

# Michigan's Agriculture and Rural Communities Energy Roadmap

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# Project Goal

- Document the current status of energy-efficiency and renewable energy policies and programs for rural residents and businesses in Michigan
- Develop a roadmap for advancing energy efficiency and renewable energy across targeted populations, supporting a cleaner, more-efficient energy system
- Inform key decision makers about policies and programs that could promote greater access to these resources amongst the agriculture sector and in the state's rural communities

# Project Team

- The project was supported with grant funding from the Michigan Department of Environment, Great Lakes, and Energy (EGLE).
- Public Sector Consultants (PSC) partnered with the American Council for an Energy-Efficient Economy (ACEEE) to create a team with deep understanding of Michigan policies, programs, service providers, and customers as well as broad knowledge of national trends, best practices, and innovations
- PSC and ACEEE met regularly with EGLE staff to share findings, identify and prioritize research activities, and engage stakeholders

# Project Approach

- **Phase One**

- Develop an inventory of the current energy-efficiency and renewable energy policies and programs targeted at Michigan's agriculture customers and rural communities

- **Phase Two**

- Assess the effectiveness of Michigan's existing policies and current programs intended to provide energy-efficiency and renewable resources to agriculture and rural communities

- **Phase Three**

- Engage stakeholders to develop a roadmap for Michigan's agriculture sector and rural communities

# Overview of Rural Population

- 2,049,623 Michigan residents live in rural zip codes, which is equivalent to approximately 20.6 percent of the total population.
- These communities are generally older, less diverse and have lower household median incomes.



# Overview of Agriculture Sector

- Michigan has over 50,000 farm operations producing 300 different commodities
- Michigan is the second-most agriculturally diverse state in the U.S.
- Agriculture is the third largest sector of Michigan's economy.
- Total value of production from Michigan's agriculture sector is \$8.1 billion



# Current State

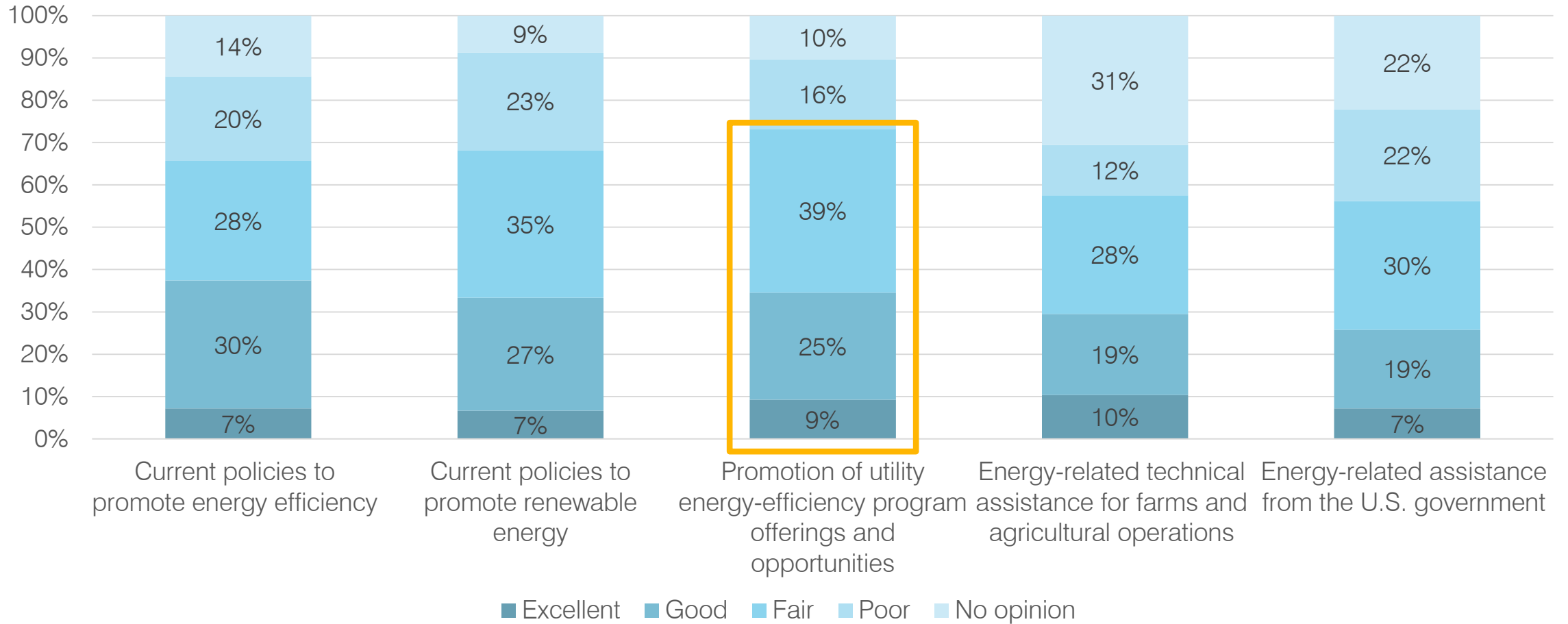
- Statewide, 75 percent of customers are served by natural gas utilities and 8 percent rely on propane providers
- In rural communities, just over 50 percent of customers have natural gas service and 23 percent are served by propane providers
- The use of wood and fuel oil are also more prevalent in rural communities
- Energy consumption can be a significant business expense for some commodity types and certain agricultural processes, ranging from 10 to 15 percent for livestock operations to 40 to 50 percent for wheat and other commodities
- Projections show that if fuel costs were to double for farmers, it could result in a 13 percent increase in commodity prices

# Current State

- Michigan has unmet potential for energy efficiency and renewable energy investment, especially in rural communities.
- Participation in utility programs by rural customers is not proportional to the number of rural customers
- Rural and agricultural customers exhibit strong support for energy efficiency and renewable energy, specifically solar, yet awareness of available programs remains low
- Rural customers face challenges to accessing programs due to limitations, such as access to suitable Internet service, proximity to major retailers offering discounted energy-efficiency products, availability of participating trade allies, and exposure to traditional marketing and outreach efforts



# Perceptions of Current Policies and Programs



# Barriers to Adoption

- Other priorities often take precedence over energy
- Program awareness remains low
- Deliverable fuels customers are left behind
- Costs and benefits must be clearly articulated
- Administrative burdens are deterrents
- Identifying and targeting agriculture customers is difficult
- Michigan's building and electric codes do not apply to agriculture customers

# Further Barriers

- Farm energy audits represent an additional cost
- Farm energy audits do not reflect true costs
- Implementation from farm energy audits has been limited
- The Michigan Farm Energy Program faces critical challenges
- Energy efficiency in the agriculture sector requires a unique approach
- The future of energy-efficiency programming is uncertain
- Rural population demographics are unique
- Renewable energy and agriculture integration is challenged by existing programs
- Onsite renewable energy development has limits

# Key Takeaways

- Energy-efficiency programs should be available that have a specific emphasis on serving the needs of agriculture and rural customers
- A comprehensive suite of programs serving all rural customer segments (residential, commercial and industrial, and agricultural) is essential for providing wide participation options
- State energy-efficiency requirements for municipal and cooperative utilities are important for reaching rural and agricultural customers
- Cost-effective energy-efficiency programming should continue to be a statewide policy priority and be made available to all Michigan residents

# Key Takeaways

- Coordinated program administration supports improved energy-efficiency performance
- Better communication of the potential benefits of energy efficiency is key to helping customers feel confident in their decision to invest
- Leveraging federal financing (e.g., from the U.S. Department of Agriculture and Rural Development) with state, ratepayer, and/or member dollars provides expanded resources for serving agriculture and rural customers

# Key Takeaways

- Rural landowners need support to understand the impact of renewable energy siting and how they can benefit
- Deliverable-fuel customers should have the same opportunities to access energy-efficiency services as customers served by electric and natural gas utilities
- Increasing customer awareness requires education and outreach about the viability of energy efficiency and onsite renewable energy generation to control and/or reduce energy costs
  - Agriculture and rural customers are most interested in and influenced by experiences of peers, testimonials, and case studies

# Opportunities for Enhancement

- A comprehensive suite of programs serving all rural customer segments (residential, C&I, and agricultural) is essential to provide wide participation options
- Leveraging federal financing (e.g., from the USDA) with state, ratepayer, and/or member dollars provides expanded resources for serving agriculture and rural customers
- State energy-efficiency requirements for municipal and cooperative utilities are important for reaching rural and agricultural customers
- Coordinated program administration supports improved energy-efficiency performance

# Thank You

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# Appendix

# Benchmarking and Best Practices

- Notable programs and policies:
  - Southern Minnesota Municipal Power Authority
  - Entergy Arkansas Agricultural Energy Solutions
  - Florida Office of Energy's Farm Energy and Water Efficiency Realization Program and Farm Renewable and Efficiency Demonstration
  - Winneshiek Energy District
  - Wisconsin Focus on Energy Rural Engagement and Statute § 196.374(5m)(b)
  - Minnesota Conservation Improvement Program
  - California Rural and Hard to Reach Working Group