

The Upper Peninsula is home to 19 electric suppliers and four natural gas suppliers. U.P. utilities have been delivering energy efficiency programs since 2008 in compliance with Public Act (PA) 295, the Clean, Renewable and Efficient Energy Act of 2008, and now PA 342 of 2016, the Clean and Renewable Energy and Energy Waste Reduction Act.<sup>1,2</sup> These statutes require, among other criteria, that utilities achieve electric energy savings equal to 1 percent of their annual sales and natural gas savings equal to 0.75 percent of annual sales. Most utilities in the U.P. deliver programs through one of two implementation contractors—Efficiency UNITED and the Michigan Electric Cooperative Association (MECA), with just a few exceptions.<sup>3</sup>

In 2016, utility programs in the U.P. achieved electric savings of nearly 43 million kilowatt-hours (kWh), including approximately 2.5 million kWh in self-directed savings. These savings represent 134 percent of the annual target.<sup>4</sup>

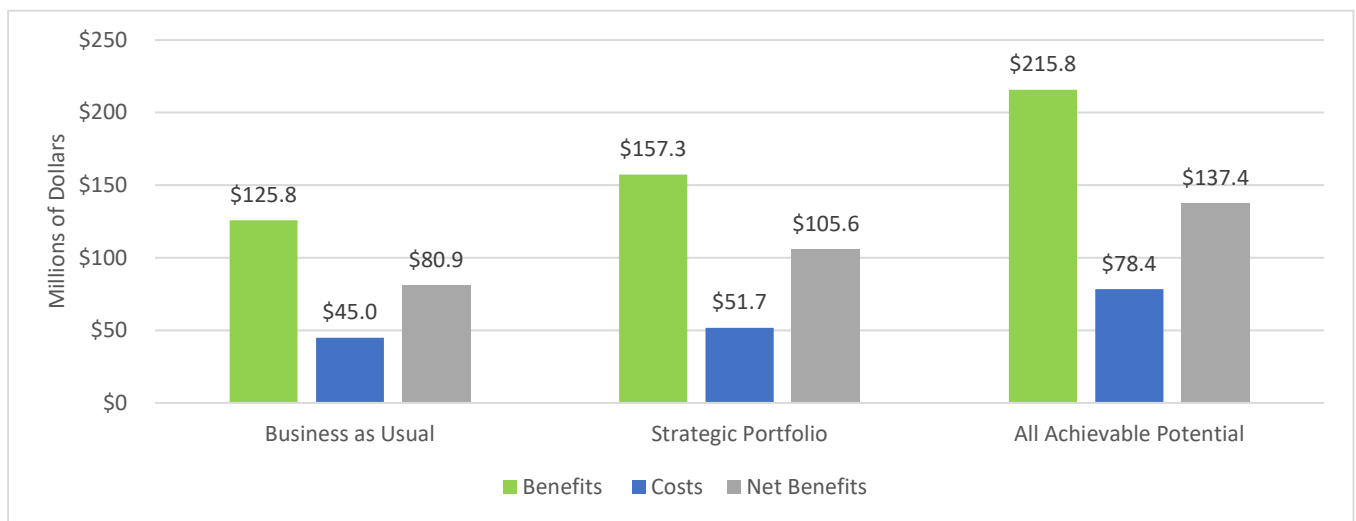
**ENERGY SAVINGS POTENTIAL**

The availability of low-cost, easy-to-implement energy-efficiency measures, and advantageous policies, including market transformation bonuses, have supported utilities meeting and exceeding energy efficiency targets since the inception of PA 295 and its amendment by PA 342.

Further significant energy savings opportunities exist, but will require a strong delivery infrastructure, an engaged customer base, and support from local stakeholders and agencies to continue successful delivery of energy savings. Challenges of future energy savings include the complications of energy services in the U.P. such as the vast geography, low population density, and the diversity of energy suppliers.

Expanding program reach and/or reducing the cost of delivering programs can increase the already substantial net benefits to U.P. residents and businesses. The achievable energy efficiency potential identified in the U.P., if captured, could create net benefits of over \$137 million by 2026.<sup>5,6</sup> The table below shows potential net benefits to the U.P. under three scenarios: Business as Usual (savings of 1 percent of annual sales and investment of 1.7 percent of annual revenue); All Achievable Potential (an aggressive scenario that requires investment of 3 percent of annual revenue to capture savings of 1.7 percent of annual sales); and a Strategic Portfolio scenario (annual savings of 1.2 percent to capture savings of 1.7 percent of annual sales). The strategic Portfolio scenario envisions potential cost savings and opportunities for expanded impacts through focus on hard-to-reach customers and new technology applications. All three scenarios are cost-effective, but the Strategic Portfolio scenario has the highest benefit-cost ratio.

**Net Benefits in Alternative Scenarios<sup>7</sup>**



## STRATEGIES

Five key areas for strengthening the U.P. utility energy efficiency incentive programs offered were identified to collectively support program efficiency and efficacy and can help to ensure program participation opportunities for all customers.

- 1. Uniform program design and requirements.** Small variations in measure offerings, rebate levels, or application requirements are likely to impede participation in utility programs. Uniform program design allows for accelerated adoption of best practices by eliminating confusion for end-users, market actors, and others.
- 2. A U.P. focused trade ally network.** A fully developed and trained trade ally network creates significant value by decreasing administrative costs, increasing quality and realization of energy savings, and increasing overall customer engagement and satisfaction.
- 3. Bulk purchasing or competitive bidding for key energy efficiency technologies or measures.** In each market sector, there are technologies or measures that account for a significant portion of the energy-efficiency potential. Reducing the cost of these technologies can greatly increase overall cost-effectiveness of the utilities' program portfolios and reduce customer investment requirements. This approach can also be used for introduction of emerging technologies that often have higher costs until a certain market saturation is achieved.
- 4. Centralized planning, management, and evaluation.** Coordinated planning efforts, delivery support, and monitoring evaluation can reduce the cost burden and improve the effectiveness of each of these functions.
- 5. Leveraged investment.** Federal and foundation grants to advance clean energy options can help extend the impact of utility and customer energy efficiency investments. Michigan, especially the U.P., has been underrepresented in historical awards of some of these funding opportunities; for example, Michigan has over 4 percent of the nation's rural population, but has received less than 2 percent of the funding distributed through the Rural Energy for America Program. This is one notable example of available funding that could be better utilized.

## NEXT STEPS

To efficiently perform the strategies above, cooperation and participation by multiple parties is required. Therefore, four Input Sessions were held for the purpose of presenting the plan and acquiring feedback to engage community stakeholders including utility providers, energy optimization programs, and county commissioners. The feedback provided at the input sessions was very valuable and included potential problems to address such as "high rates and the burden placed on lower income residents" and the need for "public awareness, access, and utilization" as well as "training and education for contractors, retailers, and community leaders". Overall, the input sessions achieved their goal in targeting a variety of stakeholders and receiving additional feedback to incorporate in the next steps of the EWR strategy.

Next steps and initiatives aimed to increase the positive impact of future Energy Waste Reduction in the Upper Peninsula are outlined below:

- Targeting future energy optimization programs significantly toward low income residents.
- Improving public education and consumer access to available EWR programs.
- Continuation and expansion of energy optimization projects provided by UP utilities with ongoing evaluations of where the largest cost/energy savings occurs from a geographical, strategic and practical perspective.
- Engage and educate contractors and retailers on the importance of EWR.
- Promoting energy savings as an economic development program.

## REFERENCES

1. Clean, Renewable and Efficient Energy Act of 2008. (2008). PA 295. Accessed December 1, 2017. <http://legislature.mi.gov/doc.aspx?mcl-act-295-of-2008>
2. Clean and Renewable Energy and Energy Waste Reduction Act. (2016). PA 342. Accessed December 1, 2017. <https://www.legislature.mi.gov/documents/2015-2016/publicact/htm/2016-PA-0342.htm>
3. The City of Wakefield, an electric municipal utility in the U.P., and DTE Energy, a dual-fuel utility that provides natural gas service in the U.P., implement programs independently. SEMCO Energy, a natural gas utility with service areas throughout Michigan, including the U.P., has contracted with Efficiency UNITED to deliver programs throughout its service territory but has not chosen the statewide program administrator as an alternate compliance path for achieving energy optimization/energy waste reduction targets. For the 2018–2019 program years, the Upper Peninsula Power Company began contracting directly with Efficiency UNITED to implement programs rather than utilizing the alternate compliance path. Our analysis to date focused on the work of the two program implementers, Efficiency UNITED and the MECA Collaborative.
4. Efficiency UNITED. n.d. *2016 Annual Report*. Accessed January 4, 2018. [http://www.michigan.gov/documents/mpsc/2016\\_Efficiency\\_UNITED\\_Annual\\_Report\\_Final\\_560510\\_7.pdf](http://www.michigan.gov/documents/mpsc/2016_Efficiency_UNITED_Annual_Report_Final_560510_7.pdf)
5. GDS Associates. August 9, 2017. *Upper Peninsula Energy Efficiency Potential Study Final Report*. Marietta: GDS Associates.
6. The potential net benefits are the difference between projected net present value (NPV) of the costs avoided by not having to supply energy, estimated at \$215 million, and the NPV of the costs to deliver programs (i.e., administration, marketing and outreach, technical assistance, incentives), estimated at \$78 million. Net present value is the difference between the present value of cash inflows and the present value of cash outflows over a specified period of time. NPV is used in budgeting to analyze the profitability or cost-effectiveness of a projected investment or project.
7. Sources: Data compiled from PSC analysis as well as Efficiency UNITED and MECA Collaborative EWR plans filed with the Michigan Public Service Commission; GDS Associates. August 9, 2017. *Upper Peninsula Energy Efficiency Potential Study Final Report*. Accessed September 1, 2017. <https://www.michigan.gov/mpsc/0,4639,7-159-80741---,00.html>