Agriculture and Rural Communities Energy Roadmap

Final Grant Report—Recommendations and Action Plan

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Project Overview

Recognizing the importance of Michigan’s agriculture sector and rural communities, the Sustainability Section of the Michigan Department of Environment, Great Lakes, and Energy (EGLE) engaged Public Sector Consultants and the American Council for an Energy-Efficient Economy (the project team) to develop a research-driven roadmap that will guide the state’s effort to develop programs and policies advancing energy efficiency and renewable energy in these key communities.¹

This project is framed by the understanding that despite the overall success of Michigan’s energy-efficiency and renewable energy standards over the past ten years, the state’s agriculture sector and rural communities have not realized the same benefits as other parts of the state and current standards do not emphasize reaching these populations. In response to the state’s desire to develop programs and policies to advance energy efficiency and renewable energy in these important sectors, the project team embarked on a multifaceted process to create the roadmap to help advance the state’s goals and better serve all consumers.

Goals and Objectives

The overarching goal of the roadmapping effort is “to create an agriculture and rural communities’ energy roadmap to inform policymakers of recommended policies and programs that encourage energy waste reduction and renewable energy.”² To accomplish this goal, the Sustainability Section and project team aligned on the following objectives:

• Identify and review existing energy-efficiency and renewable energy programs and policies.
• Assess the impact of existing programs and policies on agriculture customers and rural communities.
• Identify any gaps or opportunities in the delivery of existing programs and policies.
• Establish a common understanding of the value energy-efficiency and renewable energy resources provide to customers and how these resources can improve Michigan’s energy future.
• Provide recommendations for programs and policies that increase the accessibility of renewable energy and energy efficiency for a broad range of customers in the agriculture sector and rural communities.
• Foster stakeholder engagement around energy issues facing Michigan’s agriculture sector and rural communities.

Project Scope

The project team, in collaboration with the Sustainability Section, developed a project plan based on achieving the objectives for the Agriculture and Rural Communities Energy Roadmap. There are three phases for this project.

¹ The Michigan Energy Office was reorganized as the Sustainability Section following Executive Order 2019-2, which created the Department of Environment, Great Lakes, and Energy. References to the Michigan Energy Office in this report have been updated to reflect this reorganization.

Phase One
The project team developed an inventory of the current energy-efficiency and renewable energy policies and programs targeted at Michigan’s agriculture customers and rural communities. This phase included conducting a baseline assessment of existing programs and policies as well as accomplishments to date through secondary research efforts. As a part of this assessment, the team also interviewed key stakeholders from across the state representing a variety of sectors, such as energy providers, agricultural commodity groups, state associations, community foundations, conservation districts, government agencies, and nonprofit entities. Stakeholders were asked to provide feedback on the current availability, customer awareness, and effectiveness of programs and policies. The project team also asked stakeholders to identify barriers and opportunities for energy efficiency and renewable energy in targeted communities. This input was used to shape the baseline assessment report and recommendations for improving programs and policies.

Phase Two
The next phase of this project was to assess the effectiveness of Michigan’s existing policies and current programs intended to provide energy-efficiency and renewable resources to agriculture and rural communities. This phase of the project included surveying agricultural and rural customers throughout the state, benchmarking Michigan’s existing policies and programs with top performing states, reviewing utilities’ existing program evaluations, and analyzing participating utilities’ data.

The outcomes from these two phases were combined into a single report that includes a summary of the current state of Michigan’s policies and programs that promote renewable energy and energy efficiency in the agriculture sector and rural communities, as well as preliminary recommendations for improving access to these resources for targeted communities.

Phase Three
The final phase of this project focused on the development of the roadmap for Michigan’s agriculture sector and rural communities. Stakeholders were asked to participate in the development of recommendations and an action plan for policies and programs to support energy-efficiency and renewable energy development in the agriculture sector and rural communities based on the results of the research and evaluation completed in phases one and two. The project team engaged a wide variety of stakeholders from across Michigan representing energy providers, agriculture, business groups, and state agencies. Stakeholder input was essential to the development of these recommendations and will be vital to ensuring that the project’s results are relevant and actionable to improve future programs and policies for targeted groups. A summary of the stakeholder meeting and outcomes is available on the project webpage. This roadmap presents stakeholders’ recommendations as well as potential action steps for implementing these recommendations.
Recommendations and Action Steps

The central aim of the Agriculture and Rural Communities Energy Roadmap was to provide recommendations for how to improve programs and policies for energy efficiency and renewable energy in targeted communities. The project team engaged stakeholders with the goal of crafting specific recommendations and strategies that build on current success, incorporate innovative strategies with proven effectiveness, and address customer needs and preferences. Recommendations have been designed to support cost-effective programs, ensure equitable delivery, leverage other efforts to promote advanced energy options for rural and agricultural customers, and encourage economic growth.

Recommendations were developed in two stages. First, stakeholders provided feedback through one-on-one interviews with the project team and review of exemplary programs and policy in other states. Feedback and stakeholders’ discussion of barriers and opportunities were presented in the Baseline Assessment and Policy and Program Evaluation report. Second, the project team engaged stakeholders in a facilitated exercise to define their key priorities and identify recommendations for improving policy design and program delivery. Stakeholders’ recommendations from this exercise have been combined the feedback gathered from individual interviews. These recommendations are organized in six categories:

- **enacting state policies to promote energy-efficiency and renewable energy efforts**
- **demonstrating and communicating benefits to drive demand**
- **making information more accessible and engaging**
- **prioritizing and coordinating across state departments**
- **creating resources for engineering and feasibility analysis**
- **other considerations**

Following engagement with stakeholders and the development of recommendations, the project team identified action steps that could be pursued to implement these recommendations. These action steps have been categorized based on whether they require legislative change to achieve, if they can be pursued through administrative or programmatic changes, or if they represent other considerations that are not completely aligned with the goal of expanding access and increasing adoption of energy-efficiency and renewable energy among agricultural and rural customers. For recommendations that would require legislative change, the project team identified the required statutory change, relevant statutes, and potential action steps for implementing stakeholders’ recommendations. Some of the recommendations will require formal action on behalf of the State and others can be addressed by individual program providers or other entities. Whether proposed recommendations would require legislative change or could be accomplished through administrative and programmatic changes is indicated. The following section provides a summary of stakeholder recommendations and potential action steps for implementation recommendations.
Enacting State Policies to Promote Energy-efficiency and Renewable Energy Efforts

Stakeholders’ recognized that the primary objective of expanding access to and adoption of renewable energy and energy efficiency would be driven by a supportive state policy framework. Existing energy policies have resulted in the expansion of these sectors, to date, but there is still more that can be done to increase access and uptake among rural and agricultural customers. Stakeholders provided the following recommendations for supporting additional energy investment.

Provide Policies and Funding for Energy Efficiency for Deliverable Fuels

A barrier for many Michigan households and businesses to invest in energy efficiency is that they cannot access the same programming if they rely on deliverable fuels, such as propane or fuel oil. Only electric and natural gas providers are required to provide opportunities for their customers to reduce consumption through energy efficiency. While a deliverable fuel customer would likely be able to access energy-efficiency programming through their electric provider there will be certain, beneficial efficiency measures that they would be unable access.

**Action Type:** Legislative

**Action Step:** The State should develop policies that enable deliverable fuel customers to invest in energy efficiency by enabling electric or natural gas providers to claim energy savings toward their program objectives.

Deliverable-fuel providers are currently not required to offer energy-efficiency programming. Whether the State could require deliverable fuel providers to meet an energy-efficiency resource standard, like those used for electric and gas utilities, is uncertain and would likely present a significant political endeavor. One way to help deliverable-fuel customers tap into energy-efficiency investments is to allow electric utilities to extend their existing programs to these customers and count the savings achieved in propane and fuel oil consumption toward their energy-efficiency goal. These savings would be recorded in terms of Btu saved. This could be done for all utilities in the state, or just for electric cooperatives and municipal utilities. Focusing initially on cooperative and municipal utilities would cover much of the rural areas of the state. A suggested modification of Public Act 342 Section 5(d) to achieve this recommendation is as follows:

“Energy efficiency” means a decrease in customer consumption of electricity or natural gas achieved through measures or programs that target customer behavior, equipment, devices, or materials without reducing the quality of energy services.

For utilities not regulated by the [Michigan Public Service Commission], energy efficiency may include savings in the unregulated fuels of propane and fuel oil.
Maintain the Energy-efficiency Resource Standard for Municipal Utilities and Electric Cooperatives

Energy-efficiency resource standards for utilities have been shown to be one of the most effective ways for states to increase efficiency investment. These policies establish a savings target and allow energy providers to implement programs that can achieve the prescribed target. Since 2008, Michigan has used energy-efficiency resource standards to successfully improve efficiency for electric and natural gas customers. In Michigan’s 2016 energy legislation—Public Acts 341 and 342—the energy-efficiency resource standard for municipal utilities and electric cooperatives was set to expire after 2021. This creates uncertainty for the future of efficiency investment and targeted programming for their customers, as these programs would likely be reduced or even discontinued. As discussed in the Baseline Assessment and Policy and Program Evaluation report, nearly all electric cooperative customers are rural and a sizeable portion of municipal utility customers would fit this definition. Because of this, the current policy trajectory of the elimination of the energy-efficiency resource standard for electric cooperative and municipal utilities would reduce energy-efficiency opportunities for rural and agricultural customers.

**Action Type:** Legislative

**Action Step:** The State should amend or remove Public Act 342 Section 73(6) to maintain energy-efficiency resource standards that promote investment in cost-effective energy resources for all electric providers.

Municipal utilities and electric cooperatives are exempt from offering energy-efficiency programs after December 31, 2021. This is due to language included in Public Act 342 Section 73(6). Legislation updating Public Act 342 would be needed to achieve stakeholders’ recommendation for maintaining these programs for all customers. A suggested modification is to remove Section 73(6) of Public Act 342 that exempts municipal utilities and electric co-ops from energy-efficiency requirements after 2021, striking the following text:

> After December 31, 2021, this section does not apply to an electric provider whose rates are not regulated by the commission.

Ensure a More Equitable Distribution of Incentives

Current energy investment programs are not targeted to specific subsets of the population, with the exception of the requirement for utilities to consider low-income customers. This has led to program design that targets the most cost-effective resources that can be captured at the lowest cost. Rural customers are eligible to participate in most of the utility programs, but often are exposed to less program advertising and promotion. In addition, agriculture and rural customers have specific program needs due to unique energy consumption characteristics. The analysis presented in the Baseline Assessment and Policy and Program Evaluation report examined the distribution of investment across rural and urban customers and determined that on the whole, rural customers have not received benefits in full proportion to the number of customers they represent.
**Action Type:** Legislative and Administrative

**Action Step:** The State should prioritize more equitable distribution of incentives to rural and agricultural customers, increasing promotion of programs available to the general customer base and adding targeted programs or program components as needed by requiring program administrators to target customers to ensure proportional service delivery.

Currently, the State does not require program providers to target specific populations (other than low-income customers) through energy-efficiency programs, nor are providers required to ensure equitable distribution of benefits across their customer base. Savings targets for different customer classes (e.g., residential, commercial, and industrial) have been delineated, but targets are not set within customer classes for rural or agricultural customers. Adding language to the Public Act 342 of 2016 to require that utilities have programs to adequately serve rural and agricultural sectors in their service territory (similar to requirement for low-income programs) could address this recommendation. Specific language could include the following modifications to Section 71 (4)(a):

An energy waste reduction plan shall do all of the following:

Propose a set of energy waste reduction programs that include offerings for each customer class, including *rural, agricultural, and low-income residential customers*. The commission shall allow a provider flexibility to tailor the relative amount of effort devoted to each customer class based on the specific characteristics of the provider’s service territory.

Additionally, to support efforts to serve rural and agriculture customers, Michigan could consider a policy that allows utilities to claim higher savings from efficiency programs that reach targeted customers. This would incentivize greater outreach and engagement in less populated areas of the state.

Administrative efforts could also potentially address equitable distribution of benefits. The State, through its authority over reviewing and approving energy providers’ efficiency plans, could place a greater emphasis on ensuring equitable distribution for customer classes. This would need to be carefully managed to ensure the independence of regulators and compliance with statute.

**Address Limitations with Net Metering/Customer-owned Generation**

Net metering programs that allow customers to install and own onsite electric generation (e.g., solar) were established in 2008 for Michigan customers. These programs enabled customers to reduce their reliance on their electric provider and reduce their energy costs. Michigan’s net metering policy was modified in Public Act 342 of 2016 to allow for utilities to implement new tariffs governing customer-owned generation. New tariffs implemented to date have resulted in lower payments to customers for the electricity they produce onsite to account for a differentiation in the value of energy produced and consumed by the customer and the energy they export to the grid. The new structure creates a more complex compensation structure for customer-owned generation and there is concern that it will be increasingly difficult for customers to calculate their benefits and could result in less favorable economics.
**Action Type:** Legislative and Administrative

**Action Step:** The State should address the limitations of customer-owned generation policies by improving tools for customers to evaluate the potential benefit of new distributed generation tariffs or implement policies to incentivize customer investment in clean energy generation.

It is possible to address the limitations of customer generation policies through administrative and programmatic changes or through legislative change. Legislative change has the advantage of being more definitive, but changes to the customer-owned generation portion Public Act 342 would likely be politically challenging as this change was heavily contested during debate in 2016. Other potential legislative changes that could support customer-owned generation would be providing tax credits for customer-owned resources, like solar, or including of environmental benefits in calculating the value of resources like solar.

Administrative and programmatic changes that would overcome limitations of customer-owned generation could include the development of resources for customers and developers that help to quantify and communicate the benefit of customer-owned generation using new tariff structures. These tools would need to be specific for each utility, as tariffs are being proposed and approved on a utility-by-utility basis. As customer-owned generation tariffs are currently being reviewed by the Michigan Public Service Commission (MPSC), the State will need to approach action on this recommendation with caution to avoid action conflicting with regulators.

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**Improve Tax Clarity for Customer-owned Generation**

Michigan’s current tax code results in an increase in personal property tax when a homeowner or business invests in onsite energy generation, such as solar. This tax treatment creates a disincentive for customers to invest in solar because it reduces the prospective financial benefit for customer-owned generation.

**Action Type:** Legislative

**Action Step:** The State should consider policies to improve the clarity for how customer-owned generation is taxed to ensure that energy investments don’t result in additional financial costs.

Legislation to address this issue was introduced in the 2016–2018 legislative session and was vetoed by then-governor Rick Snyder. The legislation has been reintroduced for the 2019–2020 session and is expected to receive approval from the House of Representatives and Senate. This legislation would modify Public Act 206 of 1893 by amending sections 27 and 34(d), section 27 as amended by Public Act (PA) 162 of 2013 and section 34(d) as amended by PA 164 of 2014. Approval of this legislation would improve the economic benefit for customer-owned generation.

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**Continue to Expand Eligible Measures**

The recognition that agriculture customers have unique operations and needs was a consistent theme expressed by stakeholders. The fact that their operations are so unique has resulted in the need for customized solutions for energy-efficiency investment. For energy-efficiency investment to be considered in the savings claimed by energy providers, installed measures need to be certified as eligible. There
continues to be innovation in energy-efficiency measures and stakeholders recommended that the State actively pursue expanding the list of eligible agricultural measures to include new technologies.

**Action Type:** Administrative

**Action Step:** The State should actively pursue expanding the list of eligible measures to include new technologies through engagement with universities, agriculture customers, technology and service providers, and program administrators.

The Michigan Energy Measures Database (MEMD) documents eligible efficiency measures and standardizes the energy savings that can be claimed from different measures. This database is updated annually to account for new technologies. The State should emphasize that each year the MEMD is updated to include emerging energy-efficiency measures for the agriculture community, to the extent that such measures' savings can be verified. This can be accomplished through targeted collaboration with agricultural customers and experts who are actively engaged in agricultural energy use. The MEMD should specifically target the integration of new agricultural efficiency measures to enable diverse applications for farm customers.

**Expand Stakeholder Involvement in Program Design**

Energy-efficiency programs have consistently evolved since their inception. They continue to add new measures, improve outreach and education, and achieve cost-effective savings. However, to date there are very limited agriculture-specific program offerings and there is virtually no programming targeting rural customers.

**Action Type:** Administrative

**Action Step:** Program implementors should provide opportunities for stakeholders to participate in program design to ensure that the specific needs of populations are understood and programs are designed to reach these groups.

Agricultural and rural customers have unique communication and energy needs. Program designs must account for these differences otherwise programs will not adequately serve these populations. By engaging stakeholders representing these groups in the program design stage, providers can help ensure that customers’ unique needs are being met. The State can promote this engagement by placing an emphasis on equitable distribution of program benefits and the ability of programs to serve these customer groups. This emphasis will encourage program providers to gain a better understanding of these customer groups and to begin to tailor options that will ultimately improve options for customers. This effort could potentially be supported by workgroups managed by the MPSC or through engagement from EGLE. One way that stakeholder input could benefit program design is by helping to align agricultural program schedules with customer schedules. It was commonly noted that it can be hard to serve agriculture customers because the timing must be right, by engaging these customers during program design, more can be done to ensure proper alignment between the program and customer schedules.
Provide More Financing Options

Programming options for customers to make energy investments is just one aspect of expanding access and driving adoption. Financing options that lower borrowing costs and/or offer favorable terms are necessary to support customer uptake, especially for higher-cost energy investments. The *Baseline Assessment and Policy and Program Evaluation* report identifies several existing financing options for financing clean energy investment, but even with these programs, energy investments are still unattainable for some groups.

**Action Type:** Legislative

**Action Step:** Expand the options for customers to access financing for energy-efficiency and renewables—especially for low- to moderate-income residents for whom energy costs represent a higher cost proportionate to their resources—through targeted grant programs or revolving loan funds.

The State should define opportunities to provide grant funding or other resources, such as revolving loan funding to expand access to energy investments. Additionally, federal resources can be a major source of low-cost financing or grant dollars. The State should support Michigan residents with applications for available federal funds by providing technical support resources that can help to reduce administrative burden.
Demonstrating and Communicating Benefits to Drive Demand

In some cases, what is needed to support customers’ investment in energy resources is simply clearer communication and demonstration of the benefits of energy efficiency or renewable energy. Stakeholders reflected that there is a sizeable gap in customer awareness of program opportunities and that more could be done to help customers understand how energy investment could benefit them in the long run. Stakeholders recognized the importance of communication and offered the following recommendations.

Build and Maintain Trust Between Utilities, Program Providers, Trade Allies, Other Partners, and Customers

Many stakeholders noted agriculture and rural customers’ natural sense of skepticism and the need for a trusted advisor to inform customers about the best energy-efficiency and renewable technologies. Utilities have the advantage of regular communication with their customers, and the relationship between utilities and customers is a long-term and persistent one. This presents an opportunity for utilities to build a relationship with customers and establish trust so customers will be perceptive to utility communication related to energy investments. Other opportunities for increasing customer participation in programs is through trade allies and other partner organizations, such as state associations, commodity groups, or nonprofits. More can be done to support customer trust in these entities.

**Action Type:** Administrative

**Action Step:** Utilities, program partners, trade allies, and other partners should undertake intentional efforts to build and maintain their customers’ trust through the provision of energy-efficiency and renewable energy programs.

Throughout the system there needs to be greater efforts to improve trust between utilities, program providers, trade allies, other partners, and customers. This can be accomplished through continued investment in customer outreach, improved sharing of customer stories, and follow through on commitments. This change can occur organically as a result of individual actions by different entities; however, it is possible for the State to play a role in periodically evaluating customer perceptions to determine if relationships are improved. This evaluation effort could also coincide with efforts to evaluate program impacts to better define the relationship between customer trust and adoption.

Share Farmers’ Success Stories Through Testimonials and/or Awards to Demonstrate Impact

Stakeholders reflected that farmers can be skeptical of information that comes to them from government sources or their utility. Instead, these farmers are more likely to rely on the experience of their neighbor or another farmer that they know. The trust that a farmer places in the information they receive will play a role in whether they trust the information being presented and, subsequently, if they will take action.
**Action Type:** Administrative

**Action Step:** Program implementors should work to capture the real experience of farmers who have invested in energy efficiency and/or renewable energy to share with customers in similar situations.

Similar to the importance of building trust, there needs to be greater efforts to share experience of farmers and other agricultural customers with their peers to help support program adoption. Stakeholders reflected that farmers are most likely to trust someone they know; to this end, action should be taken to share farmers’ experience with energy efficiency and/or renewable energy through case studies or other communications efforts to encourage interest in programs. These efforts may need to be tied to specific agricultural operations or geographic regions. Another potential action step is to recognize farmers who have had a positive experience with energy investments through awards or other recognition. These efforts can be coordinated by statewide groups like the Michigan Farm Bureau, Michigan Agri-Business Association, commodity groups, program providers, financial organizations, or state agencies.

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**Develop a More Effective Way to Communicate the Impact of Energy Investments on Customers’ Bottom Line and Provide Them with an Expectation for Return on Investment**

Just as it is important for agricultural customers to understand and trust the information they receive related to the impact of energy investments, it is essential for all customers to have an understanding of how an energy-efficiency or renewable energy investment will impact their bottom line and their expected return on investment (ROI). These benefits can be challenging for customers to understand without professional input. Agriculture customers in particular, explained that ROI plays a determining factor in their willingness to invest. Additionally, customers may not have adequate knowledge of the types of investments that will support the greatest impact. Establishing better communication practices for calculating benefits and communicating these benefits to customers will support better customer understanding and support increased uptake. There are also advantages to simultaneous investment in efficiency and renewable energy that customers may not understand.

**Action Type:** Administrative

**Action Step:** Program providers and trade allies should work to improve communication related to customer benefits by documenting customers' experiences (through case studies and testimonials) and develop better tools that can communicate potential energy savings and bill impacts.

The investment and return on that investment will be two of the most important variables for many residents and businesses to consider before they choose to spend their money on energy-efficiency or renewable resources. Communicating the payback and benefit of an investment remains a key obstacle. Action to overcome this gap could include peer learning for program providers to share effective strategies for communicating impacts for customers. This effort can be coordinated to ensure broad participation and sharing of these strategies, or left to independent conglomeration. The State could play a role in facilitating the exchange of ideas and act as a resource for disseminating successful strategies. This effort could potentially be housed in the MPSC or EGLE.
Disseminate Energy Information into Schools/Curricula to Educate the Next Generation of Farmers, Business Owners, and Energy Users

Energy efficiency and renewable energy will make up an essential component of energy supplies into the future. Educating the next generation of energy consumer at early stages will support increased awareness and acceptance of these resources.

**Action Type:** Administrative

**Action Step:** Support energy education in schools by leveraging partnerships with existing efforts.

Providing opportunities for school-age children to learn about energy is one strategy for sharing the message about efficiency and renewables. Some program providers are already pursuing education outreach in schools. The State should ensure that opportunities to share energy information are allowed and that schools are aware of the entities that provide this service and how to access them. The State can begin by assessing the current level of programming that is available and how this outreach is targeted.

Leverage Current Poor Farm Economics to Drive Energy-efficiency Investment

The reality for farmers and many in the agriculture sector currently is that increasingly unstable commodity prices are stressing their budgets and limiting their ability to invest in their operations. However, stakeholders recognized that these conditions also create a greater need among these customers to reduce the cost of inputs like energy.

**Action Type:** Administrative

**Action Step:** Additional consideration should be given to supporting investment in energy-efficiency for agricultural customers through grant funding, administrative and technical support, or financing options to help reduce the energy costs of their operations.

Agricultural customers are less likely to invest in energy projects, as they face other challenges that stretch their resources such as varying crop yields, market changes, and other technological upgrades. This creates the opportunity to realign programming to support these customers when they are most vulnerable. The State can choose to prioritize investment in helping farmers access savings through energy investments by aligning grant dollars or directing program funds toward reducing upfront costs for agricultural customers. These changes can happen through administrative and programmatic changes. Other program options available for the agriculture sector, such as the programs offered by U.S. Department of Agriculture and Rural Development (USDARD) have favorable terms and would not require the direct investment of state funds. Instead the State could dedicate staff support to helping identify eligible customers and supporting them through the application and reporting process.
Making Information More Accessible and Engaging

To be successful, reaching customers with energy-efficiency and renewable energy programs requires nuanced, consistent efforts and investment beyond communication of benefits. Stakeholders recognized that there is a need to make information about programs and policies more accessible and more engaging for customers. These efforts should coincide with other efforts to improve customer communication. Stakeholders aligned on several recommendations for improving access and engagement.

Designate an Entity to Aggregate Information

Agriculture and rural customers have access to programs offered by utilities, state government, and the federal government. Some of these programs are independent opportunities and some are complementary. One limitation noted during the development of the Baseline Assessment and Policy and Program Evaluation report was that the information about programs and policies are not available in one place. Each program provider or government agency gives information about their own programs, but unless a customer knows where to begin their research, information about energy-efficiency and renewable energy investment opportunities can be difficult to uncover. To address this information barrier, stakeholders recommended a designated entity collect information about these programs, their availability, and program administrator into one location, such as a database or other option, increasing knowledge of programs among trade allies, other partner organizations, and customers.

**Action Type:** Administrative

**Action Step:** A designated entity should aggregate information about these programs, their availability, and program administrators. This information should be updated and disseminated periodically to stakeholders.

Aggregating program and policy information to support customers is a natural role for state agencies, such as EGLE, to fulfill. The Baseline Assessment and Policy and Program Evaluation report already identifies current programs and policies and lays the groundwork for ongoing aggregation of information for targeted populations; however, this information still needs to be updated periodically and disseminated to various stakeholders. This role could be one aspect of an ongoing effort to foster collaboration between stakeholders related to continuing the work of this project.

Better Collaboration Between Organizations and Enhanced Communication

The designation of an entity to aggregate program and policy information will play a central role in enhancing communication between organizations. However, to ensure that the recommendations from this report are pursued and the information presented from the Agriculture and Rural Communities Energy Roadmap is not left on a shelf, there needs to be an ongoing effort to support collaboration between stakeholders in an effort to improve communication and ultimately outcomes for customers.
**Action Type:** Administrative

**Action Step:** A designated entity should facilitate periodic communication and or interaction with stakeholders to ensure the ongoing exchange of information, ideas, and emerging trends to support enhanced program delivery for rural and agricultural customers.

The State should consider forming a workgroup to address recommendations from this report through ongoing stakeholder engagement. EGLE and/or the MPSC would be well positioned to convene stakeholders representing state agencies, utilities, program providers, trade allies, and other organizations. This workgroup should focus on efforts to implement recommendations and foster better coordination between customers and providers. As the group’s objectives are achieved, the group could idle or disband, but it is more likely that ongoing engagement would benefit the provision of energy efficiency and renewable energy in targeted communities.

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**Define the Current Program Opportunities and Disseminate this Information**

Once the designated entity has gathered current program and policy opportunities, it will be important to disseminate this information to customers and other organizations that can support outreach to key communities. Stakeholders recommended that there be a formalized process for distributing information related to energy-efficiency and renewable energy opportunities.

**Action Type:** Administrative

**Action Step:** There should be a formalized process for compiling and distributing information related to energy-efficiency and renewable energy opportunities.

There should be an ongoing process for updating information related to programs and policies for efficiency and renewables. This effort can build on the efforts of this project and the designated entity to disseminate information periodically to stakeholders across the state.

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**Establish a Clearer Definition for Agriculture Customers and Identify This Population**

One issue identified with targeting agricultural customers and designing programs to serve them was that there is not a clear definition for what constitutes an agriculture or rural customer. Additionally, utilities expressed that there is not a clear way to differentiate agricultural customers in their billing systems, with some customers on a residential rate codes and others on commercial/industrial rate codes, making the exact number of agriculture customers for each utility unknowable.

**Action Type:** Administrative

**Action Step:** A concerted effort should be made to define agricultural customers, including subcategories denoting their operations, as well as to identify these customer accounts in utility billing systems.

There needs to be a common definition for agriculture customers used among utilities and improved ability to identify and track these customers. A subset of utility stakeholders and agriculture groups
should convene to define agriculture customers and develop a strategy for implementing more uniform systems for tracking this population across utilities. This will enable greater ability to segment customer populations and evaluate impacts. This effort could also be designed to ensure that agriculture customers are on the appropriate and most advantageous rate code based on their current operations and energy use.

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**Develop a Map of Eligibility for Programs to Improve Clarity**

There are often programming opportunities available to customers from different sources depending on their geographic location, but if customers are being engaged by a single program provider, they may miss opportunities to access other incentives or programs that could lead to additional energy investments. To support improved identification of program eligibility for customers and better outreach by program providers, stakeholders recommended the development of a mapping tool that enables customers and program providers to search eligible programs by a customer’s address and see programming and funding opportunities. This tool could support residential and commercial customers.

**Action Type:** Administrative

**Action Step:** A mapping tool should be developed to enable customers and program providers to search eligible programs by a customer’s address and see programming and funding opportunities.

Efforts to map current program opportunities and develop a tool for identifying eligible programs should be integrated with the effort to aggregate and periodically disseminate information related to program opportunities. The State will likely need to invest money to support the development of this tool to ensure any resources allocated are utilized efficiently, the State should assess the feasibility of this tool to leverage existing platforms and/or be used for similar applications.

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**Identify Statewide Contractor Networks**

Contractors are one of the outreach channels for customers to learn about energy investment opportunities. Also, contractors are essential for installing certain measures. Without access to contractors, customers will have less opportunity to access energy efficiency and renewable energy. Stakeholders recommended the establishment of a statewide contractor network that allows customers to search providers by services provided and match them with programming options. Stakeholders envisioned this tool could be similar to the mapping of program opportunities.

**Action Type:** Administrative

**Action Step:** Establish a statewide contractor network that allows customers to search providers by services provided and match them with programming options.

Stakeholders envisioned this tool could be similar to the mapping of program opportunities, except it would provide information related to contractors who provide a customer’s desired services in their area. This tool should be developed in parallel with the map of eligible programs.
Make Program Information Available at Local U.S. Department of Agriculture Offices

An important resource in the dissemination of information about energy investment opportunities is local USDARD offices operated through the Farm Services Agency and the Natural Resource Conservation Service. The agriculture sector has a favorable view of these entities and already interacts with them for other needs. It is a natural extension to leverage these groups to support education and outreach for energy-efficiency and renewable energy.

**Action Type:** Administrative

**Action Step:** Information for state, federal, and utility programs should be disseminated through channels, such as local USDARD offices, that will reach agriculture customers.

One outreach method for programming and policy information related to efficiency and renewables should be the USDARD offices in local communities. The State should engage USDARD’s Michigan representatives to establish a formal protocol for information sharing and dissemination across state offices.
Prioritizing and Coordinating Across State Departments

State government plays an important role in the development and implementation of policies and programs for energy efficiency and renewable energy. The State can also lead by example with how it chooses to behave related to its purchasing power and how it invests in energy technologies. Stakeholders expressed the belief that the State has a role to play in promoting the continued advance of energy technology and provided the following recommendations.

Prioritize Investment and Engagement for State Agencies, Incorporating Considerations for ROI

The State’s considerable buying power as a major employer that operates numerous facilities around the Michigan means that there are a lot of opportunities for the State to consider energy-efficiency and renewable energy to meet its own energy needs. Also, the State has role in implementing policies that touch a wide range of energy investments. On February 4, 2019, Gov. Gretchen Whitmer issued Executive Directive 2019-12, which ordered the State to accelerate new and existing policies to promote clean energy deployment. Additionally, on August 8, 2019, Governor Whitmer and several state departments announced energy-saving efforts, including energy audits, renewable energy purchasing, and energy performance improvements.

**Action Type:** Administrative

**Action Step:** The State should take a supportive stance on a broad range of energy investments. This support should consider the ROI of investments and engagement activities to promote cost-effective solutions.

Building on Executive Directive 2019-12, the State should develop an internal resource that coordinates with departments to evaluate the potential savings from energy investments and supports implementation of perspective projects. These efforts should be based on quantifiable goals and defined public benefits, including reduced energy consumption, environmental benefits, and public health improvements. Leading by example, the State can provide a framework for other organizations to make energy investments.

Develop a State Energy Audit Program

Energy audits are an essential component of energy-efficiency investment, as they help home and business owners identify effective solutions to manage energy use. Energy audits are conducted by certified auditors and evaluate a property’s energy consumption, energy losses, and opportunities for improved energy efficiency and comfort. Audits will vary based on the type of property and how comprehensive an audit is required. There are different requirements for residential, commercial and industrial, multifamily, and agricultural property audits based on energy use. As energy use differs, there are several types of certification for energy auditors depending on the services they provide.

Given the range of energy audit certifications available and the variation between audit requirements by program or property type, it can be challenging for customers to determine which type of audit is right for
them. Utility programs help to connect customers with the right energy auditor, but stakeholders suggested more could be done to educate customers and support energy auditors. Stakeholders recommended the State should have a more active role in energy audits. There are several ways for the State to support energy audits. One way would be to define the different energy audit certifications available and their application, as well as provide a registry of energy auditors in the state by location. This would help customers access information about energy auditors and would also help the State identify areas where there are limited energy auditors available. The State could support energy audits by providing targeted incentives for energy auditors to work in underserved communities to address the challenge of finding trade allies in these areas.

**Action Type:** Administrative

**Action Step:** The State should support energy auditors and ensure there are energy audit providers to serve residents and businesses across the state, especially in agriculture operations and rural communities.

The State can offer grants to provide training for auditors to obtain and maintain their certifications. These incentives could be location-dependent to encourage auditors to better serve certain areas of the state, such as rural communities.

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**Improve Information Sharing Between State Departments**

One way that the State can support additional uptake of energy efficiency and renewable energy is through better coordination and information sharing. The ability of state officials to know the efforts underway to support important energy investments in one department can be amplified by parallel efforts in other departments, but only if there is shared information about these activities. On February 1, 2019, Governor Whitmer issued Executive Directive 2019-11, which directed state departments and agencies to improve transparency and information-sharing practices. Stakeholders recommended that the State prioritize information sharing between state departments to promote collective impact.

**Action Type:** Administrative

**Action Step:** The State should prioritize information sharing between state departments to promote collective impact by designating personnel from agencies to support ongoing efforts related to efficiency and renewables in targeted communities.

The State can readily promote improved information sharing between state departments by adopting a policy and establishing structures for this sharing. Better understanding of actions being taken by agencies will support greater recognition of areas where collaboration can occur or to reduce overlap.
Creating Resources for Engineering and Feasibility Analysis

In addition to providing resources for energy investments that improve or retrofit existing properties, stakeholders highlighted an increasing need to support the growth of new activity. With this importance in mind, stakeholders made the following recommendations.

Provide Additional Incentives for Third-party Green Building Certifications

A variety of third-party green building certifications exist that could be applied to agricultural operations and homes in rural areas. Current programs available in Michigan include Leadership in Energy and Environmental Design Certification, the Michigan Department of Energy’s Zero Energy Ready, National Green Building Standard Green Certified, ENERGY STAR, Pearl Certification, Living Building Challenge from the International Living Future Institute, and Passive House Institute US’s Building Standard. All these programs offer certifications for residential buildings, including multifamily units, and some can apply to commercial buildings. These certifications are often available at different tiers based on the level of energy efficiency or savings achieved. Stakeholders recommended the State promote customers’ investment in energy efficiency and renewables by providing incentives for attaining green building certifications. These incentives could be paired with other existing funding options and incentives as a way to encourage deeper energy investment. Additional targeting and promotion of these incentives in rural areas could help drive participation.

**Action Type:** Administrative

**Action Step:** The State should offer support to entities that achieve third-party certifications by offering technical assistance, grant support, or other incentives for energy improvements on agricultural operations or in designated rural areas.

Green building certifications offer a standard that can guide customers’ energy investments and can distinguish a home or business for their efforts to improve their energy use. By supporting customers that pursue green building certifications, the State can help promote customer investment in efficiency and renewables. The State should determine the green building certifications that are aligned with its climate and energy objectives and develop a strategy to support customers to obtain certifications.

Offer Technical Assistance for New Construction in Agriculture

Many agriculture operations are heavily dependent on energy for processing, harvesting, or storing their products. Access to reliable and affordable energy is an important consideration for these entities as they look to expand or site their facilities. To support the successful siting of new agricultural operations, stakeholders recommended providing technical assistance in the form of engineering analysis support and energy infrastructure identification, as well as fostering collaboration with energy providers and other local stakeholders.
**Action Type:** Administrative

**Action Step:** Technical assistance in the form of engineering analysis support, energy infrastructure identification, and fostering collaboration with energy providers and other local stakeholders should be provided.

The State should establish a designated team to support economic development and expansion in the agriculture sector. Similar efforts are already practiced through partnerships between state agencies, but there can potentially be additional efforts to engage local stakeholders, energy providers, or other entities to support new agricultural construction.

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**Establish Energy-efficiency Technology Guidelines for Marijuana-growing Facilities**

Marijuana facilities are a growing part of Michigan’s agriculture sector as the State has approved the use of marijuana for medical and recreational purposes. The expansion of marijuana-growing facilities has exposed a new challenge and opportunity as it relates to energy. These facilities are energy intensive and therefore can benefit from more targeted approaches for siting, but also consideration for energy-efficiency guidelines that help curb energy consumption and cost. Michigan construction codes are generally updated every three years, but the Construction Code Commission opted to skip scheduled updates in 2018, making the next code review and updates scheduled for 2021. However, the commission determined that marijuana-growing facilities will follow the same code as other agricultural operations, not a marijuana-specific set of codes. Stakeholders recommended that energy-efficiency technology guidelines be established for marijuana-growing facilities.

**Action Type:** Administrative

**Action Step:** Energy-efficiency technology guidelines should be established for marijuana-growing facilities.

The State should evaluate the ability to establish energy-efficiency technology guidelines for new marijuana-growing facilities. This effort will be an important step for preparing for the expansion of growing operations that are likely to coincide with the establishment of a recreational market in Michigan. This effort should be built through a collaborative approach with energy providers, marijuana growers, and state agencies to support better planning and integration of these facilities with the electric grid.
Other Considerations

The project team’s interviews with stakeholders, subsequent stakeholder discussions, and benchmarking research resulted in recommendations that did not fit into the above categories and are thus provided here.

Continue the Michigan Farm Energy Program

The Michigan Farm Energy Program is an important resource for Michigan’s agriculture industry and the program has exhibited success helping farmers identify and pursue necessary energy investments by increasing access to energy audits through its training and certification program. However, stakeholders questioned the program’s success in getting farmers to invest in energy improvements identified in farm energy audits. Several key challenges with the program were highlighted, including the amount auditors receive for completed audits is not aligned with the true costs of an auditor’s time, payment for completed audits is not timely, audits do not help farmers prioritize investments, and there is not a strong connection between completed audits and available incentives or funding opportunities for energy investments.

Additionally, after ten years, the Michigan Farm Energy Program has yet to implement a plan for sustainable operation. A 2017 report, prepared by Michigan State University Extension, provided a roadmap for the continued operation of the program. This report focuses on securing additional funding for program staff, funding for the organization’s operations, and implementing a marketing plan for the program. However, it is unclear from this roadmap whether additional funding for the program will alleviate ongoing concerns and lead to sustainable operation, as it does not address the need for consistent revenue to sustain operations or whether the program’s business model would require continued reliance on funding from grants and partner organizations.

While the Michigan Farm Energy Program faces operational challenges, the availability of energy audits for the state’s agriculture industry is an essential part of ensuring continued investment in efficiency and renewables. Yet, stakeholders questioned whether the Michigan Farm Energy Program is the appropriate entity to lead this effort and whether the program can define a business model that would enable it to operate successfully into the future. Given the organizational challenges of the Michigan Farm Energy Program, stakeholders recommended that the State reevaluate continued investment in the program and consider alternative ways to ensure access to farm energy audits.

**Action Type:** Administrative

**Action Step:** The State should reevaluate continued investment in the Michigan Farm Energy Program and consider alternative ways to ensure access to farm energy audits.

The Michigan Farm Energy Program has been supported through the years through grant funding and staffing support from the Michigan Agricultural Electric Council, Michigan State University Extension, the Sustainability Section, the USDARD, private foundations, and other partners. However, these historical grants have not resulted in sustainable funding for the program’s future, nor has the program effectively measured its success during this time period. Efforts to define the program’s strategy for financial sustainability are underway, but these efforts have not identified a business strategy that promotes ongoing operation apart from securing additional grant funding. This creates a challenge for
funders because resources are being used to support the Michigan Farm Energy Program’s operation instead of being used to directly help farmers invest in energy improvements in the form of grants and incentives.

One fundamental question that needs to be answered is whether the Michigan Farm Energy Program is the right entity to take responsibility for energy auditing in Michigan’s agriculture sector. The program’s greatest success to date has been the development of a credible audit program and auditor training; however, the program has not shown the ability to effectively engage farmers, facilitate energy investments, or develop a long-term operational strategy.

For the Michigan Farm Energy Program to operate successfully into the future, the organization needs to develop a business plan that identifies the amount of up-front and annual funding required to sustain current operations, a business model that can provide sustainable revenue for the program, and an organizational structure that emphasizes improved operation tied to achievement of key performance indicators. This plan development should be informed by input from key stakeholders, such as energy providers, agriculture groups, trade allies, universities, and state agencies. Efforts to restructure the Michigan Farm Energy Program should be the primary objective; however, the State should be prepared to consider alternative strategies if a suitable option does not emerge. By prioritizing development of a sustainable business model for the Michigan Farm Energy Program that focuses more on connecting programming to customers and leveraging funding opportunities to drive investment, partners who have historically supported the program will have the ability to refocus their contributions to supporting customers’ investments.

**Grow Access to Broadband Internet**

Broadband Internet is a priority for rural communities across the state as reliable Internet access is increasingly important for many daily residential and business functions. In terms of energy-efficiency and renewable energy, access to broadband has the opportunity to increase customers’ exposure to programming and communications through online marketing. Broadband can also improve customers’ ability to access energy improvements through Internet-enabled devices, such as Wi-Fi enabled thermostats and lighting controls. Stakeholders recommended that rural broadband continue to be an emphasis for Michigan as it provides a broader ability for customers to tap into new opportunities.

**Action Type:** Administrative

**Action Step:** Rural broadband should continue to be an emphasis for Michigan as it provides broader ability for customers to access new opportunities.

The State is promoting expanded broadband access for rural communities through initiatives like the Connecting Michigan Communities grant program, which will provide $20 million in funding for underserved areas of the state. This effort and other investments being made by private entities are a major step in developing access to broadband across the state and should continue to be prioritized.
## Appendix A: Recommendations and Action Steps

<table>
<thead>
<tr>
<th>Recommendation Category</th>
<th>Recommendation</th>
<th>Action Step</th>
<th>Action Type</th>
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</thead>
<tbody>
<tr>
<td>Enacting State Policies to Promote Energy-efficiency and Renewable Energy Efforts</td>
<td>Provide Policies and Funding for Energy Efficiency for Deliverable Fuels</td>
<td>The State should develop policies that enable deliverable fuel customers to invest in energy efficiency by enabling electric or natural gas providers to claim energy savings toward their program objectives.</td>
<td>Legislative</td>
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<td>Maintain the Energy-efficiency Resource Standard for Municipal Utilities and Electric Cooperatives</td>
<td>The State should amend or remove Public Act 342 Section 73(6) to maintain energy-efficiency resource standards that promote investment in cost-effective energy resources for all electric providers.</td>
<td>Legislative</td>
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<td>Ensure a More Equitable Distribution of Incentives</td>
<td>The State should prioritize more equitable distribution of incentives to rural and agricultural customers, increasing promotion of programs available to the general customer base and adding targeted programs or program components as needed by requiring program administrators to target customers to ensure proportional service delivery.</td>
<td>Legislative/Administrative</td>
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<td>Address Limitations with Net Metering/Customer-owned Generation</td>
<td>The State should address the limitations of customer-owned generation policies by improving tools for customers to evaluate the potential benefit of new distributed generation tariffs or implement policies to incentivize customer investment in clean energy generation.</td>
<td>Legislative/Administrative</td>
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<td>Improve Tax Clarity for Customer-owned Generation</td>
<td>The State should consider policies to improve clarity for how customer-owned generation is taxed to ensure that energy investments don’t result in additional financial costs.</td>
<td>Legislative</td>
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<td>Continue to Expand Eligible Measures</td>
<td>The State should actively pursue expanding the list of eligible measures to include new technologies through engagement with universities, agriculture customers, technology and service providers, and program administrators.</td>
<td>Administrative</td>
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<td>Expand Stakeholder Involvement in Program Design</td>
<td>Program implementors should provide opportunities for stakeholders to participate in program design to ensure that the specific needs of populations are understood and programs are designed to reach these groups.</td>
<td>Administrative</td>
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<td><strong>Demonstrating and Communicating Benefits to Drive Demand</strong></td>
<td>Provide More Financing Options</td>
<td>Expand the options for customers to access financing for energy efficiency and renewables—especially for low- to moderate-income residents for whom energy costs represent a higher cost proportionate to their resources—through targeted grant programs or revolving loan funds.</td>
<td>Legislative</td>
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<td>Build and Maintain Trust between Utilities, Program Providers, Trade Allies, Other Partners, and Customers</td>
<td>Utilities, program partners, trade allies, and other partners should undertake intentional efforts to build and maintain their customers’ trust through the provision of energy-efficiency and renewable energy programs.</td>
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<td>Share Farmers’ Success Stories Through Testimonials and/or Awards to Demonstrate Impact</td>
<td>Program implementors should work to capture the real experience of farmers who have invested in energy efficiency and/or renewable energy to share with customers in similar situations.</td>
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<td>Develop a More Effective Way to Communicate the Impact of Energy Investments on Customers’ Bottom Line and Provide Them with an Expectation for Return on Investment</td>
<td>Program providers and trade allies should work to improve communication related to customer benefits by documenting customers’ experiences (through case studies and testimonials) and develop better tools that can communicate potential energy savings and bill impacts.</td>
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<td>Disseminate Energy Information into Schools/Curricula to Educate the Next Generation of Farmers, Business Owners, and Energy Users</td>
<td>Support energy education in schools by leveraging partnerships with existing efforts.</td>
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<td>Leverage Current Poor Farm Economics to Drive Energy-efficiency Investment</td>
<td>Additional consideration should be given to supporting investment in energy-efficiency for agricultural customers through grant funding, administrative and technical support, or financing options to help reduce the energy costs of their operations.</td>
<td>Administrative</td>
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<td><strong>Making Information More Accessible and Engaging</strong></td>
<td>Designate an Entity to Collect and Distribute Information</td>
<td>A designated entity should aggregate information about these programs, their availability, and program administrators. This information should be updated and disseminated periodically to stakeholders.</td>
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<td>Better Collaboration Between Organizations and Enhanced Communication</td>
<td>A designated entity should facilitate periodic communication and or interaction with stakeholders to ensure the ongoing exchange of information, ideas, and emerging trends to support enhanced program delivery for rural and agricultural customers.</td>
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<td>Define the Current Program Opportunities and Disseminate This Information</td>
<td>There should be a formalized process for compiling and distributing information related to energy-efficiency and renewable energy opportunities.</td>
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<td>Establish a Clearer Definition for Agriculture Customers and Identify This Population</td>
<td>A concerted effort should be made to define agricultural customers, including subcategories denoting their operations, as well as to identify these customer accounts in utility billing systems.</td>
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<td>Develop a Map of Eligibility for Programs to Improve Clarity</td>
<td>A mapping tool should be developed to enable customers and program providers to search eligible programs by a customer’s address and see programming and funding opportunities.</td>
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<td>Identify Statewide Contractor Networks</td>
<td>Establish a statewide contractor network that allows customers to search providers by their services and match them with programming options.</td>
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<td>Make Program Information Available at Local U.S. Department of Agriculture and Rural Development Offices</td>
<td>Information for state, federal, and utility programs should be disseminated through channels, such as local USDA RD offices, that will reach agriculture customers.</td>
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<td>Prioritizing and Coordinating Across State Departments</td>
<td>Prioritize Investment and Engagement for State Agencies, Incorporating Considerations for ROI</td>
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<td>Feasibility Analysis</td>
<td>Offer Technical Assistance for New Construction in Agriculture</td>
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<td>Establish Energy-efficiency Technology Guidelines for Marijuana-growing Facilities</td>
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<td>Grow Access to Broadband Internet</td>
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