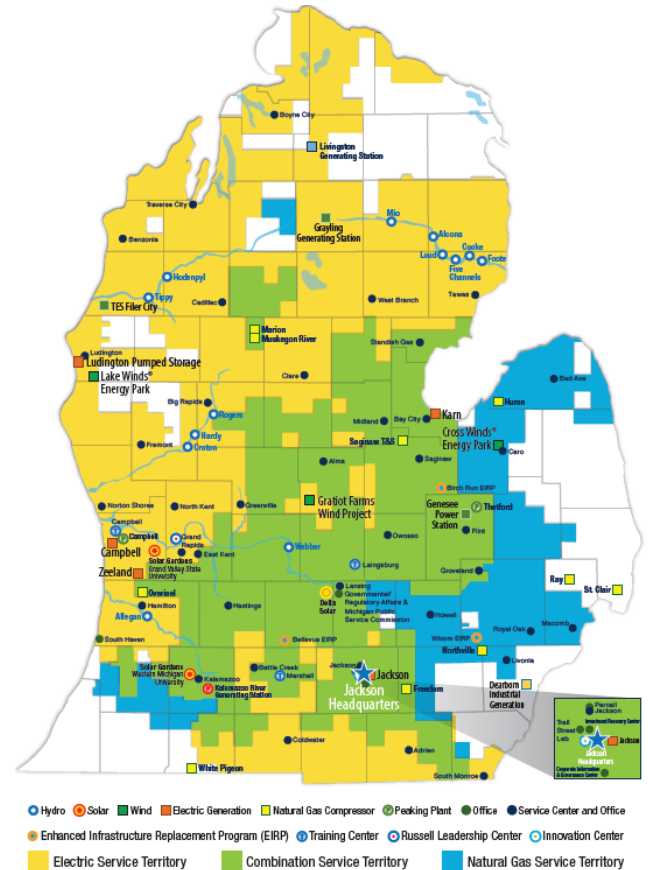
# Consumers Energy's Climate Change Goals

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# Who We Are

- Electric and natural gas provider
- Serving 6.7 million of Michigan's 10 million residents in all 68 counties of the Lower Peninsula
- Own about 5,800 MW of generation, including coal, natural gas, oil/NG co-fired, hydro, pumped storage, wind, and solar



# Electric Business

# Electric Clean Energy Strategy

## Next 5 Years



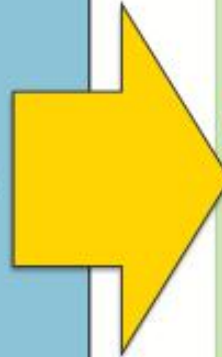
**1 Bn**  
gallons of H<sub>2</sub>O saved



**35%**  
reduction of waste to landfills



**5,000**  
acres of Michigan land  
enhanced, restored or protected



## By 2040



**Net Zero**  
carbon emissions



**Zero Coal**  
used to generate electricity



**56%**  
of electricity from renewable  
sources

# How? Retire All Coal Units...

- **Prior retirements**

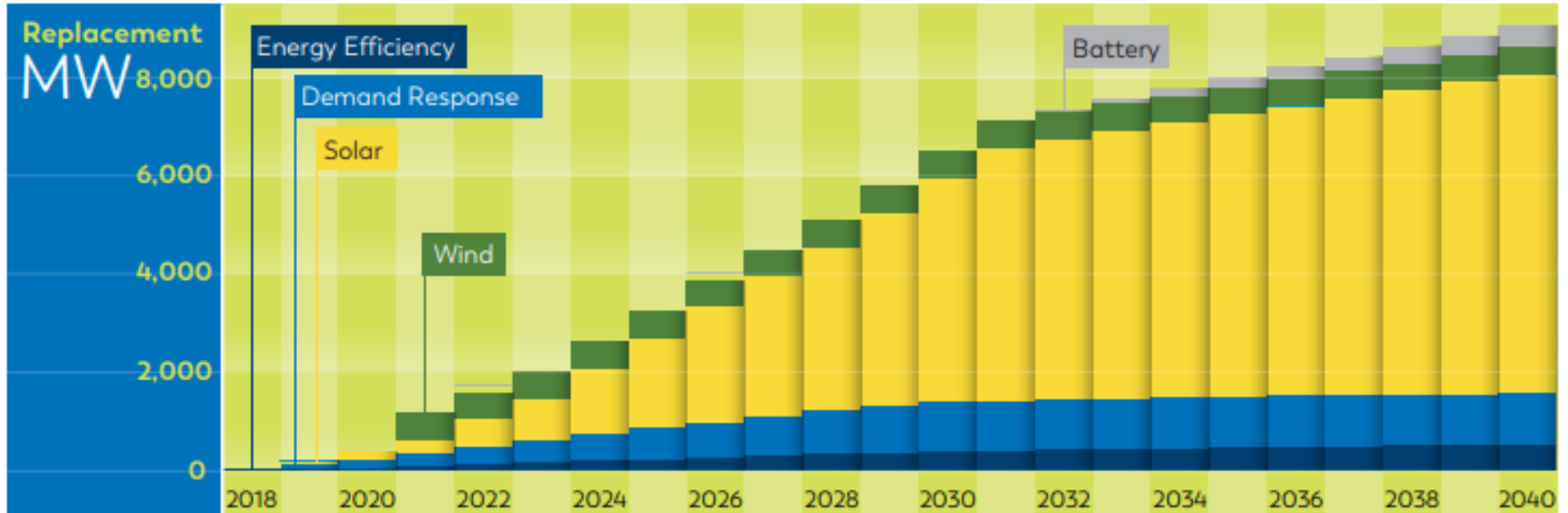
- Retired ~1,000 MW of coal capacity in 2016 (one of largest retirements in single year of any utility)

- **Additional fossil fuel retirements by 2040**

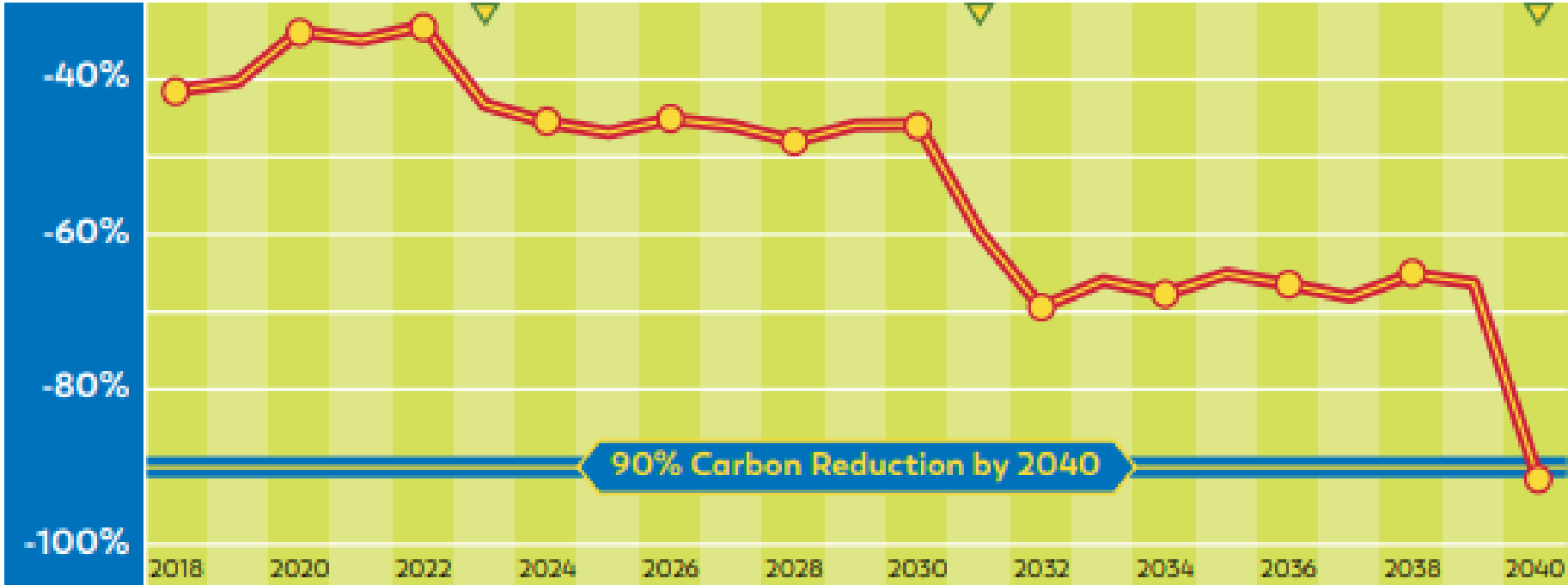
- ~510 MW of coal capacity in 2023 (before design life end in 2031)
- ~610 MW of coal capacity in 2031
- ~1200 MW of NG/oil units in 2031
- ~780 MW of coal capacity by 2040

- **Combined retirements: ~4,100 MW**

# ...And Replace with Carbon-Free Sources

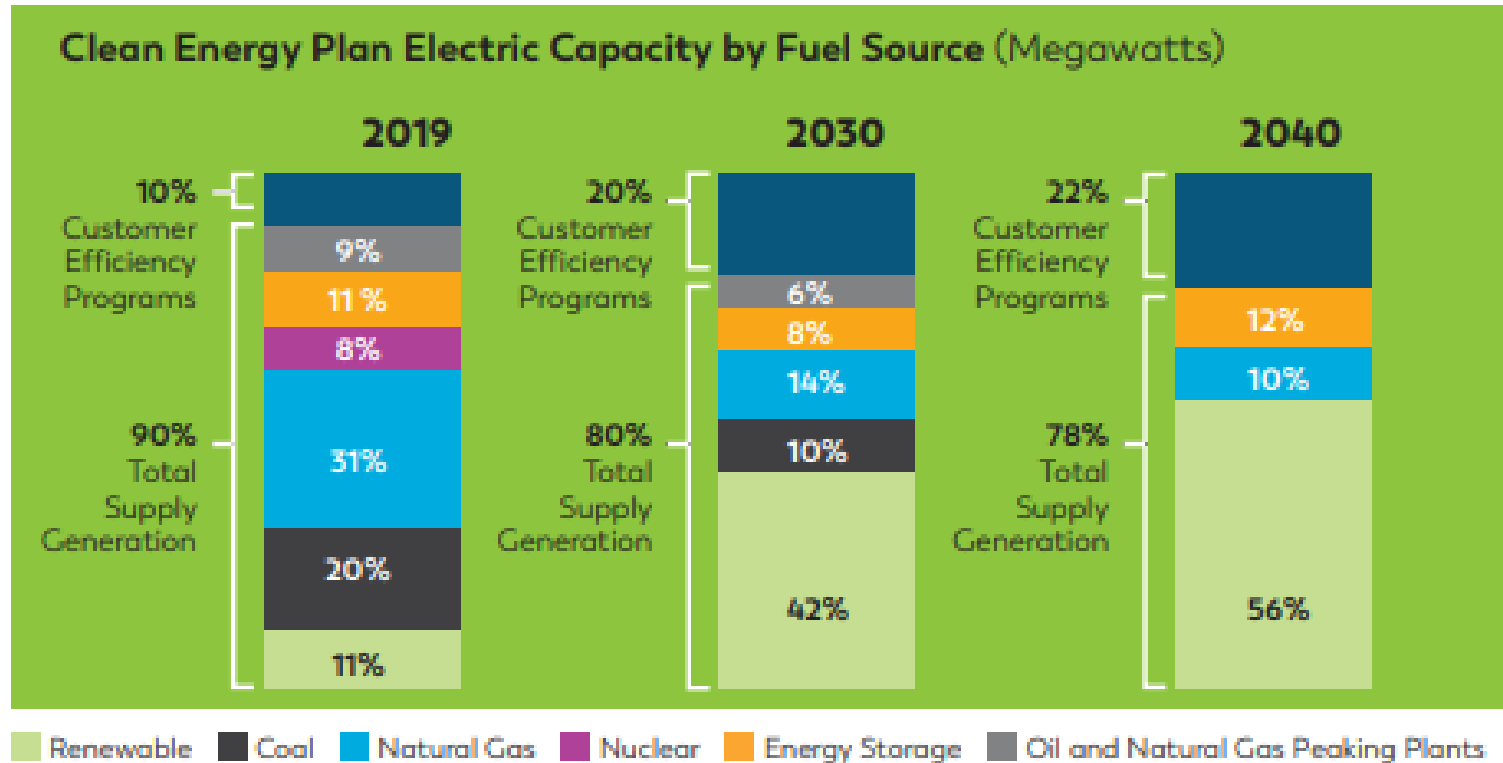


# Carbon Emissions Reduction



▼ Coal Generating plant retirement

# 90% Carbon Free for Owned Gen. by 2040





# Why Make Such A Large Shift?

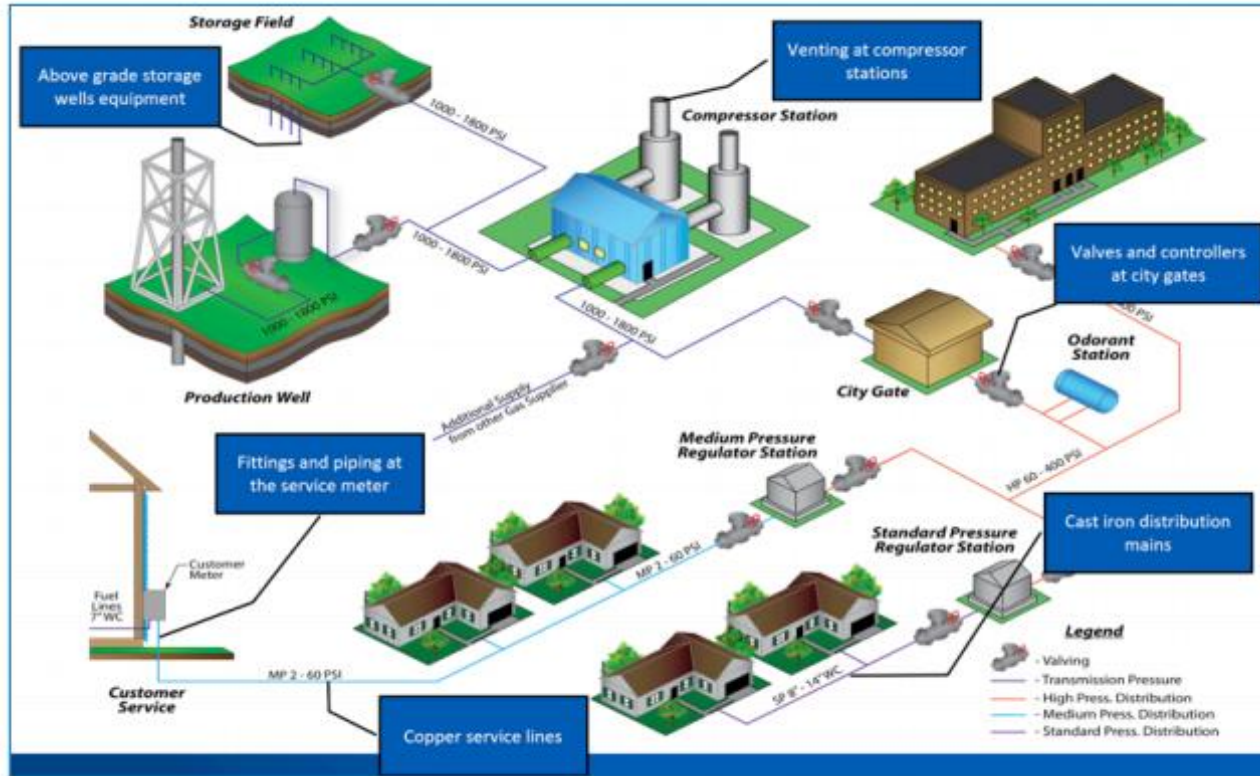
- **Not driven by regulations**
- **Triple Bottom Line: People, Planet, Prosperity**
  - People*
    - Customers demanding cleaner energy sources
    - Saving customers money through energy efficiency programs
  - Planet*
    - 90% reduced CO2 emissions for owned generation
    - Eliminating coal use by 2040
  - Prosperity*
    - Solar and wind generally competitive with new fossil plants
    - Creates lots of construction-related jobs
    - Reduced future regulatory risk

# Next Steps

- Advocating with industry partners on policy issues
  - Substantial R&D into carbon-free dispatchable generation sources, as current plan is not yet net-zero.
  - Federal market-based approach to carbon regulation (e.g., cap-and-trade)
- Filing next year an updated 20-year plan with Michigan Public Service Commission

# Natural Gas Business

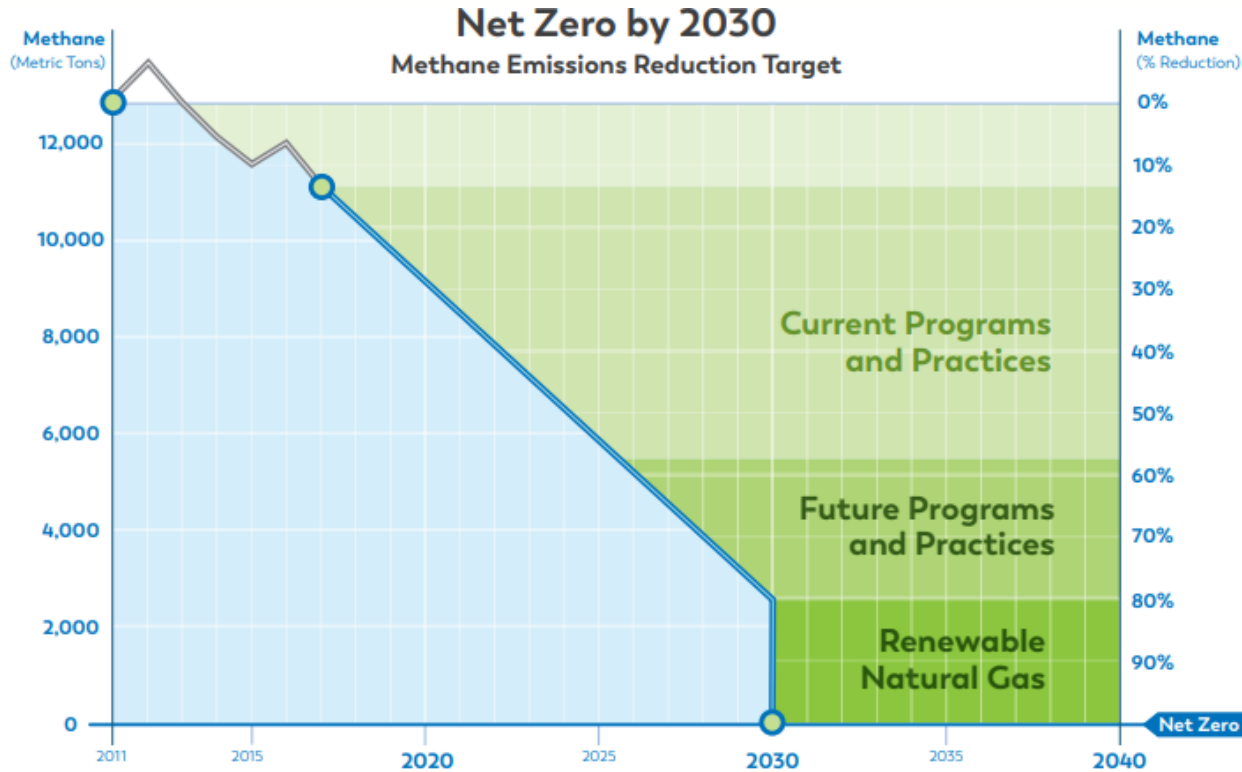
# Many Sources of Emissions



# Emissions Profile Is Very Different

- **Consumers Energy's pipeline system**
  - Small leaks from valves, fittings, etc.
  - Venting of natural gas for safety reasons (e.g., pipeline repair)
  - ~300,000 metric tons of CO<sub>2</sub>e in 2019
- **Customer Emissions**
  - E.g., furnaces, water heaters, stoves, commercial/industrial uses, etc.
  - 21 million metric tons of CO<sub>2</sub>e in 2019
    - For comparison, 2019 emissions from electric generation was around 14 million metric tons of CO<sub>2</sub>e

# Net-Zero by 2030 for Pipeline System



# What About Customer Emissions?

- **Longer-term issue**
- **Much more complex and difficult to solve**
  - Millions of emission sources
  - Utility doesn't own vast majority
- **Partner with customers to find best solution for them**
  - Different options may be cost-effective, but varies with customer's type of natural gas use.
  - E.g., Renewable natural gas, energy efficiency, hydrogen, electrification, etc.

# Questions? Want More Info?

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<https://www.cmsenergy.com/sustainability/default.aspx>