Advanced Energy Conference 2018

March 28, 2018
DTE Energy Overview

75% - 80% Utility
Growth driven by investments aimed at improving reliability

20% - 25% Non-utility
Growth driven by strategic opportunities

DTE Electric
Electric generation and distribution

DTE Gas
Natural gas transmission, storage and distribution

Gas Storage & Pipelines (GSP)
Transport, store and gather natural gas

Power & Industrial Projects (P&I)
Own and operate energy related assets

Energy Trading
Gas and power marketing
Generation Portfolio Transition

**CO₂ reduction plan***
- 30% by ~2022
- 45% by 2030
- 75% by 2040
- > 80% by 2050

**Planned Retirements**
- River Rouge
- St. Clair
- Trenton Channel
- Belle River
- Monroe

**Planned additions***

2020 2030 2040 2050

* A steady march toward zero-emitting and low-emitting resources

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* CO₂ percentage reductions from 2005 levels
** ~3,300 MW retired between 2020-2030 and ~3,100 MW retired by 2040
*** ~4,000 MW of renewable and ~3,500 MW of natural gas capacity
# Distribution Grid Long-Term Investment Plan

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- **Mitigate Risk**
- **Improve Reliability**
- **Reduce Cost**
Technology & Automation Critical to Future Grid

Installation of Remote Monitoring and Control Devices

- Continue to install field devices, providing an enhanced view of the real time state of the system
- Upgrade equipment to allow remote monitoring and control

Modernization of the Electric System Operations Center

- Upgrade System Operations Center to meet industry best practices and enhance the ability to respond to significant disruptions

Implementation of an Advanced Distribution Management System

- Improve real-time operating decisions based on integrated data and models
- Facilitate the integration of distributed resources
Energy Storage and Electric Vehicles

Utility-Scale Energy Storage

- **Paired storage with solar array and deployed distributed storage** as part of community energy storage demonstration project in Monroe
- **Evaluating additional pilot opportunities** arising from decline in battery costs – projects could help integrate distributed generation and EV charging, improve reliability and power quality, or defer high cost distribution investments

Electric Vehicles (EVs)

- Implementing near-term pilots:
  - **Load management demonstrations** to study the opportunity to shift charging away from peak hours, or integrate storage with EV charging
  - **Downtown charging showcases** with fast charging capabilities in Detroit and/or Ann Arbor
  - **Fast charging** along a highway corridor