



# Natural Gas Delivery Plan

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**Version 7**

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## Natural Gas Delivery Plan

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### Acronyms

**AGA** – American Gas Association  
**AMI** – Advanced Metering Infrastructure  
**AMD** – Advanced Meter Detection  
**AMR** – Automated Meter Reading  
**API** – American Petroleum Institute  
**ASCE** – American Society of Civil Engineers  
**Bcf** – Billion Cubic Feet  
**CI** – Carbon Intensity  
**C&I** – Commercial and Industrial  
**CARE** Program - Consumers Affordable Resource for Energy  
**CCUS** – Carbon Capture, Utilization and Storage  
**CE** – Consumers Energy  
**CG** – City Gate  
**CIP** – Critical Infrastructure Protection  
**CO<sub>2e</sub>** – The number of metric tons of CO<sub>2</sub> emissions with the same global warming potential as one metric ton of another greenhouse gas  
**C&W** – Coated and Wrapped  
**DIMP** – Distribution Integrity Management Program  
**DOT** – Department of Transportation  
**DR** – Demand Response  
**ECAP** – Enterprise Corrective Action Program  
**EEJ** – Environmental Equity Justice  
**EGLE** – Environment, Great Lakes, and Energy  
**EIRP** – Enhanced Infrastructure Replacement Program  
**EPA** – Environmental Protection Agency  
**EPRI** – Electric Power Research Institute  
**ETR** – Estimated Time of Restoration  
**EWR** – Energy Waste Reduction  
**GCM** – Gas Meter Communication  
**GCR** – Gas Cost Recovery  
**GIS** – Geographic Information System  
**GREET** – Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation

**GSMS** – Gas Safety Management System  
**HCA** – High-Consequence Area  
**HP** – High Pressure  
**hp** – Horsepower  
**LCRI** – Low Carbon Resource Initiative  
**LDCs** – Local Distribution Companies  
**LFERW** – Low Frequency Electric Resistance Welded  
**LiDAR** – Light Detection and Ranging  
**MAOP** – Maximum Allowable Operating Pressure  
**MCA** – Moderate Consequence Area  
**Mcf** – One-thousand Cubic Feet  
**MISO** – Midcontinent Independent System Operator  
**MIT** – Mechanical Integrity Testing  
**MJ** – Megajoule  
**MMBtu** – Million British Thermal Units  
**MMCFD** – Million Cubic Feet per Day  
**MP** – Medium Pressure  
**MPSC** – Michigan Public Service Commission  
**NERC** – North American Electric Reliability Corporation  
**NGDP** – Natural Gas Delivery Plan  
**NPA** – Non-pipe Alternative  
**NPDES** – National Pollutant Discharge Elimination System  
**NOx** – nitrogen oxides  
**O&M** – Operations and Maintenance  
**PHMSA** – Pipeline & Hazardous Materials Safety Administration  
**PIPES** – Pipeline Inspection, Protection, Enforcement, and Safety Act  
**PIG** – Pipeline Inspection Gauge  
**P&M** – Preventative and Mitigative  
**psi** – Pounds Per Square Inch  
**psig** – Pounds Per Square Inch Gauge  
**PSMS** – Pipeline Safety Management System

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**RACT** – Reasonable Available Control Technology

**RCV** – Remote-Control Valve

**RM** - Regulated Diaphragm

**RNG** – Renewable Natural Gas

**RP** – Recommended Practice

**RTU** – Remote Terminal Units

**SEA** – Statewide Energy Assessment, an MPSC report dated September 11, 2019 (Case No. U-20464)

**SCADA** – Supervisory Control and Data Acquisition

**SCC** – Stress Corrosion Cracking

**SMB** – Small Business, as described in the Company's gas demand response pilot

**SNG** - Synthetic Natural Gas

**SP** – Standard Pressure, also referred to as utilization pressure

**SMYS** – Specified Minimum Yield Strength

**TC** – Top Connect Meter

**TCF** – Trillion Cubic Feet

**TED-I** – Transmission Enhancements for Deliverability and Integrity

**TOD** – Transmission Operated by Distribution

**TP** – Transmission Pressure

**T&S** – Transmission and Storage

**USM** – Ultrasonic meters

**VSR** – Vintage Service Replacement

**WC** – Inches of Water Column

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**Revision History**

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Version	Approval Date	Revision Description
1	12/16/2019	Initial Document
2	12/11/2020	Second Version
3	12/01/2021	Third Version
4	12/01/2022	Forth Version
5	12/01/2023	Fifth Version
6	12/01/2024	Sixth Version
7	12/01/2025	Seventh Version

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## Natural Gas Delivery Plan

### I. EXECUTIVE SUMMARY

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#### A. Introduction

Consumers Energy Company's ("Consumers Energy" or the "Company") natural gas system serves Michigan safely, reliably, and affordably, providing energy for residential and business space heating, water heating, meal preparation, grain drying, industrial processes, and electricity generation.

This annually updated Natural Gas Delivery Plan ("NGDP" or "The Plan") maps the Company's vision to safely serve customers with natural gas for the next 10 years, while the Company's Michigan Public Service Commission ("MPSC" or the "Commission") approved Clean Energy Plan, and the Reliability Roadmap, chart the path for its electric supply and distribution business.

Natural gas is fundamental for keeping customers warm in Michigan's cold weather climate and delivering reliable and affordable energy for powering Michigan's electric grid, operating businesses and industrial processes. The Plan is founded on the Company's commitment to providing safe, reliable, affordable, clean, and equitable natural gas for Michigan.

The Plan reflects the MPSC's previous orders in which Consumers Energy received insights on the natural gas system through the 2019 Statewide Energy Assessment ("SEA"), and from the outcome of the Company's previous gas rate case, Case No. U-21490. The outcomes from Case No. U-21806 will be reflected in the 2026 iteration of the NGDP.

In this 2025 update of The Plan, Consumers Energy weighed input from peer gas utilities, industry experts, MPSC Staff, and other key external stakeholders to best understand how to serve customers and the state of Michigan.

The Plan outlines the next decade of investments in natural gas infrastructure, planning for natural gas supply and demand, and operational changes in accordance with the industry best practice of a Pipeline Safety Management System ("PSMS") protocol from the American Petroleum Institute ("API") Recommended Practice ("RP") 1173, or as Consumers Energy identifies it, as an expanded Gas Safety Management System ("GSMS")<sup>1</sup>. Based on these industry best practices, The Plan demonstrates how Consumers Energy will deliver safe, reliable, affordable, clean, and equitable natural gas to customers.

<sup>1</sup> Appendix A – Industry Standards Summary

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### B. Consumers Energy Natural Gas System

The Company's natural gas system serves approximately 1.8 million customers across Michigan's lower peninsula and is comprised of four Asset Classes: Storage, Compression, Transmission, and Distribution. To serve our customers the system must be safe, reliable, affordable, clean, and equitable with the flexibility to expand in response to evolving customer needs and adapt to changing regulatory requirements.

#### Storage

Storage assets are critical for both customer affordability and system resiliency. To achieve affordability and resiliency, the Plan includes storage well inspections, rehabilitation, remote monitoring, and strategic new well drilling techniques to optimize field performance. The result is improved system efficiency, reduced infrastructure risk, and stable-to-lower costs.

#### Compression

Gas compression assets inject gas into and withdraw gas from storage fields, inject gas onto the Company's system from interstate pipelines, and boost transmission and distribution gas pressures seasonally. The Plan outlines how the compression fleet is optimized, which includes the addition of certain equipment for reliability, improved efficiency, and retirement of obsolete compression assets.

#### Transmission

Gas transmission pipelines are the 'expressways' of the gas system, transmitting large quantities of gas at high pressures in large diameter pipes ranging from 4 inches to 36 inches. The Company's goal is to serve the capacity needs of our Michigan customers as well as optimize the transmission system in terms of age, materials, and technology to ensure public safety.

#### Distribution

The distribution system includes some of the Company's oldest facilities with assets situated closest to customers. Therefore, replacing aging infrastructure to reduce risk and expanding remote monitoring in this area is a critical focus.<sup>2</sup>

Natural gas follows the following flow through the Company's system:

1. **Transmission System**
  - a. Acts as the high-pressure backbone of the network, transporting large volumes of gas across the state.
  - b. Moves gas to and from underground storage fields and delivers it to city gate stations for distribution.
2. **Compressor Stations**
  - a. Located along transmission routes and at storage facilities.

<sup>2</sup> U.S. Department of Transportation, Gas Distribution System Annual Report for Calendar Year 2024, submitted 03/12/2025.

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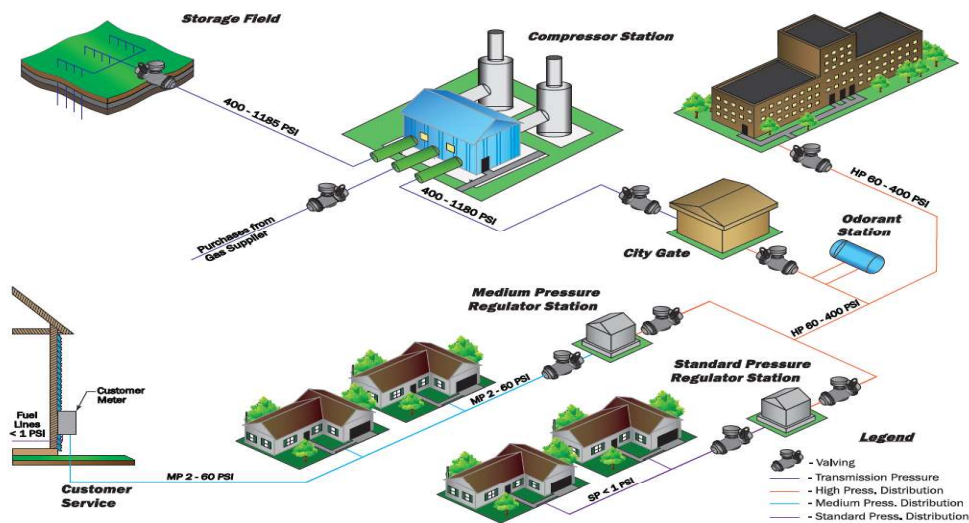


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- b. Pressurizes and conditions gas to ensure safe and efficient transport and storage operations.
3. **Underground Storage Fields**
  - a. Gas is injected during low-demand periods (typically summer) and withdrawn during high-demand periods (typically winter).
  - b. Supports customer affordability, system reliability and peak-day demand management.
4. **City Gate Stations**
  - a. Reduce pressure and odorize the gas before it enters the distribution system.
  - b. Serve as the transition point from transmission to distribution.
5. **Distribution System**
  - a. Delivers natural gas to residential, commercial, and industrial customers.
  - b. Includes Transmission Operated by Distribution (“TOD”) pipelines, which are classified as transmission for regulatory purposes but functionally serve distribution needs.

An illustration of a typical natural gas system layout is shown in Figure 1 with system statistics listed in Appendix B.

**Figure 1: Typical Natural Gas System Layout**



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### C. Pipeline Supply

Consumers Energy's system accesses seven interstate pipelines and one major intrastate pipeline. This interconnectivity provides diverse access to supply from Appalachia, the Rockies, Canada, the Gulf Coast, and Mid-Continent production basins.

Interstate pipeline supply into Consumers Energy's system generally ranges from 600 million cubic feet per day ("MMCFD") to 1,400 MMCFD. Pipeline supply flows year-round to meet customer demand and is used to fill storage in the summer season.

### D. Operational Accelerators

Operational Accelerators are the team, processes, and technologies that enable faster progress and drive the successful execution of the NGDP. These elements are essential to achieving our 10-year outcomes. The Plan identifies four critical capability areas.

#### Team

Consumers Energy is committed to having the right people, with the right skills and culture, in the right place at the right time. This includes creating positive employee experiences, attracting and retaining top talent, aligning skills with job needs, and fostering a diverse, equitable, and inclusive workforce.

#### CE Way

Work is executed efficiently and effectively through structured governance, standardized processes, clear roles and responsibilities, and innovative planning methods. Our primary operating models include the CE Way and the Gas Safety Management System, which are discussed further in the Operational Accelerators section.

#### Digital

Digital capabilities are essential to keeping our assets safe, secure, and well-maintained, as well as keeping processes efficient. Key technologies include advanced monitoring systems, drone technologies, artificial intelligence, data analytics, physical and cybersecurity upgrades, mobile work management tools, and the development of predictive maintenance and system condition tools. Planned investments in these areas are detailed in the Digital section.

#### Regulatory & Policy

Strategic alignment with evolving regulatory requirements and energy policy is critical to long-term success. This includes proactive engagement with stakeholders, contributing to policy discussions, and ensuring compliance with state and federal mandates.

### E. Climate Goals

The Company is committed to reducing fugitive methane emissions across its natural gas delivery system and to enhance its understanding of emissions associated with upstream suppliers and end-use customers. This commitment supports the Company's Scope 1 net zero methane emissions goal by 2030 and Scope 3 customer net zero carbon emissions goal by 2050.

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## II. CONSUMERS ENERGY NATURAL GAS DELIVERY PLAN

### A. Vision Statement

Customers are at the heart of Consumers Energy's purpose and service. They are the reason for the Company's daily operations and commitments. Consumers Energy's vision is to provide safe, reliable, affordable, clean, and equitable energy to customers who count on us. The Natural Gas Delivery Plan demonstrates how the gas system achieves excellence across the Triple Bottom Line – People, Plant and Prosperity for Michigan.

### B. Objectives

The Plan has five objectives to guide future investment decisions across all asset classes of storage, compression, transmission, and distribution. These objectives are: Safe, Reliable, Affordable, Clean and Equitable.

The Plan reflects analysis of the natural gas system, the natural gas commodity market, trends and practices across the industry, stakeholder feedback and customer insights.

#### Safe

The safety of employees, customers, the public, and the system is the Company's top priority. It is critical that the Company protects not only customers, but the communities we serve. The focus on safety is embodied with the Company's Triple Zero Vision of zero system incidents, zero non-compliances, and zero injuries. The Triple Zero Vision is supported by the focus areas below and demonstrated throughout the NGDP.

- Reduce system risks ensuring community and customer safety.
- Process enhancements to improve gas system safety including best practices in GSMS (API RP 1173), and records management.
- Advanced 24/7 monitoring of the system for real-time awareness of system performance, physical threats, and cybersecurity threats.
- Modernizing the natural gas system, including the remediation of distribution and transmission assets, and replacing higher-risk vintage distribution mains and services.
- Using remote control, real-time data monitoring, and probabilistic risk modeling to predictably identify safety concerns across all asset classes.
- Building operational excellence through a skilled workforce and consistent adherence to procedures, ensuring safe and compliant execution of work across all areas of the gas system.

#### Reliable

Consumers Energy maintains a reliable system through dependable assets, measured through metrics such as gas flow deliverability and total system resilience. The Company issues a resilient storage and market supply plan for peak demand days and proactively balances peak customer demand primarily with storage and use of Energy Waste Reduction ("EWR").

Considering the 2019 Ray Compressor Station fire incident, the SEA, and the need to ensure energy delivery resiliency and system reliability, the Company assesses the system's ability to adapt to winter peak day single failures, and the agility needed to

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respond to potential changes in the natural gas market environment and connected systems.

The American Gas Foundation<sup>3</sup> provides definitions for both resilience and reliability as follows:

- **Resilience** is defined as **a system's ability to prevent, withstand, adapt to, and quickly recover from a high-impact, low-likelihood event such as a major disruption in a transmission pipeline.**
- **Reliability** is defined as **a system's ability to maintain energy delivery under standard operating conditions, such as the normal fluctuations in demand and supply.**

The Company agrees with those definitions and considers both resilience and reliability critical to the Company and its customers. Accordingly, an underground pipeline network is highly resilient and reliable in delivering energy without interruption. This is particularly true considering potential climate change risk, as part of our publicly available Climate Change Risk, Vulnerability and Resiliency Report<sup>4</sup>.

### Affordable

Meeting customer needs and providing affordable energy prices is the foundation of our Strategy. Consumers Energy analyzes average customer bills (total cost and cost per one-thousand cubic feet ("Mcf")) to ensure costs are under the Midwest average.

At the end of Quarter 3 2025, the Company's gas bills were 6% below the Midwest average driven in part by the Company's underground storage fields. To maintain affordability, natural gas is purchased in the summer when prices are typically lower and stored underground. When winter months arrive, natural gas prices are typically higher, therefore Consumers Energy withdraws natural gas from storage fields and delivers it to customers at the lower priced rate purchases from the summer. Additional ways the Company helps support customer affordability include:

- Energy-efficient products and resources, including winterization kits for homes and businesses, along with information about customer assistance programs to help manage energy costs.
- Tariff options for commercial and industrial ("C&I") customers that help reduce transportation costs during peak demand periods.
- The Company is committed to supporting low-income customers through its Consumers Affordable Resource for Energy ("CARE") Program, which provides financial assistance and resources to help manage energy costs.
- Consistent and continuous internal process improvements emphasizing cost controls and unit cost reduction leveraging digital and the Company's CE Way methodologies.

Figure 2 shows customer bill history (**in blue**) and the current average monthly residential bill projection for 2035 (**in green**).

<sup>3</sup> American Gas Foundation. [Building-a-Resilient-Energy-Future-Full-Report\\_FINAL\\_1.13.21.pdf](https://www.gasfoundation.org/building-a-resilient-energy-future-full-report-final-1.13.21.pdf) ([gasfoundation.org](https://www.gasfoundation.org))

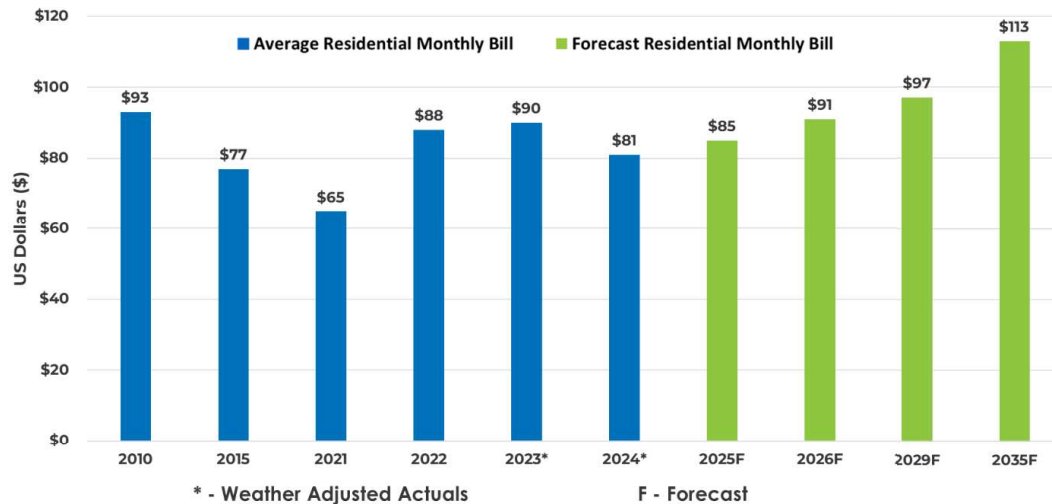
<sup>4</sup> [Climate Change Risk, Vulnerability and Resiliency Report](#)

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**Figure 2: Average Monthly Residential Customer Bill History and Forecast**



**Clean**

Consumers Energy is committed to Michigan, its natural resources, and a sustainable climate for generations to come.

In support of Michigan’s Healthy Climate Plan 2050 carbon neutrality goal, as well as other national and international efforts, the Company is evaluating changes to the natural gas business to reduce, offset, and replace methane emissions, including customer end-use. The primary “clean” outcome is to achieve net-zero methane emissions by 2030, which is a first step and important component of the decarbonization plan.

Additionally, the Company committed in 2022 to expand on its clean energy goals to include all emissions, including upstream suppliers and downstream customers, that are part of the entire gas delivery system to be carbon neutral by 2050, which includes an interim goal of 25% reduction in customer emissions by 2035. MI Clean Air Program provides customers with voluntary carbon offset products including forestry offsets and renewable natural gas (“RNG”). In 2024, Consumers Energy was awarded a state grant to investigate how network geothermal technology can benefit customers as well.

**Equitable**

Consumers Energy is committed to ensuring that no customer is left behind. Through active engagement with diverse communities and equitable investment across all census tracts, the Company works to ensure that all customers have access to safe, reliable, and affordable energy.

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### Energy and Environmental Justice

The Company developed an Environmental Equity Justice (“EEJ”) Strategy Playbook to assist in guiding internal and external initiatives strengthening stakeholder engagement.

In 2025, Consumers Energy made consistent progress in replacing vintage pipeline materials and services across all census tracts within its natural gas service territory. The Michigan Department of Environment, Great Lakes, and Energy (“EGLE”) defines EEJ communities using the MiEJScreen tool. Communities with a composite score of 80 or higher are generally designated as EEJ communities.

Also in 2025, Consumers Energy launched a targeted community engagement strategy with four EEJ communities identified by the MiEJScreen, within its combination service territory. This initiative focused on increasing access to information and resources while actively gathering customer feedback to inform future efforts. Concurrently, enhancements to internal data analysis and application tools enabled more strategic outreach to customers facing affordability challenges.

By deepening our understanding of the experience and priorities of our natural gas customers, we are building trust and delivering tailored solutions that reflect our commitment to serving all customers.

In 2026, Consumers Energy will expand its equitable engagement efforts to improve access to programs that help address systemic barriers. Affordability, for many EEJ households, goes beyond managing costs—it’s about survival during Michigan’s harsh winters. We are addressing this challenge through targeted programs and partnerships that promote energy efficiency and reduce financial strain.

Despite the availability of support programs, only an estimated 17% of eligible customers are currently enrolled. Increasing awareness and participation is a top priority. To support this goal, Consumers Energy launched the **'My Personalized Offerings'** tool, which provides customers with tailored recommendations based on their individual needs. Available programs include:

- **Home Energy Analysis**: Free in-home assessment with personalized energy-saving recommendations and upgrades.
- **Helping Neighbors Program**: Offering insulation, weatherization, smart thermostats, and energy efficiency upgrades that lower bills long-term.
- **CARE Program**: Providing predictable monthly payments and direct bill support for income-qualified customers.
- **Low Income Home Energy Assistance Program (LIHEAP)** and **Michigan Energy Assistance Program (MEAP)**: Connecting customers to federal and state resources that prevent shutoffs and provide crisis support, while reducing the stigma of asking for help.
- **Community Partnerships**: Collaborates with local nonprofits, schools, and faith-based organizations to increase awareness and access to available resources.

Energy is essential and we believe everyone deserves fair and affordable access to the energy they need, regardless of where they live or their income level. Our EEJ efforts focus on identifying and removing barriers so that all communities can benefit from safe, reliable, affordable, clean, and equitable energy.

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**C. 10-year Outcomes**

The investments described in this Plan are necessitated by federal and state regulatory requirements and are designed to ensure safety, reliability, and environment performance, while keeping customer bills affordable and predictable. The 10-year investment plans are guided by long-term outcomes for each asset class and key initiatives.

**Figure 3: Natural Gas Delivery Plan Objectives and Outcomes**

Objective	High Level Outcomes	Target year
<b>Safe</b>	Implement probabilistic risk model for all asset classes	2030
	Achieve at or greater 4.0 GSMS maturity level	2030
	Install 100% transmission remote control valves	2035
<b>Reliable</b>	Rehabilitate all storage wells to "like new" condition	2027
	Zero vintage materials (pipelines & services)	2035
	Modernize 100% of city gates	2035
	Modernize 100% of regulator stations	2035
<b>Affordable</b>	Residential bills are below the Midwest average	Annual
	Increase Energy Waste Reduction 1% year over year	Annual
<b>Clean &amp; Equitable</b>	Scope 1: net-zero methane emissions from delivery system	2030
	Scope 3: net-zero customer carbon emissions	2050

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### III. CONSUMERS ENERGY NATURAL GAS SUPPLY

#### A. Overview of Natural Gas Market

Advancements in unconventional drilling production methods alongside increased mid-stream investment has turned the U.S. into a net exporter of natural gas.

The U.S. natural gas market is growing, adapting to changing producer priorities and global influences, as export demand matures. Over the long-term, natural gas prices are projected to remain affordable as U.S. natural gas production is capable of efficiently meeting demand growth due to favorable U.S. oil and natural gas shale production economics, market transparency, and a resilient interconnected interstate natural gas transportation system.

Michigan has benefited from growth in shale production. The largest U.S. shale production basin is in the nearby Marcellus and Utica Appalachian formations primarily in Ohio, Pennsylvania, and West Virginia<sup>5</sup>. Appalachian production accounted for approximately one third of the U.S. production in 2025 and has applied downward pressure to regional natural gas prices as local supply volumes have increased over time in concert with Michigan's U.S. leading natural gas storage capacity.

The Company's natural gas system has access to seven interstate pipelines and the most prolific natural gas production basins in the country, Canadian supply, a major intrastate pipeline interconnect and Michigan production.

Consumers Energy's leading storage facilities, flexible interconnected system, and access to low-cost regional supply provide a competitive advantage below benchmark commodity prices.

#### B. Consumers Energy's Natural Gas Supply Plan

The Company's Gas Cost Recovery ("GCR") supply plans are detailed in a separate regulatory filing, updated annually and include procurement details on the advantages the Company's system provides to customers.

- Foundationally, the GCR Plan takes advantage of ample and affordable regional supply locking in historically lower summer natural gas prices using storage investments to minimize winter procurement when prices are typically higher.
- Typically, the Company procures about 75% of its GCR supply requirements in the summer months for injection into storage fields to meet winter GCR customer demand. Winter GCR sales constitute about 75% of total GCR annual sales. On the coldest days, storage can provide up to 80% of total customer demand, with the balance of demand served by the fixed (ratable) flowing pipeline supply.
- Storage provides price stability, lowers supply related risks, and generally lowers commodity costs in the winter months. It also provides system flexibility and resilience to enable reliable and timely delivery services by efficiently balancing variable customer load throughout the day.

<sup>5</sup> U.S. Dept. of Energy – Energy Information Administration, (2025, July, 29). Eastern U.S. natural gas increasingly meets LNG-fueled demand growth in AEO2025 - U.S. Energy Information Administration (EIA). [Eastern U.S. natural gas increasingly meets LNG-fueled demand growth in AEO2025 - U.S. Energy Information Administration \(EIA\)](#), Accessed Oct. 27, 2025.

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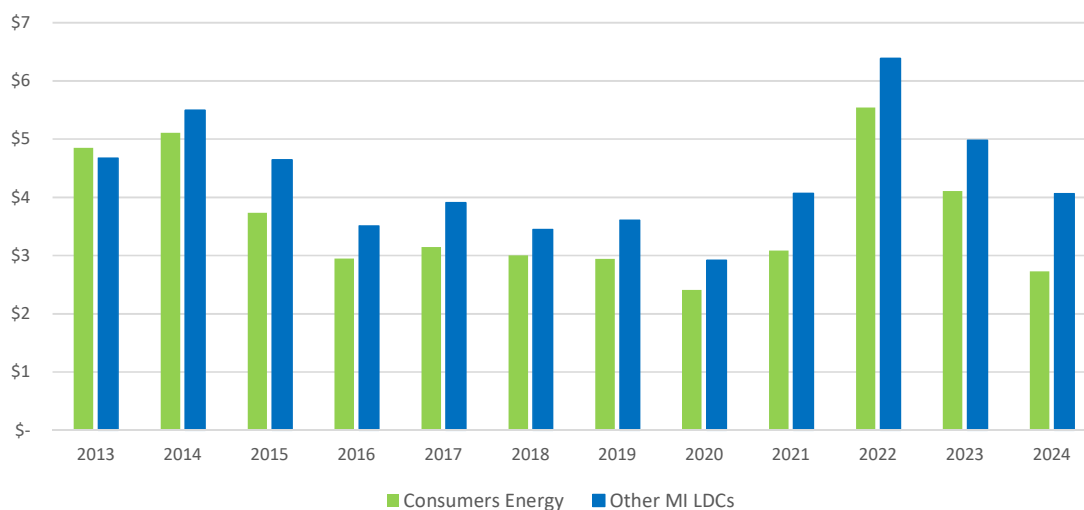


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The Company’s system investments and commodity supply plan minimize natural gas price volatility, supply risk, and fixed supply costs for customers. This has resulted in GCR customer commodity costs often lower on average than other Michigan regulated gas utilities over the past decade.

Figure 4 shows the Company’s annual average GCR price when compared to the average of the other Michigan Local Distribution Companies (“LDC”) through 2024.

**Figure 4: Average GCR Billing Factor Price  
 for Consumers Energy and Other Michigan LDCs<sup>6</sup>**



### C. Potential Electric Generation Load Growth

Analysis indicates growing interest in natural gas as a fuel for electric generation facilities across the industry<sup>7</sup>. The Midcontinent Independent System Operator, Inc (“MISO”) Generator Interconnection Queue, when filtering on the state of Michigan, shows 12 ‘Active’ applications for new natural gas power generation facilities in the state, representing over 7GW of new generation.<sup>8</sup> Potentially integrating one or more new large natural gas-fired electric generation facilities into the Consumers Energy natural gas system would necessitate natural gas system infrastructure upgrades. Enhancements may be required across all asset types to ensure reliable and resilient service for both existing customers and new generation facilities. The Company will actively monitor the external environment to understand this type of potential future load growth.

<sup>6</sup>[https://www.michigan.gov/documents/mpsc/gasrates\\_592543\\_7.pdf](https://www.michigan.gov/documents/mpsc/gasrates_592543_7.pdf)

<sup>7</sup>U.S. Department of Energy, Energy Information Administration, 2025 June 11, *In Brief Analysis – Electric generators plan for more natural gas-fired capacity after few additions in 2024*, [Electric generators plan more natural gas-fired capacity after few additions in 2024 - U.S. Energy Information Administration \(EIA\)](#) Accessed 2025 September 25

<sup>8</sup>Midcontinent Independent System Operator, Inc., Interconnection Queue [GI Interactive Queue](#). Accessed 2025 September 25

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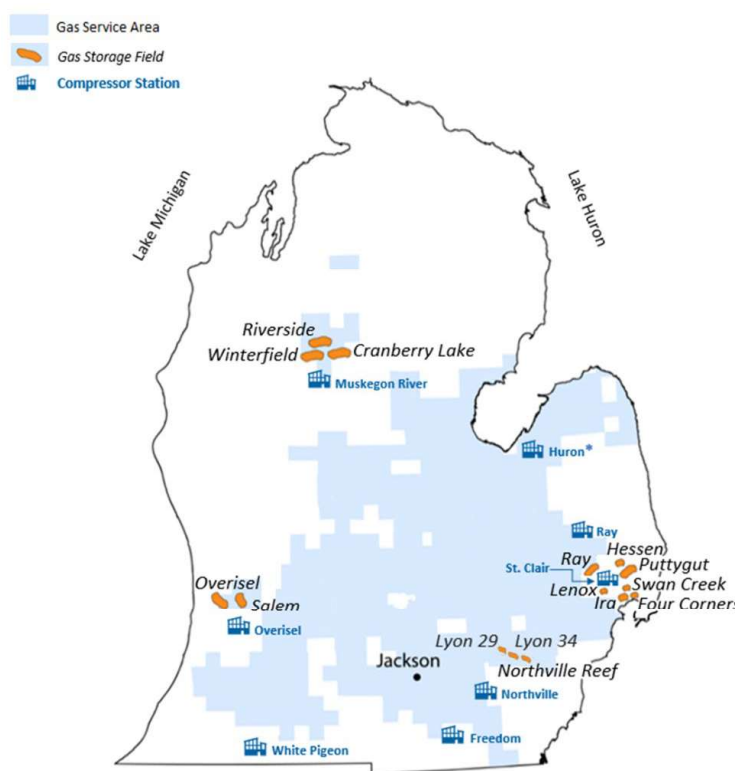
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**IV. ASSET CLASSES**

**A. Storage Asset Plan**

As a northern peninsula state, Michigan is geographically disadvantaged but geologically advantaged from a natural gas perspective. Consumers Energy has 15 underground natural gas storage fields<sup>9</sup> tapping into depleted hydrocarbon reservoirs deep underground through approximately 783 wells that tie into the Company’s natural gas system. Figure 5 illustrates the location of the storage fields in relation to the compression assets.

**Figure 5: Map of Storage Fields and Compressor Stations**



The Company’s storage assets are used to meet Michigan’s winter energy needs as a safe, reliable, resilient, and low-cost alternative to traditional firm interstate transportation capacity. This storage capacity provides customer value by enabling the Company to purchase gas at lower prices in the summer and provides the capability to purchase gas in ways that provide economic benefits while ensuring supply adequacy during periods of high demand.

Storage fields also play an important role during extreme weather situations and emergent operational changes by providing quick access to high volumes of gas that are geographically close to Michigan’s demand centers at summer versus peak use pricing. Michigan’s winter demand peaks are due to residential heating and therefore are significantly affected by weather conditions. These demand peaks often coincide with increased electric generation demand.

<sup>9</sup> 15 underground storage fields include Riverside

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Efficient connection of gas storage to customer load also provides advantage during the extremely cold winters. The potential growth of gas-fired generation to offset the retirements of coal-fired generation in Michigan adds to the variation and peak gas needs during a peak day.

All the Company's gas storage fields are accessed through vertical or horizontal wells and are connected to compressor stations by storage pipelines. Improvements in field performance depend on the performance of the entire integrated facility on its way to the transmission system.

The Company's efforts to optimize overall field performance through multiple efforts (i.e. new wells, well rehabilitation, strategic plugging, etc.) are leading to better performing fields that allow for a more resilient overall system. Since 2018, the Company reduced the number of storage wells, becoming more efficient and safer, while maintaining consistent levels of deliverability.

The storage fields provide approximately 154 Bcf of cyclic design capacity known as Working Gas. In addition to the natural gas cycled annually for customer use, a base level remains in place to ensure the field is adequately pressurized.

### 1. Storage Asset Class 10-Year Focus

- Optimize aging storage asset infrastructure to lower operating costs, maintain deliverability, and decrease emissions points.
- Optimize storage asset risk, in alignment with Pipeline and Hazardous Materials Safety Administration ("PHMSA") requirements through remediation, plugging and decommissioning underperforming wells.
- Increase cycling of peaker fields for cold weather events.
- Invest in digital solutions for increased storage well monitoring.
- Evaluate options for increasing cyclic volumes in existing fields or areas for new gas storage reservoirs to support potential future load growth.

### 2. Storage Asset Management Plan

The Company's gas storage fields are segmented into baseload, intermediate, and peaking fields to serve different needs depending on daily, monthly, and seasonal demand deliverability requirements. Deliberate use of these fields based on their capability reduces winter purchases that would otherwise be needed to cover high demand times and increases the utilization of the gas in storage.

Storage fields in the system are used in three ways:

- **Baseload** storage fields run daily during the winter to meet base level demand and provide more efficient supply paths to the natural gas system further away from pipeline supply interconnects.
- **Intermediate** storage fields run during longer periods of higher demand and can be used as baseload or peaking storage supply, depending on system conditions.
- **Peaker storage fields** run during extreme hours and days when demand changes quickly. These fields can be used during the highest demand times during the coldest winter days.

Deliverability is the flow rate of gas per time (usually daily) that a specific storage field or well can provide. Fields designated as peakers, such as Lyon 29, typically have high, per-

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well, delivery rate, but fewer overall wells, while baseload fields, such as Winterfield, tend to have higher well counts but lower overall deliverability on a per-well basis.

Fields designated as intermediate fields also have relatively high deliverability characteristics as well as significant cyclic capacity that makes them suitable for both peaking and baseload operations.

Consumers Energy's historical storage usage follows a similar annual pattern: generally steady injection from April to October and withdrawal from November to March.

Injection and withdrawal plans consider the individual field capability and inventory as well as capability of the natural gas system and customer demand. Some fields take longer to fill or empty depending on their geology, inventory, and the use of compression. Their capability for accepting gas decreases as they are filled, and as field inventory decreases, the ability to provide supply decreases.

During the withdrawal season, baseload fields generally provide natural gas throughout the winter, followed by intermediate fields, such as Ray, and peaking fields when the temperatures drop and customer demand increases.

Unlike pipeline supply, when temperatures rise, storage fields can be shut in for hours or days to adapt to customer load. The shut-in capacity available on any day can very quickly be used to provide system resilience in the event of unplanned outages on the system impacting supply.

Peaking fields support system reliability and cost efficiency in several ways:

- **High-Demand Support:** These fields are activated during peak or near-peak demand days to supply additional gas. If this deliverability is not used, then it reduces the pipeline supply requirements in the next month. The Ray field, due to its unique characteristics, can serve as a peaking resource when inventory levels and conditioning equipment permit.
- **Winter Supply Optimization:** Peaking fields help reduce reliance on interstate pipeline supply during the winter season and offer reserve capacity during off-peak periods to enhance system resiliency. When peaker deliverability reduces pipeline supply requirements it causes an increase in the use of the base fields thereby increasing the cycling of base fields.
- **Diversification and Cost Management:** Utilizing multiple peaking fields reduces dependence on the Ray field and avoids higher fixed costs tied to interstate firm capacity and third-party storage. Cycling our fields reduces the amount of gas that needs to be purchased and helps manage costs for our customers. To further reduce reliance on Ray, the Northville Gas Conditioning project is underway to improve gas quality from these fields when needed.

### 3. Storage Well Integrity Program

The key risk in storage field operations is degradation of wells, allowing gas stored in the reservoir below to escape and leak into the surrounding area.

Storage well maintenance involves inspections ("logging"), repair, rehabilitation, and decommissioning for wells that provide less value to the customer. In addition, new wells with horizontal drilling technology can be added to the system to enhance access to the storage field and replace decommissioned wells.

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### **Well Inspections**

Consumers Energy inspects wells to determine their current state and to assess risk. The **Storage Asset Plan** complies with Federal Pipeline Safety regulatory requirements, and the applicable sections of API RP 1171.

These procedures govern operations, maintenance, integrity demonstration and verification, monitoring, threat and hazard identification, assessment, remediation, site security, emergency response and preparedness, and recordkeeping requirements for all existing underground natural gas storage facilities.

Integrity baseline assessments of underground storage wells began in 2017 to meet the PHMSA compliance date of March 2027 for baseline risk assessment of all storage wells.

### **Well Rehabilitation**

Consumers Energy launched a 10-year Well Rehabilitation Program in 2017, with completion targeted for 2026. The program restores wells across the storage portfolio to “like-new” condition and aligns with PHMSA’s baseline risk assessment requirements.

Key benefits include Enhanced Safety and Efficiency: Reduces long-term storage risks related to corrosion, gas migration, leaks, and well integrity; and Improved Deliverability: Restored wells support reliable system performance by increasing gas flow capacity.

### **Well Reassessment / Preventative and Mitigative Measures Program**

A well-specific Preventative & Mitigative (“P&M”) Measures Program is in development for each well that completes the Well Rehabilitation Program.

The current plan provides a 21-year outlook for well work that will continue to verify and monitor well integrity. This P&M Program began in 2024, as outlined by the seven-year assessment cycle prescribed by federal underground storage requirements.

Items included in the P&M Program include specific activities depending on well type: facility, observation, and Class II disposal wells. Maintenance includes items such as logging frequency, fill depth checks, slickline cleanout of paraffin for wells with known paraffin issues, mechanical integrity testing (“MIT”) on wells with tubing and packer systems, and fluid checks on wells with known water levels.

The benefits of the Program include system risk reduction and safe storage operations as well as providing reliability availability and deliverability of the storage wells to provide natural gas to the system throughout the winter.

### **New Well Drilling Program**

The purpose of the New Well Drilling Program is to identify the best locations to drill new wells within the storage assets. Important considerations include: the sequencing of well logging, remediation, new drilling, and plugging to ensure continued deliverability.

Consumers Energy is taking a holistic system view that these activities follow a logical sequence. For example, new well drilling should precede well plugging and

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decommissioning if practical, to ensure short-term flow is not significantly compromised. Options to accelerate drilling should be considered, when possible, to ensure remediation, new well drilling, and plugging follow an optimal schedule.

- Drilling new wells includes centralizing multiple wells to one location. This reduces overall operational maintenance and could reduce overall storage pipeline lengths supporting affordability.
- Using seismic mapping and reviewing existing well information to place the well within the best part of the reservoir supports reliability by increasing deliverability while minimizing liquid production.
- Using safe drilling operations that provide a clean well for injection and withdrawal which support the Company's safety and reliability objectives.
- Mitigating risk with new wells allows for drilling to current standards and potentially allowing for plugging of aging wells that may present higher risk.

### **Well Re-Entry**

A subset to the New Well Drilling Program has been initiated and focused on re-entering existing horizontal or deviated wells and drilling new drain holes. Re-entry work is less expensive than a full new well as the casing and pipeline are already installed.

Re-entering an existing well further helps to improve reliability and safety with field and well deliverability, especially for wells that were drilled off structure or too deep within the reservoir. The additional rate can be used to either improve the field's overall deliverability or allow for plugging of nearby vertical wells if they have integrity concerns.

Additional benefits to the Program include using part of an existing well in good integrity to plug back the original horizontal well and drilling additional drain holes to increase deliverability.

### **Well Plugging**

Well plugging is performed on certain wells, balancing risk with reliability and customer value.

- Plugging poor-performing, high-risk wells decreases maintenance expenses and reduces risk.
- After a well is plugged, the Company reduces its land footprint by restoring the area.
- Plugging a well reduces methane emissions by reducing maintenance related venting, and fugitive emissions associated with system piping and wellhead components.

### **Plugged Well Monitoring**

In 2022, Consumers Energy contracted a third party to review all plugged wells within the Company's gas storage boundaries. The work included creating wellbore diagrams and classifying the plugging as **questionable**, **adequate**, or **exceptional**. This classification was used to develop monitoring plans for both the Company's plugged wells, and third party plugged wells.

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The plugged well monitoring plan will have a frequency based on the plugging classification. The wells classified as **questionable** will be field monitored more frequently than the wells classified as adequately plugged. The **exceptionally** plugged classified category will be field monitored the least frequently. Newly plugged wells will be classified, and a baseline field monitor will be completed within three years of plugging completion.

The plugged well monitoring plan for third party wells includes field monitoring for any potential gas leakage every five years for questionably plugged wells that don't have a bottom cement plug through the storage zone. These wells are drilled through the storage zone and are located within a quarter mile radius of a Consumers Energy well. Monitoring is limited due to landowner or well owner cooperation.

This work will be recurring with a frequency based on the plugging classification and the evidence of gas leakage.

### **Storage Lateral Pipeline Replacement**

The purpose of the Storage Lateral Pipeline Replacement Program is to replace and upgrade storage laterals based on age, condition, risk, and association with the other gas storage programs. Primary improvements anticipated from the program include:

- Installation of launcher and receiver barrels that allow for pipeline inspections.
- Potentially changing the pipeline length and size based on the new well drilling and well plugging programs for storage field deliverability improvements.

These changes will help reduce risk while creating a more efficient path for gas flow to the larger natural gas system.

### **Northville Lyon 29/34 Liquid Removal Project**

The primary focus of the Lyon 29/34 facility is to deliver transmission quality gas to the pipeline system and act as a metering station for the metro Detroit area.

During 2018, 2019, and 2020 there were multiple occasions of gas purity issues occurring during the gas withdrawal season associated with water content.

The Lyon 29/34 facility upgrade project will help improve gas purity, measurement accuracy, and pipeline reliability by reducing corrosive components from the gas stream and improve site performance by installing gas purification equipment.

### **Favorable Natural Gas Market Environment**

A favorable natural gas market environment and the growing demand for natural gas could lead to opportunities for growth in gas storage. Future work associated with the demand growth may include evaluations for increasing storage volumes in existing fields or evaluating areas for new gas storage reservoirs. The Gas Storage Engineering team will continue to engage with stakeholders regarding load growth and the impact to gas storage to ensure the path forward is well understood.

## **4. Storage Fields Asset Plan**

In alignment with the Storage Well Integrity Program and based on scenario modeling completed in 2018, the Company assessed the potential retirement of four low-cyclic

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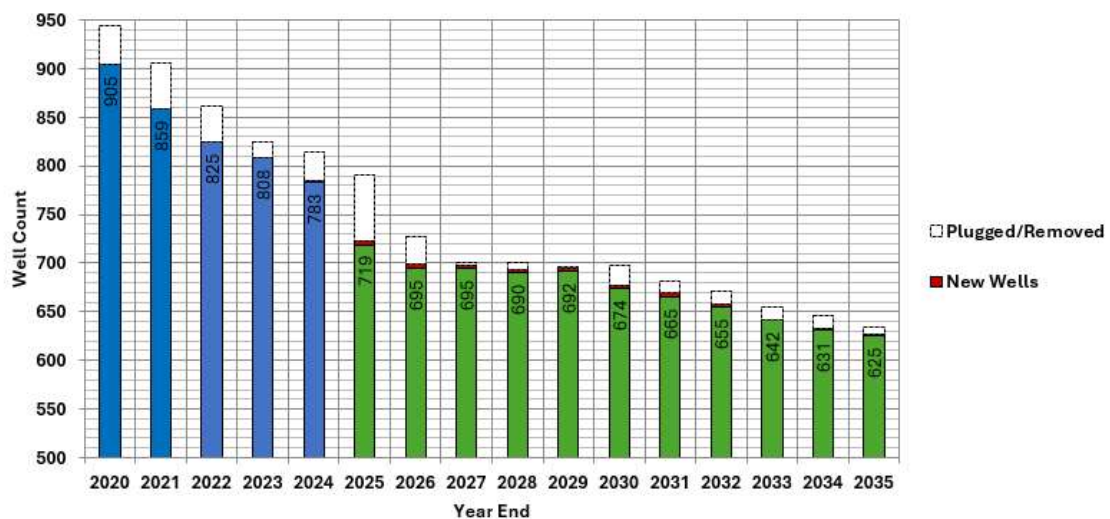
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fields to consolidate the storage system: Swan Creek, Four Corners, Lyon 34, and Riverside. Collectively, these fields provide less than 1.5% of the Company’s gas supply throughout the winter.

Model results indicated three fields still provide value to customers and showed that Riverside may be a viable candidate for sale or retirement. Based on these results the Riverside field is in the process of being sold with a completion target date of December 2025. Divestment of the Riverside storage field will reduce system risk and O&M expenses associated with operation of these storage assets with minimal impact to overall system capacity and deliverability.

Figure 6 identifies that the combined approach of the Storage Well Integrity Program and the sale of the Riverside storage field would reduce the overall number of wells, which will result in lower risk, lower operating costs, and lower methane emissions, while ensuring system resiliency, deliverability of gas flow per well, and potentially improving gas quality resulting in less risk to compressor station operations and downstream facilities.

**Figure 6: Storage Well Integrity Program Overview**



This reduction in the overall number of wells will have a minimal reduction in working gas capacity from an approximate current amount of 154 Bcf to a forecasted amount of 152 Bcf in 2026.

### 5. Storage Asset Financials

Figure 7 shows the spending needed to execute the Storage Well Integrity Program and other investments in the storage asset class.

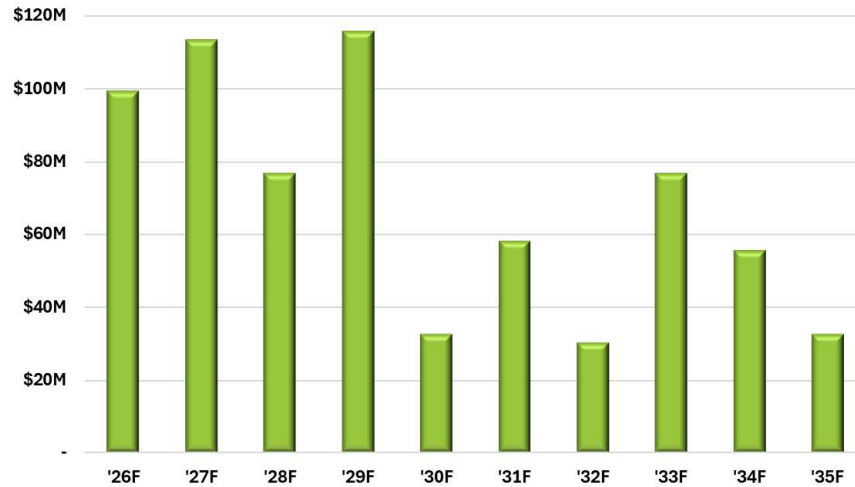
This investment plan aligns with Company objectives by reducing asset risk (safe), increasing the deliverability of each remaining well and positively affecting the natural gas system’s resiliency (reliable), reducing the overall well count (affordable), and reducing the emissions points in this system (clean).

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Figure 7: Storage Capital Investment Plan



**B. Compression Asset Plan**

Consumers Energy operates eight compressor stations that pressurize and condition natural gas for safe transport through transmission and distribution systems, and for injection into or withdrawal from underground storage. The compression fleet is categorized by function into storage, transmission, and distribution stations, as outlined in Table 1.

Table 1: Overview of the Four Types of Compressor Stations

	Storage	Transmission	Transmission & Storage	Distribution
<b>Purpose</b>	Pressurize and condition natural gas injection into or withdrawal from underground storage	Receive and transport gas throughout the gas delivery system. Condition gas as needed to meet customer needs	Act as storage units that also provide transmission compression	Boost gas pressure through the distribution system when agricultural processes increase demand
<b>Compressor Station</b>	Ray Muskegon River St. Clair	White Pigeon Freedom	Overisel Northville	Huron

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### 1. Compression Asset Class – 10-Year Focus

- Reduce system risk and methane emissions through retirement and decommissioning of vintage compression units and equipment.
- Improve fleet reliability through increased system health monitoring, automation to maintain asset performance, and preventative maintenance.
- Advance system resilience and maintain gas compression facility deliverability through alternative flow path validation and creation, as well as implementation of robust design enhancements to existing equipment to protect major natural gas supplies from interruption. Use system supply requirements, station assessments, and the Total System Resilience process to inform investments.

### 2. Compression Asset Management Plan

In 2024, Consumers Energy's system-wide weighted average compressor utilization was 19%. Utilization is defined as the ratio of actual operating time to available operating time for each unit.

Utilization factors:

- Seasonal demand: Colder winters increase utilization due to higher storage withdrawals; warmer winters reduce it.
- System dynamics: Supplier delivery patterns, interstate pipeline pressures, asset availability, and external conditions all impact usage.
- System design: The Company's natural gas system is uniquely structured to prioritize seasonal and peak-day reliability, rather than continuous operation.

Key considerations:

- Compression assets primarily support storage injection and withdrawal, ensuring reliability and flexibility at city gate stations.
- Locational supply flexibility allows the Company to optimize affordability, though it may result in lower utilization of interstate pipeline-focused compression assets.

The Company plans to increase utilization through retirement of aging units and improving reliability and concentrating usage on remaining assets. Additionally, system resilience planning is utilized, ensuring compression supports both operational flexibility and maintenance needs.

With a unique peninsula geography and as the supplier of last resort, Consumers Energy must prepare for infrequent but extreme design conditions, which contributes to lower compressor utilization compared to industry peers. Peak utilization typically occurs during late winter (February–March) when storage inventory is withdrawn to meet demand.

Transmission compressor stations experience more stable daily and monthly peak demands, though utilization is influenced by factors such as interstate pipeline pressures, market conditions, and upstream facility outages.

Storage compressor stations exhibit greater variability in horsepower requirements due to their role in adapting to seasonal customer demand while supporting summer injection and winter withdrawal.

St. Clair and Ray Compressor Stations have lower horsepower utilization, reflecting their operational flexibility to respond to dynamic system conditions and customer needs.

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Late-season cycling of base storage fields helps mitigate gas migration risks and enables inventory optimization, reducing reliance on costly and uncertain pipeline supply.

Peak day demands, including those driven by gas-fired generation, are primarily met by high-deliverability peaking storage at Northville, St. Clair, and Ray.

- Post-peak, horsepower (“hp”) is required to refill Northville and St. Clair to support frequent cycling and maintain system resilience.
- White Pigeon has experienced lower utilization with current market conditions favoring supply through Freedom and Northville.

Maintaining supply flexibility and access to multiple delivery points supports affordability and enhances system resilience.

Based on scenario modeling, six long-term recommendations are identified to enhance system reliability, resilience, and utilization across its compression fleet:

1. **Preventative & Predictive Maintenance:** Accelerate implementation of preventative maintenance programs and gradually integrate predictive technologies. Consumers Energy will modernize its compression maintenance practices by shifting from reactive, break-fix cycles to proactive, analytics-driven approaches. Key actions include:
  - Accelerating preventative maintenance programs.
  - Introducing predictive technologies to reduce downtime.
  - Standardizing data entry and record-keeping across stations. Investing in digital infrastructure to enable fleet-wide performance monitoring.
2. **Asset Retirement:** Decommission retired and mothballed compressor units to streamline operations and reduce system risk. Seven retired units at Muskegon River and White Pigeon are scheduled for decommissioning. Additional units at Freedom, Ray, and St. Clair have successfully been decommissioned as part of system optimization efforts.
3. **Fleet Optimization:** Optimize compressor units at Muskegon River to meet volume and pressure requirements efficiently. Following the retirement of the Riverside storage field, Muskegon River remains critical for supporting Winterfield and Cranberry Lake storage operations. Optimization efforts include:
  - Replaced aging suction boosting units with a new turbine.
  - Retiring outdated equipment post-installation.
  - Rebuilding key units to extend operational life through 2033.
4. **Resiliency Planning:** Evaluate contingency options to mitigate outage risks and enhance station-level resilience. The Company is conducting comprehensive assessments of compression, storage, and transmission systems to identify failure points and improve system resilience. This includes:
  - Reviewing critical components (e.g. compressors, valves, control systems).
  - Evaluating bypass options (e.g. Ray Storage to transmission).
  - Standardizing station design based on hazard assessments.
5. **Portfolio Assessment:** Assess feasibility of retiring additional assets to concentrate investment on critical infrastructure and improve overall fleet performance.

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Consumers Energy will annually evaluate compression assets for potential retirement to focus investment on high-priority units. This includes:

- Monitoring reliability and performance indicators.
- Aligning with system resilience and layout risk assessments.
- Developing business cases for retirements or upgrades.
- Adjusting fleet capacity to meet new customer and peak demand and improve utilization.

6. **Regulatory Compliance:** Ensure compressor station compliance with the proposed Michigan nitrogen oxides (“NOx”) Reasonable Available Control Technology (“RACT”) Rule. Overisel Station, located in an ozone non-attainment area, is undergoing modifications to meet proposed NOx emission limits. Four slow-speed engines will be equipped with combustion controls to ensure compliance. Muskegon River Station is executing a Closed Loop Cooling project in response to EGLE requirements to lower river water discharge temperatures. It will eliminate the use of surface water for cooling processes.

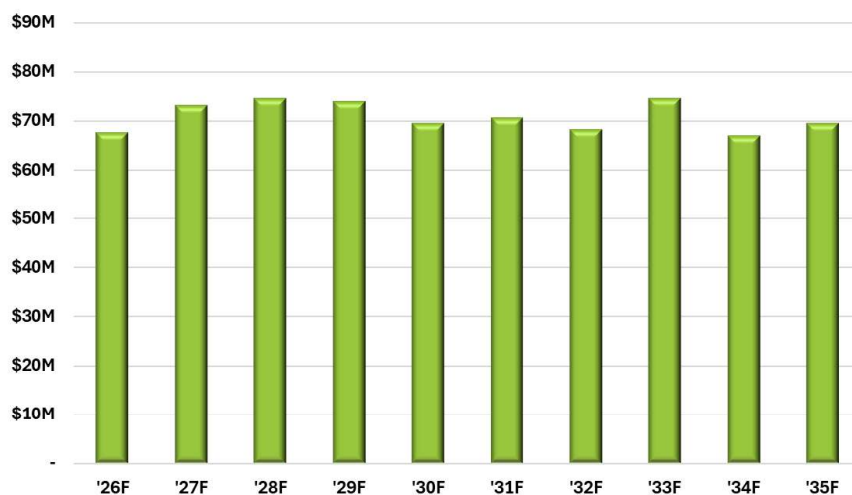
### 3. Compression Asset Financials

Consumers Energy’s capital investment plan for compression assets, illustrated in Figure 8, is based on scenario modeling and ongoing system assessments. The plan will be updated regularly as business cases are developed to support necessary expenditures.

This investment strategy aligns with the Company’s core objectives:

- **Safe:** Reduces asset risk through modernization and decommissioning.
- **Reliable:** Lowers random outage rate (ROR) and increases utilization.
- **Affordable:** Optimizes fleet performance and maintenance practices.
- **Clean:** Reduces equipment-related emissions.

**Figure 8: Compression Capital Investment Plan**



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### C. Transmission Asset Plan

The Company's transmission system serves as the 'expressway' of the gas system, transmitting large volumes of gas through pipelines ranging from 4 to 36 inches in diameter, operating at high pressures between 400 and 1,185 pounds per square inch ("psi").

Gas Transmission lines move gas:

- From interconnects
- To and from underground storage fields,
- To city gates for delivery to the distribution system.

The system includes TOD pipelines, which are classified as transmission for Department of Transportation ("DOT") Reporting, but functionally operate as part of the distribution network. The associated breakdown of transmission pipeline mileage is shown in Appendix B and is available in the Company's 2024 Transmission DOT Report filing.

The Company's strategic goal is to:

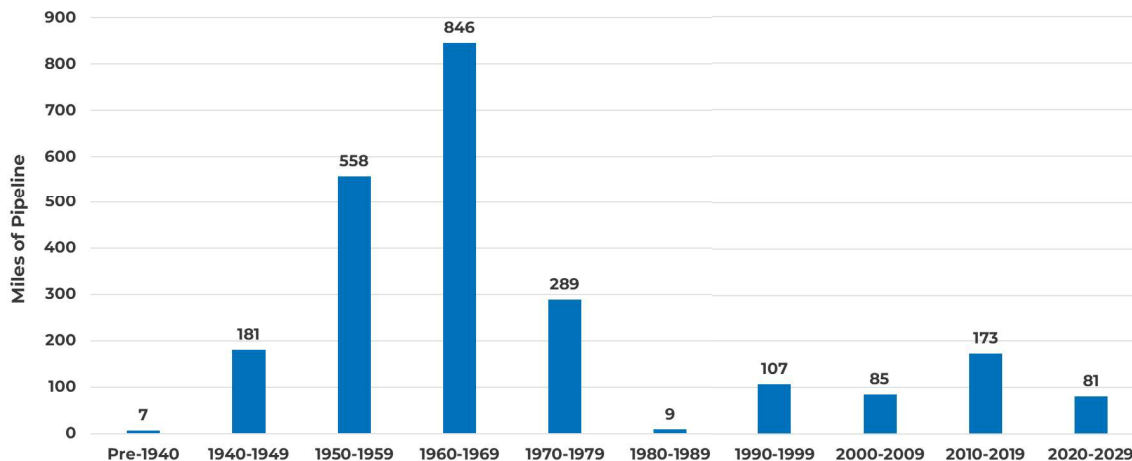
- Meet Michigan's capacity needs,
- Optimize the system based on age, materials, and technology,
- Ensure public safety through compliance with state and federal pipeline safety regulations.

Key initiatives include:

- Ongoing inspections to identify and mitigate system threats,
- Continued investment in pipeline upgrades and replacements,
- Deployment of remote-control valves ("RCV") to enable rapid isolation in the event of system integrity issues.

Transmission Pipeline by Decade of Installation is shown in Figure 9.

**Figure 9: Transmission Pipeline by Decade of Installation**



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### 1. Transmission Asset Class 10-Year Focus

- Obtain the necessary technology for system response and needed flexibility with capacity throughput and diversity of flow paths for total system resiliency to reduce system risk and methane reductions caused by aging infrastructure. This is achieved through Supervisory Control and Data Acquisition (“SCADA”) upgrades described in the **Digital** section.
- Increase the pipeline integrity scope to account for the additional remediation work for transmission piping to meet regulatory requirements for Maximum Allowable Operating Pressure (“MAOP”) reconfirmation, as well as the incremental remediation as an outcome of inspecting TOD and storage lines.
- Attain 100% of RCVs installed on valves on the transmission system by 2035.
- Reduce the probability of high impact natural gas system failures.
- Eliminate MAOP exceedances by installing emergency shut down devices at facilities, install filtration equipment at facilities, and perform maintenance Pipeline Inspection Gauge (“pig”) runs.
- Modernize 100% of city gates by 2035.

### 2. Transmission Asset Plan

#### Capital Remediation for Transmission Pipeline (i.e. “mainlines”)

By the end of 2025, all transmission mainline miles will be inspected regardless of consequence area classification. This does not include transmission miles within the storage fields, compressor stations, TOD segments or transmission lines installed within the last 10 years.

Within the transmission mainline miles are high-consequence areas (“HCA”) and moderate consequence areas (“MCA”). HCA and MCA classifications are inspected on a recurring basis, six and nine years, respectively.

In addition to the planned, on-cycle inspections, risk mitigation inspections for transmission lines displaying early signs of deteriorating conditions, such as Stress Corrosion Cracking (“SCC”).

- SCC is a form of environmental cracking that requires three conditions to develop, susceptible material (steel), stresses on the pipeline that are higher than the threshold for SCC and an environment that supports cracking such as local soils and groundwater.
- Many factors can affect the initiation and propagation of SCC, but a pipeline’s coating system provides the primary barrier with Cathodic protection providing a secondary barrier.
- The environmental factors that support SCC can develop under the right conditions when the coating on a pipe is compromised or dis-bonded.
- In 2015, Line 100A, one of the Company’s transmission pipelines, ruptured due to SCC. Since that time, the Company has assessed pipelines that have the highest potential for SCC to occur, and there have been instances where SCC was found and remediated.

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The Company decreased system risk and improved system reliability with the completion of the Mid-Michigan Pipeline project in 2024 replacing Line 100A, a 70-year-old pipeline that had shown signs of SCC and experienced a rupture in 2015.

### ***Inspection for Transmission Operated by Distribution Pipelines***

Within the total Company TOD miles, 101.69 miles reside within HCAs and will follow the inspection cadence discussed above.

For the remaining non-HCA TOD pipelines, the Company is performing risk mitigation assessments by extending the Low Stress Assessment process to inspect and remediate areas with low cathodic protection levels to ensure continued safe operation.

### ***City Gates***

A city gate serves as a key facility within the natural gas system, functioning as both a distribution center and, in some cases, a fuel station. As of December 31, 2024, the Company operates 90 city gates where natural gas pressure is regulated and odorized to ensure safe delivery to homes and businesses. These facilities are equipped with over-pressure protection and SCADA monitoring systems to maintain operational safety and reliability.

City gates play a critical role by reducing transmission line pressure for distribution and, in some instances, enhancing gas quality before it enters the distribution network. Most city gates inject an odorant into the gas stream to enable leak detection through smell. While the typical lifespan of city gate equipment is around 50 years, age alone does not determine when a facility should be rebuilt.

The Company's 10-year plan will modernize all city gates by upgrading emergency shutoff systems, bath heaters, separation systems, and SCADA transducers. This plan targets the modernization of 5 to 10 gates annually, with a flexible approach that allows for partial upgrades based on specific station needs and customer affordability. Annual investment is expected to range from \$1 to \$13 million per gate, totaling \$40 to \$60 million per year.

Once modernization is complete, city gates will be rebuilt on a cycle that ensures the entire fleet is renewed within 50 years, or sooner if required by safety, customer demand, or performance standards.

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Figure 10: City Gate Attribute Modernization Plant



Remote Control Valves

RCVs are important safety components in the natural gas system, designed to reduce response time during transmission line damage or rupture events. Their ability to quickly stop gas flow is essential, making them standard for this type of operation. While RCVs do **not** prevent failures, they significantly reduce the duration of gas flows after a failure occurs. Initial installations began in 2017, focusing on HCAs and flexible system points.

Check valves will also be used on transmission tap lines when appropriate to aid RCVs in the isolation of a particular transmission segment. Check valve technology prevents the back feeding of gas in the event of an emergency. To enhance system safety, the Company is targeting 100% RCV coverage by 2035. Figure 11 outlines installation timelines, noting that final commissioning may occur the following year. The primary safety benefit is faster system isolation during emergencies or abnormal conditions. Currently, the Company has 481 valves on the transmission system, requiring approximately 190 additional RCVs to reach the 100% goal.

Figure 11: Current RCV Installation Rate



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### Other Transmission Investments

In addition to core transmission investments, the Company supports several programs that enhance safety, resiliency, reliability, and regulatory compliance. These include relocating assets due to civic or third-party conflicts, addressing depth-of-cover issues, and maintaining cathodic protection systems. Investments are also made to support field measurement accuracy, ensure valve operability, and comply with MAOP regulations driven by population changes. These efforts help maintain system integrity and ensure continued reliable service to customers.

### 3. Transmission Asset Plan Financials

Consumers Energy’s transmission inspections, remediation work, city gate modernization, and RCV installations form the foundation of the capital investment plan shown in Figure 12. This investment plan supports objectives by reducing asset risk to enhance safety, ensuring reliable pipelines flow, improving system resilience for accessing affordable pipeline and storage gas supplies, enabling remote control for operational agility, and lowering emissions for a cleaner transmission.

**Figure 12: Transmission Capital Investment Plan**



### D. Distribution Asset Class

Gas enters Consumers Energy’s gas distribution system at city gate stations at pressures up to 400 psi where it is fed into neighborhoods, commercial areas, and industrial districts. Ultimately, it is delivered to most customers at service pressures below 1 psi.

As of 2024, the system includes approximately 28,433 miles of distribution pipeline, 514 miles of TOD pipeline, and 1.8 million service lines. The distribution mains are composed of approximately 56 percent plastic, 42 percent cathodically protected steel, and 2 percent cathodically unprotected steel and vintage materials.

Much of the oldest infrastructure is located closest to customers. Replacing aging assets and expanding remote monitoring capabilities are essential to reducing system risk. Vintage materials such as cast iron, bare steel, and copper, which were installed between

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the 1890s and 1970s, are the highest risk components. These materials still account for 1,487 miles of pipeline and more than 105,000 associated services. Replacing these materials, including the standard pressure (“SP”) system, will significantly improve safety and reliability by eliminating outdated and vulnerable parts of the network.

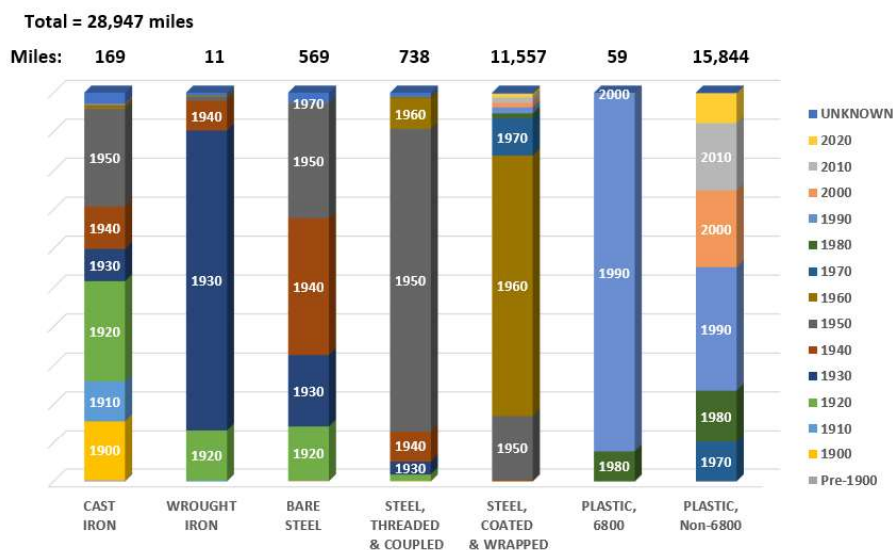
Other risks not explicitly linked to age are reviewed and addressed accordingly. For example, Aldyl A, a specific brand of polyethylene plastic pipe used for gas distribution from the 1960s to the 1980s has garnered attention in the industry as it was associated with incidents. Consumers Energy has no Aldyl A in its system.

**1. Distribution Asset Class – 10-Year Focus**

Consumers Energy is focused on reducing system risk and methane emissions while improving reliability and capacity by replacing aging infrastructure located closest to customers. This includes the remediation of vintage distribution mains, standard pressure mains, and vintage services to meet the Company’s 2035 target. Annual mileage goals, which are adjusted based on affordability, labor availability, municipal coordination, and the remaining scope of work. Although leaks in the distribution system occur at lower pressures than those in transmission lines, they are located closer to the public, increasing risk. To enhance safety and monitoring, Consumers Energy is deploying advanced leak detection technologies and upgrading its SCADA system, as outlined in the Digital section. Finally, the Company is committed to performing work for distribution programs that must be updated due to new regulations, business growth, or technology obsolescence, to avoid non-compliance and ensure continued operational efficiency.

The Company’s distribution system includes a variety of materials with installations dating back to the late 1800s (Figure 13)<sup>10</sup>.

**Figure 13: Distribution Main by Materials and Installation Date (includes TOD)**



<sup>10</sup> United States DOT PHMSA reported figures (March 2024)

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Cast and wrought iron pipelines are among the oldest in the Company's distribution system. The age contributes to corrosion and cracking due to the natural degradation of iron alloys, such as corrosion and brittleness, as well as outdated pipe joint designs.

### ***Risk Factors Associated with Vintage Pipeline Materials***

The following factors increase risk involved with a system that contains vintage materials:

- **Bare Steel Pipelines:** Also known as uncoated steel, these pipes are more susceptible to corrosion and cracking due to age and lack of protective coating. External corrosion occurs when bare steel is exposed directly to soil and moisture.
- **Seasonal Temperature Fluctuations:** Michigan's freeze-thaw cycles increase the risk of frost heave, which can cause or worsen cracks in pipelines.
- **Gas Migration in Frozen Ground:** Natural gas is lighter than air and travels through soil along the path of least resistance. Frozen ground acts as a vertical barrier, forcing gas to move horizontally until it finds an opening (such as a cracked foundation or utility line) that may lead into buildings.
- **Water Infiltration in Low-Pressure Systems:** Leaks in underground low-pressure pipelines can allow groundwater to enter through cracks or corroded sections. This can block gas flow to customers, especially in winter when the water may freeze, causing further blockages or damage.

### ***High-Risk Materials Identified by PHMSA<sup>11</sup>***

PHMSA classifies the highest risk materials in order of risk.

1. Cast iron
2. Bare steel
3. Threaded & coupled steel
4. Wrought iron

These at-risk materials total 1,487 miles of main or approximately 5.2% of all distribution pipeline miles. Of the remaining at-risk material miles, there are 1,277 miles located within the SP/MP system, and 210 miles are in the HP system. Remaining miles for the highest risk materials are shown in Figure 14.

Another distribution integrity risk is pipes operating at standard (utilization) low pressure. Gas must reach customers with enough flow rate and pressure to fuel equipment and appliances while staying below the maximum operating pressure for each segment within the system. The challenges of operating a standard pressure system are the dynamic flow and pressure changes due to varying customer demand within a narrow pressure operating range.

The standard pressure system operates at 8 - 12" water column ("WC") (about a ¼ pounds per square inch ("psig")). The pressure delivered to customers is the same pressure within the distribution pipeline from the upstream regulator station. The regulator station reduces the pressure to a level that allows the low-pressure gas to flow continuously to customers without the need for a second regulator located at the meter stand.

Since there is not a second regulator at every meter stand in a standard pressure system, an overpressure condition occurring on the distribution system can affect all customers served by the system if the regulator(s) at the regulator station that controls the pressure

<sup>11</sup> [Pipeline Replacement Background | PHMSA \(dot.gov\)](#)

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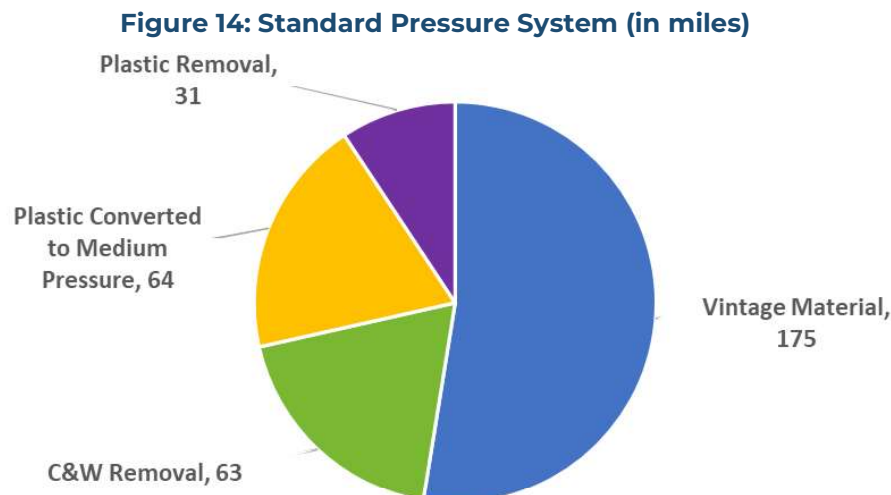
for the system fails. This type of over-pressure incident occurred in 2018 in Merrimack Valley<sup>12</sup>.

In addition to the risk of high-pressure incidents, a standard pressure system is also at risk of low-pressure incidents. This system struggles to operate at rated pressures on extreme cold weather days, respond to customer demand changes, etc. and requires accurate and timely pressure control to meet deliverability requirements.

Other factors that contribute to low gas pressure include standard-pressure portions of the system, with largely vintage materials, which are susceptible to fluid infiltration from the ground. This fluid can travel through the system, including to customer meters. In cold weather, this fluid can freeze and block the gas meter or regulator, stopping the flow of gas, affecting heating during winter.

The Company's vintage miles cover all but approximately 158 miles of the 333 remaining miles of the standard-pressure system. The 158 miles are made up of 63 miles of coated and wrapped steel and 95 miles of plastic pipe. A portion of the plastic pipe, 64 miles, is planned to be converted from standard pressure to medium pressure. The remaining 94 miles of plastic and the coated and wrapped steel will be removed/retired.

To improve customer safety and reliability and improve system efficiency due to higher operating pressures, the 94 miles of non-vintage standard low-pressure pipe will be added into the vintage remediation goals with the plan of eliminating the standard pressure system by 2030.



## 2. Distribution Asset Management

### Overview of the Current Main and Service Remediation Program

The **Pipeline Inspection, Protection, Enforcement, and Safety Act** ("PIPES") of 2006, Public Law No: 109-468, mandated that PHMSA, within the U.S. Department of Transportation, prescribes standards for **Distribution Pipeline Integrity Management Programs** ("DIMP").

<sup>12</sup> Merrimack Valley NTSB Report: <https://www.nts.gov/investigations/AccidentReports/Reports/PAR1902.pdf>

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Federal DIMP rules were subsequently established under Subpart P of the U.S. Code of Federal Regulations, Title 49, Part 192. The Company’s current replacement program (part of Consumers Energy’s DIMP to remediate at-risk cast iron, bare steel, and threaded and coupled steel) is the **Enhanced Infrastructure Replacement Program** (“EIRP”).

The EIRP was launched in mid-2012, with the first full program year in 2013 to systematically replace vintage pipeline materials. While EIRP is the primary program focused on replacing vintage mains, other programs also contribute to the overall reduction of vintage infrastructure. Through all programs, the Company remediated 417 miles of cast iron, 460 miles of bare steel, 331 miles of threaded and coupled steel, 11 miles of wrought iron, 1 mile of X-Trube, 38 miles of Low Frequency Electric Resistance Welded (“LFRW”), for a total of 1,258 miles.

Figure 15 shows miles of historic Vintage Material remaining on the system as reported in the Distribution DOT annual report for each year.

Figure 15: Vintage Miles of Main Remaining by Material Type

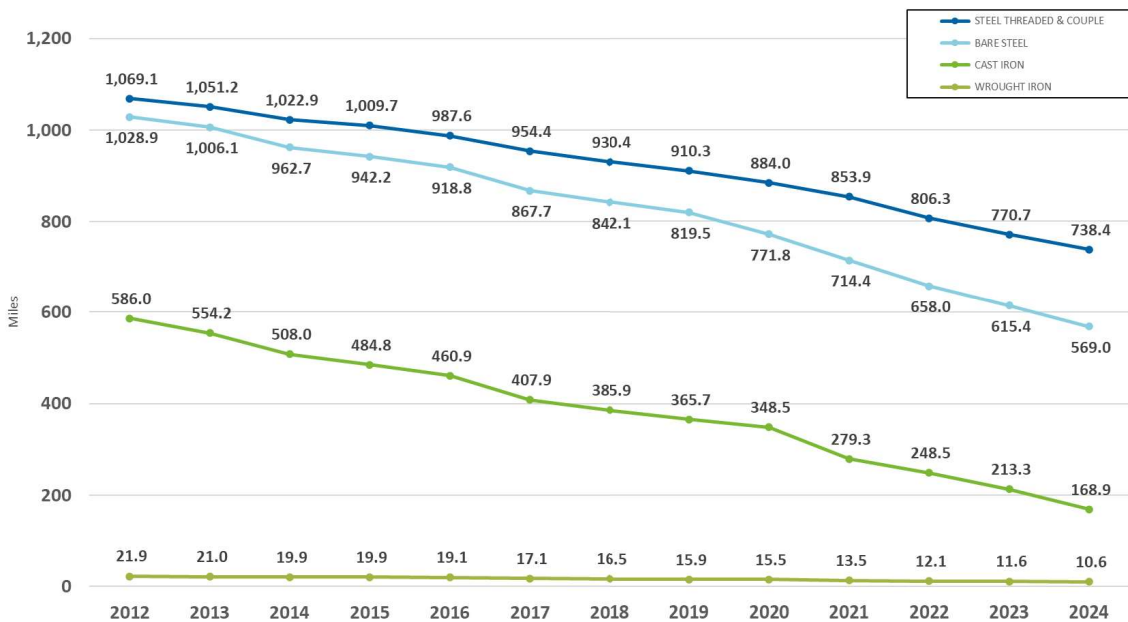


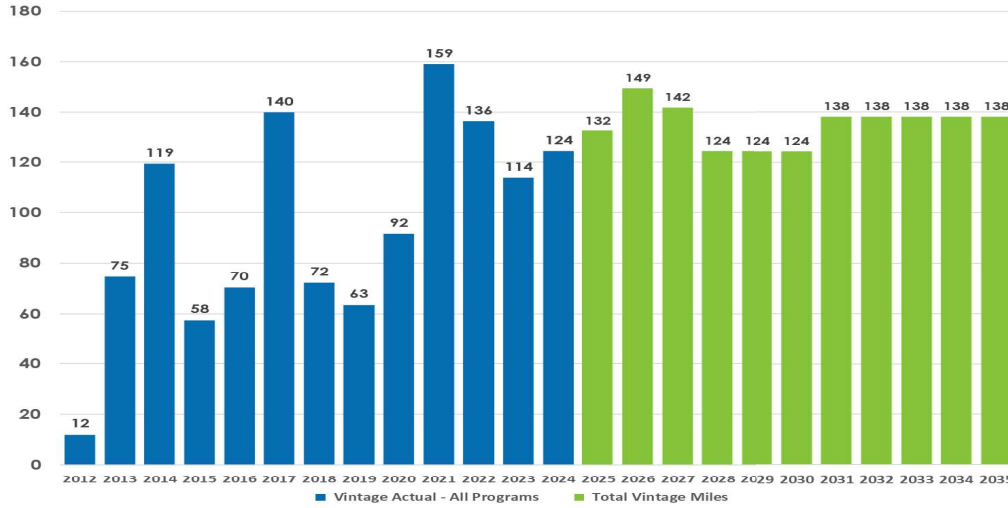
Figure 16 represents the historic 2012-2024 vintage miles retired by all programs and illustrates the plan for the 1,468 remaining miles to retire from 2025-2035.

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Figure 16: Retired and Remaining Vintage Miles for All Programs



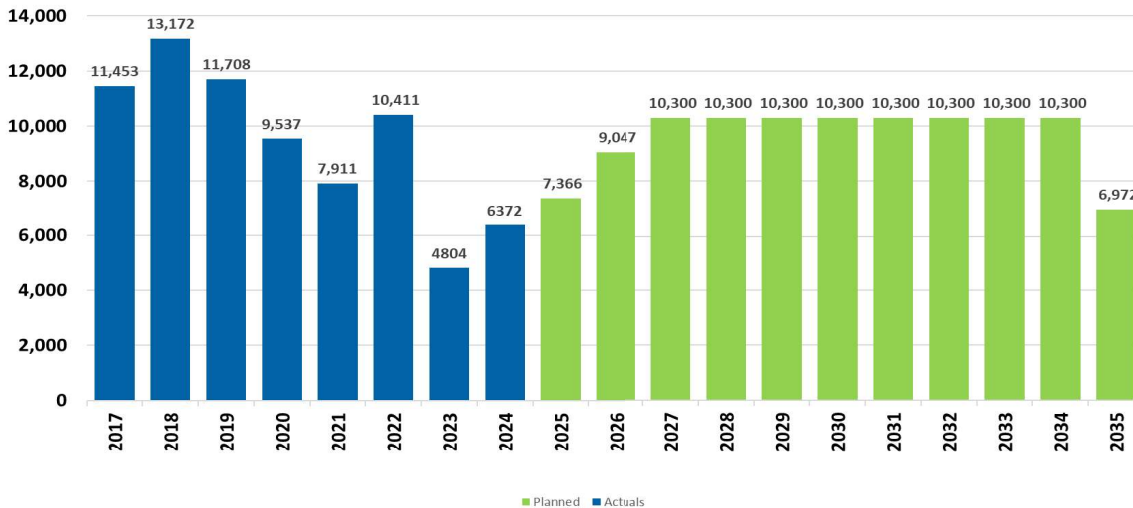
3. Distribution Services and Vintage Service Replacement Program

The distribution system includes approximately 1.8 million service lines that connect the distribution mains to customer homes and businesses. Service lines can contain at-risk materials and are evenly dispersed throughout the system.

As of 2024, the system contains approximately 90,065 copper services, or 5.6% of all services and, in a much smaller quantity, the system also contains 5,945 bare steel services and 9,775 services for which the material is unknown.

Consumers Energy launched a **Vintage Service Replacement ("VSR") Program** in 2017. Like vintage main replacement, the Company has streamlined planning across all vintage remediation programs and leveraged construction efficiencies to minimize customer impact to achieve completion by 2035.

Figure 17: Remediation Plan for Vintage Services



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### 4. Maintain Pace of Vintage Material Remediation

The Company collaborated with external stakeholders and concluded that completing EIRP and VSR programs by 2035 best balanced customer safety and reliability with affordability.

#### ***Benefits to Customers to Remediate Vintage Material***

- Setting a 2035 target proactively mitigates asset-related risks and safeguards customers and the public while maintaining a balanced approach to affordability.
- Minimizing impact on customers using the grid approach. This approach reduces mobilization and demobilization by performing all work identified within the same or nearby neighborhoods at one time.
- Remediating vintage materials reduces gas losses and methane emissions. Methane studies estimate that cast iron pipes leak nearly 23 times more methane into the atmosphere than plastic pipes, while unprotected steel leaks nearly 10 times more, highlighting the environmental benefits of modernization.
- Improving local coordination with municipalities to better align timing of Company-planned work with public works projects.
- Limiting customer safety and reliability risk by more rapidly eliminating higher-risk vintage main pipe and services from the system.
- Improving system efficiency by reducing standard pressure on the system.

### 5. Future Infrastructure Risk Reduction Program Considerations

Consumers Energy is identifying the next areas of high-risk after completion of the vintage material replacements. Currently under consideration are the following higher risk areas:

#### ***Services***

The Company has approximately 10,000 vintage service stubs made of copper, bare steel, and X-Trube steel on the system. Service stubs are a result of historical maintenance where a service was not retired or replaced due to limited access to the main.

- Replace metallic services currently not cathodically protected, as the cost of replacing that service with plastic would be more economic than the cost to add cathodic protection.
- X-Trube services are of vintage from 1950-1960s. X-Trube is protective-coated thin wall steel pipe. This material has the highest leak rate. Consumers Energy has approximately 100,000 X-Trube services on the system.

#### ***Mains***

- Replacement of metallic mains that are not cathodically protected, as the cost of replacement of that main with plastic would be more economical than the cost to add cathodic protection. Cathodic protection did not begin until 1970 but Coated and Wrapped ("C&W") mains were installed on the system since the 1950s. These mains therefore were used up to 20 years without cathodic protection. C&W unprotected pipe within the date range above and currently cathodically unprotected pipe would be evaluated and criteria developed to determine the focus area.

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- TOD main on Consumers Energy’s system that is not replaced under EIRP or other programs will be evaluated for replacement to lower the Specified Minimum Yield Strength (“SMYS”) below 20%, which addresses MAOP concerns and reduces operating costs.

### 6. Regulator Stations, Odorizers and Stands

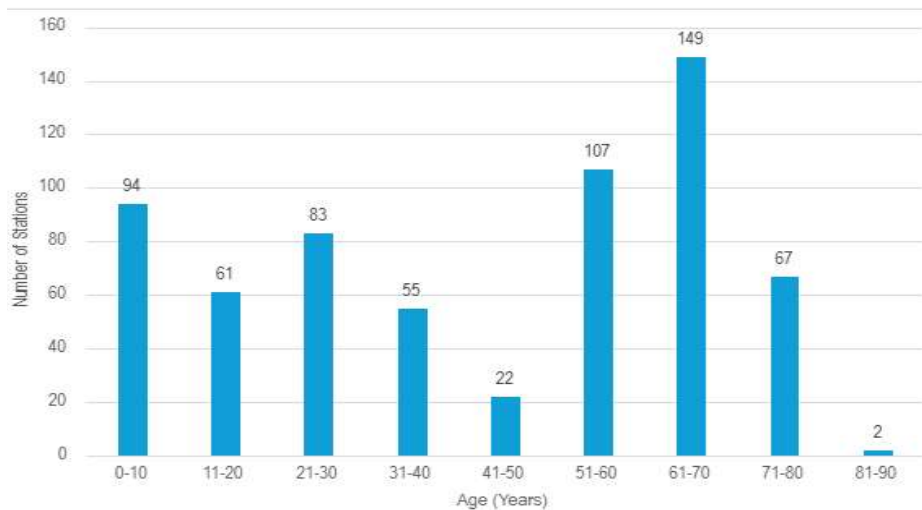
The Company operates and maintains 637 regulator stations, 1,206 regulator stands, and 99 odorizers as of 2024. These assets regulate natural gas pressure to ensure safe delivery to customers. Regulator stands include 1” regulator units that feed smaller distribution systems.

#### Regulator Stations

Regulator stations reduce pressure supplied from a higher-pressure system, including 2” and larger pipe that feeds a distribution region.

The 10-year goal for the regulator station fleet is to ensure 100% of all regulator stations are modernized. A modern regulator station ensures safe and reliable delivery of gas, integrates ergonomic design considerations for safe operations, includes appropriate filtration and heating equipment based on site requirements, and features overpressure protection and monitoring customized to the station's specific flow needs. Investments made into regulator stations improve safety and maintain the integrity of the asset. Approximately half of the regulator stations were installed before 1971 and are therefore over 50 years old, as shown in Figure 18.

**Figure 18: Distribution of Regulator Stations Age Distribution**



To achieve the Company’s system modernization objectives, an acceleration in the rebuild and retirement of regulator stations is required. The proposed plan starts with 25 station projects annually, scaling up to 53 projects per year over the course of the Program. The projected annual investment for this initiative is approximately \$49 million, reflecting the scope and scale necessary to meet modernization targets and ensure continued system reliability and safety.

SCADA upgrades are under development for these assets allowing for real-time awareness, additional data points to be monitored and adequate storage for that data. See the **Digital** section for additional discussion on SCADA monitoring.

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### Odorizers

Odorizers are assets that add odor to the downstream gas system, which is a critical safety element required by code.

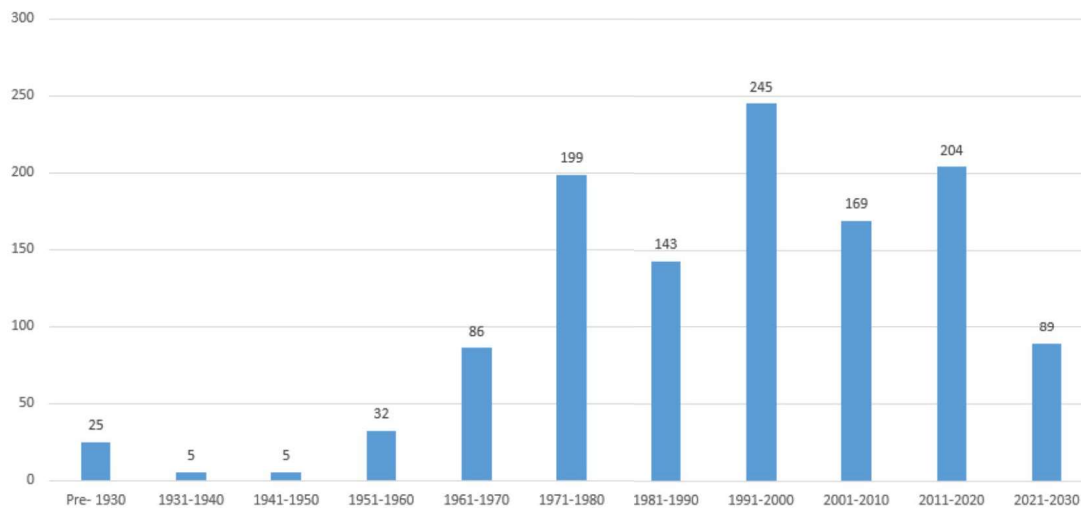
Odorizers are co-located at city gates and transmission valve sites, as required, to comply with State and Federal Pipeline Safety regulatory requirements. They deliver a potent smell to notify someone with a normal sense of smell of a gas leak.

Currently, all odorizer pumps in the system are within service life expectations, less than 30 years. The Plan allows for one odorizer station to be rebuilt per year independent of a city gate rebuild. This is a stable and reasonable trend that should continue for the next 10 years, maintaining all pump in-service dates less than 30 years.

### Regulator Stands

Approximately 13% of the regulator stands were installed before 1971 as shown in Figure 19. Due to the age and condition of regulator stands, the Company plans to continue investments in these assets comparable to historical years.

**Figure 19: Distribution of Regulator Stands Age Distribution**



## 7. Leak Detection

Employee and public safety are top priority. Consumers Energy uses regular leak surveys to identify and remediate potentially hazardous gas leaks.

As discussed above, a potent odorant chemical is delivered to the system which allows customers and other third parties to identify natural gas leaks before they become hazardous. Once notified of a potential leak, a response is provided within 30 minutes, and a leak analysis is completed to determine the appropriate leak classification for repair scheduling.

Factors used in the analysis include natural gas concentration readings, distance of the leak from the outside of a building, and potential that natural gas could migrate into a building.

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Leak repair scheduling is required per code—Michigan Gas Safety Code 192.703, 192.709, 192.711 and Michigan Rules 318 and 327.

Minimum requirements for distribution system leak survey programs outlined in 49 CFR 192.723 are:

- At least once each calendar year, at intervals not exceeding 15 months, a leak survey using leak detecting equipment must be performed in business districts at all locations. This provides an opportunity to locate gas leaks (e.g. natural gas, electric, and water system manholes and sidewalk/pavement cracks).
- Outside of business districts, leak surveys must be conducted at least every five years.
- For cathodically unprotected distribution lines, leak surveys must be conducted every three years.

Beginning 2027, the Company will implement these distribution system leak survey program frequency requirement changes.

- Outside of business districts, leak surveys will now be conducted at least every three years.
- Cathodically unprotected distribution lines, leak surveys will now be conducted annually.

In 2027, the Company will also begin utilizing mobile Advanced Methane Detection (“AMD”) technology for distribution system leak survey. Additionally, the Company will be transitioning to a geographic grid-based approach to leak survey scheduling.

Beginning in 2028, the Company plans to further increase the distribution system leak survey program frequency requirement.

- Outside of business districts, leak surveys will be conducted annually.

Table 2 provides an explanation of how the Company currently classifies leaks on the gas system.

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**Table 2: Leak Classification at Consumers Energy**

Leak Classification and Evaluation of Leak Severity and Prioritization of Repairs	
Leak Classification	Definition
Immediate Action	<ul style="list-style-type: none"> <li>• Repair immediately (temporary or permanent repair) OR</li> <li>• Take corrective action to reduce the hazardous condition to a level which the leak can be reclassified as a Scheduled Action</li> </ul>
Scheduled Action	<ul style="list-style-type: none"> <li>• Repair or investigate the leak within the specified timeframe:                             <ul style="list-style-type: none"> <li>◦ Distribution – 6 months</li> <li>◦ Transmission and Storage (“T&amp;S”) – 4 months</li> </ul> </li> <li>• A documented classification is required for each re-investigation.</li> <li>• Permanent repair must be completed within the specified timeframe.                             <ul style="list-style-type: none"> <li>◦ Distribution – Within one year of the leak being found</li> <li>◦ T&amp;S – As soon as feasible, based on re-investigation, ongoing review of system outages, and upcoming projects</li> </ul> </li> </ul>
Deferred Action	<ul style="list-style-type: none"> <li>• Re-investigate the leak within one year of the date the leak was found.</li> <li>• A documented classification is required for each re-investigation.</li> <li>• If deferred again, re-investigate within a year from the new date.</li> </ul>

As of September 2025, the Company has approximately 5,489 leaks and is forecasting total active leaks to be at or below 1,750 by the end of 2025. The Company is assessing the current leak backlog and how to best address all new leaks.

To balance the pace and prioritization of system needs with affordability, the Company will prioritize and remediate across all programs, such as the leak renewal and vintage material programs.

**8. System Augmentation for Reliability**

During periods of high customer demand in cold temperatures, areas are identified with a need to address low delivery pressure or service losses to customers.

System augmentation projects are designed and constructed to enhance capacity and maintain service to customers in these areas.

Examples of large augmentation projects currently planned for 2025 through 2027 include:

- Installation of approximately 1,700 feet of four-inch plastic medium pressure main on Rives Junction Road and 1,300 feet of two-inch medium pressure plastic main on Parnall Road in the Jackson area to construct a looped natural gas supply to reduce risks of low pressure as well as improve resilience on this main. The project is planned for construction during 2027.
- The Beaverton Shaffer Road Project involves the construction of 7,050 feet of 12-inch steel high pressure main that will be constructed parallel to existing six-inch high pressure main out of the Coleman Beaverton city gate station. This capacity

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expansion will improve delivery pressure in an area of growing demand. This project is planned for construction during 2026.

- The I-94 crossing at 44<sup>th</sup> Street project will construct 2,540 feet of eight-inch-high pressure steel main from the Climax city gate outlet. This project is planned for construction in 2026.

Three projects in the Novi/Lyon Charter Township area are being evaluated for possible construction during 2026-2028 including the Grand River - Lannys to Meadowbrook medium pressure augmentation project, the Lannys & 11 Mile medium pressure augmentation project and the Grand River – Old Plank to South Hill medium pressure augmentation project. The scope of these projects includes construction of more than 17,000 feet of 8-inch and 12-inch medium pressure main.

### MAOP Reconfirmation and Compliance Projects

Compliance with State and Federal Pipeline Safety regulatory requirements support the Company's goal of providing safe and reliable natural gas service to customers.

The Company is required to operate gas distribution line segments in a manner consistent with MAOPs. Recent code revisions require reconfirmation of pressure test records and remediation of TOD line segments where existing pressure test records are not adequate to meet PHMSA's expectations for traceable, verifiable, and complete documentation.

Compliance milestones related to MAOP reconfirmation projects include requirements to complete all required actions on 50% of the pipeline mileage subject to reconfirmation requirements by July 3, 2028, and complete all required MAOP reconfirmation requirements by July 2, 2035. A listing of currently planned MAOP projects is provided in Appendix D.

The largest reconfirmation project in this program is the Line 1002c replacement project, known as the Four Cities Pipeline Project. This project will replace 8 miles of 24" high pressure TOD pipeline through Oakland and Macomb counties. The total cost of this project is forecasted to be \$265 million. Mainline construction is scheduled to begin in March 2026 and will be completed in the Fall of 2029, with restoration, retirement, and close-out to finalize in 2030.

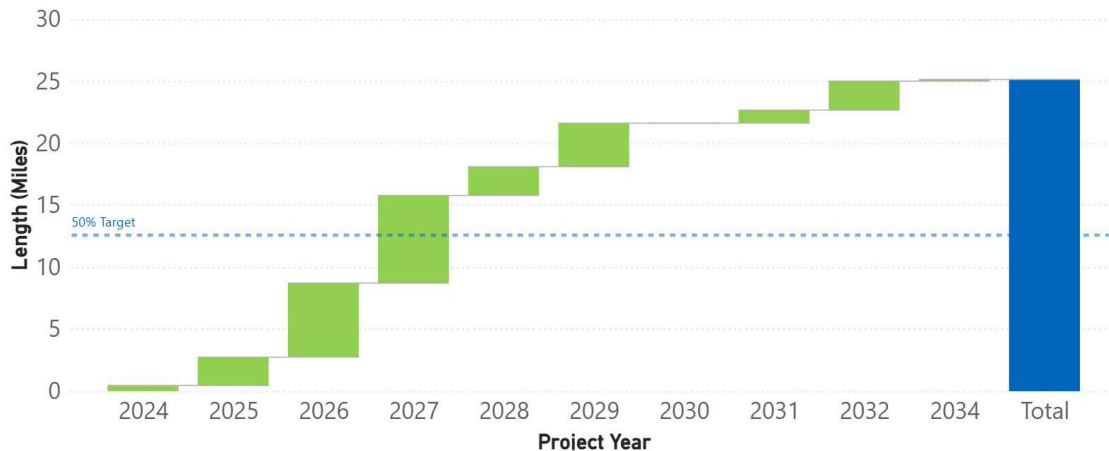
In addition to the work being done by the Company to evaluate compliance with MAOP standards, it was determined that Line 1080, which serves customers to the west of Kalamazoo, must operate at a lower pressure to comply with federal requirements. Pipeline modifications are planned for construction during 2025.

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Figure 20: Planned MAOP Distribution Miles Reconfirmed



9. Customer Metering

The Company routinely purchases meters, regulators, and related equipment for serving new business connections, the Routine Meter Exchange Program (an MPSC requirement), service renewal meter move-outs, and normal replacement of obsolete or broken meters.

From 2015 to 2019, the Company installed gas meter communication modules (“GCM”) manufactured by Itron on more than 1.8 million existing gas meters as part of the Advanced Metering Infrastructure (“AMI”) and Automated Meter Reading (“AMR”) projects. Gas smart meter technology using cellular communications, like the AMI solution deployed for electric customers, was not available.

In 2020, Itron customers, including Consumers Energy, received end-of-product-life notices for GCMs and diaphragm meters currently in use.

The Itron announcement regarding the end of life for their diaphragm meter product line impacts approximately 1.6 million installed regulated diaphragm (“RM”) customer meters. These meters have a different connection method compared to the top connect (“TC”) diaphragm meter and will require a meter stand rebuild to accept a TC meter. In view of this, the Company began proactively rebuilding RM meter stands in 2020, starting with multi-meter stands. Installation of TC meter stands will provide the opportunity for future gas smart meter technology upgrades with minimal field changes.

Due to the gas metering technology obsolescence announcements from Itron, the Company is investigating various scenarios, including projected costs and schedule, for conversion of all RM meter stands to TC meter stands. The conversion will require a new TC meter and regulator to be purchased to replace the RM meter.

While investigating various metering scenarios to address obsolescence, there is an emerging trend among natural gas utilities to use single path ultrasonic gas smart meters (“USM”) for customer metering.

Currently available USMs do not include a cellular communications option but that option is expected to be offered in 2026. The Company is planning a gas smart meter pilot in 2027 to test USM gas smart meters that offer benefits like:

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- Remote shut-off capabilities
- Faster detection of high gas usage or leaks
- Pressure and temperature alarms with the ability to trigger a safety shut off

These upgrades will help improve safety, reliability, and convenience for customers. By preparing our system now, the Company will be ready to adopt smart meter technology with minimal disruption in the future.

### 10. New Business

The New Business Program consists of adding infrastructure in response to requests to serve new commercial, industrial, and residential customers.

Customers who request service share in the construction costs with the Company based on the appropriate tariffs approved by the MPSC. During 2024, customers contributed approximately \$8.6 million to new business project costs.

The program includes the cost of installing mains, services, regulators, and the cost of meter stands to serve new customers. Between the years 2020 and 2024, the Company connected 35,636 new gas services to its gas distribution system.

The Company uses forecasting data from multiple sources to forecast and plan for new business growth. During September 2025, the Michigan Center for Data and Analytics published its Michigan Regional Long-Term Employment Projections, 2022-2032<sup>13</sup>. This report indicates that employment within the Michigan construction sector will remain stable over the 10-year period projected.

During the 2020 to 2050 period, the number of households in Michigan is forecast to increase by 432,815, or 10.9%. The pace of household growth will exceed the pace of population growth as single person households become a larger share of total households due to aging demographic characteristics. Growth rates in many of the counties served by the Company's gas utility should exceed the statewide average. For example, Macomb County, Livingston County, and Oakland County are all projected to experience population gains greater than 10%.

Based on recent analysis of housing market data, the Company believes that service connection volumes for 2020 through 2024 represent activity levels that are negatively impacted by numerous factors since the onset of the COVID-19 pandemic. This includes periods of construction labor constraints, inflated lumber prices, shortages in electrical transformer supply, and increasing mortgage interest rates. Even prior to 2020, it is generally accepted that the pace of new housing construction in Michigan has not kept pace with demand. As a result, current constraints on the supply of available housing make it difficult for new households to find affordable housing.

The Company's service installation experience during the first 8 months of 2025 is consistent with 2024 service installation results. Expectations of conservative levels of new service connections also align with economic indicator projections provided by S&P Global Market Intelligence in May 2025 (Michigan forecast).

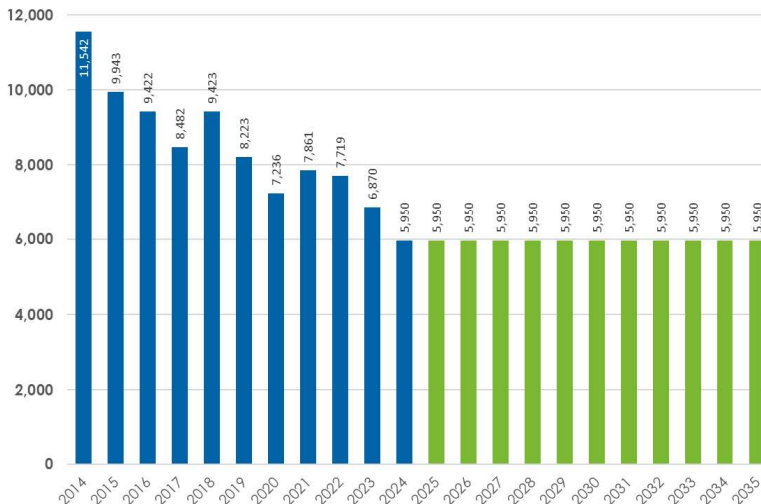
<sup>13</sup> Source: <https://milmi.org/DataSearch/Employment-Projections>

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**Figure 21: New Business (Number of Service Connections)**



The Large New Business Program includes new customer connection projects where the estimated infrastructure cost exceeds \$500,000.

Projects are generally created under this Program when the requesting customer has signed a contract with the Company documenting the load requirements and revenue expectations.

In 2025, there is an approximate 200-foot extension of 8" high pressure steel main to serve a natural gas-fired electric generation facility expansion in the Lansing area, with an estimated annual usage of 2 Bcf.

### 11. Asset Relocation Civic Improvement

According to the 2023 Report Card for Michigan’s Infrastructure, published by the Michigan Section of the American Society of Civil Engineers (or “ASCE”), Michigan is making progress in reversing historical underinvestment in the state’s infrastructure.

Civic Improvement Relocation work supports transportation improvement projects and other public improvements such as bicycle trails and recreational facilities. These projects frequently involve replacement of vintage mains and services, avoid third-party damage to non-vintage facilities, and reduce the potential for leaks when infrastructure contractors are working around vintage main.

The annual replacement of vintage mains and services are documented as part of Attachment 9 **Non-EIRP Distribution Main Replacement Project Metrics**, which is included in the Company’s enhanced infrastructure replacement annual reports.

### 12. Distribution Asset Financials

Consumers Energy’s largest natural gas capital increase is due to vintage material remediation. The Company believes it can lower remediation costs through economies of scale and work management improvements.

With the extension of the EIRP and VSR programs to 2035, the Company expects the total main and services remediation to cost approximately \$5.6 billion. The capital investment plan for the entire distribution asset class is shown in Figure 22.

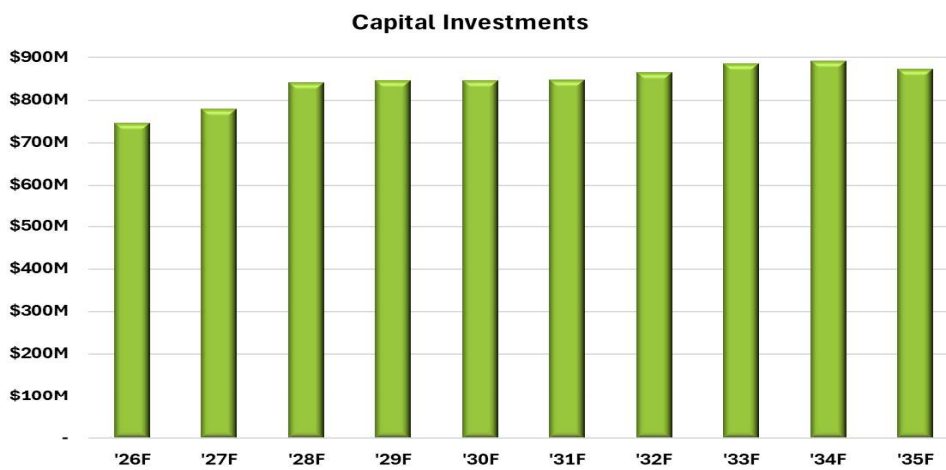
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Overall, this investment plan for the distribution asset class aligns with the objectives by reducing asset risk that is closest to the customer (safe), ensuring the system is able to deliver gas as required (reliable), balancing the pace of system improvements to preserve customer affordability (affordable), and reducing the amount of emissions in this system, which equates to more than one-third of the Company's methane emissions (clean).

**Figure 22: Distribution Capital Investment Plan**



### 13. Gas Damage Prevention Strategy

The Company's vision for damage prevention is to improve compliance with Public Act 174 through reducing and preventing excavation damages to the gas system in support of employee and public safety.

Damages are caused by home/business owners or excavators digging around Consumers Energy gas distribution assets. The primary causes of damages are due to:

- Inadequate excavation practices (failure to hand dig, failure to maintain marks, improper backfilling).
- Failure to call MISS DIG and working outside of valid ticket window.
- Locating practices not sufficient (mismarked facilities, record errors, system issues).

A series of field programs are deployed to support the third-party excavating community with industry best practices including:

- Proactive outreach program – risk-based outreach program to assist the excavating community proactively including coaching and training, locating assistance.
- Repeat damager program – step escalation program targeted to mitigate the highest risk excavators.
- No-call damager program – coaching and enforcement program to mitigate the highest risk excavators not properly using one call processes.

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Consumers Energy works closely with regulatory partners to reduce the risk of dangerous excavations that could impact public safety. A key part of this strategy focuses on changing behaviors through building trust, strengthening relationships, and promoting accountability.

To support this, in 2023, the Company launched a dedicated gas distribution workforce. This team is focused solely on managing utility locate tickets, which has led to faster response times and better communication with excavators compared to past performance. The single-utility focus helps ensure tickets are handled more efficiently and accurately.

Another major goal is improving quality, especially in the accuracy of underground utility markings (staking). Enhanced communication with excavators is being achieved through improved positive response systems, which provide clearer updates on ticket status.

Consumers Energy tracks performance metrics like response timeliness and contractor damage causes to demonstrate the benefits of this dedicated approach.

In 2024, the dedicated workforce expanded to handle 30% of all locate tickets, and by Q1 2025, it reached 100% coverage across the service territory.

## V. OPERATIONAL ACCELERATORS

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Operational accelerators include the Team, CE Way, digital, regulatory and policy to enable achievement of the 10-year objectives and outcomes.

### A. Team – Talent and Workforce

The Company is focused on ensuring Consumers Energy has the right people, with the right skills, at the right place and time.

#### 1. Internal Resources

- Hire and retain skilled trade workers and engineers and create diverse, equitable and inclusive employee experience to ensure the Company is attracting and retaining the most qualified candidates.
- Preparing for the skills of today and tomorrow, Consumers Energy has developed a full-scale Gas City Training Village that trains coworkers through real-time, hands-on situations and continues relentless focus on making safety the top priority.
- Prioritize skilling the workforce to leverage data and digital technologies to meet customer needs.
- Match more than 1,400 coworkers' capabilities, and qualifications to inspect, maintain, and build our natural gas system. Matching the capabilities and qualifications to the requirements of the business to minimize the risk and costs of turnover. Maintain the competitiveness of the Company's approximately 400 dedicated Michigan workforce focused on our natural gas infrastructure.
- Attract, develop, and retain engineering talent through the Company's Entry Engineer Program and Engineering Intern Program. These programs build technical engineering and design capabilities, ultimately ensuring adequate pipeline for engineering talent specific to the Company's natural gas system.

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### 2. Diversity, Equity, and Inclusion in the Full Talent Lifecycle

As one of Michigan's largest employers, Consumers Energy is building a world-class, inclusive workforce where diverse groups of people feel safe and welcome at work. The Company workforce strives to be wholly reflective of the communities it serves. To drive innovation and provide the best energy products, Consumers Energy is creating a pipeline to become an employer of choice for under-represented communities in high demand occupations. To ensure an adequate talent pipeline, multiple forums are used to attract, retain, and grow people. A few examples include:

- **Diversity of our gas workers:** To ensure every co-worker has an equitable opportunity to succeed, talent pipeline programs are built in diverse communities to increase equitable access to our skilled-trade positions.
- **Connecting youth with energy innovation:** Over 300 Consumers Energy employees volunteer their time as Talent Ambassadors with K-12 students throughout the communities it serves to discuss career pathing and other utility-related professional development opportunities.
- **Apprenticeship training programs:** Consumers Energy offers in-depth training programs designed to further the skills, knowledge, and ability of its existing workforce, including a certification program recognized by the Department of Labor as a certified apprenticeship.
- **Workforce development opportunities:** Development opportunities include community engagement, hardware manufacturing, hardware/software design, data analytics, installation, and operations. To attract talent from the communities served by this project, Consumers Energy will work to better understand workforce challenges in specific areas and find ways to address concerns for skilled labor and professional careers.

Regarding skilled labor, the project will involve the installation of new hardware throughout the service territory. Consumers Energy and its technology vendor, Utilidata, will work with labor organizations on new training material and field demonstration guides intended for metering technicians.

Regarding professional careers, Consumers Energy will work with institutes/schools within Michigan on coursework that addresses artificial intelligence predictive modeling for the distribution grid. As part of this process, Consumers Energy will explore the possibility of creating an internship program that places students that have completed the relevant coursework into data analytics, software design, or grid modernization teams.

### B. CE Way – Operating System

The Company is committed to operational excellence. At Consumers Energy this means achieving a state of performance that enables the Company to deliver on its purpose. Through application of Lean Principles (The CE Way), work management enhancements, and the GSMS, the Company is positioned well to improve performance, customer experience, identify efficiencies in the business, and minimize risks.

#### 1. THE CE WAY

Consumers Energy's purpose of 'CMS Energy: World Class Performance Delivering Hometown Service' means ensuring the Company delivers safely, reliably, affordably,

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and with the highest quality. Examples of performance improvements can be seen across the organization because of the Company's Lean journey.

In 2016, Consumers Energy began its Lean journey, The CE Way, to provide the best value for customers through a culture of continuous improvement. This is the adoption of the Company's lessons learned in manufacturing and other industries applied to design, construction, and operations of utility assets to continuously improve safety, quality, cost, delivery, and morale.

In 2017, the Company launched the 4 Basic Plays (Visual Management, Operating Reviews, Problem Solving, and Standard Work) as a prioritized approach to begin implementing the CE Way. These basic plays establish a strong capability for delivering value to customers and achieving breakthrough performance. The CE Way Basic Plays are interdependent and achieve maximum effectiveness when implemented together.

The next step in our CE Way journey is to automate how we receive and use data embodying a CE Way + Digital approach. It is the Company's focus to establish the right processes, then overlay them with digital solutions to automate as many tasks as possible.

### a. Gas Safety Management System

The Company is engaged in continuous improvement of the GSMS, identifying and mitigating risks related to the operation of the gas system.

GSMS is the Company's approach to conforming to the requirements of API RP 1173.

In support of continuous improvement, the governing policy for the GSMS was expanded in 2024 to encompass additional areas of the utility. The Company's leadership-approved policy states "Consumers Energy employees and contractors will comply with regulations, adhere to and continuously improve all Company natural gas, electric, and supply policies and procedures to improve overall system safety and reliability for Michigan and our co-workers."

To support the policy in action, GSMS maintains visibility of key performance indicators to leadership resulting in identification of improvement opportunities that enhance gas asset safety. Improvement opportunities are managed through the enterprise corrective action program developed as a part of GSMS.

### C. Digital

Consumers Energy is leveraging digital technologies to optimize compression and storage assets, modernize distribution and transmission systems, and enhance operational performance. These efforts support predictive and condition-based maintenance, improve work management, and strengthen both physical and cybersecurity protections.

Key digital focus areas include:

- **Accelerated Delivery:** Adoption of agile frameworks to improve speed and responsiveness.
- **Cloud Adoption:** Transitioning to cloud-based solutions where appropriate.

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- **Data-Driven Decisions:** Treating data as a strategic asset and expanding the use of advanced analytics.
- **Asset Management:** Implementing a consistent framework for managing infrastructure.
- **System Automation:** Deploying integrated control systems to automate operations.
- **Operational Efficiency:** Driving continuous improvement through automation.
- **Cybersecurity:** When making digital investments, appropriately identifying, managing, and mitigating any rise to sensitive data and critical infrastructure risk.
- **Platform Optimization:** Evaluating and enhancing existing strategic platforms to unlock new business and customer value.
- **Technology Evaluation:** Assessing emerging technologies to further improve capabilities, in alignment with API RP 1173 Section 11.2, which calls for periodic evaluation of innovations that may enhance pipeline safety

### 1. Digital Investments

The Plan includes digital investments in the following areas: asset management, work management, system automation and control, security and privacy, and advanced analytics.

#### **Asset management**

Investments include the ability to store, manage, and track Company gas assets as part of asset life cycle management and predictive maintenance practices.

- Projects include the transformation of the enterprise gas Geographic Information System (“GIS”) system to the new industry standard Utility Pipeline Data Model, and implementation of the Utility Network extension to merge the transmission and distribution into one data model. This will allow:
  - A unified Gas GIS by combining Transmission and Distribution networks into their respective GIS data models.
  - Enhanced data quality control via gas rules managed at the system level.
  - Geospatial insights at a more granular asset level to improve system visibility and decision-making.
  - System connectivity definition by mapping how each component of the utility infrastructure is linked across the network.
  - System Tracing (Upstream, Downstream, Pressure Zones, Protective Device, etc.).
  - Future benefits such as GIS editing in the field, data capture via GPS/Bar Code scanning, and GIS-enabled design.

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### ***Single source geospatial location***

Consumers Energy is migrating gas service records into GIS. Completing this effort will create a single source for distribution asset location, simplify processes, reduce opportunities for inconsistencies in data sources, enhance the ability to interrogate and improve the data, and increase public safety.

### ***Extending the implementation of ProjectWise***

Extending the implementation of ProjectWise for Gas Distribution assets facilitates a management of change process for gas engineering design and gas system configuration changes—increasing public and employee safety and regulatory compliance with complete and accurate records that are easily accessible and searchable.

### ***Advanced Methane Detection***

AMD using mobile technology helps prioritize and plan for the accelerated pace of vintage material remediation, perform risk-based surveying in the compliance leak surveying process, and measure emissions from distribution pipelines.

The Company currently uses asset-based compliance leak survey to perform compliance leak survey. It is a method whereby individual assets are surveyed based on the compliance due date regardless of where the asset is located within the gas system. Grid-based compliance leak survey is performed in square-mile sections. The survey will include all in-scope assets within a square-mile section at the same time. The cadence for returning to perform compliance leak survey in that area again is based on the asset makeup within that area. The frequency is determined by the compliance schedule of the asset makeup within that area.

Beyond compliance leak survey, AMD mobile is being used to perform a super emitter survey on the whole distribution system annually. This survey provides an added layer of protection for our customers by identifying and escalating remediation of the highest concentrated leaks on our system ahead of the compliance leak survey schedule.

Additional technology to detect and measure emissions from transmission, storage, and compression assets include products and services from aerial and stationary AMD technology providers. Aerial AMD provides gas-mapping Light Detection and Ranging (“LiDAR”) services, which pinpoint and measure emissions from the gas transmission and storage systems. Stationary AMD provides continuous methane monitoring that allows for the detection and measurement of emissions at stations, such as compressor stations on a 24/7 basis.

### ***SCADA Historian***

SCADA Historian secures data required for gas accounting, operational planning, and predictive maintenance. The Company will require live digitized records and performance of all assets to enable predictive calculations and a potential future state of machine learning. The SCADA historian is undergoing a replacement with a modern platform which will improve administrative applications and will streamline historic data accessibility, visualization, and analysis. The Historian Project supports the broader Gas SCADA Transformation Roadmap discussed in part d. The Historian

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Project completion synchronizes with the Gas SCADA replacement project completion.

### **SCADA**

SCADA is comprised of software and hardware components used to monitor, analyze, and control real-time data from field devices on the gas system. Field data from measuring devices (sensors, valves, meters, etc.) is collected using a Remote Terminal Units (“RTU”) and then relayed to Gas Control where software is used to display for operators to analyze and interact with.

### **Gas Control SCADA Transformation Roadmap**

The Company’s system has outgrown the current gas SCADA software solution, Citect implemented in 2000. As the solution ages, increased effort is required to address obsolete application and database software architecture, and enhancements to the system are limited.

The current gas SCADA tool limits increased system health monitoring and preventative maintenance capabilities due to the inherent complexity. Replacement of the gas SCADA Citect software is planned for completion in 2026. Transitioning to a more advanced gas SCADA software system provides:

- a. Integration with GIS for system control reliability.
- b. Gas system visibility and transparency.
- c. Deployment of RCVs integrated with the gas SCADA system.
- d. The future ability to control and perform remote shut off to preserve safety and reliability of the gas system.

### **Security and privacy**

Security and privacy investments secure key Company assets, including physical locations with card access.

Transitioning from a lock-and-key system at city gates to card access centralizes access control and enhances security. The system is capable of both single-factor authentication (card only) and two-factor authentication (card and code).

- Currently the Company deploys two-factor authentication in only the most sensitive physical areas (generally North American Electric Reliability Corporation (“NERC”)/Critical Infrastructure Protection (“CIP”) medium assets). Two-factor authentication is under investigation for gas facilities over time, as security and regulatory requirements mature.
- Card access management is a single, centralized system and process for the Company. Processes are in place to deactivate badges immediately upon notification of separation from the Company and automatically when not used for specific periods of time.
- Modernizing and standardizing the gas SCADA network at gas compressor stations and control rooms to mitigate cyber security vulnerabilities, and to allow compliance with API requirements to provide a secure gas system that meets customer needs.

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- Implementation of security infrastructure to enable more visibility and protection of critical infrastructure, including but not limited to, perimeter fencing, security cameras, and two-way audio.

### **Advanced analytics**

Advanced analytics investment includes data collection, standardization, and analytical model frameworks.

- The Company plans to apply advanced statistical and predictive modeling tools and techniques for deriving insights from gas system data. Such projects enable damage prevention predictive analytics and customer-level load profiling and predictive models with propensity ranking for future gas Demand Response (“DR”) programs.
- Integrating operational gas system data into a consolidated data repository will strengthen operational reporting and analytical capabilities. For example, customer value modeling efforts revealed the need to invest in a repeatable capability for rapid system configuration modeling to run scenarios as future supply states and customer demand evolve.

Moving all maintenance plans to **predictive** instead of reactive schedules will help to better allocate resources while maintaining integrity of safety and reliability.

### **Probabilistic Risk Model**

To manage system risk, the Company uses multiple indexed risk models for asset areas, which are used throughout the gas utility industry. These models have changing risk factor weightings annually that affect project planning and resource requirements.

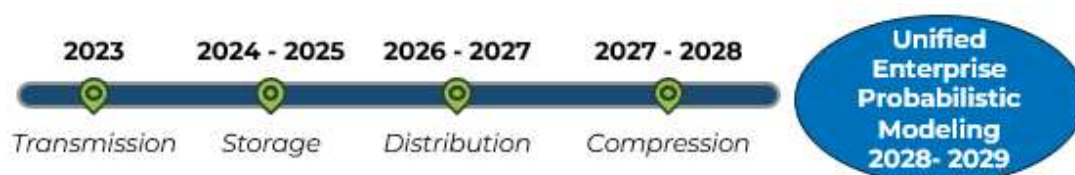
Gas pipeline systems have a complex set of inputs, and their performance is based on a series of possible outcomes controlled by a range of probabilities.

The Company’s goal is to implement probabilistic risk models for transmission, compression, distribution, and storage by 2030.

The industry is shifting from relative index risk models toward probabilistic risk models. PHMSA defines probabilistic as **a model with inputs that are quantities or probability distributions, with outputs that can be expressed as probability distributions.**

Model logic adheres to laws of probability. A probabilistic risk model helps better allocate resources by making decisions based on data associated with impact and probability. Figure 23 shows a roadmap for implementing Probabilistic Risk Modeling across the major asset classes by 2030.

**Figure 23: Probabilistic Risk Model Upgrade Roadmap**



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This roadmap will not only account for the entire system but will also result in a Unified Model. The benefits of the unified model are as follows:

- A clear understanding of the existing and projected future performance of assets including reliability and integrity.
- The ability to show risk and investments to regulators and stakeholders.
- The capability to make intelligent decisions based on risk and reliability across the entire system.
- Assurance the investment profile is aligned with the Enterprise risk profile.

### D. Regulatory and Policy

Alignment with evolving regulatory requirements and energy policy is essential to the successful execution of the Plan. Regulatory and policy engagement enable the Company to proactively manage compliance, influence legislative outcomes, and secure support for 2035 strategic goals.

#### Regulatory

Consumers Energy maintains rigorous compliance with state and federal regulations. Key regulatory focus areas include:

- **Compliance Assurance:** Maintain adherence to state and federal regulations.
- **Monitoring & Reporting:** Track regulatory changes and ensure timely reporting and documentation.
- **Risk Mitigation:** Identify regulatory risks early and develop mitigation strategies to avoid penalties or project delays.
- **Stakeholder Engagement:** Collaborate with regulators, industry groups, and legal experts to better understand the external environment and emerging requirements.

#### Policy

- **Proactive Advocacy:** Advocating for state and federal policies that support safety of infrastructure, system resilience, and decarbonization.
- **Strategic Partnerships:** Build partnerships with state and federal industry peers, community leaders, and advocacy groups to best understand emerging trends.
- **Policy Intelligence:** Monitor energy policy trends at the state and federal levels to inform 2035 strategic planning and ensure readiness for future policy changes.
- **Alignment with strategic objectives:** Ensure policy positions and advocacy efforts are aligned with the customer at the center and strategic objectives discussed above.

Consumers Energy's integrated approach to regulatory and policy engagement ensures that the Company remains agile, and forward-looking—positioned to deliver safe, reliable, affordable energy to Michigan customers through 2035 and beyond.

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### VI. GAS SYSTEM DECARBONIZATION

Consumers Energy is implementing industry-leading plans to reduce greenhouse gas emissions created by its natural gas operations. This includes modernizing its natural gas system to achieve net zero methane emissions from its operations by 2030.

In 2022, the Company committed to achieve net zero greenhouse gas emissions from the entire natural gas production and delivery system, including customers and suppliers, by 2050. To support this goal, the Company will engage customers to help meet their clean energy needs. This 2050 net zero goal supports Michigan's MI Healthy Climate Plan to achieve net zero carbon emissions by 2050. The U.S. Environmental Protection Agency ("EPA") defines greenhouse gas emissions in three categories:

- **Scope 1:** Direct emissions from sources that are owned or controlled. At our Company, there are emissions produced in the process of generating and supplying energy for customers, such as carbon emissions from burning methane or fugitive methane emissions from our natural gas delivery system. ***The Company's goal to reduce Scope 1 emissions is "methane net zero by 2030."***
- **Scope 2:** Indirect emissions associated with the purchase of energy for any end use. These emissions may arise from the energy we purchase and use at our facilities and comprise only a fraction of the emissions linked to our Company.
- **Scope 3:** Emissions are from sources not owned or directly controlled but related to our activities. These include all emissions traced to natural gas we purchase and activities by customers and suppliers, primarily from end uses like burning natural gas to heat homes and businesses. ***The Company's goal to reduce Scope 3 emissions is "net zero carbon emissions by 2050."***

#### A. Methane Net Zero Goal

Consumers Energy recognizes methane as a greenhouse gas emission, and that methane's impact as a greenhouse gas is notably more significant than that of carbon dioxide, with a short-term global warming potential that is approximately 80 times greater.

Since 2012, Consumers Energy has reduced methane emissions from its natural gas delivery system by nearly 30%.

The methane emission reduction plan seeks an 80% reduction, and net-zero, of methane emissions by 2030 through the following near-term measures:

- Distribution main leaks: replacing vintage pipe (cast iron and unprotected steel).
- Distribution services leaks: replacing vintage pipe (copper and bare steel).
- Storage: Wellhead component leaks (plug and abandon program).
- Compression blowdown venting procedures: reducing natural gas venting frequency/duration.
- Transmission blowdown procedures: increase temporary compression to reduce venting.

Procurement of carbon credits is expected to cover the remaining 20% methane emissions to achieve net zero for the natural gas delivery system.

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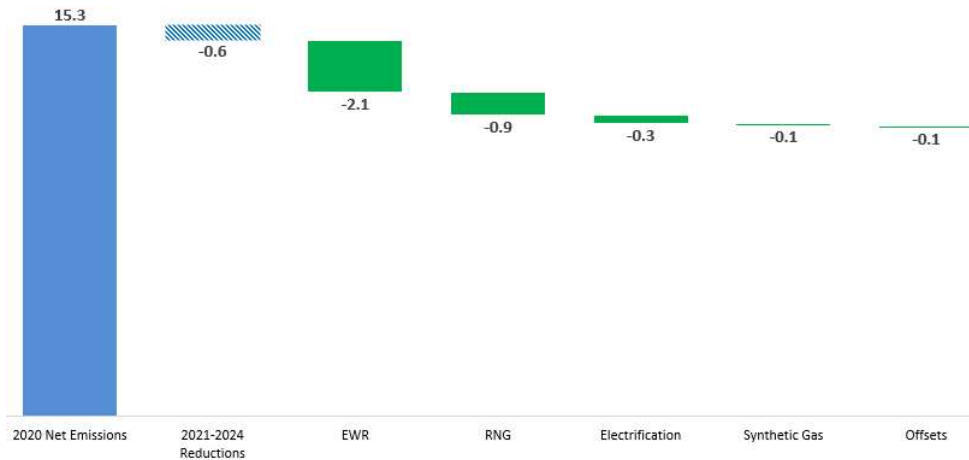
**B. Net Zero Carbon Emissions Goal by 2050**

To support Michigan’s MI Healthy Climate Plan, in 2022, Consumers Energy committed to net zero Scope 3 emissions by 2050 with an interim target of 25% reduction by 2035. This includes all emissions traced to natural gas purchases and activities by customers and suppliers, like those associated with burning natural gas to heat homes and businesses.

Consumers Energy is committed to delivering natural gas in a way that supports a cleaner, more sustainable Michigan. As the Company advances toward net zero emissions by 2050, it remains closely connected to customers, listening to their needs and designing solutions that accelerate progress. The gas decarbonization strategy prioritizes safety, reliability, affordability, and equity. Through expanded energy efficiency programs, the exploration of low-carbon fuels and infrastructure modernization, Consumers Energy helps customers reduce their carbon footprint while maintaining dependable service. Appendix C highlights future gas decarbonization modeling performed in 2021. The Company will seek to update future decarbonization scenarios in 2026.

The plan to achieve this 25% reduction by 2035 is shown below in Figure 24, which illustrates that EWR, RNG, carbon offsets, and new emerging decarbonization technologies are all necessary pathways.

**Figure 24: Scope 3 25% carbon emission reduction by 2035**



**MI Clean Air Program<sup>14</sup>.**

In 2022, the MI Clean Air Program was approved to provide a voluntary offering for customers to offset the emissions tied to natural gas consumption via the use of forestry carbon offsets sourced in Michigan. In March 2024, the Company received additional approval to expand the Program to include RNG as a clean fuel alternative for full-service natural gas customers.

**Carbon Offsets**

A carbon offset represents a verified reduction of greenhouse gas emissions occurring in one location to counterbalance emissions produced elsewhere. By

<sup>14</sup> MI Clean Air Annual Report 2025: [MPSC Case No. U-21141: Consumers Energy Company's 2025 MI Clean Air Annual Report](#)

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purchasing offsets, emissions from natural gas can be neutralized, helping to mitigate the environmental impact of remaining emissions. Through this program, customers can choose to offset emissions associated with their own natural gas use. The Company sources high-quality offsets from in-state forestry projects in Michigan. By limiting deforestation and promoting sustainable land management, these projects help maintain clean air, preserve wildlife habitats, and enhance long-term carbon storage.

### **Renewable Natural Gas**

Consumers Energy owns and operates RNG facilities to serve voluntary customers with a clean fuel alternative sourced from Michigan. RNG is a carbon negative, drop-in fuel that meets current pipeline quality standards to serve existing customer end uses. RNG is created by capturing methane from the decomposition of organic matter (e.g. food, animal waste, and wastewater), which would otherwise be vented into the atmosphere. This captured biogas is upgraded to meet pipeline quality standards, called RNG, and is chemically identical to fossil natural gas.

### **RNG Emissions Benefit**

Emission benefits are quantified using the industry standard Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (“GREET”) model, resulting in a lifecycle Carbon Intensity (“CI”) score. A CI score is the total measure of greenhouse gas emissions associated with producing, distributing, and using a fuel, reflected in grams of Carbon Dioxide equivalents (“CO<sub>2</sub>e”) per megajoule (“MJ”) of energy.

After including all RNG process emissions from capturing methane, upgrading it, transporting it, and end use, the benefit of avoided methane emission to atmosphere is still significantly greater than the total of those lifecycle emissions. The lower the CI score, the more cost effective it is to reduce emissions. This is because with carbon negative fuel, only a small portion of RNG needs to be blended to achieve carbon neutrality. For this reason, animal manure based RNG is preferred because it has the lowest carbon intensity of any feedstock.

RNG also supports other environmental goals, including reduced nutrient run-off, improved water quality, organic waste management and diversion, groundwater protection, and displacement of fossil fuels.

### **RNG Production**

RNG production, sourced from animal waste, is scheduled for commercial operation in 2026 and will supply the Company’s MI Clean Air Program. Consumers Energy seeks opportunities with farms to help bring clean fuel to the state of Michigan. Any farm can potentially contribute to Consumers Energy’s natural gas supply as RNG. RNG is an opportunity to reduce emissions and improve the environment in Michigan, while supporting local farms.

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### C. Energy Waste Reduction

Since 2009, Consumers Energy implemented a diverse and balanced portfolio of EWR programs achieving significant energy savings for all major sectors and customer classes, including small businesses and low-income customers in line with the Company's Clean Energy Plan.

Natural Gas EWR programs play a role in decarbonizing the gas system; reducing the amount of energy consumed; and reducing Scope 3 methane emissions.

Consumers Energy filed its 2024-2025 EWR Plan Filing in August of 2023, Case Number U-21321<sup>15</sup> and it was settled on February 8, 2024. The portfolio of EWR programs achieves 1% natural gas savings annually, which will accumulate to approximately 14.8 Bcf by 2026 and 26.5 Bcf by 2030. On August 1, 2025, Consumers Energy filed its proposed 2026-2029 EWR Plan with the MPSC under Case No. U-21680, outlining strategies to meet updated energy savings targets and program requirements.

Consumers Energy built the EWR portfolio by selecting program measures (equipment), customer participation, and customer incentives to cost effectively achieve legislative and Consumers Energy clean energy goals. Taken together, the portfolio of EWR programs outlined in this Plan continue Consumers Energy's history of offering a diverse portfolio of cost-effective, flexible, and inclusive program choices, incentive options, and educational opportunities for every customer class.

The table below outlines the Company's proposed 2026-2029 EWR Plan natural gas savings targets.

**Table 3: Natural Gas Investments and Savings Compared to Targets<sup>16</sup>**

	2026	2027	2028	2029
Planned Investment, Gas Programs	\$86,765,558	\$86,646,072	\$87,847,272	\$88,888,955
Annual Gas Savings, Statutory Target (%)	0.875%	0.875%	0.875%	0.875%
Annual Gas Savings, Statutory Target (Mcf)	2,508,104	2,506,875	2,517,733	2,512,329
Annual Gas Savings, Planned (%)	1.0%	1.0%	1.0%	1.0%
Annual Gas Savings, Planned (Mcf)	3,067,402	3,064,771	3,061,704	3,075,890

<sup>15</sup>The February 8, 2024 Case No. U-21321 Order Approving Settlement, available on the MPSC website: [8 Feb 2024 Order Approving Settlement Agreement in MPSC Case No. U-21321](#), authorizes gas EWR program investment of \$95.5 million in 2024 and \$95.1 million in 2025 to achieve 1% of sales gas targets each year.

<sup>16</sup> **Consumers Energy Company, Energy Waste Reduction Plan Filing for 2026-2029** Case No. U-21680, submitted to the Michigan Public Service Commission on Aug 1, 2025. Note: As of Sep 27, 2025, this filing is pending Commission approval.

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### D. Emerging Technologies

Potential emerging pathways to meet net zero emissions by 2050 include using hydrogen and synthetic fuels to produce energy, capturing and sequestering carbon emissions from natural gas combustion, and the consideration of non-pipe alternatives (NPAs), such as network geothermal districts, to heat homes and businesses.

#### **Hydrogen**

Hydrogen is an ideal clean energy fuel as it has the highest energy-to-weight ratio and releases no carbon when combusted. Hydrogen's zero carbon footprint along with its energy content characteristics make it an important pathway that targets hard-to-abate high heat processes such as industrial drying, compression, and long-haul transport. The Company's initial focus on Hydrogen is to monitor development throughout the industry. Currently, Consumers Energy has no plans to blend hydrogen or install any dedicated hydrogen pipelines.

**NOTE:** Hydrogen and natural gas are **not** completely interchangeable as a usable fuel at existing pressures and flow rates. However, given advantages tied to dispatch, storage, and carbon neutrality, hydrogen is being assessed by the energy industry to determine its potential as a clean energy pathway for the future natural gas system.

#### **Synthetic Fuels**

Clean synthetic fuels, often referred to as synthetic natural gas ("SNG"), are manufactured fuels designed to have no carbon footprint. SNG is produced by combining hydrogen with captured carbon dioxide to form methane, a process that allows the fuel to be fully compatible with existing natural gas infrastructure. With Michigan businesses selected as partners in the MachH2 hydrogen hub, which is committed to advancing the Midwest hydrogen value chain, the Company is evaluating opportunities to partner as both an energy supplier and off taker.

Globally, SNG is already in use, and zero emissions pathways can be achieved by combining green hydrogen with carbon dioxide captured from Company-owned RNG facilities. The result is a carbon-neutral methane that can be delivered through current pipelines without additional infrastructure investment. In 2025, the Company began investigation to understand the economics and feasibility of this technology in alignment with MachH2 hydrogen hub initiatives and in partnership with EPRI Low-Carbon Resource Initiative ("LCRI").

#### **Network Geothermal**

Network geothermal, also known as thermal energy networks, is a utility-scale heating and cooling system that uses the stable temperature of the earth to serve multiple customers through a shared underground thermal loop. The system consists of vertical or horizontal borefields where fluid circulates and exchanges heat with the ground. Each customer connected to the thermal loops uses a ground-source heat pump to extract heat in the winter or reject heat in the summer.

#### **How it works:**

- In winter, the heat pump transfers heat from the thermal loop into the building, replacing natural gas furnaces.

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- In summer, the heat pump removes heat from the building and rejects it into the thermal loop, reducing electric air-conditioning demand.
- By linking multiple buildings (residential, commercial, or industrial), heating and cooling needs can balance each other, which improves system efficiency upwards of 600%.

In 2024, the Company received an MPSC grant to study the feasibility of network geothermal across its service territory. The initial objective is to understand customer preferences and identify how this technology can enhance reliability, affordability, and sustainability of their energy service.

### Carbon Capture

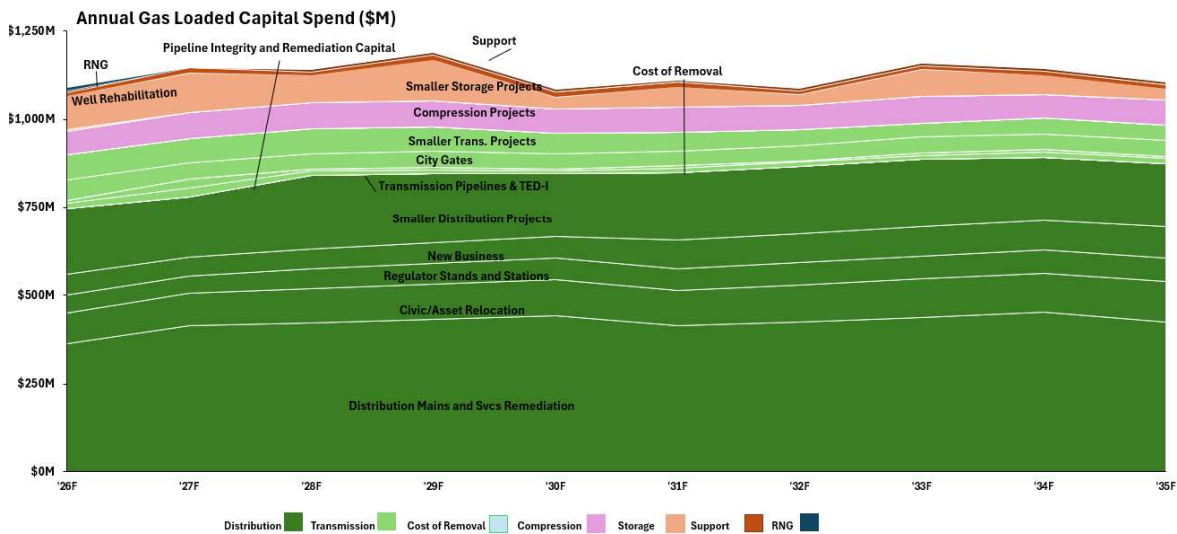
Carbon Capture, Utilization and Storage (“CCUS”) remains a critical technology pathway in achieving a net zero emissions future. While the technology is still developing and its applications are not yet fully defined, Michigan’s unique geology with deep saline formations offers high potential for large scale underground carbon sequestration.

## VII. FINANCIAL SUMMARY

### A. 10-yr Capital Plan

Overall, the total 10-year capital spend shows approximately \$12 billion from 2026 to 2035, at an annual capital investment expenditure of approximately \$1.2 billion per year. This level of capital investment is consistent with recent past years ensuring safe, reliable, and clean objectives are met at affordable customer bills.

Figure 25: 2026 – 2035 Capital Plan



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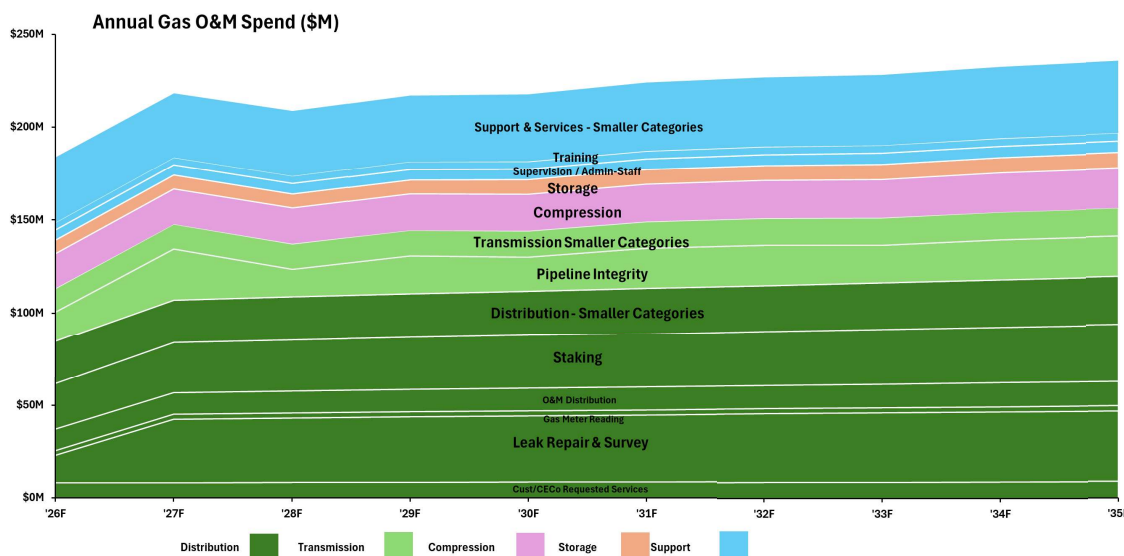
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**B. 10-yr O&M Plan**

Figure 26 shows that this capital investment will also result in an increase of O&M cost over the next five years.

**Figure 26: 2026 – 2035 O&M Plan**



**VIII. Closing**

Consumers Energy developed this 10-year Gas Delivery Plan to ensure Michigan continues to receive safe, reliable, affordable, and clean natural gas. The Plan reflects the Company's commitment to:

- **Safety:** Lowering system risk through targeted asset investments.
- **Reliability:** Ensuring consistent and compliant supply through prudent planning.
- **Affordability:** Delivering stable, competitive, and predictable energy value.
- **Clean Energy:** Reducing greenhouse gas emissions across the gas delivery system.
- **Equity:** Promoting fair and inclusive access to energy benefits.

Consumers Energy regularly reviews the assumptions and data that inform this Plan and will adjust as needed. The Company remains committed to sharing its vision and progress with stakeholders across Michigan.

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## Appendix A – Industry Standards Summary

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As a regulated gas utility company, Consumers Energy must adhere to all State and Federal Pipeline Safety regulatory requirements. As an example, the following is a high-level list (**not fully inclusive**) of requirements and industry standards or practices:

### Code of Federal Regulations

- 49 CFR Part 191 - Transportation of Natural and other Gas by Pipeline; Reports
- 49 CFR Part 192 - Transportation of Natural and other Gas by Pipeline; Minimum Federal Safety Standards
- 49 CFR Part 199 - Drug & Alcohol Testing

### Michigan Gas Safety Standards

### Michigan Technical Standards for Gas Service

### American Petroleum Institute

- Standard 1164 – **Pipeline Control Systems Cybersecurity**
- Recommended Practice 1171 - **Functional Integrity of Natural Gas Storage in Depleted Hydrocarbon Reservoirs and Aquifer Reservoirs**
- Recommended Practice 1173 – **Pipeline Safety Management Systems**

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## Appendix B – System Figures & Facts

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**Table 4: Natural Gas System Summary Statistics**

System Summary	
Transmission pipeline	2,342 Miles
Mainline pipelines	1,560 Miles
Pipeline within compression stations	22 Miles
Storage pipes	244 Miles
Transmission Operated as Distribution	514 Miles
Distribution Pipelines	28,433 Miles
Storage Fields	15 Fields (Includes Riverside)
Compressor Stations	8 Stations
Customers Served	Approximately 1.8 Million
Gas Storage Wells	783 Wells
Working Gas Storage Capacity	154 Bcf

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**Appendix C – Decarbonization Modeling**

In 2021, Consumers Energy worked with industry leading consultants to better understand the most affordable and resilient state-wide economy decarbonization plan that achieves net zero carbon emissions by 2050.

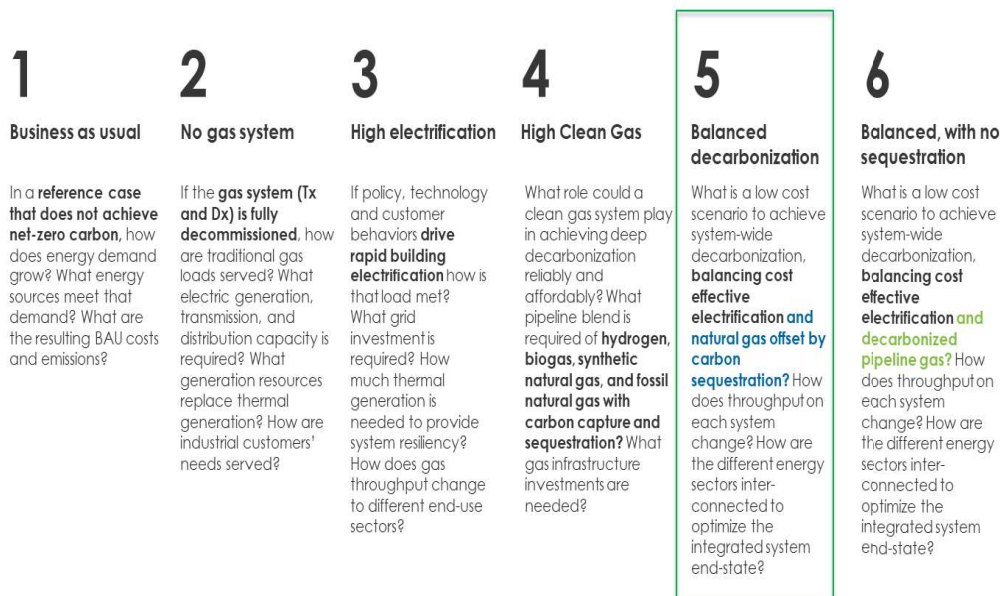
This analysis incorporates both the Company’s electric and gas utilities with an ‘energy agnostic’ approach. It was determined that limiting the scope of analysis to the Consumers Energy service territory would improperly exclude constraining factors like electric vehicle demand on the grid and would not take advantage of geographic and logistical efficiencies throughout the State.

The modeling analysis used regional attributes to understand the most cost-effective energy supply to meet the energy demand of the State, including full electrification of the passenger vehicle sector, while simultaneously achieving net zero emissions by 2050.

The analysis was completed for six different scenarios, shown below in Figure 27. Important assumptions are noted here across three specific scenarios.

- **The business-as-usual scenario is used as a reference point** and assumes no progress in energy decarbonization.
- The **no gas system scenario was assessed to understand the cost of meeting energy demand** in the absence of the gas system, meaning all current uses of gas, including industrial processes and electric generation would require alternative energy supplies like hydrogen or electrification. This scenario also demonstrates the value the current gas system provides to the state’s overall decarbonization costs.
- **The high electrification scenario assumes all end uses are electrified except for natural gas electric generators**, meaning the compression and transmission system would remain, while most gas distribution pipelines would be retired.

**Figure 27: Decarbonization Scenarios**



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The key conclusion from modeling was that a balanced combination of multiple technologies is the most cost-effective means of achieving economy-wide decarbonization by 2050. The diversity in a balanced combination of multiple technologies not only increases resiliency, but also increases optionality across the system, lowering risk of not achieving carbon neutrality.

In all scenarios, electric load increases due primarily to electric vehicle deployment and some space heating electrification. As coal plants are retired, gas generation with carbon capture grows to meet increasing load.

Renewables are an important part of Michigan's energy supply, but controllable energy, like long duration energy storage, is needed for maintaining a reliable energy supply.

Other important conclusions show:

- The gas distribution system enables cost effective, reliable home heating in Michigan winters.
- The gas transmission system is needed to supply natural gas to electric generators.
- Carbon sequestration is needed to cost effectively achieve durable decarbonization, specifically to support electric generation, synthetic gas, and hydrogen production.
- Clean fuels such as RNG and hydrogen provide system resiliency, diversification, and energy for hard to electrify end uses.
- Electrification potential was constrained by costs associated with additional transmission and generation infrastructure necessary to meet winter peaking electric demand.

As shown below in Figure 28, analysis indicates that in a highly electrified decarbonized future scenario, building electrification can drive winter peaks as high as 40% higher than summer peaks. In this scenario, the most economic form of clean electric base load generation to support building electrification would come from natural gas generators fitted with carbon capture.

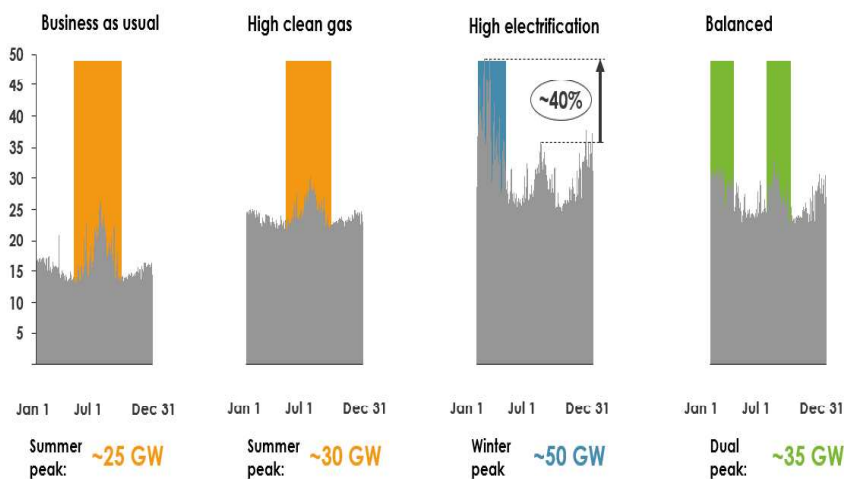
Hybridized electric + gas space heating, as represented within the 'balanced scenario' can mitigate a peak shift to winter, reducing the need for investment in electric generation and transmission by ~\$20-\$25B compared to a high electrification scenario.

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**Figure 28: Potential Electric Peak Load Impacts by Scenario**



Additionally, ~20% less electric generation capacity is required in the ‘balanced scenario’ than in a high electrification scenario, which helps mitigate cost increases.

In each decarbonization scenario, there is a societal cost impact to Michigan with a ‘balanced scenario’ the lowest societal cost pathway to meet carbon neutrality by 2050. Total energy system costs include all costs associated with energy in Michigan, including feedstock and commodities; electricity generation, storage, and fuel production technologies; energy delivery infrastructure; carbon capture and sequestration; demand-side technologies (e.g. appliances and vehicles, EE investments, etc.).

RNG (“biogas”) is seen as a foundational technology that best prepares the Company for any likely decarbonized future scenario including high electrification, high clean gas, and a balanced approach. This is because RNG is cost effective in reducing carbon, mature technology, and requires no incremental investment in the existing infrastructure.

RNG resources are available today and require no modification to the existing infrastructure, making it more cost-effective than other approaches. For this reason, the Company offers RNG as a voluntary product to customers providing the State with progress towards our shared environmental goals over time.

In all likely scenarios (high electrification, high clean gas, balanced), modeling shows natural gas generation as the least-cost, carbon neutral energy supply able to meet demand. In the absence of a gas system or carbon-neutral natural gas generation, new nuclear generation would be necessary to support demand by 2050 as shown in Figure 29.

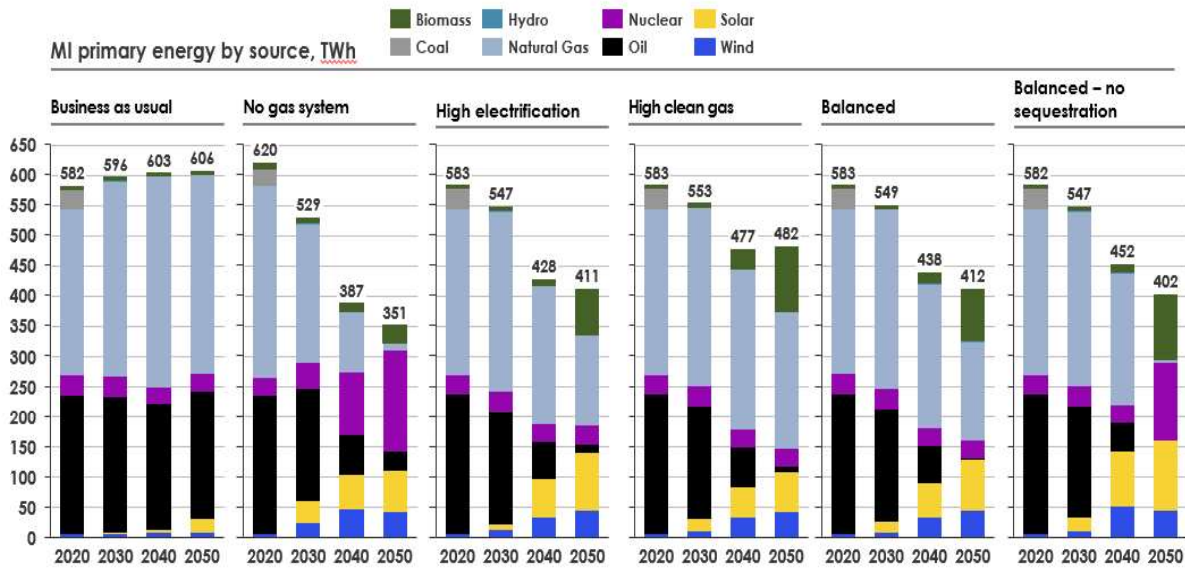
**NOTE: This analysis is Michigan-wide and does not necessarily reflect the Company’s expected energy supply.**

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**Figure 29: Potential Primary Energy Sources by Decarbonization Scenario**



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**Appendix D – MAOP Distribution Program & Project List**

**Table 5: Distribution Program and Project List for MAOP**

Line Segment	Estimated Capital Cost	Length (miles)	Expected Pipe Size	Construction Complete Year
<b>Completed Projects</b>				
Line 1009 Huron Park to I94	3,183,351	0.5	12"	2024
Line 1090n	261,429	0.012	8"	2024
Line 1087b Phase 1	178,966	0.358	2"	2024
Line 1020 Greenfield Rd	456,218	0.038	12"	2024
<b>Projected Projects</b>				
Line 1002f Macomb ITC Corridor	4,772,767	0.07	26"	2025
Line 1009/1009c I94 to Little Mack, 10 Mile to 11 Mile	4,730,341	1.53	12"	2025
Line 1022f Vermontville	562,091	0.038	8"	2025
Line 1087b East & West Segments	4,217,576	0.81	12"	2025
Line 1006 Ph 1 Groebel Dr to Mound Rd	4,100,137	0.31	24"	2026
Line 1026f Mt Hope	3,995,454	0.758	8"	2026
Line 1080 Dual Main	29,835,685	6.7	12"	2025
Line 1022	40,401,027	3.5	16"	2026
Line 1041 Lapeer Rd	25,362,252	3.4	12"	2027
Line 1002c	235,402,486	8.15	24"	2029
Line 1009c Ph 3 Little Mack - 10 mile to 9 mile, Macomb	6,144,037	1.3	12"	2026
Line 1093 Shattuck Rd	13,987,914	1.76	12"	2026
Line 1002	3,854,313	0.33	16"	2027
Line 1009c Ph 4 11 mile - Little Mack to RS22, Macomb	3,658,193	0.5	12"	2027
Line 1026i MSU PP	2,670,021	0.133	8"	2027
Line 1082 Lovers Lane	2,700,781	0.4	12"	2027
Line 1087f S Saginaw Rd	497,454	0.028	N/A	2027
Line 1006 Ph 2 11 Mile Mound to RR St.	13,419,357	0.75	24"	2027
Line 1019k	589,012	0.028	16"	2029
Line 1090l W Caro Rd	1,350,000	0.15	8"	2030
Line 1006 Ph 3 11 Mi/Deq to Dvd Givens	12,000,000	1	16"	2030
Line 1008	26,250,000	2.5	12"	2032
Line 1049d I-475 Crossing on Bristol Rd	298,000	0.028	12"	2033
Line 1091 S Van Dyke-S Outer Dr Bad Axe	7,758,316	0.7	8"/12"	2028
Line 1082 E Kilgore Rd and Portage St	4,200,000	0.041	12"	2033
Line 1082f	1,800,000	0.2	8"	2033

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**Appendix E – Storage Field Assets and Capabilities**

**Table 6: Storage Field Summary**

Type	Storage Field Name	Working Gas Volume (Bcf)*	Base Gas Volume (Bcf)*	Total Gas Volume (Bcf)*	Number of Wells
<b>Base</b>	Winterfield	25.30	47.00	72.30	239
	Overisel	25.50	27.50	53.30	141
	Salem	11.60	18.90	30.50	71
	Cranberry	11.00	17.20	28.20	127
	Riverside	1.50	7.50	9.00	49
<b>Intermediate</b>	Hessen	13.50	3.48	16.98	24
	Puttygut	9.50	5.10	14.60	24
	Four Corners	2.39	1.39	3.78	6
	Swan Creek	0.42	0.23	0.65	1
	Ray	48.10	17.27	65.37	62
<b>Peaker</b>	Ira	2.00	4.25	6.25	15
	Lyon 29	1.23	0.95	2.18	3
	Lenox	1.20	2.03	3.23	11
	Lyon 34	0.70	0.66	1.36	5
	Northville Reef	0.50	0.72	1.22	5
<b>*NOTE:</b> All gas volumes are in MMcf at 14.73 psi saturated pressure base.					

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**Appendix F – Summary of Compressor Stations and Capabilities**

**Table 7: 2025 Compression Summary**

Station	Mothballed / Retired				Operable			
	Units	# Units	Unit hp	Total hp	Units	# Units	Unit hp	Total hp
Ray					CAT 3616	5	4,735	23,675
Muskegon River	HVC Turbine	2	3,286	6,571	TLA	2	3,400	6,800
		1	10,500	10,500	HBA	4	2,600	10,400
					Turbine (Suction Boost)	1	10,076	10,076
St. Clair					Waukesha	4	4,835	19,340
					T-4500	2	3,971	7,942
Overisel					TLA	4	2,700	10,800
Northville					TLA (Transmission)	2	2,700	5,400
					TLA (Storage)	2	2,700	5,400
White Pigeon	KVT W-330	2	2,000	4,000	W-330	2	3,600	7,200
		2	3,600	7,200	CAT 3616	3	4,735	14,205
					V-250	2	2,000	4,000
					CAT 3608	1	2,370	2,370
Freedom					Waukesha	5	3,750	18,750
Huron					CAT 3512	1	1,035	1,035
<b>System Total</b>		<b><u>7</u></b>		<b><u>28,271</u></b>		<b><u>40</u></b>		<b><u>147,393</u></b>

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**Appendix G – Energy Waste Reduction Offerings**

**Table 8: 2024–2025 Program Summary**

Residential EWR Portfolio		
Program Name	Markets Served	Program Offerings
Appliance Recycling	All residential electric customers	<ul style="list-style-type: none"> <li>Incentive and environmentally responsible, free pick up of older, inefficient refrigerators, freezers, and small appliances.</li> </ul>
Assessments and Behavioral	All residential customers	<ul style="list-style-type: none"> <li>Walk-through or virtual home inspection, installation of free energy-saving measures, and customized post-assessment report with energy-saving tips and recommendations tailored to customer's fuel type (dual fuel, natural gas-only, or electric-only).</li> <li>Personalized household reports, sent by mail and/or email, with individual energy usage tips and program recommendations.</li> </ul>
Home Solutions	Residential customers in single-family homes	<ul style="list-style-type: none"> <li>Distributor and point of purchase rebates for the purchase and installation of high-efficiency heating, cooling, insulation, windows, and hot water equipment.</li> <li>Web-based Find-a-Contractor tool.</li> </ul>
Income-Qualified	Residential low-income customers in single-family homes	<ul style="list-style-type: none"> <li>Free walk-through or virtual home inspection/assessment with equipment installation.</li> <li>Home weatherization funding assistance.</li> <li>Collaboration with community partners to provide maximum and coordinated benefit to income-qualified customers.</li> </ul>
Income-Qualified Multifamily	Residential low-income customers in multifamily housing	<ul style="list-style-type: none"> <li>Direct, no-cost installation of energy-saving devices in individual tenant units and common areas.</li> <li>Educational materials explaining the program's energy and money saving benefits.</li> <li>Prescriptive and custom incentives (offered at a higher rate than those in the Market-Rate Multifamily program) for property owners to install energy-saving equipment in individual units and common areas.</li> </ul>
New Home Construction	Residential builders	<ul style="list-style-type: none"> <li>Incentives for builders who construct new homes to ENERGY STAR standards or achieve a minimum Home Energy Rating System (HERS) score.</li> <li>Builder training on high performance building practices and how to promote the value of energy-efficient homes.</li> </ul>
Think! Energy	Early elementary to high school students and community groups	<ul style="list-style-type: none"> <li>In-class or virtual EWR presentations and educational content for teachers and community groups.</li> <li>Free energy-saving take-home kit including low-cost energy-efficiency measures and educational content.</li> </ul>

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**Table 8 (Cont.): 2024–2025 Program Summary**

Business EWR Portfolio		
Program Name	Markets Served	Program Offerings
Prescriptive	Large business customers	<ul style="list-style-type: none"> <li>• Prescriptive downstream and midstream rebates ranging from 20% to 40% of the incremental cost of high-efficiency electric and natural gas equipment.</li> </ul>
Custom Solutions	Large business customers	<ul style="list-style-type: none"> <li>• Analysis, performance-based incentives, and technical assistance for large commercial and industrial customers who install high-efficiency equipment or process improvements not covered through the Prescriptive program.</li> </ul>
Energy Assessments	Small- and medium-sized business (SMB) customers	<ul style="list-style-type: none"> <li>• On-site energy assessments with limited direct installation measures and a report on the measures installed, product recommendations, and tips on how to save more energy.</li> <li>• Installation and direct distribution (via mailed kits) of free measures including showerheads, faucet aerators, pre-rinse sprayers, pipe wrap, and programmable and smart thermostats.</li> </ul>
Small Business Store	SMB customers	<ul style="list-style-type: none"> <li>• Self-service, online marketplace that provides instant incentives for the purchase of qualifying energy-efficient products.</li> </ul>
SMB Contractor Rebates	SMB customers	<ul style="list-style-type: none"> <li>• Installation of common lighting and refrigeration measures by participating trade allies.</li> </ul>