



## Michigan Energy Waste Reduction and Demand Response 2021 to 2040 Potential Study – Commercial and Industrial Survey

*Prepared for:*

LARA  
**MPSC**

**State of Michigan Public Service Commission**

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## Commercial and Industrial Survey Overview

The primary objective of this survey is to collect information on customer awareness and willingness to pay for EWR and DR measures from MI commercial and industrial utility customers. Guidehouse will use the survey results to inform the development of market acceptance and adoption forecasts. Additional secondary research objectives, included in the table below, have been incorporated into the survey to provide datapoints the research team will use to guide calibration of the EWR and DR potential models.

Topic	Survey Questions
Introduction	INTRO1 – INTRO2
EWR Awareness	AWARE_EWR_LOW – AWARE_EWR_HIGH
EWR Willingness to Pay	EWR_WILLINGNESS_LOW – EWR_WILLINGNESS_HIGH
DR Awareness	AWARE_DR_TSTAT – AWARE_DR_BTM
DR Willingness to Participate	DR_WILLINGNESS_LARGE1 – WILLINGNESS_DR_BTM
COVID-19 Impacts	COVID_EWR – COVID_DR
Recent Energy Use Actions	ACTIONS1 – ACTIONS2
Decision Factors	DECISIONS
Barriers	BARRIERS
Demographics	FIRM1 – FIRM2

## Sample Variables

This table presents the sample file variables required for fielding.

Survey Variables	Description	Source
UTILITY	The customer's utility company	Utility tracking data
CUSTOMER SIZE	SMALL = annual energy use $\leq$ 1.2 MWh (approximately \$65,000/year for gas and electric bills combined) LARGE = annual energy use $>$ 1.2 MWh (approximately \$65,000/year for gas and electric bills combined)	Survey screener question

## Sample

This table outlines Guidehouse's sampling techniques.

Topic	Description	Population
Sample size	What is the target number of completes?	500 completes
Stratification	Is the sample stratified?	The sample will be designed to achieve a proportionate mix of customers from each utility and will be stratified by Upper and Lower Peninsula.

Topic	Description	Population
<b>Incentives</b>	Any incentives or persuasion techniques?	\$25; customers will be offered an incentive through Tango <sup>1</sup> which allows customers to select an e-gift card from a participating retailer or restaurant (including Amazon.com, CVS or Dunkin' Donuts and more) or an online debit card (Visa® or MasterCard®). Customer's may also choose to donate \$25 to a charitable organization instead of receiving the gift card.

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<sup>1</sup> <https://www.tangocard.com/>

## Invitation Emails

### Initial Invitation Email

Dear \_\_\_\_\_,

The Michigan Public Service Commission (MPSC) is conducting a study to help understand energy decision-making in Michigan and invites you to complete a brief survey. Your responses will help us improve energy-related programs offered by your utility provider that assist business customers in saving energy and money, and ultimately benefit the environment.

Please take the survey using the link below.

**[Insert survey link]**

Your participation in this survey is anonymous and voluntary. Your individual answers will remain confidential and reported only in the aggregate. The survey will take about 15 minutes. As a token of appreciation for completing this survey, respondents who complete the survey will be offered a **\$25 e-gift or online debit card**, or can choose to donate \$25 to a charitable organization

The survey is being conducted by Guidehouse, on behalf of the MPSC. If you have any questions about this survey or how your responses to this survey will be used, please contact us at [Michigan.EnergyStudy@guidehouse.com](mailto:Michigan.EnergyStudy@guidehouse.com).

Sincerely,

Michigan Public Service Commission

### First Reminder Email

Dear \_\_\_\_\_,

The Michigan Public Service Commission (MPSC) recently invited you to complete a 15-minute survey to help us improve energy-related programs offered by your utility provider that assist business customers in saving energy and money, and ultimately benefit the environment.

Please take the survey using the link below.

**[Insert survey link]**

As a token of appreciation for completing this survey, respondents who complete the survey will be offered a **\$25 e-gift or online debit card**, or can choose to donate \$25 to a charitable organization

Your participation in this survey is anonymous and voluntary. Your individual answers will remain confidential and reported only in the aggregate.

The survey is being conducted by Guidehouse, on behalf of the MPSC. If you have any questions about this survey or how your responses to this survey will be used, please contact us at [Michigan.EnergyStudy@guidehouse.com](mailto:Michigan.EnergyStudy@guidehouse.com).

Sincerely,

Michigan Public Service Commission

## Second Reminder Email

Dear \_\_\_\_\_,

The Michigan Public Service Commission (MPSC) recently invited you to complete a 15-minute survey to help us improve energy-related programs offered by your utility provider that assist business customers in saving energy and money, and ultimately benefit the environment. This survey will be closing on **[Date]**; don't miss out on this opportunity to contribute!

Please take the survey using the link below.

**[Insert survey link]**

As a token of appreciation for completing this survey, respondents who complete the survey will be offered a **\$25 e-gift or online debit card**, or can choose to donate \$25 to a charitable organization

Your participation in this survey is anonymous and voluntary. Your individual answers will remain confidential and reported only in the aggregate.

The survey is being conducted by Guidehouse, on behalf of the MPSC. If you have any questions about this survey or how your responses to this survey will be used, please contact us at [Michigan.EnergyStudy@guidehouse.com](mailto:Michigan.EnergyStudy@guidehouse.com).

Sincerely,

Michigan Public Service Commission

## Survey Body

### Introduction

INTRO1 In this survey we will ask you about your awareness of different energy-related technologies and utility programs, and decision-making around energy use at your business. If you are not the best person to answer these questions, please ask a colleague who makes decisions about your business's energy bills to complete this survey.

INTRO2 Are your combined gas and electric utility bills more than \$65,000 per year, approximately? If you are unsure, please respond with your best guess.

1. Yes
2. No

[If YES set respondent as CUSTOMER SIZE = LARGE; if NO set respondent as CUSTOMER SIZE = SMALL.]

### EWR Awareness

AWARE\_EWR\_LOW [Low Cost Measure Reference Table. ROTATE, 1 MEASURE PER RESPONDENT]

[low cost measure description\_1]. Before today, were you familiar with [low cost measure\_2]?

1. Yes
2. No

Commented [ED1]: Guidehouse will include a photo in the survey programming for each EWR measure mentioned throughout this section.

Low Cost Measure Reference Table

Measure	Low Cost Measure Description_1	Low Cost Measure_2
LED Lighting	LEDs use less energy, last longer, are more durable, and offer comparable or better light quality than other types of lighting. This includes LED A line, reflector lamps, general purpose LEDs, downlights, etc.	LED lighting
Indoor Occupancy Sensor	An occupancy sensor is a motion detecting device used to detect the presence of a person to automatically control lights.	indoor occupancy sensors
Advanced Smart (Tier 2) Power Strip	Advanced smart (Tier 2) power strips have a master and switched plugs. When the master plug (a TV or PC) is on, the switched outlets are powered on. When the master plug (a TV or PC) is switched off, the switched outlets and peripherals are powered off. In addition, this power strip has a motion sensor, like those for lights, that turns the master switch off if someone leaves the room for an extended period.	advanced smart (Tier 2) power strips
LED Pole/Arm Mounted	Exterior LED parking lot lighting fixtures can be mounted on a pole or extension arm.	pole/arm mounted LEDs

Low Cost Measure Reference Table		
Measure	Low Cost Measure Description_1	Low Cost Measure_2
Daylight Dimming Control	Daylighting control systems dim indoor lighting in response to interior daylight levels.	daylighting controls
Low-flow Faucet Aerator	A low-flow faucet aerator can be added to an existing faucet, saving both water and water heating costs with little to no impact on the user.	low-flow faucet aerators
System with Wi-Fi thermostat	A Wi-Fi thermostat lets users remotely modify heating and cooling settings such as setpoints and schedule, or turn the unit on or off, from a mobile device or website.	Wi-Fi thermostats
Demand Controlled Ventilation	Demand controlled ventilation is an HVAC control method that automatically adjusts fan speeds in response to changes in occupancy.	demand controlled ventilation
Steam Trap	Steam traps minimize steam waste to reduce energy consumption and cut costs.	steam traps

AWARE\_EWR\_HIGH [High Cost Measure Reference Table. ROTATE, 1 MEASURE PER RESPONDENT]

[high cost measure description\_1]. Before today, were you familiar with [high cost measure\_2]?

1. Yes
2. No

High Cost Measure Table		
Measure	High Cost Measure Description_1	High Cost Measure_2
Advanced Controls and Automation	Advanced Controls and Automation include smart thermostats, building automation systems, and demand control ventilation.	advanced controls and building automation
Heat Pump Water Heater	Heat pump water heaters use electricity to move heat from one place to another instead of generating heat directly. Heat pump water heaters pull heat from the surrounding air and transfer it -- at a higher temperature -- into a tank to heat water.	a heat pump water heater
Variable Frequency Drive (VFD)	Variable Frequency Drives (VFDs) control the frequency and voltage of power supplied to a motor and save electricity by allowing the motor to run at partial speed to better match the load. Typical applications include fans, pumps, and dynamic process loads.	a Cooling Tower Fan with VFD



High Cost Measure Table		
Measure	High Cost Measure Description_1	High Cost Measure_2
ENERGY STAR Servers and Storage Devices	Computer servers and storage equipment that are ENERGY STAR Certified use less electricity from reducing energy waste in the power infrastructure (e.g., power distribution unit, uninterruptible power supply) and reducing 24/7 energy needed to cool the waste heat produced by data storage.	ENERGY STAR Servers and Storage Devices
Process Optimization	Process optimization includes reducing waste energy and materials, and fine-tuning process cooling and heating systems.	process optimization
Equipment Optimization	Equipment optimization is the process of reducing energy consumption through fine-tuning equipment operation (including HVAC equipment, compressed air systems, motors, pumps, and advanced equipment controls).	equipment optimization
Efficient Equipment Upgrades	Replacing existing equipment can reduce energy use when upgrading to efficient equipment such as higher efficiency furnaces and boilers, installing variable frequency drives on compressors, and installing higher efficiency motors and pumps.	efficient equipment upgrades

### EWR Willingness to Pay

EWR\_WILLINGNESS\_LOW Suppose an energy efficiency project has NO impact on the QUALITY of lighting, heating, and cooling in your business, but changes the amount of energy consumed. An example might be **[list these measures with “Low Cost Measure\_2” from AWARE\_EWR\_LOW first]**, LED lamps or an advanced smart (Tier 2) power strip.

Would you generally pursue an energy efficiency project where the cost to you after utility rebates is \$5,000 if the project saved...

[Randomized option choice, hide lettering from respondent:]	Yes (1) [Radio button, only one response per row]	No (2) [Radio button, only one response per row]	Don't Know / Not Sure (3) [Radio button, only one response per row]
a) \$7,500 per year			
b) \$5,000 per year			
c) \$3,750 per year			
d) \$2,500 per year			
e) \$1,250 per year			
f) \$1,000 per year			

[Randomized option choice, hide lettering from respondent:]	Yes (1) [Radio button, only one response per row]	No (2) [Radio button, only one response per row]	Don't Know / Not Sure (3) [Radio button, only one response per row]
g) \$500 per year			

[Depending on the response, eliminate answer options not possible and ask the next possible option. Example: The respondent answers No to answer option f) \$1,000 per year. The No response means options f) through g) can be removed. Ask the next possible option starting with e) and proceeding through a) until the respondent answers yes.]

EWR\_WILLINGNESS\_HIGH Suppose an energy efficiency project has NO impact on the QUALITY of lighting, heating, and cooling in your business, but changes the amount of energy consumed and MAY result in some inconvenience (for example: obtaining project estimates, selecting and overseeing a contractor for the installation). An example might be [list these measures with "High Cost Measure\_2" from AWARE\_EWR\_HIGH first], building automation system or a high efficiency boiler.

Would you generally pursue an energy efficiency project where the cost to you after utility rebates is \$25,000 if the project saved...

[Randomized option choice, hide lettering from respondent:]	Yes (1) [Radio button, only one response per row]	No (2) [Radio button, only one response per row]	Don't Know / Not Sure (3) [Radio button, only one response per row]
a) \$37,500 per year			
b) \$25,000 per year			
c) \$12,500 per year			
d) \$10,000 per year			
e) \$8,333 per year			
f) \$5,000 per year			
g) \$2,500 per year			

[Depending on the response, eliminate answer options not possible and ask the next possible option. Example: The respondent answers No to answer option f) \$5,000 per year. The No response means options f) through g) can be removed. Ask the next possible option starting with e) and proceeding through a) until the respondent answers yes]

## DR Program Awareness

Next, we have a few questions about your awareness of Demand Response programs that electric utilities offer or could potentially offer to residential customers.

Demand Response programs reward electricity customers for voluntarily agreeing to reduce energy usage during periods of high electricity demand, which helps keep electricity costs down and allows your utility to supply reliable power at a more affordable rate to all customers.

If you sign up for a Demand Response program offered by your utility, the utility would control your air conditioning and/or heating system energy use during high demand periods (referred to as “demand response events”) for a limited time, (usually less than 4 hours), by automatically adjusting your thermostat during those periods. Your usage would be controlled only for a certain maximum number of days in a season (say 10 day in the summer). You can opt-out if you are unable to reduce your energy use during these periods.

An electric utility rewards Demand Response program participants by paying a fixed incentive each summer. Additionally, the utility may offer a one-time incentive for enrolling in the program.

Alternatively, you could also be placed on an electricity rate that gives you a discount on your current rate during nights and on weekends, but is more expensive on weekday afternoons. The utility controls your thermostat to reduce your electricity demand during certain critical peak events when electricity is much more expensive.

**[IF CUSTOMER SIZE = SMALL (INTRO2=2)]**

AWARE\_DR\_TSTAT Utilities typically control space cooling/heating energy use during Demand Response events using a smart thermostat. A smart thermostat learns your patterns and offers the ability to control it from anywhere. Does your business use a smart thermostat?

1. Yes
2. No
3. Don't Know/Not Sure

**[IF UTILITY = DTE AND CUSTOMER SIZE = SMALL (INTRO2=2)]**

AWARE\_DR\_SMALL\_DTE Before today, have you heard of the Smart Savers program which offers customers a \$20 incentive at the end of each summer in exchange for allowing DTE to remotely control the thermostat on 'event days' during the summer when demand for electricity is highest?

1. Yes, my business **participates** in the program
2. Yes, but my business **does not participate**
3. No
4. Don't Know/Not Sure

**[IF UTILITY = CONSUMERS AND IF CUSTOMER SIZE = LARGE (INTRO2=1)]**

AWARE\_DR\_LARGE\_CONSUMERS Before today, have you heard of these demand response programs offered by your utility?

<b>[Radio buttons, only one response per row]</b>	Yes, my business <b>participates</b> in the program (1)	Yes, but my business <b>does not participate</b> (2)	No (3)	Don't Know / Not Sure (4)
a) <b>C&amp;I Demand Response (Emergency) program</b> that offers customers a capacity payment of \$25/kW, plus an energy payment of \$0.05/kWh based on				

<b>[Radio buttons, only one response per row]</b>	Yes, my business <b>participates</b> in the program (1)	Yes, but my business <b>does not participate</b> (2)	No (3)	Don't Know / Not Sure (4)
performance for participation in <b>mandatory emergency events.</b>				
b) <b>C&amp;I Demand Response (Economic) program</b> that offers customers an energy incentive of \$0.30/kWh based on performance during demand response events. Participation in events is <b>optional.</b>				

**[IF CUSTOMER SIZE = SMALL (INTRO2=1)]**

AWARE\_DR\_SMALL\_GENERAL Before today, have you heard of any of the following demand response program type(s) that utilities may offer to customers?

	Yes (1) <b>[Radio button, only one response per row]</b>	No (2) <b>[Radio button, only one response per row]</b>	Don't Know / Not Sure (3) <b>[Radio button, only one response per row]</b>
<p><b>[If UTILITY IS NOT DTE]</b></p> <p>a) <b>Smart Thermostat Bring Your Own Thermostat (BYOT) programs</b> offer customers that own a smart thermostat a \$20 incentive at the end of each summer in exchange for allowing the utility to make minor, short-term adjustments to the thermostat in order to reduce energy use during periods of high demand for electricity. Participants anticipate at least one adjustment, and a maximum of up to 10 adjustments per summer. Peak demand periods for adjustments typically occur on especially hot days. Adjustments will usually only occur on non-holiday weekdays.</p>			
<p>b) <b>Critical Peak Pricing programs</b> are an electricity rate which provides a discount on current rates during night and on weekends (called off-peak periods) but is more expensive on weekday afternoons (called peak periods). Participants save money by shifting use to off-peak periods and are notified to reduce energy use during critical peak events, when electricity is much more expensive. The events only occur on weekdays from 3 p.m. to 7 p.m. and are limited to a maximum of 14 occurrences (56 hours) per calendar year.</p>			

**[IF CUSTOMER SIZE = LARGE (INTRO2=1)]**

AWARE1\_DR\_LARGE\_GENERAL Before today, have you heard of any of the following demand response program type(s) that utilities may offer to customers?

	Yes (1) [Radio button, only one response per row]	No (2) [Radio button, only one response per row]	Don't Know / Not Sure (3) [Radio button, only one response per row]
<p><b>[If UTILITY IS NOT CONSUMERS]</b>                      a) <b>Capacity Bidding programs</b> offer customers the ability to make a commitment to reduce demand by a certain amount during periods when electricity demand is high. Participants may be called to reduce demand for a maximum of 40 hours throughout the summer. In return, participants receive a capacity payment (\$/kW) based on the committed load reduction, plus an energy payment (\$/kWh) based on performance during the event.</p>			
<p><b>[If UTILITY IS NOT CONSUMERS]</b>                      b) <b>Demand Bidding programs</b> offer customers payment for reducing energy consumption during peak periods when demand response events are called. Participants may be called to reduce demand for a maximum of 40 hours throughout the summer. Participation is optional, and participants receive an energy payment (\$/kWh) based on energy reduction during the event.</p>			
<p>b) <b>Critical Peak Pricing programs</b> are a variation on a time-of-use (TOU) rate in which participants pay different prices depending on when electricity is used. Prices are cheaper during "off-peak" times (usually nighttime and weekends) and more expensive during "on-peak" times (usually weekday afternoons). In the critical peak pricing program, the on-peak price will be much higher than the peak period price in the normal TOU rate, during events when demand is highest (referred to as critical peak periods). In exchange, the off-peak rate is cheaper than a normal TOU rate. Participants are notified prior to each event, and the total critical peak event hours per year are capped to around 50-60 hours.</p>			

**[ALL UTILITIES AND ALL BUSINESS SIZES]**

AWARE\_DR\_BTM Finally, before today, have you heard of this type of demand response program that other utilities may offer to customers?

Program category	Yes (1) [Radio button, only one response per row]	No (2) [Radio button, only one response per row]	Don't Know / Not Sure (3) [Radio button, only one response per row]
Behind-the-meter battery programs offered to customers with on-site behind-the-meter battery storage systems (e.g., a battery charged by an on-site solar system). Participants agree to let the utility control the charging and discharging of the battery during events when electricity demand is the highest, in exchange for an upfront payment and/or an ongoing participation payment from the utility.			

### DR Willingness to Participate

[If respondent doesn't already participate in a capacity or demand bidding program (AWARE\_DR\_LARGE\_CONSUMERS\_a IS NOT = 1 and AWARE\_DR\_LARGE\_CONSUMERS\_b IS NOT = 1) and CUSTOMER SIZE = LARGE (INTRO2 = 1)]

DR\_WILLINGNESS\_LARGE1 Which program would be more likely to enroll in if offered by your utility?

- Capacity bidding programs:** Participants commit to reduce demand by a set amount during periods when electricity demand is high. Participants may be called to reduce demand for a maximum of 40 hours throughout the summer. In return, participants receive a capacity payment (\$/kW) based on committed load reduction, plus an energy payment (\$/kWh) based on performance during the event.
- Demand bidding programs:** Participants receive a payment for reducing energy consumption during peak periods when demand response events are called. Participants may be called to reduce demand for a maximum of 40 hours throughout the summer. Participation is optional and the energy payment (\$/kWh) is based on participant's actual reduction during the event.

[If respondent doesn't already participate in a capacity or demand bidding program (AWARE\_DR\_LARGE\_CONSUMERS\_a IS NOT = 1 and AWARE\_DR\_LARGE\_CONSUMERS\_b IS NOT = 1) and CUSTOMER SIZE = LARGE (INTRO2 = 1)]

DR\_WILLINGNESS\_LARGE2 How likely would your business be to participate in this type of [Large CI DR Option] program if you received a [Incentive Detail]?

- Not at all likely
- Slightly likely
- Somewhat likely

- 4. Very likely
- 5. Extremely likely
- 6. Not sure/don't know

Large CI DR Option	Incentive Detail
<b>[If more likely to participate in a Capacity Bidding Program (DR_WILLINGNESS_LARGE1 = 1)] a)</b> Capacity Bidding Program	\$25/kW capacity payment for committed load reduction, plus an additional \$0.05/kWh for your performance during the event
<b>[If more likely to participate in a Demand Bidding Program (DR_WILLINGNESS_LARGE1 =2)] b)</b> Demand Bidding Program	\$0.30/kWh payment based on your performance during the event

**[If respondent is more likely to participate in capacity bidding (DR\_WILLINGNESS\_LARGE2 = 1 and DR\_WILLINGNESS\_LARGE2 IS NOT = 6)]**

DR\_WILLINGNESS\_LARGE3

How likely would your business be to participate in this type of a **Capacity Bidding** program if you received a...

	Not at all likely (1)	Slightly likely (2)	Some-what likely (3)	Very likely (4)	Extremely likely (5)	Not sure/ don't know (6)
<b>[Lower incentive amount if DR_WILLINGNESS_LARGE_2 = 4 or 5]</b> a) \$20/kW capacity payment for committed load reduction, plus an additional \$0.05/kWh for your performance during the event?						
<b>[Higher incentive amount if DR_WILLINGNESS_LARGE_2 &lt;4]</b> b) \$30/kW capacity payment for committed load reduction, plus an additional \$0.05/kWh for your performance during the event?						

**[If respondent is more likely to participate in demand bidding (DR\_WILLINGNESS\_LARGE\_2 = 2 and DR\_WILLINGNESS\_LARGE2 IS NOT = 6)]**

DR\_WILLINGNESS\_LARGE4 How likely would your business be to participate in this type of a Demand Bidding program if you received a...

	Not at all likely (1)	Slightly likely (2)	Some-what likely (3)	Very likely (4)	Extremely likely (5)	Not sure/ don't know (6)
<b>[Lower incentive amount if DR_WILLINGNESS_LARGE_2 = 4 or 5]</b> a) \$0.25/kWh payment based on your performance during the event?						
<b>[Higher incentive amount if DR_WILLINGNESS_LARGE_2 &lt;4]</b> b) \$0.35/kWh payment based on your performance during the event?						

**[If respondent doesn't already participate in a smart thermostat program (AWARE\_DR\_SMALL\_DTE IS NOT = 1) and CUSTOMER SIZE = SMALL (INTRO2 = 2)]**

DR\_WILLINGNESS\_SMALL1 If your utility offered a(n) **[Small CI Option]** program that **[Small CI Option Description]**.

How likely would your business be to participate in this type of program if you received a **[Incentive Detail]**?

1. Not at all likely
2. Slightly likely
3. Somewhat likely
4. Very likely
5. Extremely likely
6. Not sure/don't know

Small CI DR Option	Small CI Option Description	Incentive Detail
a) <b>[If customer already has a smart thermostat (AWARE_DR_TSTAT = 1)]</b> Smart Thermostat BYOT (Bring Your Own Thermostat)	offers customers who already own a smart thermostat a fixed payment per season (typically \$20-\$25) for allowing the utility to remotely control the thermostat on hot summer and cold winter days when demand for electricity is highest. The utility may also provide an upfront incentive for signing up in the program.  The utility will control the participant's thermostat for a limited number of hours per season (limited to fourteen in summer and ten in winter with maximum four-hour duration). The utility may automatically pre-cool or pre-heat the facility before an event and notify participants in advance of event, with the option to opt-out of events at any time.	a one-time \$75 sign-up bonus plus \$25 per season



Small CI DR Option	Small CI Option Description	Incentive Detail
b) [If customer DOES NOT already have a smart thermostat (AWARE_DR_TSTAT = 2)] Energy Efficiency and Smart Thermostat BYOT (Bring Your Own Thermostat)	<p>offers customers who do not already have a smart thermostat an incentive payment to purchase one through an energy efficiency program. The utility then offers a BYOT demand response program in which customers receive a fixed payment per season (typically \$20-\$25) for allowing the utility to remotely control the thermostat on hot summer and cold winter days when demand for electricity is highest.</p> <p>The utility will control the thermostat for a limited number of hours per season (could be limited to fourteen in summer and ten in winter with maximum four-hour duration). The utility may automatically pre-cool or pre-heat the facility before an event and notify participants in advance of events, with the option to opt-out of events at any time</p>	a one-time discount of up to \$175 for the purchase of a smart thermostat, and \$25 per season (paid at the end of each season) for participating in the BYOT demand response program

[If customer already has a smart thermostat (AWARE\_DR\_TSTAT = 1) and DR\_WILLINGNESS\_SMALL1 IS NOT = 6]]

DR\_WILLINGNESS\_SMALL2 How likely would your business be to participate in a smart thermostat BYOT program if you received...

	Not at all likely (1)	Slightly likely (2)	Some-what likely (3)	Very likely (4)	Extremely likely (5)	Not sure/ don't know (6)
<b>[Lower incentive amount if DR_WILLINGNESS_SMALL1 = 4 or 5]</b> a) a one-time \$50 sign-up bonus, plus \$25 per season you participate?						
<b>[Higher incentive amount if DR_WILLINGNESS_SMALL1 &lt;4]</b> b) a one-time \$100 sign-up bonus, plus \$25 per season you participate?						

[If customer DOES NOT already have a smart thermostat (AWARE\_DR\_TSTAT = 2 and DR\_WILLINGNESS\_SMALL1 IS NOT = 6)]

DR\_WILLINGNESS\_SMALL3 How likely would your business be to participate in a smart thermostat BYOT program if ...

	Not at all likely (1)	Slightly likely (2)	Somewhat likely (3)	Very likely (4)	Extremely likely (5)	Not sure/ don't know (6)
<p><b>[Lower incentive amount if DR_WILLINGNESS_SMALL1 = 4 or 5]</b></p> <p>a) the utility were to offer <b>\$150 rebate</b> on a smart thermostat for signing up in the demand response program, plus <b>\$25</b> per season you participate?</p>						
<p><b>[Higher incentive amount if DR_WILLINGNESS_SMALL1 &lt;4]</b></p> <p>b) the utility were to offer <b>\$200 rebate</b> on a smart thermostat for signing up in the demand response program, plus <b>\$25</b> per season you participate?</p>						

DR\_WILLINGNESS\_CPP1 Next, consider if your utility offered a Critical Peak Pricing Program in combination with your Time-of-Use (TOU) rate, with discounted electricity prices during night and on weekends (called off-peak periods) and higher rate on weekday afternoons (called peak periods). Participants save money by shifting energy use to off-peak periods. Participants are notified to reduce energy use during critical peak events, when electricity is much more expensive. Critical peak events are restricted and can only occur on weekdays, typically from 3 p.m. to 7 p.m. and would be limited to certain maximum occurrences and hours (e.g., 14 occurrences and 56 total hours) per calendar year.

How likely would your business be to participate in this type of program if you received a **40% discount on your standard off-peak rate** with a **critical peak price that is approximately 8 times** your normal on-peak TOU rate?

1. Not at all likely
2. Slightly likely
3. Somewhat likely
4. Very likely
5. Extremely likely
6. Not sure/don't know

**[If DR\_WILLINGNESS\_CPP1 IS NOT = 6]**

DR\_WILLINGNESS\_CPP2 How likely would your business be to participate in a critical peak pricing program if you received...

	Not at all likely (1)	Slightly likely (2)	Some-what likely (3)	Very likely (4)	Extremely likely (5)	Not sure/ don't know (6)
<b>[Lower incentive amount if DR_WILLINGNESS_CPP1 = 4 or 5]</b>  a) a <b>30% discount on your off-peak rate with a critical peak price that is approximately 10 times</b> your normal on-peak TOU rate?						
<b>[Higher incentive amount if DR_WILLINGNESS_CPP1 &lt;4]</b>  b) a <b>50% discount on your off-peak rate with a critical peak price that is approximately 6 times</b> your normal on-peak TOU rate?						

WILLINGNESS\_DR\_BTM Finally, how much more likely would you be to install a battery if your utility offered an upfront payment and/or an ongoing participation payment in exchange for allowing the utility to control the charging and discharging of your on-site behind-the-meter battery during events when electricity demand is the highest, on up to 100 days per year.

1. No more likely to buy a battery storage system
2. Not sure, may encourage me to buy a battery storage system
3. Much more likely to buy a battery storage system

## COVID-19 Impacts

COVID\_EWR How has the COVID-19 pandemic impacted your business' decision-making around energy efficiency upgrades? We are...

1. Much **less** likely to pursue energy efficiency upgrades
2. Slightly **less** likely to pursue energy efficiency upgrades
3. Just as likely to pursue energy efficiency upgrades (i.e., there has been **little or no impact**)
4. Slightly **more** likely to pursue energy efficiency upgrades
5. Much **more** likely to pursue energy efficiency upgrades

COVID\_DR How has the COVID-19 pandemic impacted your business' decision-making around demand response programs? We are...

1. Much **less** likely to pursue demand response participation
2. Slightly **less** likely to pursue demand response participation
3. Just as likely to pursue demand response participation (i.e., there has been **little or no impact**)
4. Slightly **more** likely to pursue demand response participation
5. Much **more** likely to pursue demand response participation

## Recent Energy Use Actions

ACTIONS1 Which of the following **energy-efficient** products have you installed **in the last 12 months**, if any? Please select all that you have installed.

**[Pipe in responses to awareness questions for high and low-cost measures respondent is aware of]**

ACTIONS2 Do you currently have an energy management system installed at your business?

1. Yes
2. No
3. Don't know/not sure

## Decision Factors

DECISIONS How important are the following factors in driving the decisions you make about energy-consuming equipment at your business? Please rank each factor on a scale of 1 to 5 with 1 being "not at all important" and 5 being "very important". **[Randomize response options.]**

1. Reducing environmental impact
2. Financial considerations (e.g., payback period)
3. Limited disruption during installation
4. Price of the higher efficiency model
5. Savings on energy bill
6. Be the first to purchase the latest high-tech products and equipment
7. Reduce the need for additional power plants and support grid reliability
8. Support my community and/or state's energy initiatives

## Barriers

BARRIERS Which of the following factors are likely to **prevent** your business from pursuing additional energy management activities including installation of energy-efficient equipment or participation in demand response programs? Please rank each factor on a scale of 1 to 5 with 1 being "not at all likely" and 5 being "extremely likely". **[Randomize response options.]**

1. Time and attention needed for energy management
2. The upfront cost of technologies or equipment
3. Awareness of available utility programs that offer payments for changing the way energy is managed at my business
4. Level of in-house technical expertise and data to make informed decisions about energy
5. Allowing your utility to control equipment in your business

## Firmographics

FIRM1 What sector is your business in?

1. Multifamily (Market Rate)
2. Multifamily (Low Income)
3. Industrial

4. Education
5. Grocery
6. Health
7. Lodging
8. Office
9. Restaurant
10. Retail
11. Warehouse
12. Other

FIRM2 Approximately, what percentage of your business expenses are spent on energy?

**[A slide bar scale from 0 to 100% will be on the web version of the survey, and a “Don’t Know” option will be provided.]**

### **Close**

This concludes the survey. The Michigan Public Service Commission thanks you for your participation in this survey. If you have any questions about the survey or how your responses will be used please reach out to us at [Michigan.EnergyStudy@guidehouse.com](mailto:Michigan.EnergyStudy@guidehouse.com).