

CONSUMER ELECTRICITY PREFERENCES AND BEHAVIOURS SURVEY

Report

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INTRODUCTION

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Background, Research Objectives and Methodology

Background

The energy sector in Ontario is in an exciting, yet challenging time, as it looks to respond to the growing need for green and renewable energy, and to update aging infrastructure. Technological advancements, climate change policies and growing consumer opportunities are leading to an increase in Distributed Energy Resources (DER) across North America, including Ontario – which is leading to a more decentralized system.

IESO is at the forefront of the changing energy sector, having put forth its **Enabling Resources Program** which will produce an integrated plan of activities to be undertaken by the IESO to enable existing electricity resources and through the development of a **DER Roadmap** to provide clarity on IESO objectives, initiatives, and timing for DER integration. Notably, through the work conducted by the IESO to date consumer preferences has been identified as a prominent driver of DER adoption.

To help inform its priorities with regards to the integration of emerging resources into the IESO-controlled grid and prepare for changing consumer demands, the IESO retained Ipsos to conduct a survey about preferences and behaviours that are likely to impact the supply and demand of electricity in Ontario in the future. The survey was conducted among Residential, Small business, Commercial and Industrial consumers.



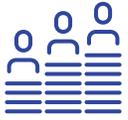
Research Objectives

The objectives of the survey were to:

- Understand what is most important to consumers about electricity service (e.g. cost, reliability, control, sustainability, etc.), how they rank these preferences and assess the trade-offs between these preferences;
- Assess what new electricity products and services consumers want from their electricity providers – if any – and how much they are willing to pay for these;
- Capture the extent to which consumers are willing to experiment/adopt alternative supply arrangements/providers (e.g. an entity other than an LDC) as well as what would influence them to choose an alternative supplier;
- Assess to what degree consumers are willing to adopt more dynamic electricity prices, and further explore price issues (e.g., choice, simplicity, barriers to changing demand at different times);
- Determine what DER technologies consumers have already installed, and how likely they are to adopt a variety of DER technologies;
- Assess the drivers and barriers to adopting different DER technologies; and
- Measure the likelihood consumers will supply some, or all, of their own electricity, and assess influences driving the decision to either produce their own electricity or stay connected to the grid;
- Ontario Energy Board (OEB) contribution to development of research objectives, surveys and focus group sessions.



Methodology



These are the findings of an **Ipsos poll conducted online and by telephone** on behalf of the IESO.



The survey was fielded to a total sample of N=1300, divided into three consumer groups as follows:

- **Residential** – n=800 Ontario residents aged 18+: Fielded online August 24- September 1, 2020
- **Small Business** – n=251 decision-makers at Ontario small businesses with < 50 employees: Fielded online August 24- September 1, 2020
- **Commercial/Industrial** – n=249 Ontario decision-makers in the Industrial (n=152), and Commercial (n=97) sectors: Fielded by telephone August 19, 2020 – March 1, 2021 (note: fieldwork was delayed significantly due to COVID-19 restriction)



Weighting was employed to ensure that the sample's composition reflects the population of each group.

- **Residential** – results were weighted by age, gender and region
- **Small Business** – results were weighted by number of employees and region
- **Commercial/Industrial** – results were weighted by number of employees and sector



The precision of Ipsos online polls is measured using a credibility interval due to the non-probability sample. Results of the full sample of N=1300 are accurate to within **+/- 3.1 percentage points**, 19 times out of 20. A smaller credibility interval applies to subgroups:

- Residential: +/- 4.0 percentage points, 19 times out of 20
- Small Business: +/- 7.1 percentage points, 19 times out of 20
- Commercial/Industrial: +/- 7.1 percentage points, 19 times out of 20



MaxDiff analysis was conducted as part of the study to assess the factors consumers' rank most important when receiving electricity service. Maximum Difference provides ranking showing the relative positioning of the items being evaluated. The output is interval scale measurement based on comparative judgments between factors.

EXECUTIVE SUMMARY

Distillation of findings & Implications for IESO

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Executive Summary (1/4)

Pricing models are seen as the main way consumers can manage costs

- When it comes to the electricity service all types of consumers currently receive, cost matters most, while control of energy usage is considered somewhat less important. While there is receptivity to adopting certain new electricity products or services, more limited knowledge of offerings and DER technologies is inhibiting interest and many consumers **aren't making the link that greater control can translate to lower cost**.
- This may be because **many see pricing models (as opposed to the adoption of new products, services or technology) as the main way in which they can control their costs**. Residential and Small Business consumers gravitate toward Time of Use as their preferred electricity pricing model, which offers 3 price periods depending on the time of day. For both groups, the main driver of this preference is the ability it gives them to **control and plan their usage** (31%).
- **Reliability also matters, especially to Commercial/Industrial** – nearly half (46%) place more importance on the predictability of their electricity bill than on having the price change more dynamically based on the cost of electricity production. Half (50%) of this segment rates Flat Price as their preferred electricity pricing model, largely because of a **fear of being penalized** for not being able to control the variability of their electricity usage (48%). This model offers predictability and reliability that is especially attractive to Commercial consumers.
- While support for more dynamic pricing models such as Critical Peak Pricing or Hourly price is currently limited, **the overwhelming majority of consumers indicate that they can be motivated to support them**. Residential and Small Business consumers would respond best to a guarantee of savings on their electricity bill or having lower priced periods at more convenient times of day. Commercial consumers are more difficult to persuade, likely due to the desire for predictability offered by less dynamic pricing models, and more targeted follow-up research may be required to better understand how to motivate this segment.

Executive Summary (2/4)

Consumers express receptiveness to adopting certain new electricity products and services, particularly those that help to manage costs, and an openness to exploring providers other than their current utility.

- The greatest **windows of opportunity** exist for Residential and Small Business in terms of DER that help to **keep costs low**, while Commercial/Industrial are also interested in ways to **increase stability** and reduce the number of things they need to manage.
 - Residential: Hosting solar panels in exchange for a lower electricity bill or increased reliability (37% highly likely to use), real-time alerts of peak consumption when rates are higher (37%).
 - Small Business: Hosting solar panels on their property (37%)
 - Commercial/Industrial: Third-party control of new technologies (44%), solar panels (41%), more stable electricity pricing options (38%).
- **Most consumers would turn to their existing utility for new electricity products and services, while many are also open to other service providers.** Just under half of each group would turn to their current provider if they decided to install a new technology, leaving the rest open to explore other options like third-party companies, specialized electricity not-for-profits, or independent contractors, as they seek out the best value deal.
 - However, some potential barriers exist for consumers when working with a provider other than their utility, particularly third-party private companies. This stems primarily from a lack of familiarity with these types of organizations and efforts would likely be required to help shore up the credibility of these providers and provide assurances of the value they offer.

Executive Summary (3/4)

Path to DER uptake relies on increasing knowledge among consumers and shorter timeframes to recoup initial investment

- There is a lot of **room to inform and educate** about many DER technologies, particularly when it comes to battery energy storage, combined heat and power, WiFi-enabled electric water heaters, and air source heating pumps. Well under half of any consumer rate their knowledge of DER technologies highly.
- Likelihood to install DER technology in the future is significantly higher among consumers with a high degree of knowledge. This highlights the potential for increased interest in DER technology as knowledge of these resources improves.
 - Residential and Small Business consumers are most knowledgeable about smart thermostats and one in four have installed them (27% and 25% respectively). Beyond smart thermostats, familiarity with other DER is considerably lower and less than 5% of consumers in these segments have installed any DER technologies.
 - Commercial/Industrial consumers are more likely to rate their knowledge of solar PV highly, followed by electric vehicles and charging stations, which also represent the DER with the highest uptake- electric vehicle charging stations (15%), electric vehicles (EVs) themselves (12%), and solar PV (10%).
 - Looking to the future, smart thermostats are the only form of DER that more than 20% in any group say they're "very likely" to install in future.
- Desire to adopt DER is driven largely by a desire to manage cost, but also to be more efficient and environmentally friendly. **Cost-reduction and efficiency** are important elements of DER to reinforce in messaging about the benefits of these technologies among all consumer groups.

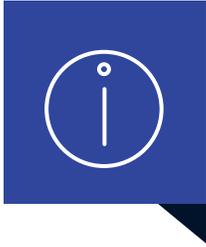
Executive Summary (4/4)

- DERs with the **shortest perceived payback period** have the highest adoption. Currently many technologies are seen as requiring a more-lengthy period to recoup the upfront investment and should costs for DER fall in the future and/ or consumers become more knowledgeable about the cost-effectiveness of these resources the potential for uptake should also increase.
 - Among Residential and Small Business uptake is highest for smart thermostats which is also the DER with the **shortest perceived payback period**. The same situation is observed with EV charging stations among Commercial/Industrial consumers: they are the most likely to be installed because they are more likely to be seen as having a short payback period.

Electricity Services Preferences

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Electricity Service Factor Importance- Information Provided



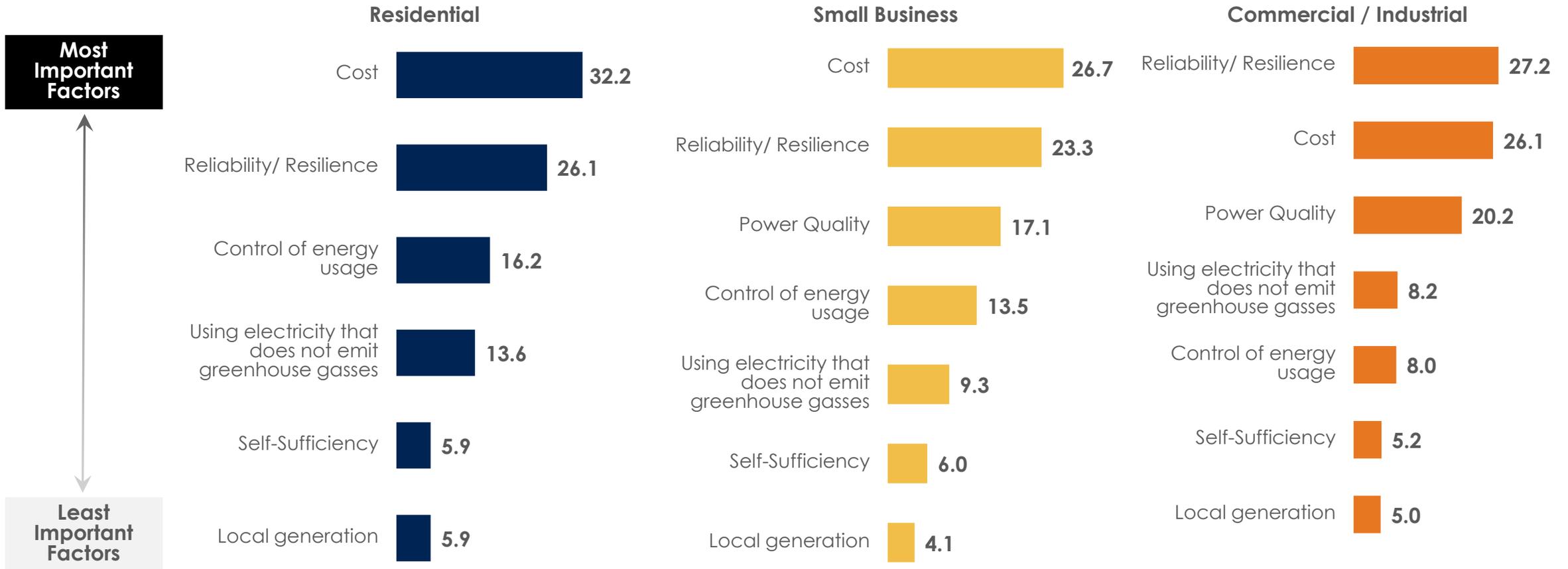
A detailed description of each factor was provided before asking about importance.

Cost	How expensive your electricity service is
Reliability/ Resilience	The number of outages you experience and the duration of those outages
Power Quality*	Fluctuations in power supply (without actually experiencing an outage)
Using electricity that does not emit greenhouse gasses	Using electricity that is generated by technologies that do not emit greenhouse gasses, (for example, solar, wind, bioenergy, waterpower and nuclear)
Self-Sufficiency	Being able to supply some or all of your own electricity / not relying on the grid or relying on the grid to a lesser extent than you do now (for example, by generating your own electricity using solar panels)
Control	Having control over how much electricity you use and when you use it (for example, by using automated and/or controllable technology like a smart thermostat)
Local generation	Having your electricity come from smaller generators, located closer to your home, to reduce the need to invest in larger scale generation plants and transmission lines.

**not asked of Residential consumers.*

MaxDiff: Electricity Service Factor Importance

- Different consumer groups have different priorities when it comes to the electricity service they currently receive. While cost is important to everyone, it matters most to Residential consumers and to a lesser extent Small Business consumers. Reliability/resilience is also a key factor and Commercial/Industrial consumers are slightly more likely to say is the most important to them, just ahead of cost.



R7/SB11/C11. Considering the following factors, which ONE is most and least important to you when it comes to the electricity service you currently receive.
Base: All respondents

New Electricity Products and Services

4

Likelihood to Use Electricity Products and Services

- Nearly four in ten consumers in all three segments would be likely to host solar panels on their property in the future. Among Commercial/Industrial consumers, similar proportions would be likely to adopt third-party control of new technology in exchange for a lower bill or electricity pricing options. Nearly four in ten Residential consumers express interest in real-time alerts about peak consumption. Small Business consumers tend to be somewhat more reluctant adopters of the remaining electricity products and services.

High Likelihood to Use (Rated 8-10/10)

	Residential	Small Business	Commercial / Industrial
Ability to choose higher levels of reliability (guaranteed to have fewer to no outages) for a higher price	17%	14%	25%
Ability to choose lower levels of reliability for a lower price (for example, for a property used less frequently like a vacation home or cottage)	22%	17%	14%
Ability to choose the source of the electricity you purchase (for example, purchasing more, or all, renewable electricity)	32%	26%	28%
Electricity pricing options (for example, being charged a price that changes less frequently and is more stable versus one that changes more frequently and allows greater opportunities to shift consumption)	31%	29%	38%
Hosting solar panels on your property that are owned, installed and maintained by a third-party company in exchange for a lower electricity bill or increased reliability	37%	37%	41%
Hosting battery energy storage on your property that is owned, installed and maintained by a third-party company in exchange for a lower electricity bill or increased reliability	34%	33%	33%
Real-time text or email alerts to notify you of periods of peak electricity consumption when rates are higher (to allow you to manually adjust your consumption during that period)	37%	33%	32%
Allowing your utility company or a third-party company to install devices on certain household appliances/ equipment , like your HVAC unit, to automatically reduce your electricity usage (in a way that does not impact your comfort) during the periods where electricity is most expensive.	32%	32%	35%
Allowing your utility company or a third-party company to control new technologies , like solar panels or battery energy storage located on your property in exchange for a lower electricity bill or increased reliability	33%	33%	44%

Very likely to use (rated 8-10):

Residential:

- Age 18-34
- Condo/Apartment dwellers

Small Business:

- Southwestern ON (hosting battery storage 45%)
- Avg. Monthly bill \$300+ (3rd-party device install 50%)
- Knowledgeable about DER

Commercial/Industrial:

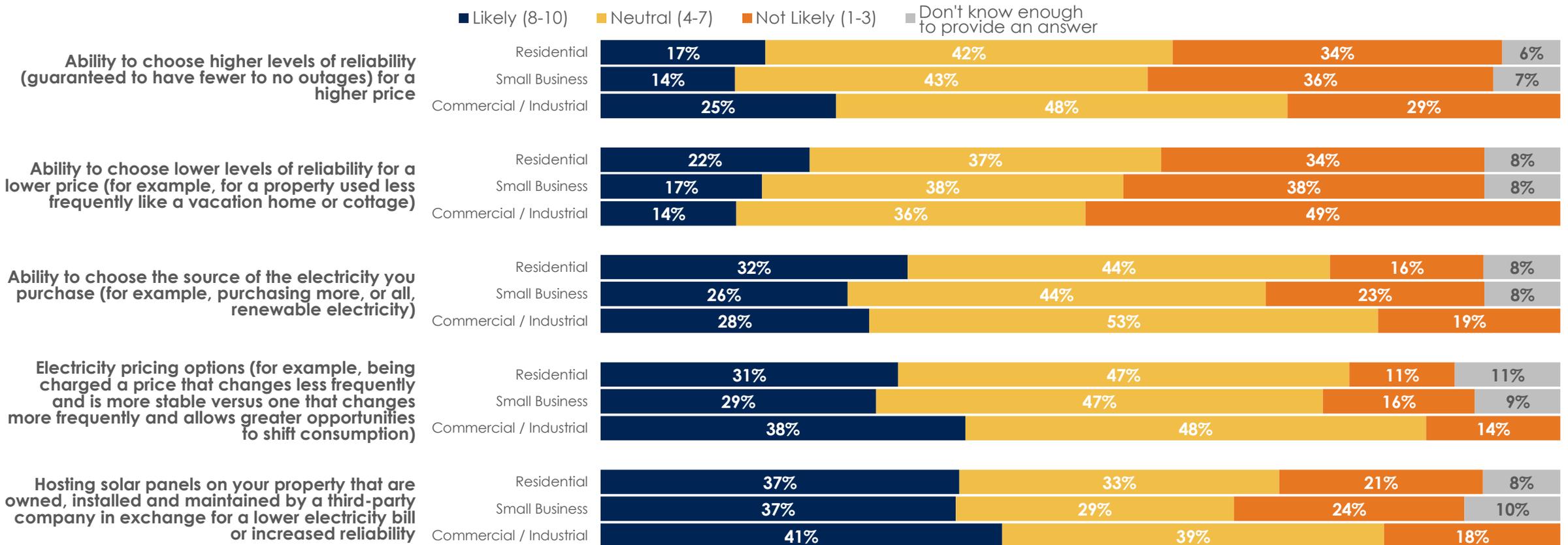
- 100+ employees (ability to choose higher levels of reliability 45%)
- Knowledgeable about DER with electricity generation

R8/SB12/C11. How likely would you be to adopt each of the following new electricity products and services in the future should they become available? Using a scale from 1 to 10, where 1 is Not at all likely and 10 is Extremely likely. Base: All respondents [Residential (n=800); Small Business (n=251); Commercial / Industrial (n=249)]



Likelihood to Use Electricity Products and Services

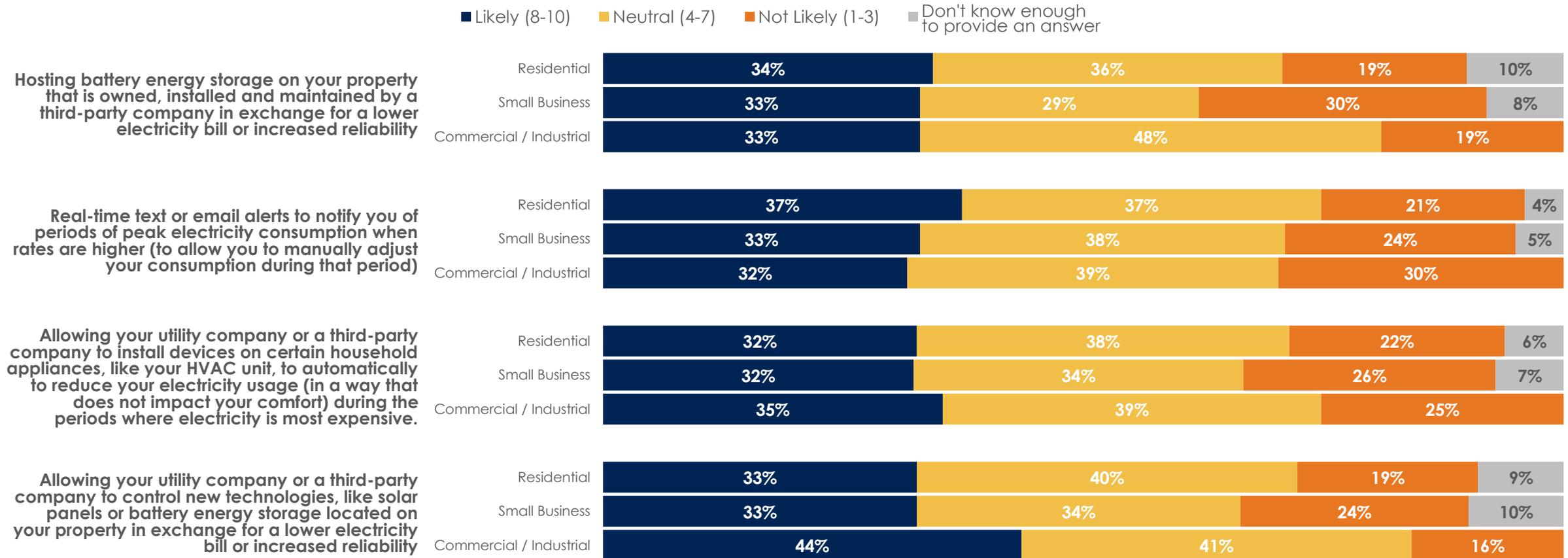
- Nearly four in ten consumers in all three segments would be likely to host solar panels on their property in the future. A similar proportion of Commercial/Industrial consumers would be likely to adopt electricity pricing options, while closer to three in ten Residential and Small Business consumers would do so. Around three in ten consumers in all groups express interest in the ability to choose the source of the electricity they purchase, while fewer express interest in the ability to choose reliability levels. Notably, a significant proportion of each group are neutral on likelihood to adopt these and other new electricity products and services, suggesting there is room to inform, educate and convince consumers by providing them a better understanding of potential bottom-line benefits.



R8/SB12/C11. How likely would you be to adopt each of the following new electricity products and services in the future should they become available? Using a scale from 1 to 10, where 1 is Not at all likely and 10 is Extremely likely. Base: All respondents [Residential (n=800); Small Business (n=251); Commercial / Industrial (n=249)]

Likelihood to Use Electricity Products and Services (cont'd)

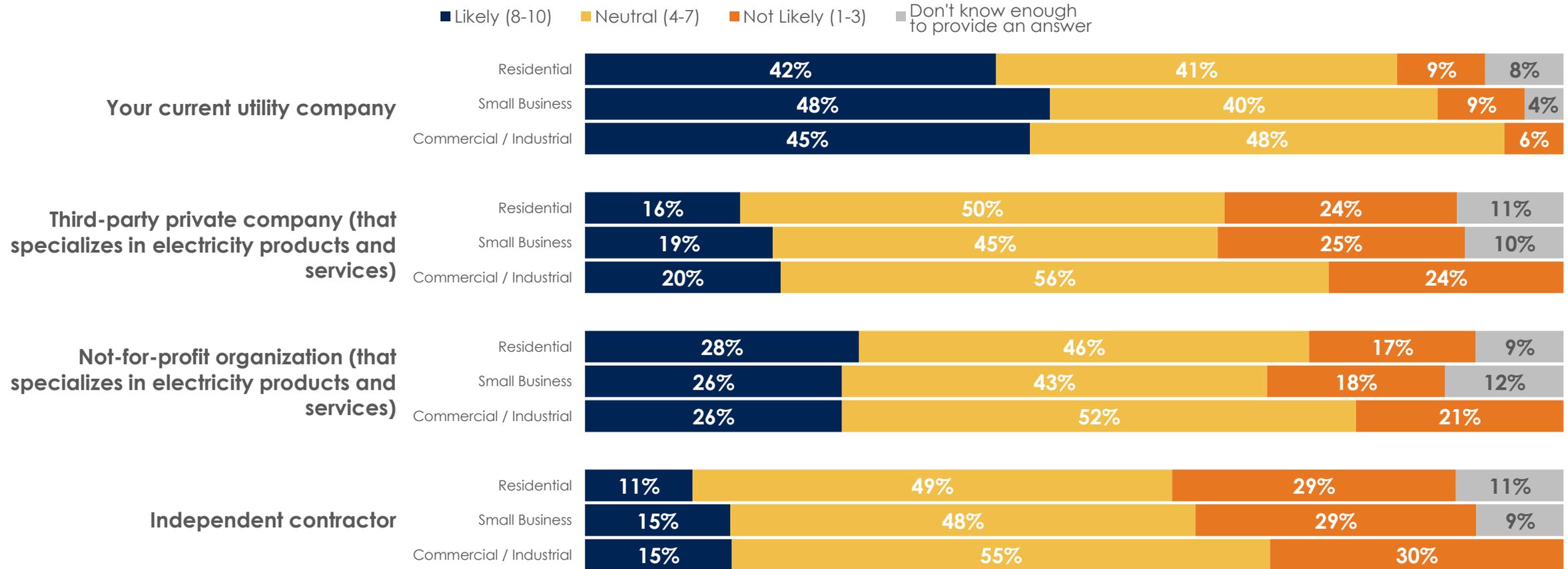
- At more than four in ten, strong interest is seen among Commercial/Industrial consumers in third-party control of technology installed on properties in exchange for a reduced electricity bill. Text or email alerts about peak hours are more relevant to Residential consumers. Around one-third of all consumer groups would be likely to host battery storage in exchange for a lower bill or increased reliability –or– allowing their utility company or third-party to install devices on certain appliances/ equipment to automatically reduce usage during the most expensive periods.



R8/SB12/C11. How likely would you be to adopt each of the following new electricity products and services in the future should they become available? Using a scale from 1 to 10, where 1 is Not at all likely and 10 is Extremely likely. Base: All respondents [Residential (n=800); Small Business (n=251); Commercial / Industrial (n=249)]

Likelihood to Purchase / Adopt New Products From Organizations

- If consumers were to adopt one of these new products, nearly half of all three consumer groups would turn to their current utility company. Others would look elsewhere, with roughly one in four in each group saying they'd likely turn to a not-for-profit, and two in ten likely opting for a third-party private company. Fewer (about one in ten) say they would be likely buy from an independent contractor.



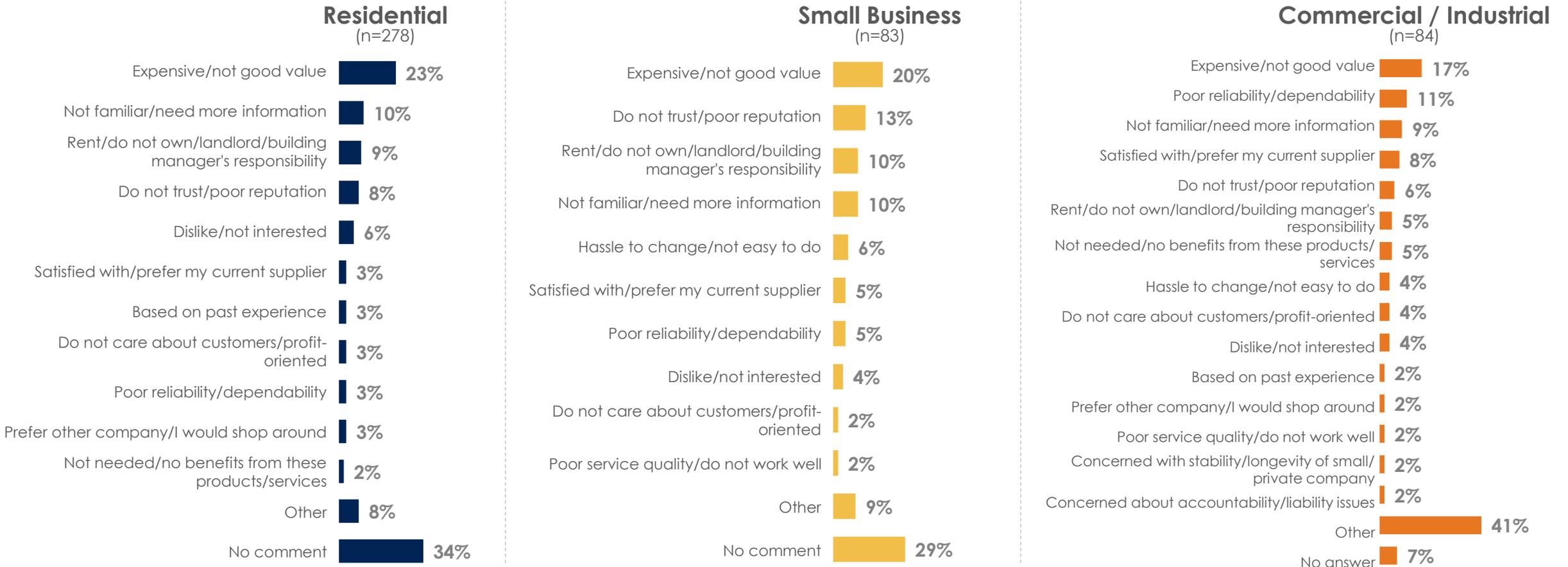
Some new electricity products or services including the ability to purchase electricity from different sources, different rate options, or hosting solar panels or energy storage devices on your property could be offered by companies other than your current utility company.

R9/SB13/C12. How likely would you be to purchase/adopt these types of new types of electricity products or services from each of the following organizations? Using a scale from 1 to 10, where 1 is Not at all likely and 10 is Extremely likely.

Base: All respondents [Residential (n=800); Small Business (n=251); Commercial / Industrial (n=249)]

Reason(s) For Not Likely to Purchase From Current Utility Company

- Among the approximate one-third of consumers in all groups who said they would be unlikely to purchase new electricity products and services from their current utility (rated 1 to 6 on 10 pt scale), the perception that they would be charged a higher than expected price is the main deterrent. Residential and Small Business consumers often rent and don't have a say in what can be installed on their property. Others say they need more information. Commercial and Industrial consumers are the most likely to mention poor reliability.

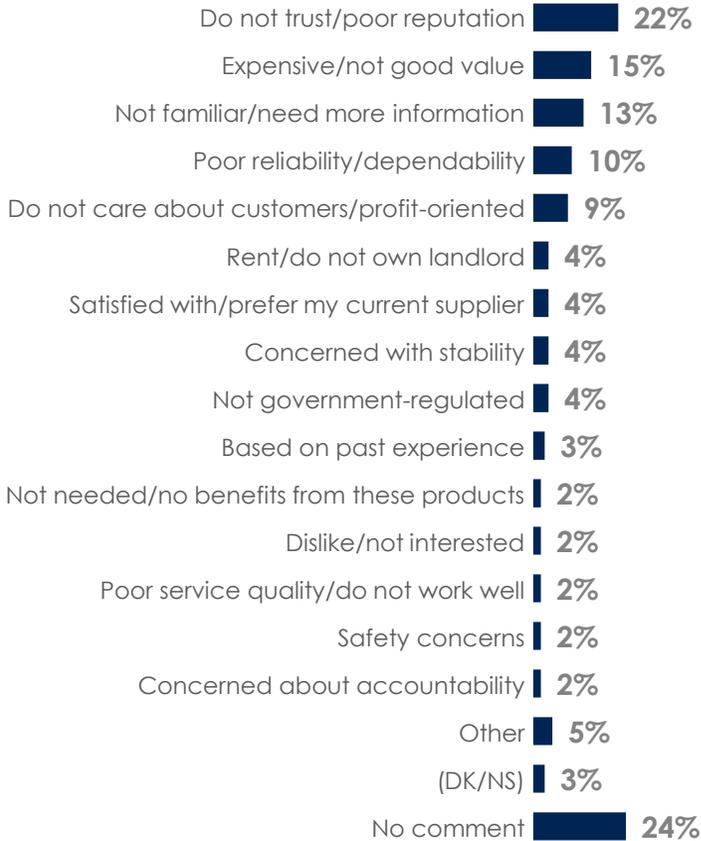


R10/SB14/C13. You indicated you would not be likely to purchase these new types of electricity products or services from your current utility company, [INSERT LDC FROM Q5]. Why do you say so?
 Base: Not likely to purchase from current utility company

Reason(s) For Not Likely to Purchase From Private Company

- Those who say they would be unlikely to buy from a private company are most likely to cite a lack of trust, prohibitive costs, or a lack of information. Commercial consumers are again the most likely to mention poor reliability.

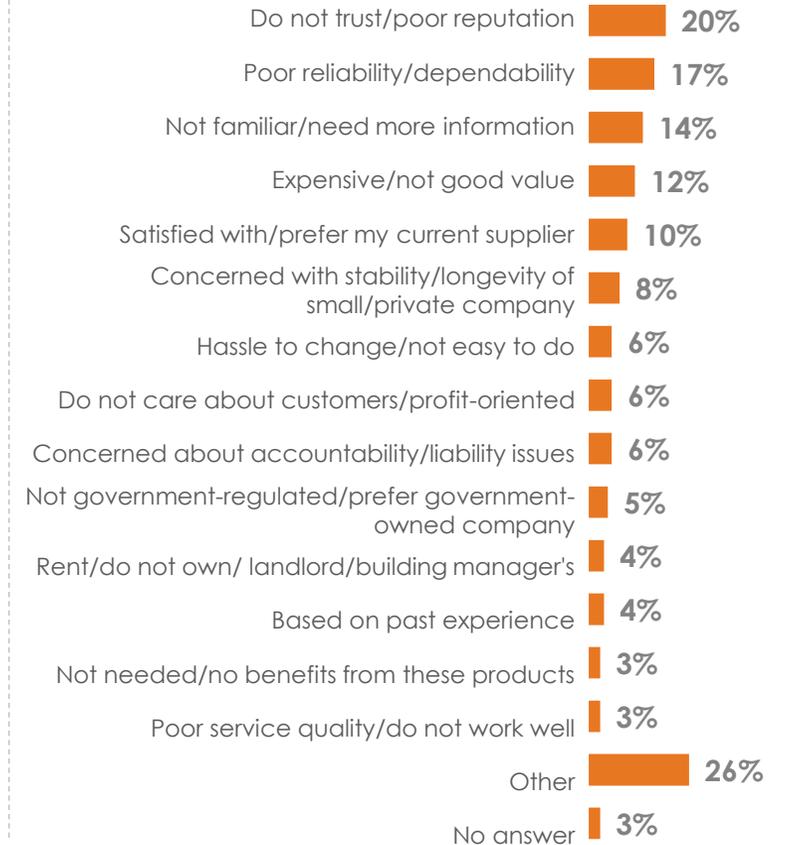
Residential (n=478)



Small Business (n=149)



Commercial / Industrial (n=158)

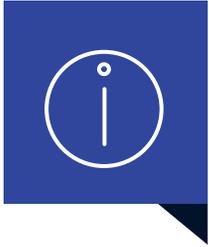


R11/SB15/C14. You indicated you would not be likely to purchase these new types of electricity products or services from a private company. Why do you say so?
Base: Not likely to purchase from third-party private company

Distributed Energy Resources (DER)

5

DER Technologies- Information Provided



A detailed description of each DER technology was provided before asking about level of knowledge and interest.

Solar PV	Solar panels on the roof or ground that generate electricity, when the sun shines.
Wind turbine	Small wind turbines placed on the residence or place of business that generate electricity, when the wind blows, for residential or small business use.
Combined Heat and Power Generator	Natural gas turbine that generates electricity and heat.
Battery Energy Storage	Batteries that can be charged and discharged to provide electricity to your home or the electricity grid. Can be used to provide backup power when experiencing an outage, can also be used to reduce electricity bills by charging the battery when prices are low so you can use the electricity stored in the battery when prices are high.
Solar PV + Battery Energy Storage	A combination of solar PV panels and a battery energy storage system that allows you to store your solar electricity for later use (e.g. for use at night).
Smart Thermostat*	A thermostat that can be automatically turned up or down based on its learning of your household/ your company's usage patterns (e.g. monitors when you're away), or based on instructions from the you (e.g. via your smartphone).
Wifi-enabled electric water heater*	An electric water heater than can be controlled and monitored digitally. This control enables users to time when the water heater will operate in order to use electricity when it is less expensive.
Air source heating/ cooling electric heat pump*	Air source heat pumps are alternatives to traditional air conditioners and gas furnaces. Heat pumps use electricity to move heat from a cool space to a warm space. During the heating season, heat pumps move heat from the cool outdoors into your warm house and during the cooling season, heat pumps move heat from your cool house into the warm outdoors.
Electric vehicle	A vehicle that uses electricity for propulsion (instead of gasoline or diesel).
Electric Vehicle Charging Station	A charging station for your electric vehicle that allows it to charge faster than using a normal outlet and schedule when you charge your electric vehicle.
Natural Gas Generator**	Natural gas turbine that generates electricity.
Load Control Device**	A remotely controllable switch that can turn power to a load off, or reduce the amount of power consumed by a load.
Microgrid**	A local electricity network linking smaller sources of electricity generation with nearby loads. In the event of a failure of the larger network, a microgrid can seal itself off and continue to provide power locally.

*only asked of Residential and Small Business consumers. **only asked of Commercial/ Industrial consumers.

Knowledge Level of DER Technologies

- Residential and Small Business consumers are more knowledgeable about smart thermostats, while Commercial/Industrial consumers are more likely to rate their knowledge of solar PV highly. There are opportunities to educate consumers on most DER technologies and in particular combined heat and power generators, WiFi-enabled electric water heaters, and (for Commercial/Industrial) microgrid technology. For Commercial/Industrial, it is also noticeable that while nearly four in ten are knowledgeable about Solar PV alone, half as many feel knowledgeable about the complementary Battery Energy Storage and more could be done to educate about the latter.

Very Knowledgeable (Rated 8-10/10)			
	Residential	Small Business	Commercial / Industrial
Solar PV	21%	28%	36%
Wind turbine	21%	31%	15%
Combined Heat and Power Generator	11%	11%	15%
Battery Energy Storage	18%	19%	21%
Solar PV + Battery Energy Storage	19%	21%	22%
Smart Thermostat	40%	49%	
WiFi-enabled electric water heater	12%	12%	Not asked
Air source heating/cooling electric heat pump	15%	20%	
Electric vehicle	27%	35%	33%
Electric Vehicle Charging Station	22%	28%	28%
Natural Gas Generator			18%
Load Control Device		Not asked	14%
Microgrid			8%

More likely to be very knowledgeable (rated 8-10):

Residential:

- Men
- Age 18-34
- GTA 416
- Eastern Ontario
- Household income \$100-\$150K

Small Business:

- Receive natural gas

Commercial/Industrial:

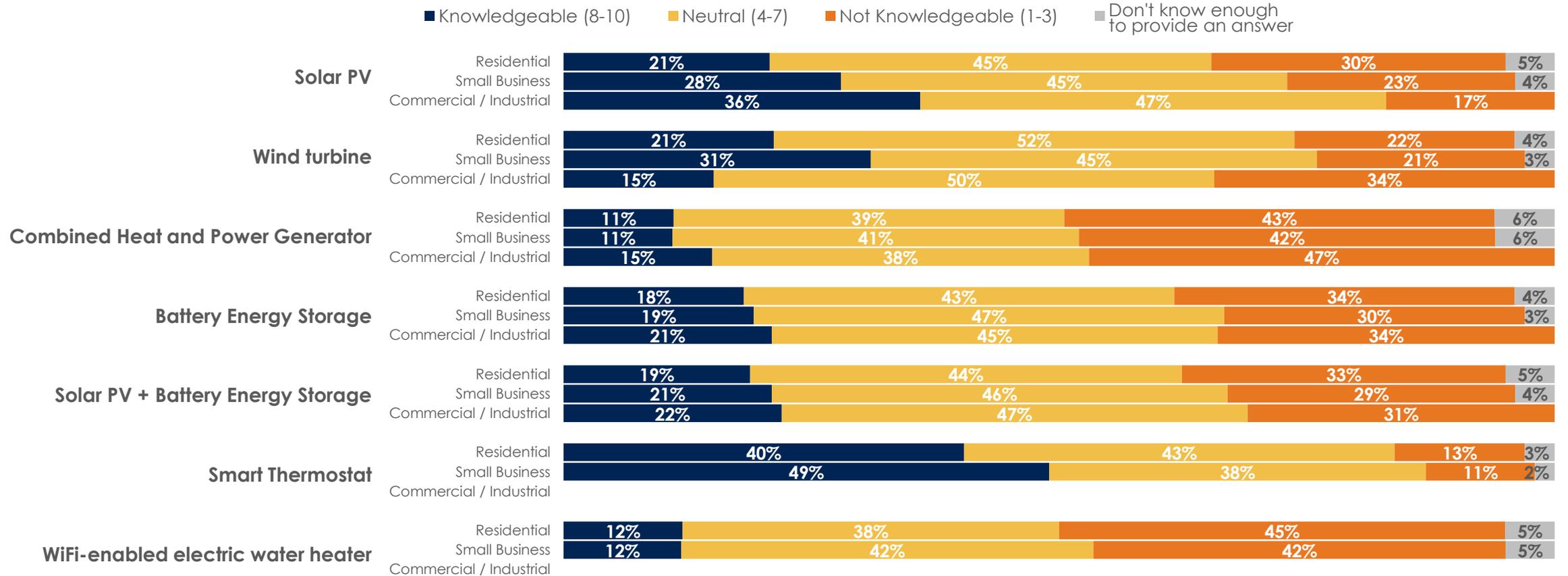
- Industrial (wind turbine 22%)
- 50-99 employees (EV charging station 39%)
- Avg. monthly bill \$10k+

R12/SB16/C15. How knowledgeable would you say you are with each of the following DER technologies? Using a scale from 1 to 10, where 1 is 'Not at all knowledgeable' and 10 is 'Extremely Knowledgeable'.
 Base: All respondents [Residential (n=800); Small Business (n=251); Commercial / Industrial (n=249)]



Knowledge Level of DER Technologies

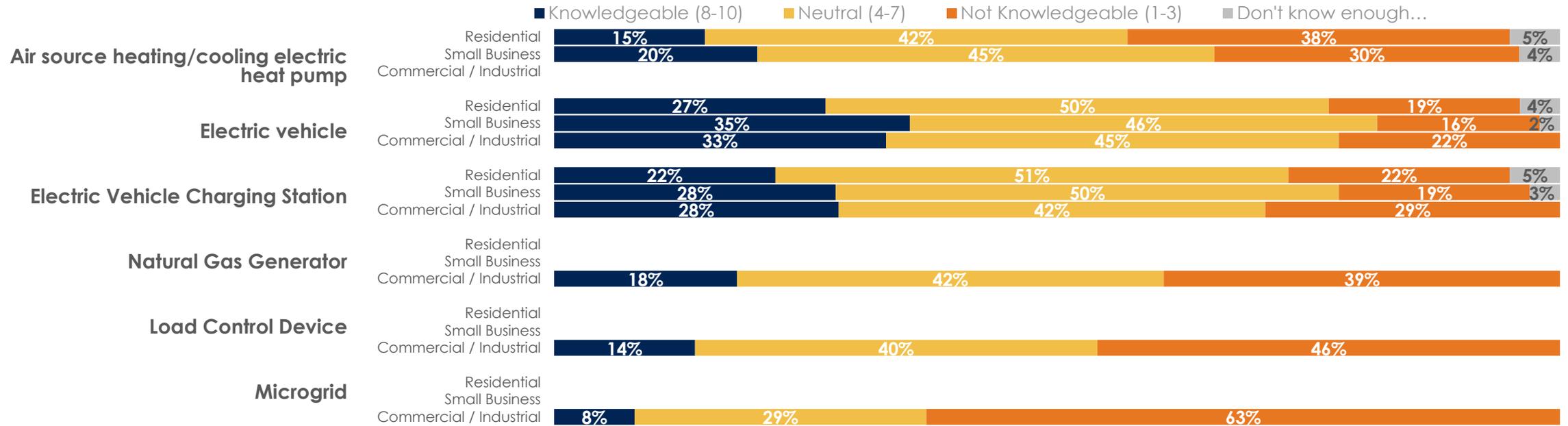
- Consumers are most knowledgeable about smart thermostats and solar PVs, while fewer are as familiar with other DER technologies. Level of knowledge is lowest for combined heat and power generators and (among Residential and Small Business consumers) WiFi-enabled electric water heaters.



R12/SB16/C15. How knowledgeable would you say you are with each of the following DER technologies? Using a scale from 1 to 10, where 1 is 'Not at all knowledgeable' and 10 is 'Extremely Knowledgeable'.
 Base: All respondents (n=800); Residential (n=251); Commercial / Industrial (n=249)

Knowledge Level of DER Technologies (cont'd)

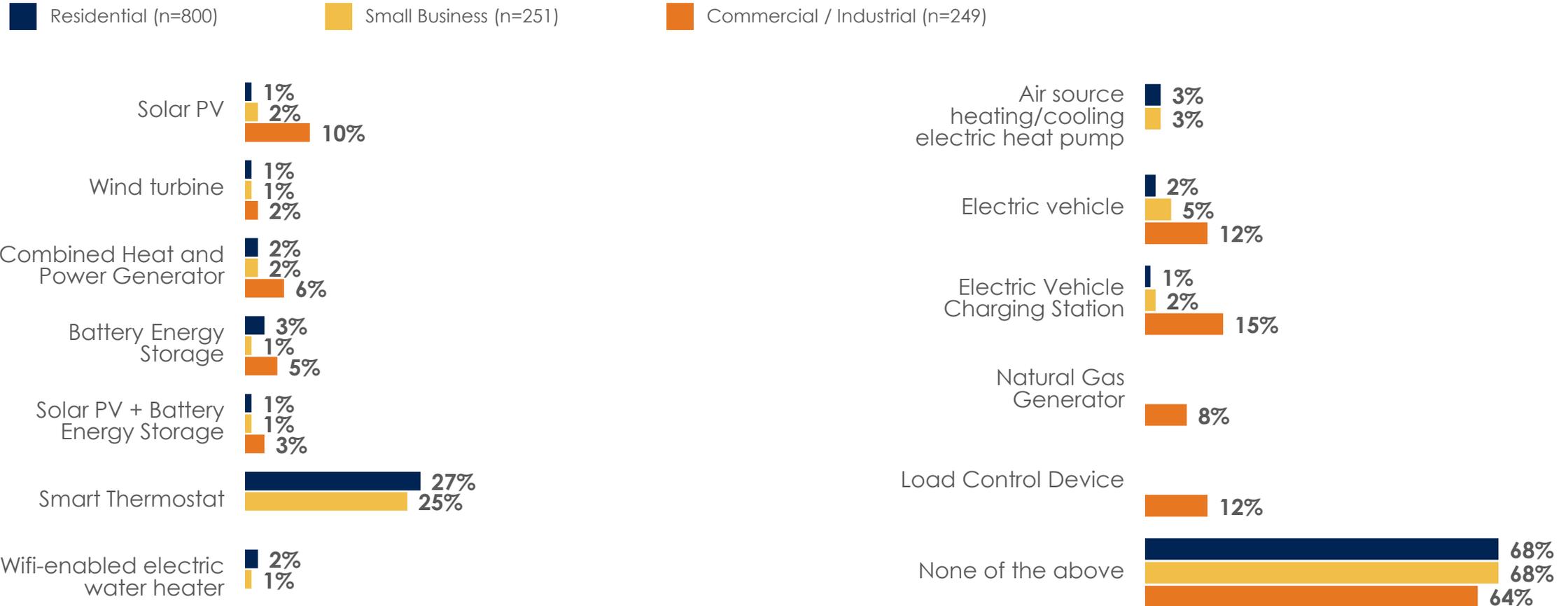
- Consumers tend to be more knowledgeable about electric vehicles and charging stations.
- Residential and Small Business consumers are less familiar with air source electric heat pumps, while Commercial/Industrial consumers feel less knowledgeable about microgrid technology, load control devices and natural gas generators.



R12/SB16/C15. How knowledgeable would you say you are with each of the following DER technologies? Using a scale from 1 to 10, where 1 is 'Not at all knowledgeable' and 10 is 'Extremely Knowledgeable'.
 Base: All respondents [Residential (n=800); Small Business (n=251); Commercial / Industrial (n=249)]

DER Technologies Adopted / Installed

- One third of consumers in all segments have adopted DER technologies. Specifically, one quarter of Residential and Small Business consumers have installed smart thermostats, while roughly one in ten Commercial/Industrial consumers have installed electric vehicle charging stations, electric vehicles, load control devices, or solar PVs.



R13/SB17/C16. Which, if any, of the following DER technologies have you adopted / has your company installed?
Base: All respondents

Reason(s) For Installing Specific DER Technologies

Among consumers who have adopted...

Solar PV -OR- Battery Energy Storage -OR- Solar PV + Battery Energy Storage -OR- Wind Turbine -OR- Combined Heat and Power Generator

Variety of motivations, mostly related to reducing their electricity bill, providing a back-up power source, or to be more self-sufficient. Residential consumers are also motivated by environmental reasons.

Smart Thermostat -OR- Wifi-Enabled Electric Water Heater

Primarily driven by the prospect of a lower electricity bill. Other motivations include being able to use automation control to lower their usage when rates are higher and environmental reasons.

Air source heating/ cooling electric heat pump

Residential consumers report a variety of reasons with the most prominent being to reduce their natural gas bill, help the environment and to shift to a more energy efficient system. Small Business consumers were largely motivated by the shift to a more energy-efficient system.

Electric Vehicle -OR- Electric Vehicle Charging Station

Top motivations for Residential and Small Business consumers tied to eliminating reliance on fuel and finding cheaper and greener alternatives. Commercial/Industrial consumers are more motivated by the vehicles themselves, typically for employees or clients to use.

Natural Gas Generator

Commercial/Industrial consumers were almost exclusively motivated by the desire to provide a back-up power source to use during grid outages.

Load Control Device

Commercial/Industrial consumers were motivated mainly to lower their company's electricity bill and save money by reducing usage at peak times.

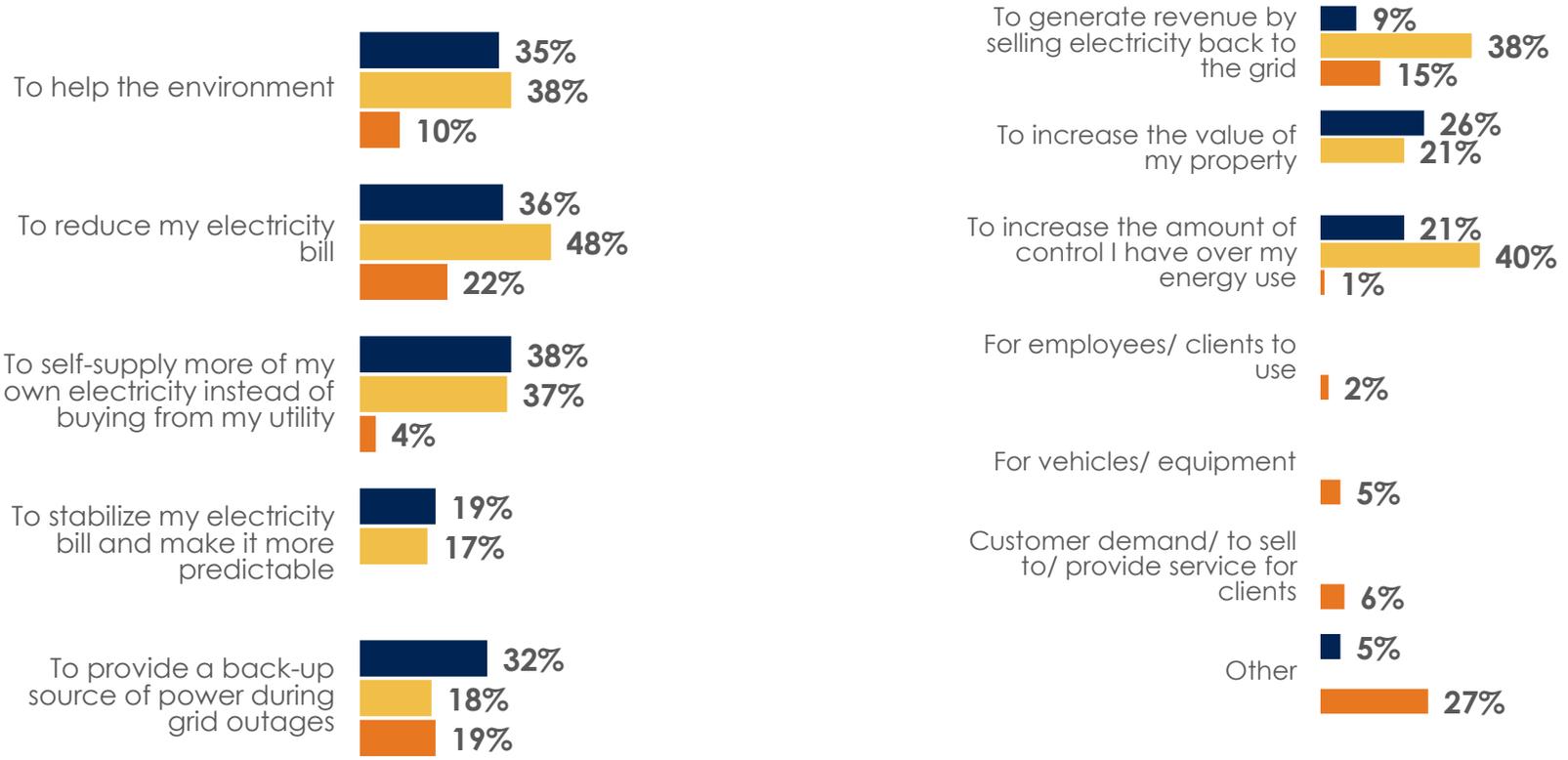
Reason(s) For Installing Specific DER Technologies

Those who have installed these DER technologies report a number of motivations for doing so, mostly related to reducing their electricity bill, providing a back-up power source, or to be more self-sufficient in terms of power generation. About one in three Residential consumers have turned to DER for environmental reasons.

■ Residential (n=42)
 ■ Small Business (n=14*)
 ■ Commercial / Industrial (n=45)

Have Adopted Any of the Following:

1. Solar PV
2. Battery Energy Storage
3. Solar PV + Battery Energy Storage
4. Wind Turbine
5. Combined Heat and Power Generator



* = Very low base size. Interpret results with caution.
 R14/SB18/C17. You indicated having installed a DER technology with electricity generation and/ or storage capabilities. What are your primary reasons for installing this product? Please select all that apply.
 Base: Used / Adopted DER technology with electricity generation / storage capabilities

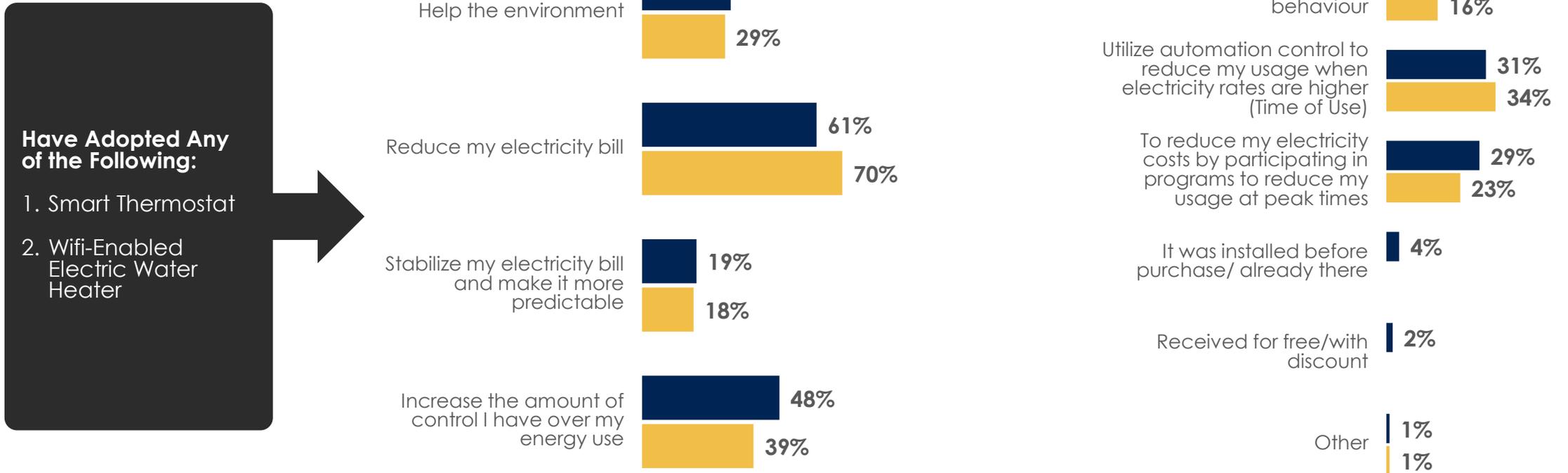


Reason(s) For Installing Specific DER Technologies

- Residential and Small Business consumers who have adopted smart thermostats or WiFi-enabled electric water heaters are primarily motivated by the prospect of a lower electricity bill. About one in three mention being able to use automation control to lower their usage when rates are higher, while three in ten say they made the switch for environmental reasons.

■ Residential (n=219)

■ Small Business (n=63)



R15/SB19. You indicated having installed a DER technology with smart control devices. What are your primary reasons for installing this product? Please select all that apply.

Base: Used / Adopted DER technology with smart control devices

Reason(s) For Installing Specific DER Technologies

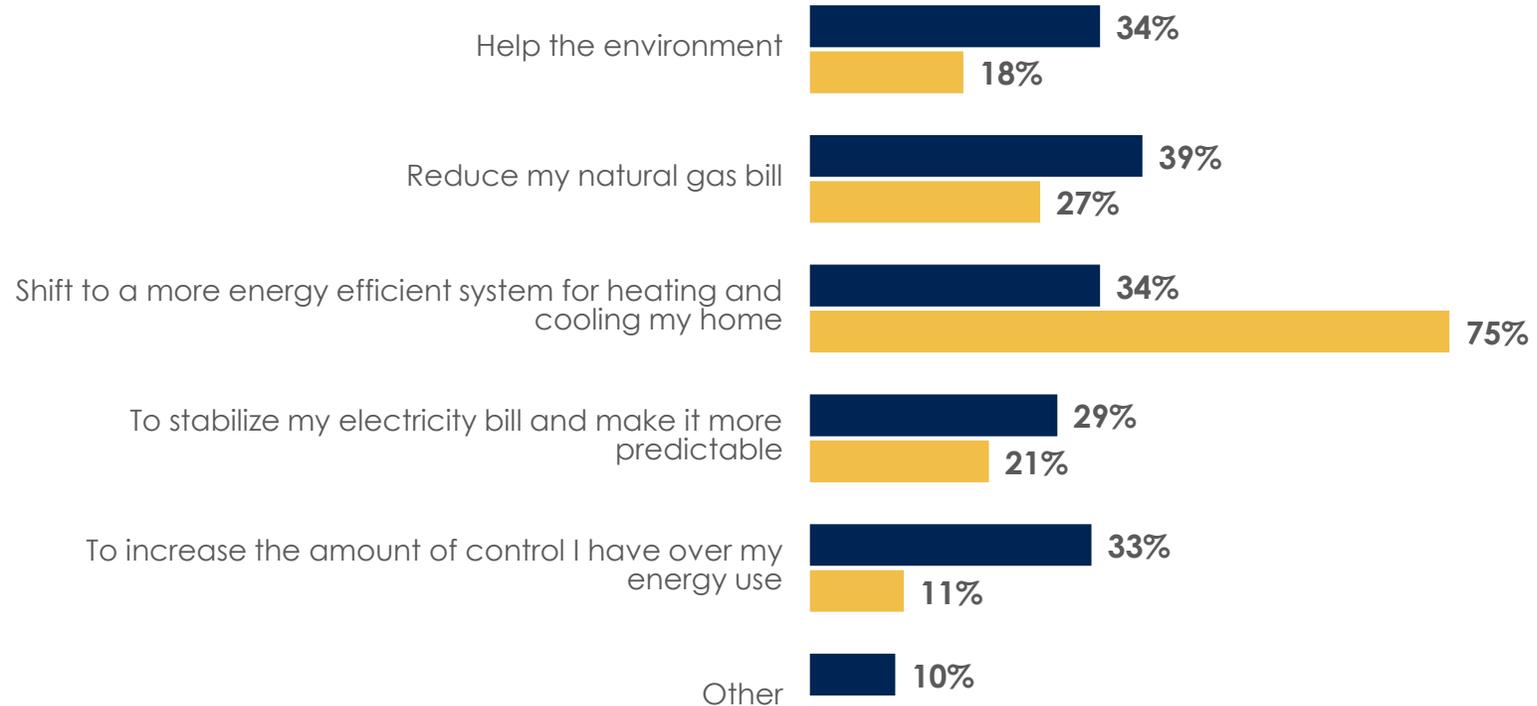
- Among the very few who have installed air source heating/cooling electric heat pump, Residential consumers report a variety of reasons for doing so with the most prominent being to reduce their natural gas bill, help the environment and to shift to a more energy efficient system. Small Business consumers were largely motivated by the shift to a more energy-efficient system.

■ Residential (n=20*)

■ Small Business (n=7*)

Have Adopted Any of the Following:

1. Air source heating/cooling electric heat pump



* = Very low base size. Interpret results with caution.

R16/SB20. You indicated having installed an air source electric heat pump. What are your primary reasons for installing this product? Please select all that apply.
Base: Used / Adopted DER technology with air source heating / cooling electric heat pump

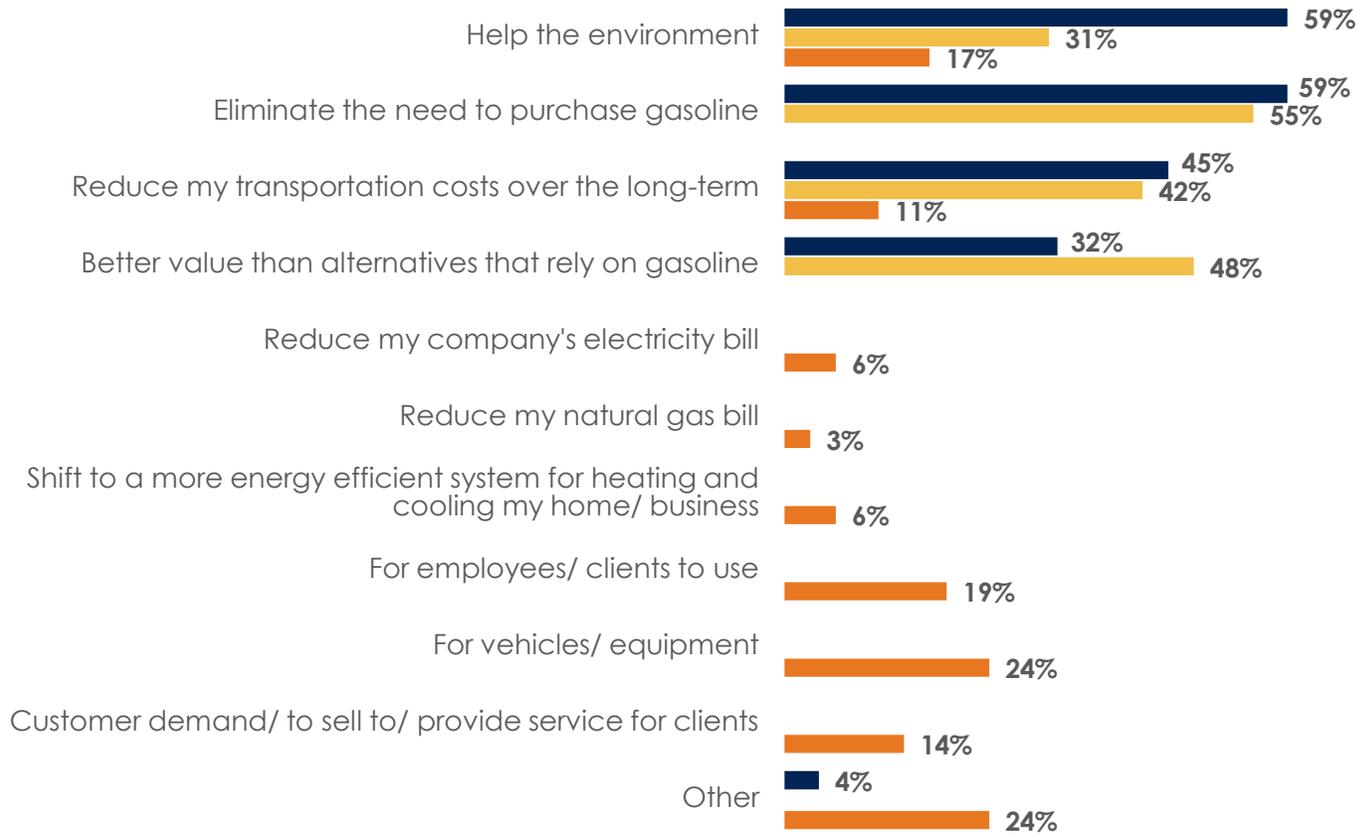
Reason(s) For Installing Specific DER Technologies

- Top motivations for Residential and Small Business consumers installing electric vehicles and charging stations are largely environmental and efficiency-related, tied to eliminating reliance on gasoline and finding cheaper and greener alternatives. Commercial/Industrial consumers are more motivated by the need for vehicles to support company's operations, typically for employees or clients to use.

■ Residential (n=22*)
 ■ Small Business (n=11*)
 ■ Commercial / Industrial (n=38)

Have Adopted Any of the Following:

1. Electric Vehicle
2. Electric Vehicle Charging Station



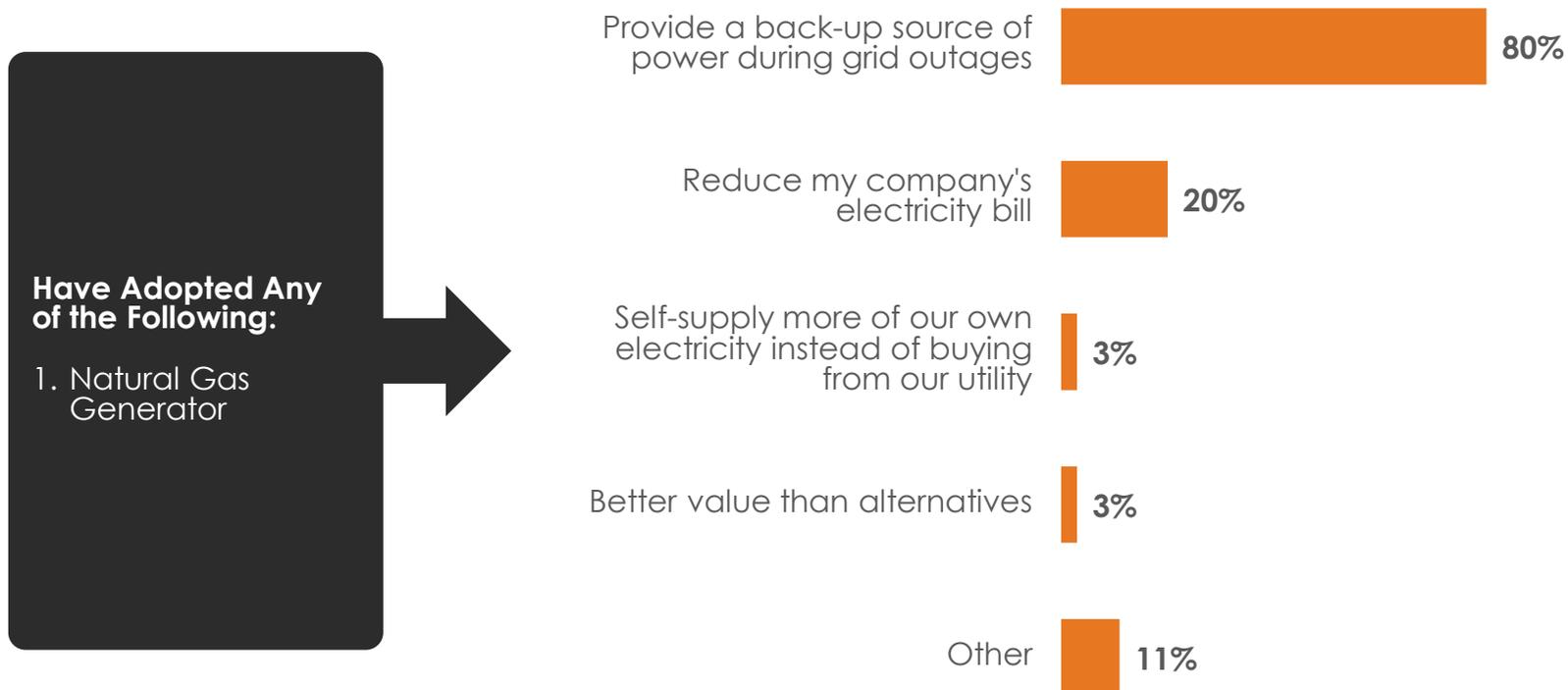
* = Very low base size. Interpret results with caution.
 R17/SB21/C18. You indicated having purchased an electric vehicle and/or installed a charging station. What are your primary reasons for purchasing/installing this product? Base: Used / Adopted DER technology with electricity generation / storage capabilities
 Base: Used / Adopted DER technology (electric vehicle / charging station)



Reason(s) For Installing Specific DER Technologies

- Commercial/Industrial consumers who report having installed a natural gas generator were almost exclusively motivated by the desire to provide a back-up power source to use during grid outages. Few see this technology as a means of reducing their company's electricity bill.

Commercial / Industrial (n=20*)



* = Very low base size. Interpret results with caution.

C19. You indicated having purchased a Natural Gas Generator. What are your primary reasons for purchasing/installing this product?

Base: Used / Adopted a Natural Gas Generator

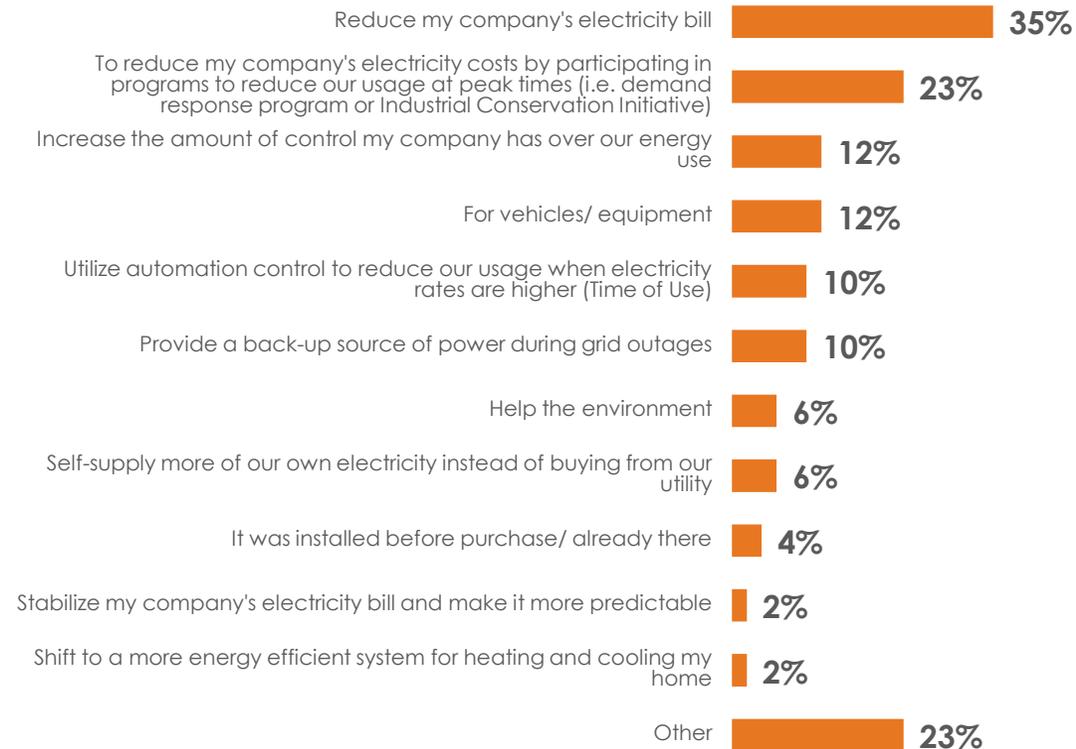
Reason(s) For Installing Specific DER Technologies

- Commercial/Industrial consumers who have installed a load control device did so mainly to lower their company's electricity bill and save money by reducing usage at peak times.

Commercial / Industrial (n=27*)

Have Adopted Any of the Following:

1. Load Control Device



* = Very low base size. Interpret results with caution.

C20. You indicated having purchased a Load Control Device. What are your primary reasons for purchasing/installing this product?

Base: Used / Adopted a Load Control Device

Likelihood to Install DER Technologies Not Installed Yet

- Intent to install DER technologies at a later date is not strong, with about one in ten or fewer saying they are “very likely” to install any within the next few years. Residential and Small Business consumers are more open to installing smart thermostats, in line with their higher knowledge about this DER technology. Across all three groups, likelihood to install is significantly higher among those with a high degree of knowledge about DER technology.

	Very Likely (Rated 8-10/10)		
	Residential	Small Business	Commercial / Industrial
Solar PV	11%	16%	6%
Wind turbine	7%	8%	2%
Combined Heat and Power Generator	8%	10%	4%
Battery Energy Storage	9%	13%	4%
Solar PV + Battery Energy Storage	10%	13%	7%
Smart Thermostat	21%	28%	
WiFi-enabled electric water heater	10%	8%	Not asked
Air source heating/cooling electric heat pump	9%	12%	
Electric vehicle	15%	14%	11%
Electric Vehicle Charging Station	12%	13%	13%
Natural Gas Generator			4%
Load Control Device		Not asked	3%
Microgrid			4%

Very likely to install in next few years (rated 8-10):

Residential:

- Age 18-34
- GTA 416 (solar PV 16%)
- GTA 905 (solar PV 13%)
- Eastern ON
- Knowledgeable about DER

Small Business:

- Property owner (air source heating/cooling electric heat pump 16%)
- Avg. monthly bill \$300+ (smart thermostat 42%)
- Knowledgeable about DER

Commercial/Industrial:

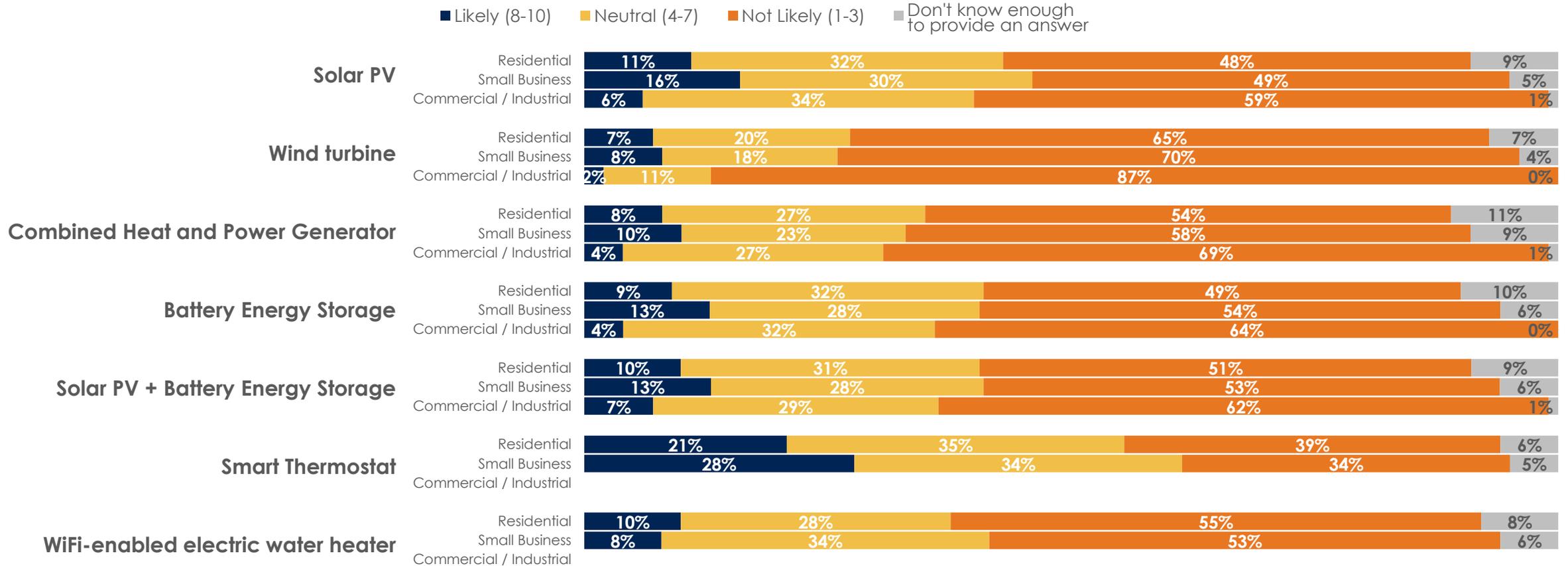
- 100+ employees (battery energy storage 13%, solar PV + battery energy storage 12%)
- Avg. monthly bill \$10k+ (solar PV 11%, battery energy storage 11%)
- Knowledgeable about DER with electricity generation

R18/SB22/C22. For those DER technologies you haven't installed, how likely are you to install each within the next few years? Using a scale from 1 to 10, where 1 is 'Not at all likely' and 10 is 'Extremely likely'.

Base: Did not install [INSERT DER TECHNOLOGY] [Residential (n=varies); Small Business (n=varies); Commercial / Industrial (n=varies)]

Likelihood to Install DER Technologies Not Installed Yet

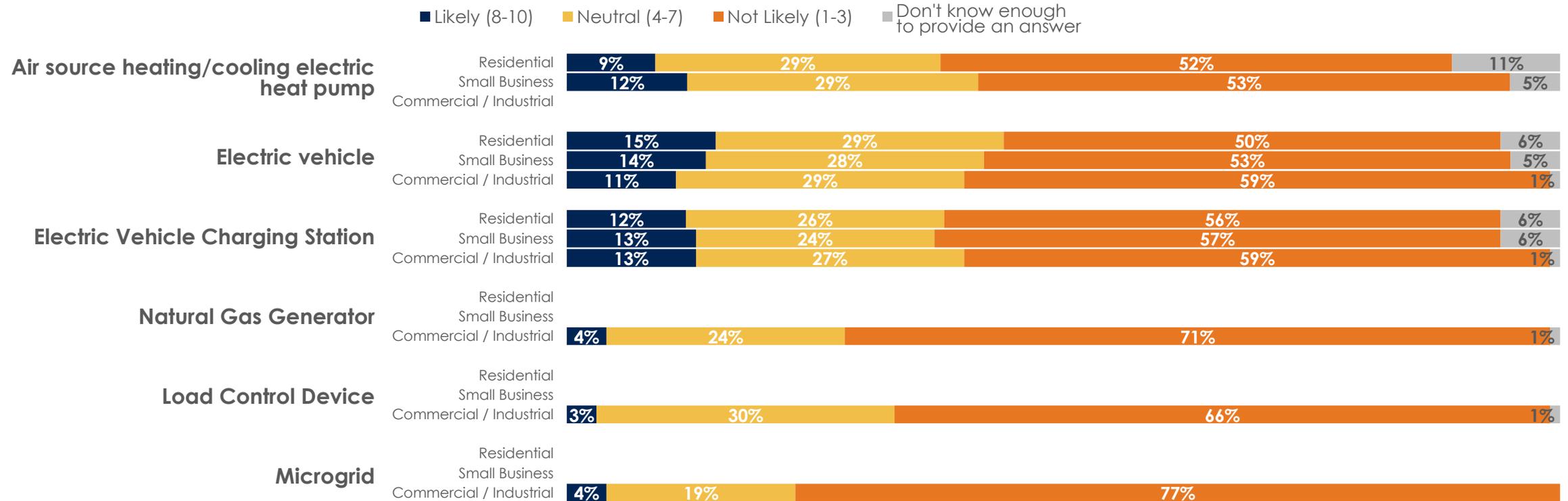
- Given low levels of existing knowledge about most of these DER technologies, it follows that many consumers – often a majority – currently say they are not likely to install them within the next few years. Consumers in all groups are least likely to install wind turbines.



R18/SB22/C22. For those DER technologies you haven't installed, how likely are you to install each within the next few years? Using a scale from 1 to 10, where 1 is 'Not at all likely' and 10 is 'Extremely likely'.
 Base: Did not install [INSERT DER TECHNOLOGY] [Residential (n=varies); Small Business (n=varies); Commercial / Industrial (n=varies)]

Likelihood to Install DER Technologies Not Installed Yet (cont'd)

- Roughly half of all consumer groups say they aren't likely to install electric heat pumps, electric vehicles or charging stations in the immediate future. Few Commercial/Industrial consumers plan on installing a natural gas generator, load control device or microgrid.



R18/SB22/C22. For those DER technologies you haven't installed, how likely are you to install each within the next few years? Using a scale from 1 to 10, where 1 is 'Not at all likely' and 10 is 'Extremely likely'.
 Base: Did not install [INSERT DER TECHNOLOGY] [Residential (n=varies); Small Business (n=varies); Commercial / Industrial (n=varies)]

Reason(s) For Likely Future Installation of Specific DER Technologies

Among consumers who are likely to install in the next few years...

Solar PV -OR- Battery Energy Storage -OR- Solar PV + Battery Energy Storage -OR- Wind Turbine -OR- Combined Heat and Power

All consumers groups are primarily motivated by a desire to reduce their electricity bill, help the environment, and provide a back-up source of power during grid outages.

Smart Thermostat -OR- Wifi-Enabled Electric Water Heater

For Residential and Small Business consumers cost reduction is by far the main motivating factor

Air source Heating/ Cooling Electric Heat Pump

Residential consumers are primarily motivated by saving money and to help the environment. Small Business consumers are motivated most by having a more efficient heating and cooling system and cost-reduction.

Electric Vehicle -OR- Electric Vehicle Charging Station

Residential consumers are more motivated by wanting to help the environment and reduce their transport costs. Small Business consumers are more interested in being able to eliminate the need to buy gasoline.

Natural Gas Generator

Commercial/Industrial consumers are motivated by the desire for a back-up power source and to lower their electricity bill.

Load Control Device

Commercial/Industrial consumers have a variety of motivations led by the possibility of a reduced electricity bill, lowering company costs by reducing peak time usage, and increasing control over energy use.

Microgrid

Commercial/Industrial consumers are mainly motivated by a desire for a back-up power source. Stabilizing their company's electricity bill is as important (marginally more so) as reducing it.

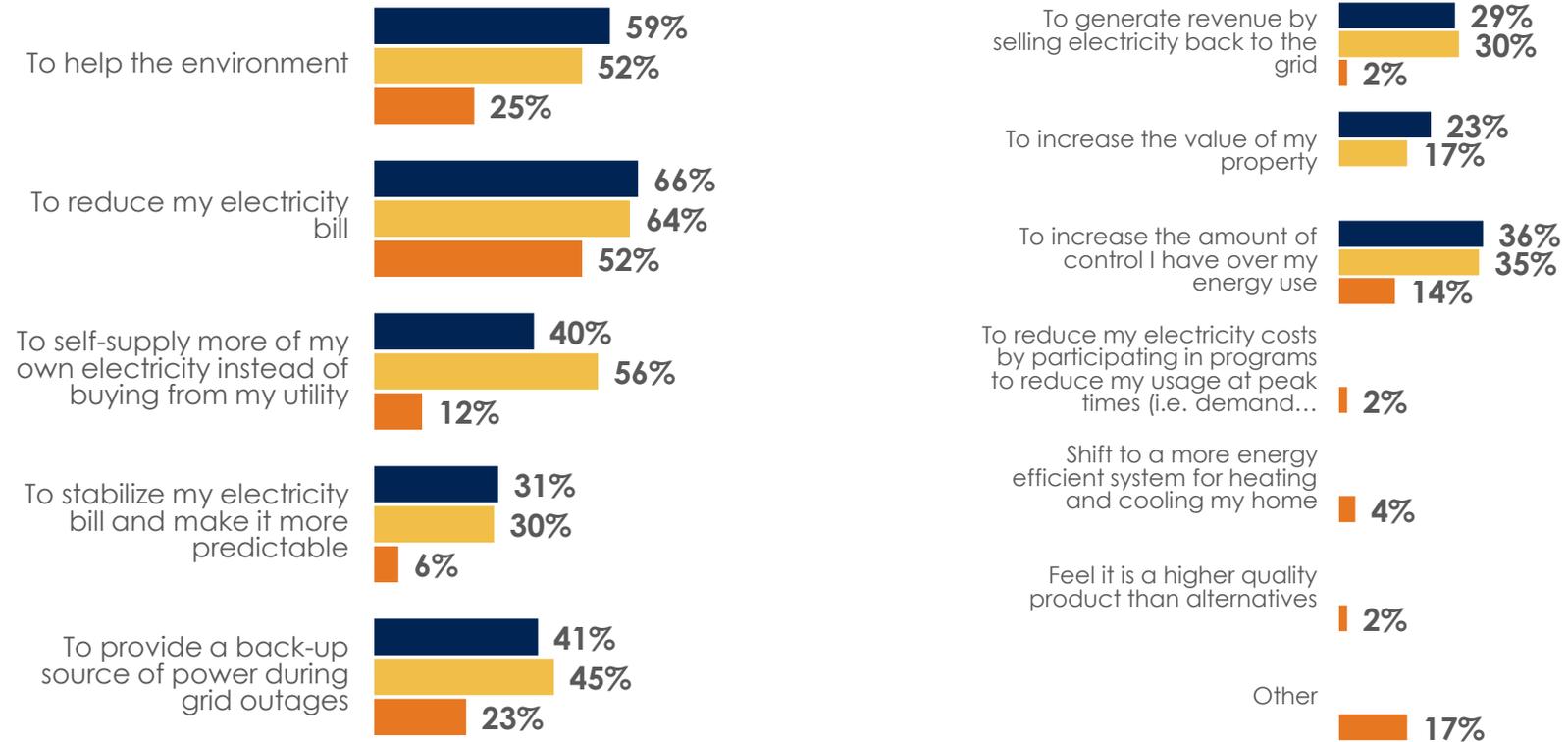
Reason(s) For Likely Future Installation of Specific DER Technologies

- Those likely to install a DER technology with electricity generation and/or storage capabilities in the next few years are mainly motivated by a desire to reduce their electricity bill, help the environment, and provide a back-up source of power during grid outages.

■ Residential (n=221)
 ■ Small Business (n=81)
 ■ Commercial / Industrial (n=51)

Likely to Install Any of the Following in Next Few Years:

- Solar PV
- Battery Energy Storage
- Solar PV + Battery Energy Storage
- Wind Turbine
- Combined Heat and Power Generator



R19/SB23/C23. You indicated being likely to install a DER technology with electricity generation and/ or storage capabilities in the next few years. What are your primary reasons for wanting to make this installation? Please select all that apply.
 Base: Likely to install DER technology with electricity generation / storage capabilities

Reason(s) For Likely Future Installation of Specific DER Technologies

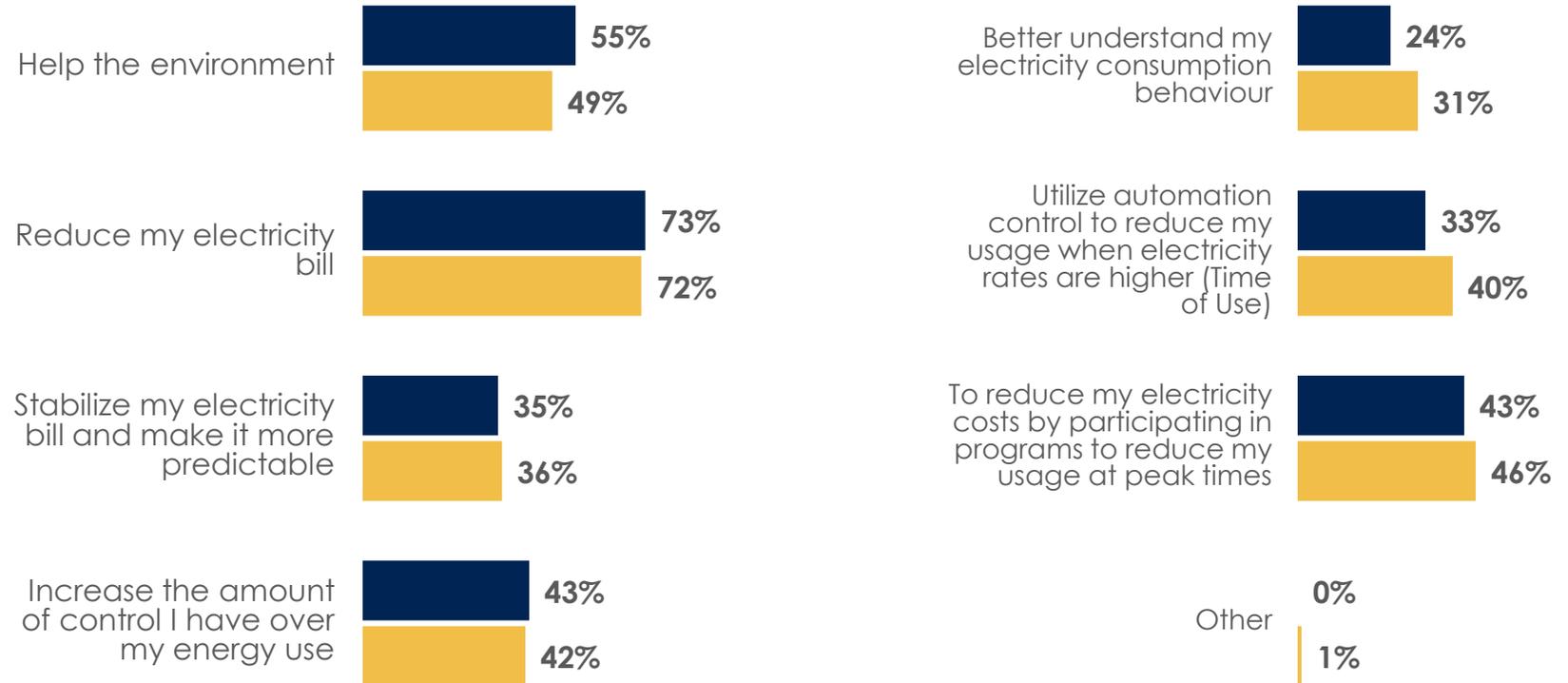
- Cost reduction and to help the environment are the main motivating factors for those who say they are likely to install a DER technology with automation control in the next few years.

Residential (n=245)

Small Business (n=87)

Likely to Install Any of the Following in Next Few Years:

- Smart Thermostat
- Wifi-Enabled Electric Water Heater



R20/SB24. You indicated being likely to install a DER technology with automation control in the next few years. What are your primary reasons for wanting to make this installation? Please select all that apply.
 Base: Likely to install DER technology with smart control devices

Reason(s) For Likely Future Installation of Specific DER Technologies

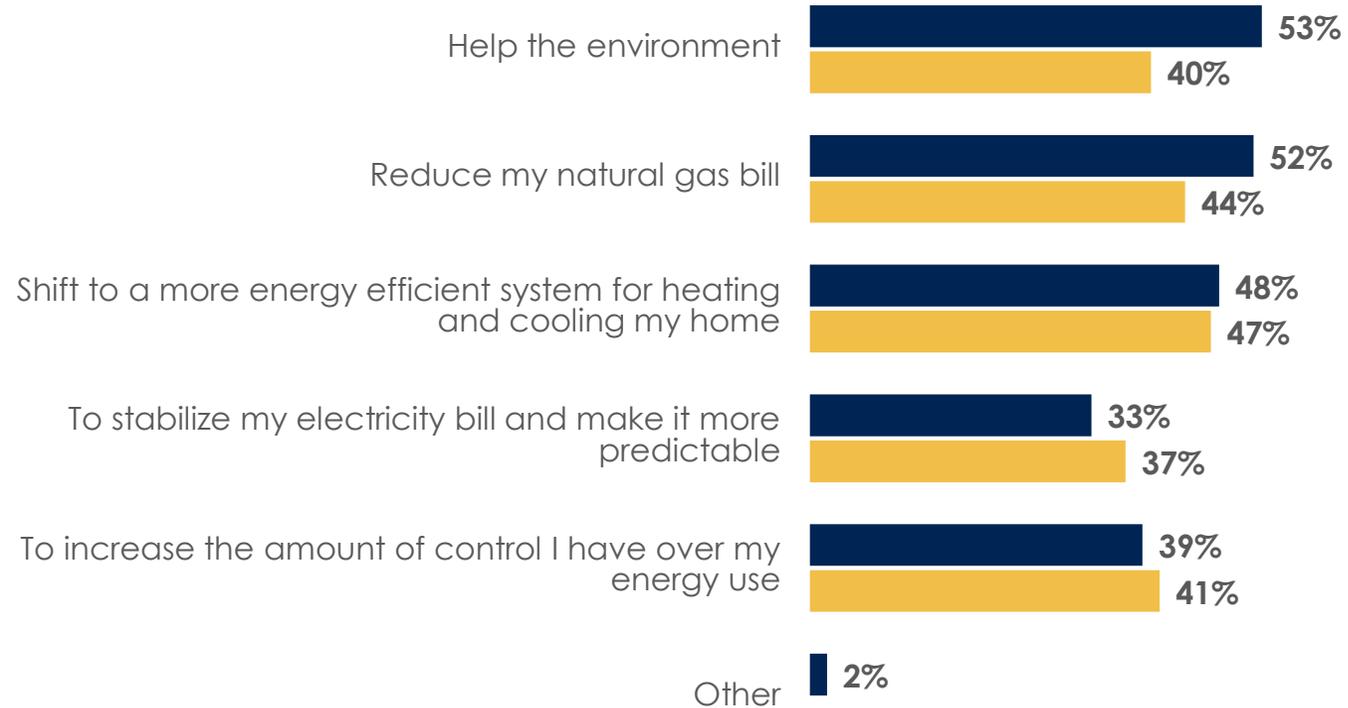
- Among those who indicate being likely to install an air source electric heat pump, Residential consumers are more likely to say it's because they want to save money and help the environment, while Small Business consumers are motivated most by having a more efficient heating and cooling system and cost-reduction. Small business consumers are also slightly more likely to want to make their bills more stable and predictable, and to want more control over how much energy they use.

Residential (n=117)

Small Business (n=42)

Likely to Install Any of the Following in Next Few Years:

1. Air source heating/cooling electric heat pump



R21/SB25. You indicated being likely to install an air source electric heat pump in the next few years. What are your primary reasons for wanting to make this installation? Please select all that apply.

Base: Likely to install DER technology with air source heating / cooling electric heat pump

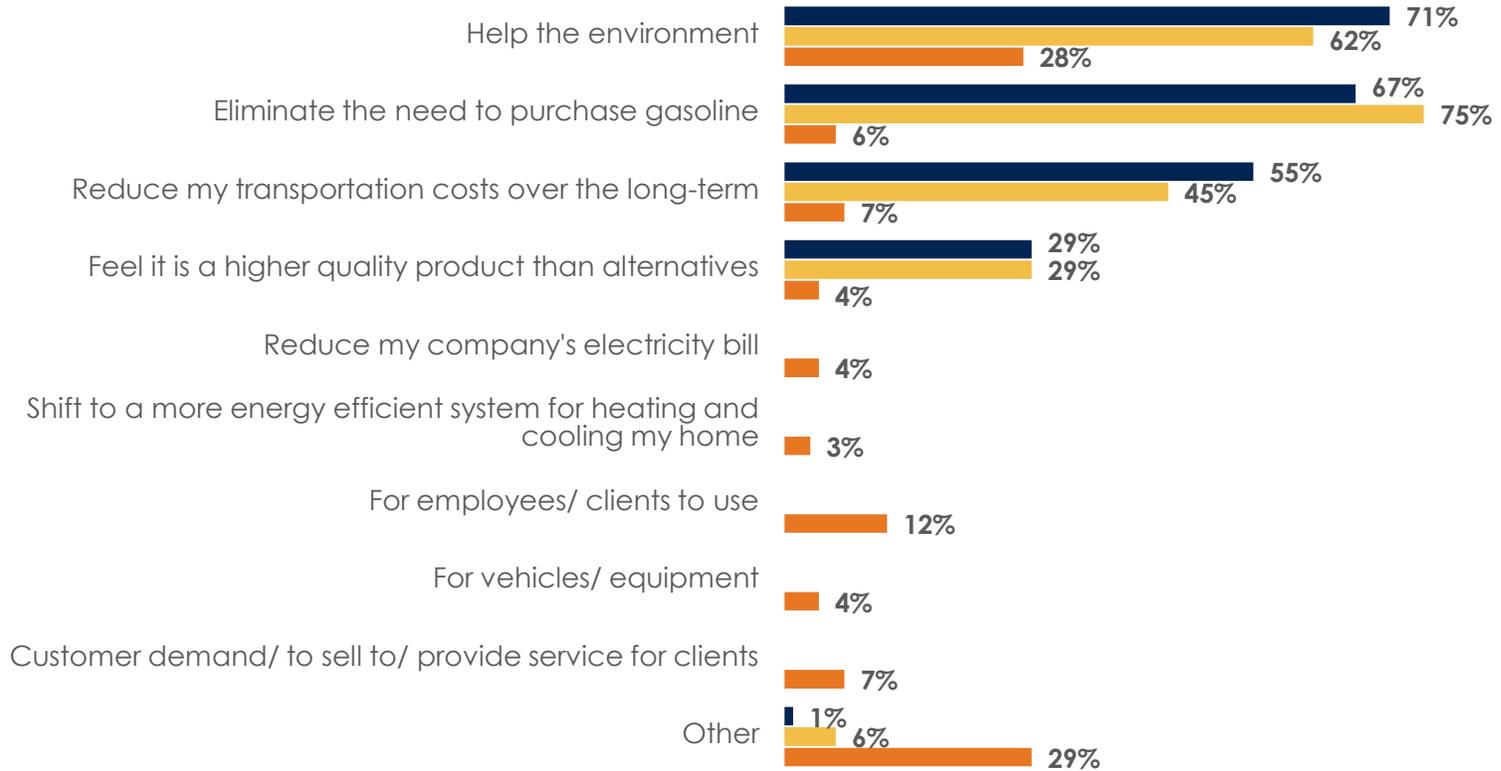
Reason(s) For Likely Future Installation of Specific DER Technologies

- Among those likely to buy an electric vehicle or charging station in the next few years, Residential consumers are more motivated by wanting to help the environment and reduce their transport costs. Small Business consumers are more interested in being able to eliminate the need to buy gasoline. Quality of the vehicle is not as strong a driver of intent.

■ Residential (n=198)
 ■ Small Business (n=65)
 ■ Commercial / Industrial (n=39)

Likely to Install Any of the Following in Next Few Years:

1. Electric Vehicle
2. Electric Vehicle Charging Station



R22/SB26/C24. You indicated being likely to purchase an electric vehicle and/or install a charging station in the next few years. What are your primary reasons for wanting to make this installation? Please select all that apply.
 Base: Likely to install DER technology (electric vehicle / charging station)



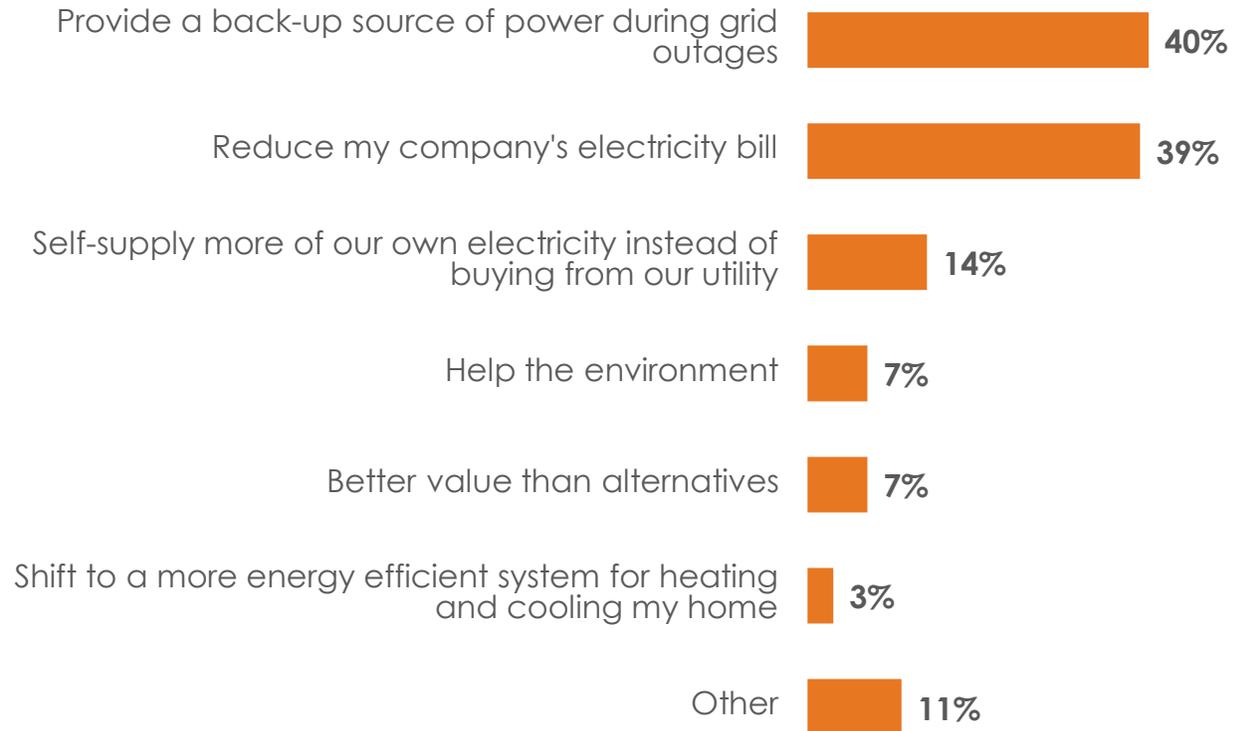
Reason(s) For Likely Future Installation of Specific DER Technologies

- Commercial/Industrial consumers who indicate being likely to install a natural gas generator tend to want a back-up power source and to lower their electricity bill. Fewer associate natural gas generators with helping the environment, being better value or more energy efficient than alternatives.

Commercial / Industrial (n=18*)

Likely to Install Any of the Following in Next Few Years:

1. Natural Gas Generator



* = Very low base size. Interpret results with caution.

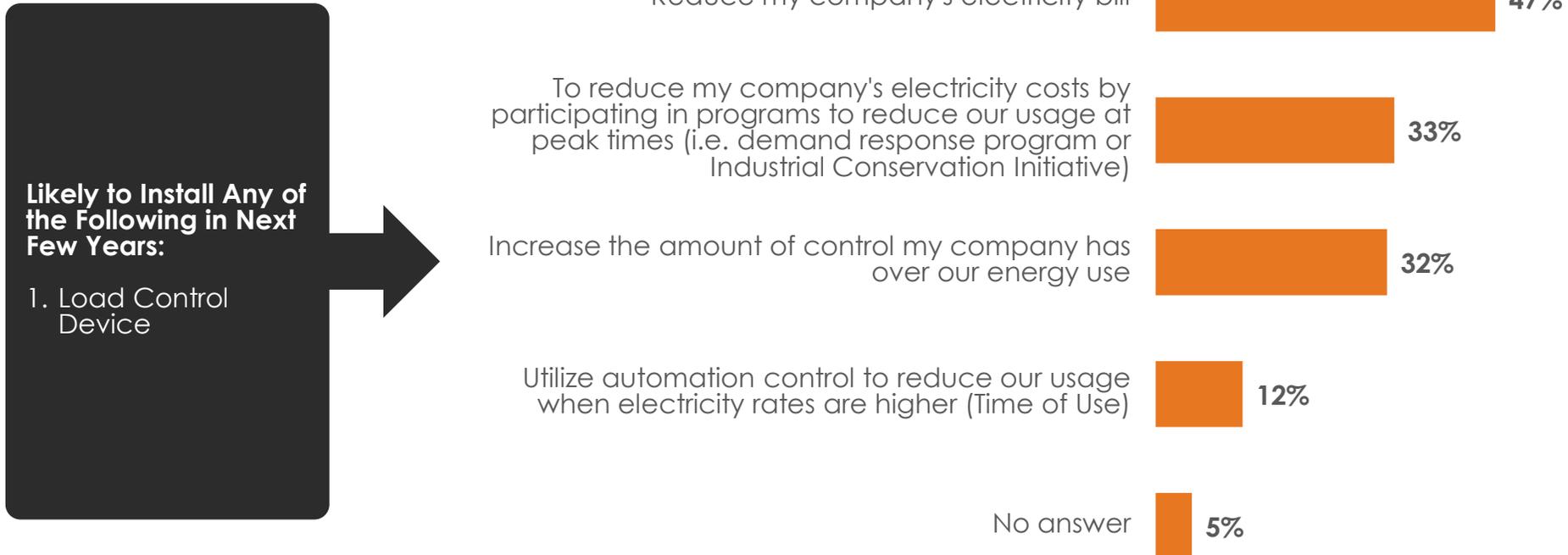
C25. You indicated being likely to purchase a Natural Gas Generator in the next few years. What are your primary reasons for wanting to make this installation? [MULTIPUNCH] (DO NOT READ LIST).

Base: Likely to install a Natural Gas Generator

Reason(s) For Likely Future Installation of Specific DER Technologies

- Future consideration for installing a load control device is influenced by a number of different factors, led by the possibility of a reduced electricity bill, lowering company costs by reducing peak time usage, and increasing control over energy use.

Commercial / Industrial (n=13*)



* = Very low base size. Interpret results with caution.

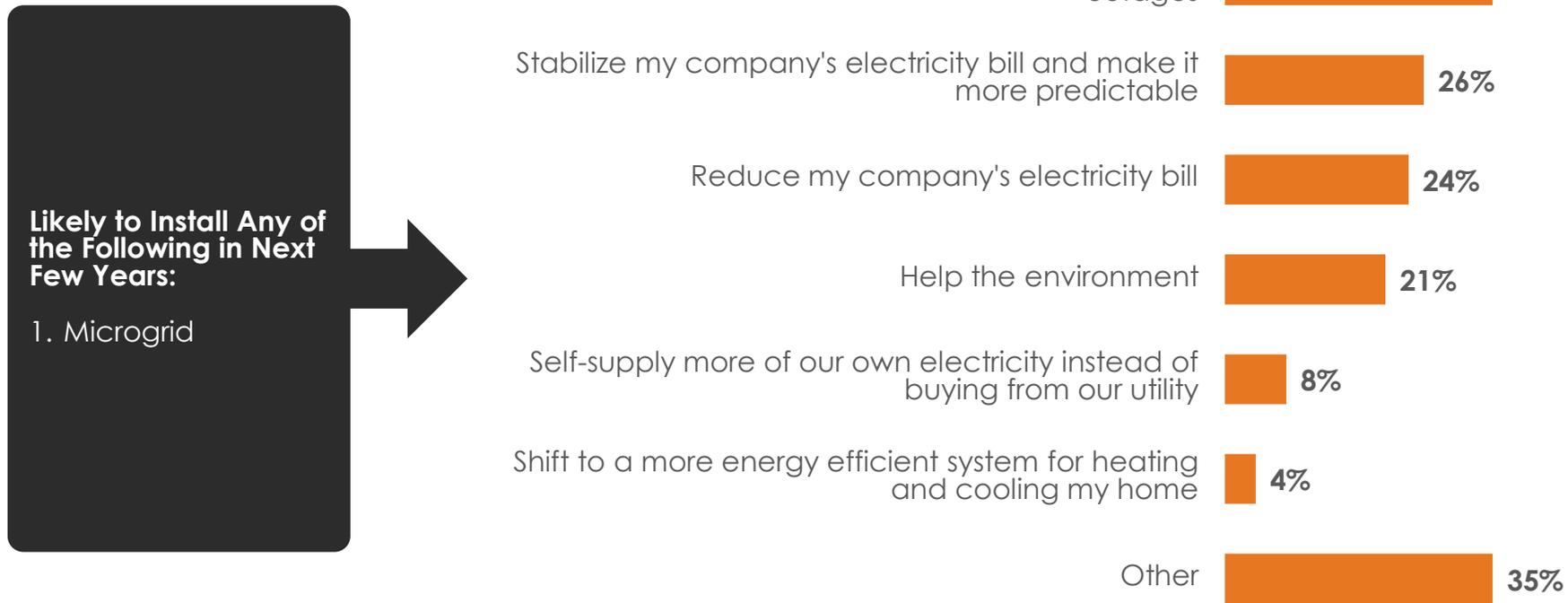
C26. You indicated being likely to purchase a Load Control Device in the next few years. What are your primary reasons for wanting to make this installation? [MULTIPUNCH] (DO NOT READ LIST).

Base: Likely to install a Load Control Device

Reason(s) For Likely Future Installation of Specific DER Technologies

- The few Commercial/Industrial consumers likely to install a microgrid mainly want to have a back-up power source. Stabilizing their company's electricity bill is as important (marginally more so) as reducing it.

Commercial / Industrial (n=15*)



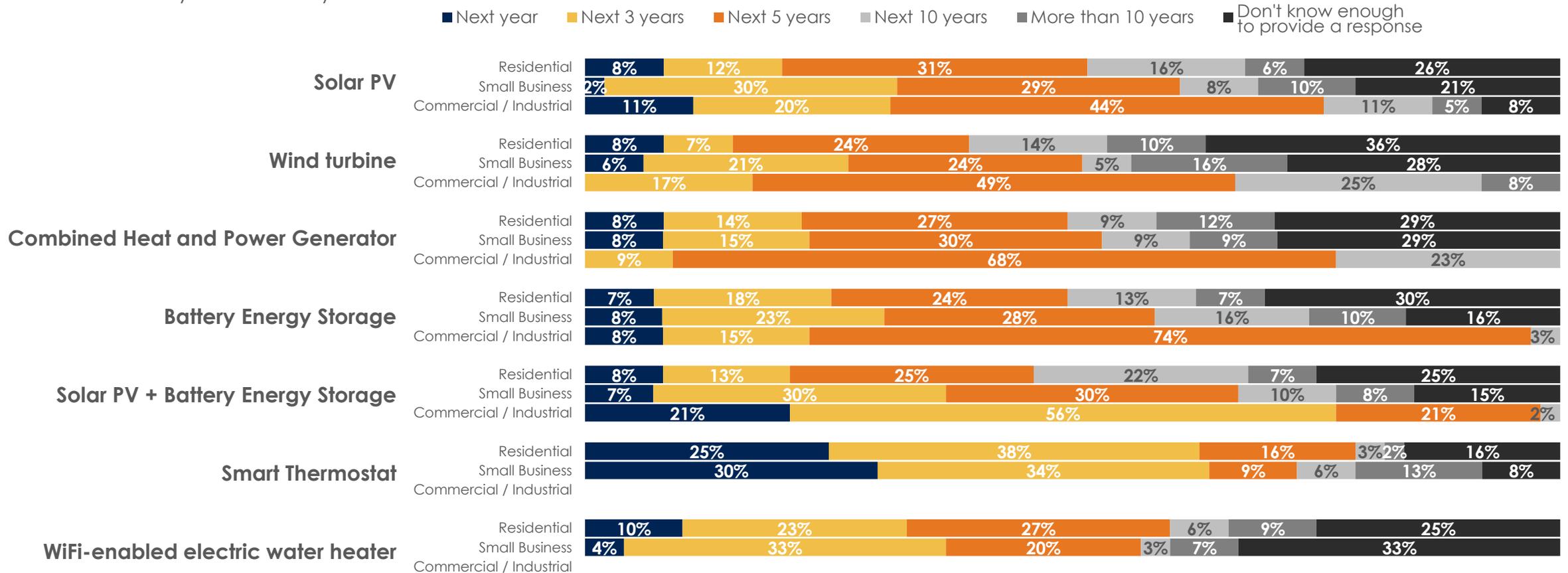
* = Very low base size. Interpret results with caution.

C27. You indicated being likely to purchase a Microgrid in the next few years. What are your primary reasons for wanting to make this installation? [MULTIPUNCH] (DO NOT READ LIST).

Base: Likely to install a Microgrid

Anticipated Future Installation of DER Technology

- Commercial/Industrial consumers are more likely than Residential or Small Business consumers to plan on installing several DER technologies (solar PV, wind turbine, combined heat and power generator, battery energy storage, solar PV + battery energy storage) within the next five years. Of particular note, the vast majority of Commercial/Industrial consumers plan on installing solar PV + battery energy storage in the next three years. The DER technology that Residential consumers are most likely to install within the next 3-5 years is a smart thermostat. Many in all three groups don't yet know when they will install any of these.

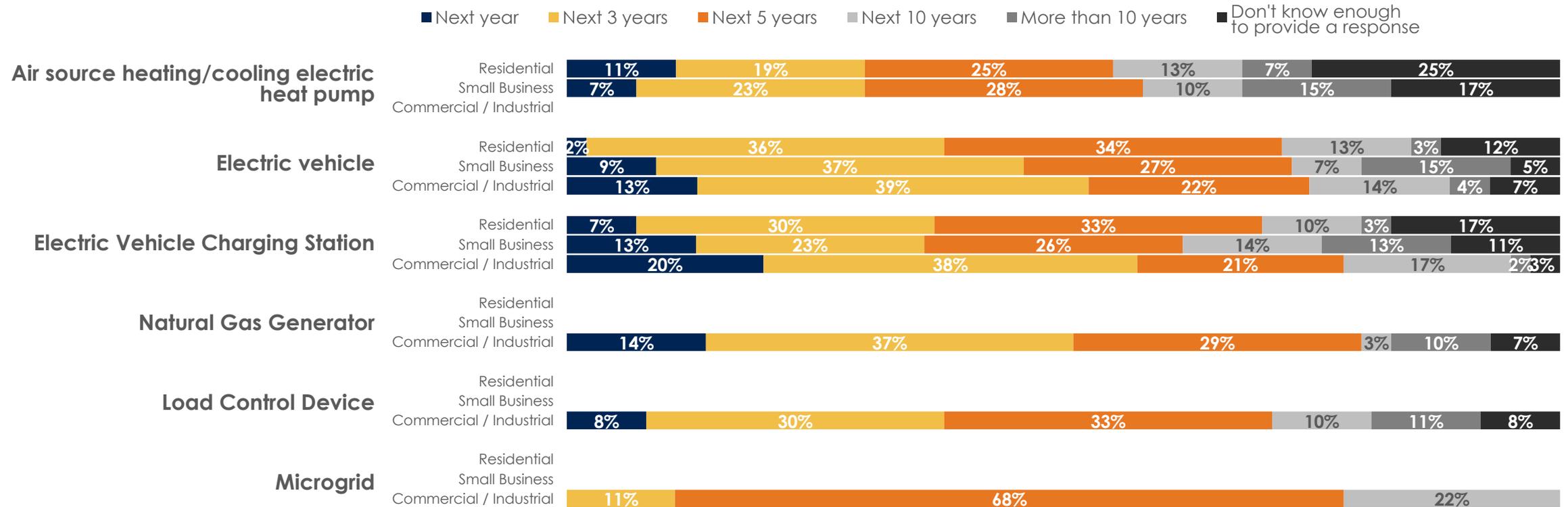


R23/SB27/C28. Thinking about the types of DER technology that you said you are likely to install. When do you anticipate install this product? Please select one for each item.

Base: Likely to install [INSERT DER TECHNOLOGY] [Residential (n=varies); Small Business (n=varies); Commercial / Industrial (n=varies)]

Anticipated Future Installation of DER Technology (cont'd)

- Among those likely to install one, two in ten Commercial/Industrial consumers plan to install their electric vehicle charging station within the next year. Notably, Commercial/Industrial consumers are less likely to be planning on installing microgrids in the immediate future.

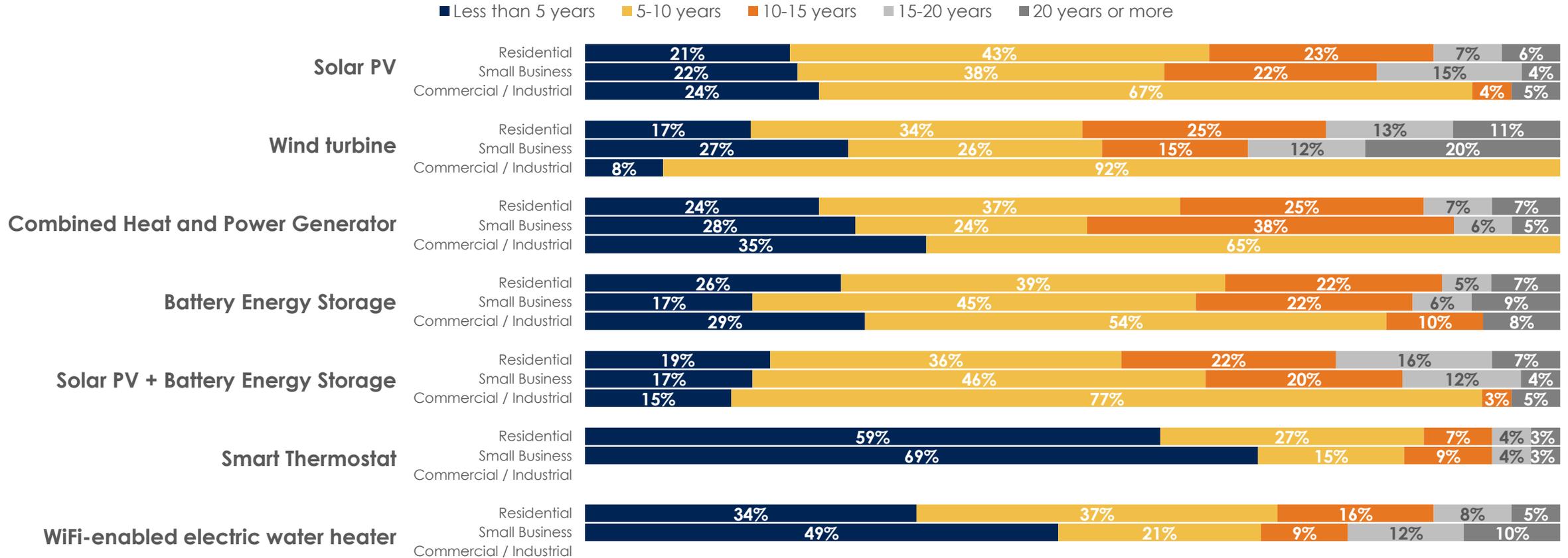


R23/SB27/C28. Thinking about the types of DER technology that you said you are likely to install. When do you anticipate install this product? Please select one for each item.

Base: Likely to install [INSERT DER TECHNOLOGY] [Residential (n=varies); Small Business (n=varies); Commercial / Industrial (n=varies)]

Anticipated DER Technology Investment Recuperation Period

- Smart thermostats are widely seen to be the DER technology with the shortest payback period, among Residential and Small Business consumers likely to install one, followed by WiFi-enabled electric water heaters. Among Commercial/Industrial consumers, the vast majority feel that solar PV, wind turbines, combined heat and power, battery energy storage and solar PV + battery energy storage have a recuperation period of between five to ten years.

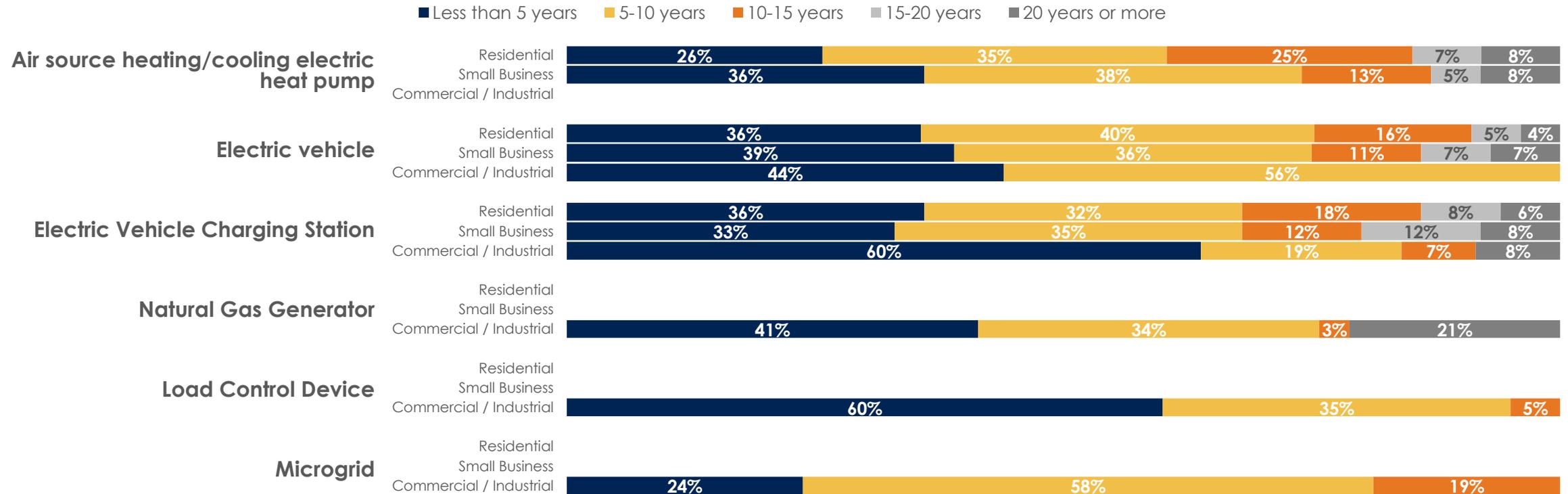


R24/SB28/C29. Purchasing DER technologies generally requires an upfront investment on the part of the consumer which is recuperated over time. The length of time it takes to recoup the investment is called a payback period. Thinking about the types of DER technology that you said you are likely to install, over how many years would you expect to recoup your upfront investment?

Base: Likely to install [INSERT DER TECHNOLOGY] [Residential (n=varies); Small Business (n=varies); Commercial / Industrial (n=varies)]

Anticipated DER Technology Investment Recuperation Period (cont'd)

- A majority of Commercial/Industrial consumers likely to install electric vehicle charging stations or load control devices expect these technologies to pay for themselves within less than five years.

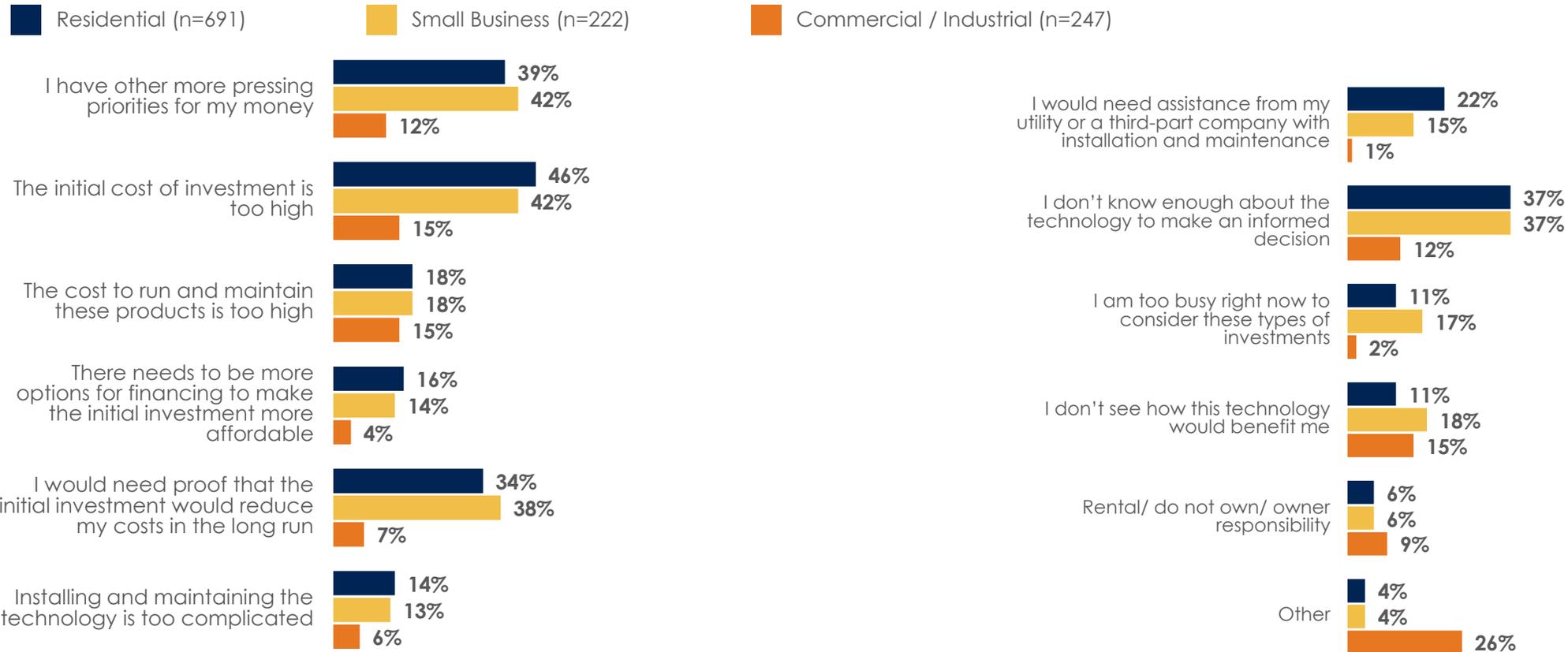


R24/SB28/C29. Purchasing DER technologies generally requires an upfront investment on the part of the consumer which is recuperated over time. The length of time it takes to recoup the investment is called a payback period. Thinking about the types of DER technology that you said you are likely to install, over how many years would you expect to recoup your upfront investment?

Base: Likely to install [INSERT DER TECHNOLOGY] [Residential (n=varies); Small Business (n=varies); Commercial / Industrial (n=varies)]

Reason(s) For Not Planning on Installing DER Technology

- Residential and Small Business consumers have similar barriers to installing DER technologies: upfront cost and other investment priorities. However, many also say they don't know enough about DER to make an informed decision, or that they need proof that the initial investment will translate to lower costs in the long run. There are opportunities to educate and inform here. Commercial/Industrial consumers tend to have other reasons beyond the ones listed primarily around conflicting needs.



R25/SB29/C30. You indicated not being likely to install one or more DER technologies in the next few years. Why do you say that?
 Base: Unlikely to install DER technology in next few years

Rate Design

6

Support Levels For Electricity Pricing Models

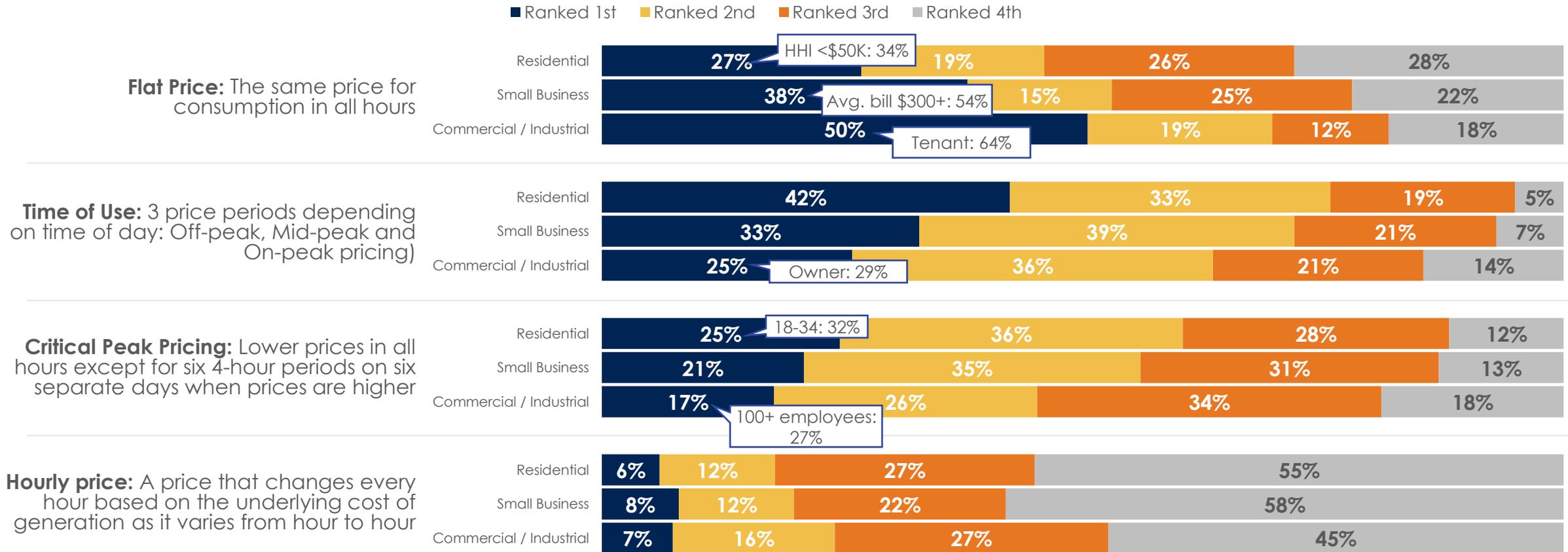


A detailed description of electricity pricing models was provided before asking about support for each approach.

Dynamic Level	Pricing Example	Advantages and Disadvantages
Least Dynamic	<u>Flat Price</u> : The same price for consumption in all hours	<p><i>Advantages</i>: Simple for customers to understand and predict</p> <p><i>Disadvantages</i>: Does not allow customers to lower bill through shifting of consumption; mismatch between price and cost of generation may lead to overall higher costs for customers</p>
Less Dynamic	<u>Time of Use</u> : 3 price periods depending on time of day: Off-peak, Mid-peak and On-peak pricing	<p><i>Advantages</i>: Allows for bill savings through shifting of consumption to periods when the price of electricity is cheaper</p> <p><i>Disadvantages</i>: Price not fully aligned with cost of generation, may lead to inefficiencies and higher costs for all customers</p>
More Dynamic	<p><u>Critical Peak Pricing</u>: Lower prices in all hours except for six 4-hour periods on six separate days when prices are higher</p> <p>Critical peak periods tend to occur on the hottest and coldest days of the year</p>	<p><i>Advantages</i>: Bill savings through lower prices in most hours of the year; high prices target the most critical periods when generation costs are highest, may lead to lower costs for all customers</p> <p><i>Disadvantages</i>: Customers informed only a few days in advance of higher priced critical peak days</p>
Most dynamic	<u>Hourly price</u> : A price that changes every hour based on the cost of generation as it varies from hour to hour	<p><i>Advantages</i>: Highest potential for customer bill savings; prices most closely aligned with generation costs, may lead to lower costs for all customers</p> <p><i>Disadvantage</i>: Less advance knowledge of what prices will be in future; requires use of automated control or hourly monitoring by customer to fully realize bill savings</p>

Support Levels For Electricity Pricing Models

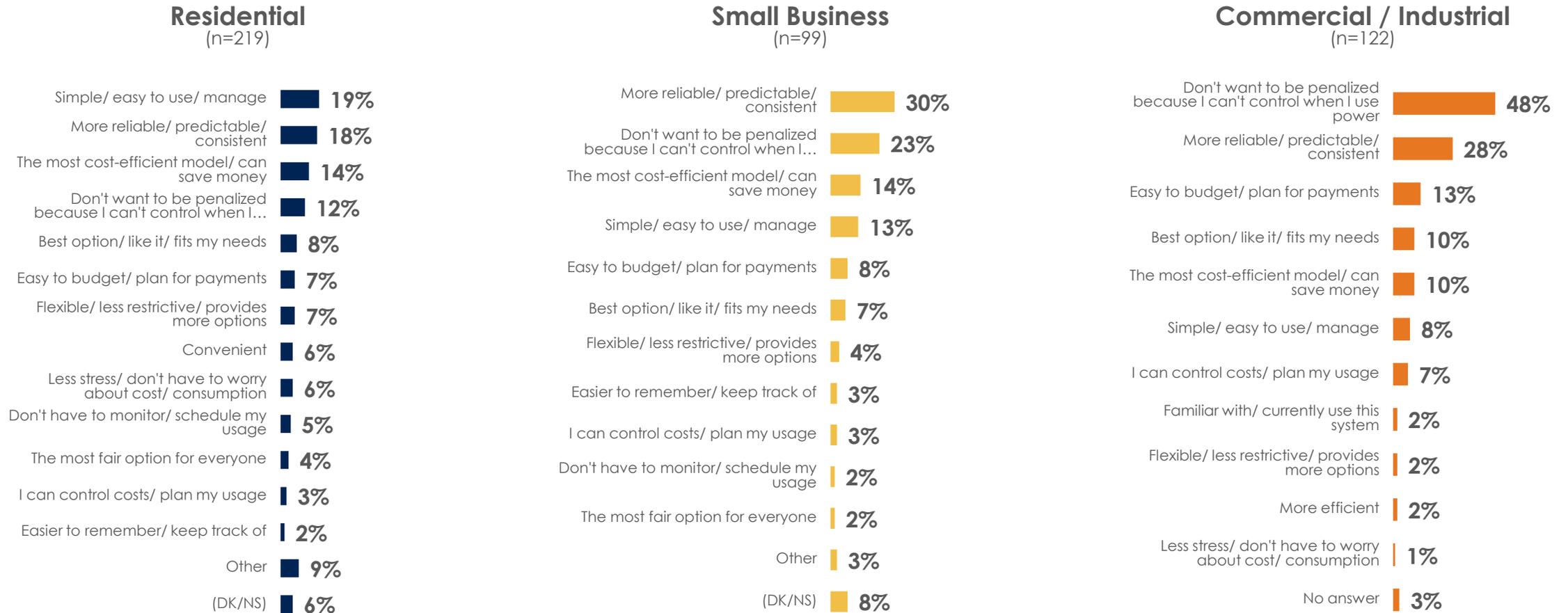
- Overall, Commercial/Industrial consumers are most supportive of the flat price model, while Residential consumers favour the time of use model. Small Business consumers are less enthusiastic about any model, but lean toward flat price (driven by those with a higher monthly bill), followed by time of use.



R26/SB30/C31. Thinking about the four models for electricity pricing, how would you rank them in terms of support for having your electricity priced based using each method? Please rank from 1st to 4th with first being the model you are most supportive of and 4th being the least.
Base: All respondents [Residential (n=800); Small Business (n=251); Commercial / Industrial (n=249)]

Reason(s) For Flat Price Model Preference

- Residential and Small Business consumers who prefer the flat price model tend to be driven by reasons of ease or reliability. Nearly half of Commercial/Industrial consumers who pick this model cite the fact they don't want to be penalized over not controlling when they use power, with predictability an important related motivator.

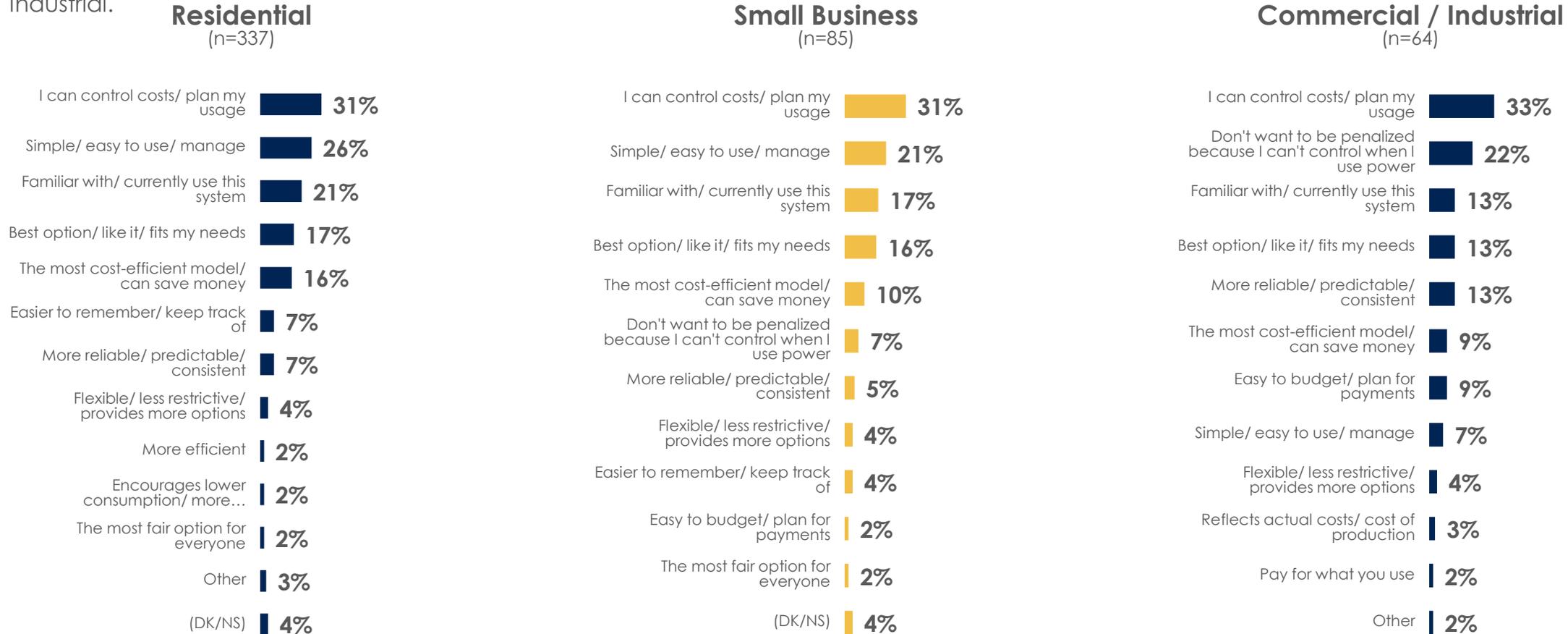


R27/SB31/C32.. You indicated you would prefer [INSERT RESPONSE RANKED 1ST FROM Q26]. Why do you say that?
 Base: All respondents

Responses < 2% not shown

Reason(s) For Time of Use Model Preference

- Those who prefer the time of use model are largely motivated by price-driven reasons such as being able to control and plan their usage. Residential and Small Business consumers are significantly more likely than Commercial/Industrial consumers to see time of use as simple and easy to use, and a model they are already familiar with. Fear of being penalized over not controlling when they use power remains a bigger driver for Commercial/Industrial.

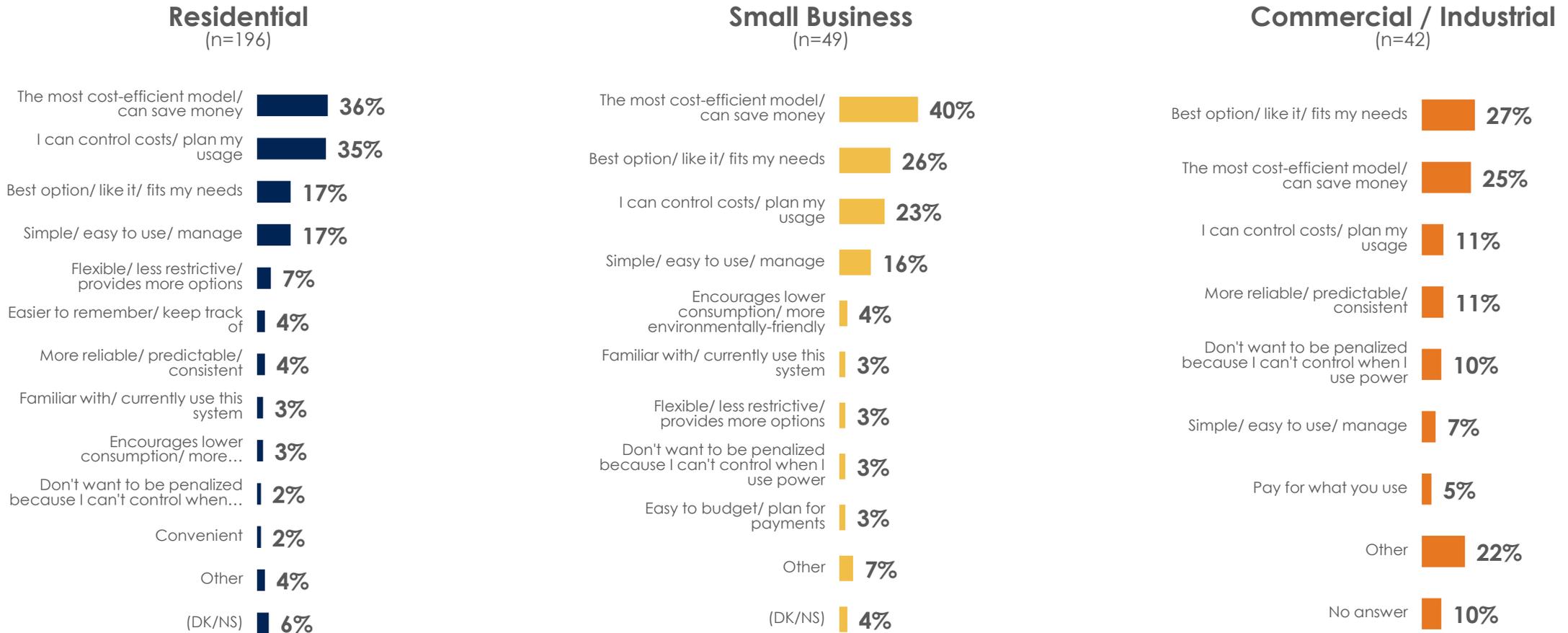


R27/SB31/C32.. You indicated you would prefer [INSERT RESPONSE RANKED 1ST FROM Q26]. Why do you say that?
Base: All respondents

Responses < 2% not shown

Reason(s) For Critical Peak Pricing Model Preference

- The cost-efficiency of the peak pricing model is its main appeal across all three consumer groups, with Small Business and Commercial/Industrial being somewhat more likely than Residential consumers to say it fits their needs.

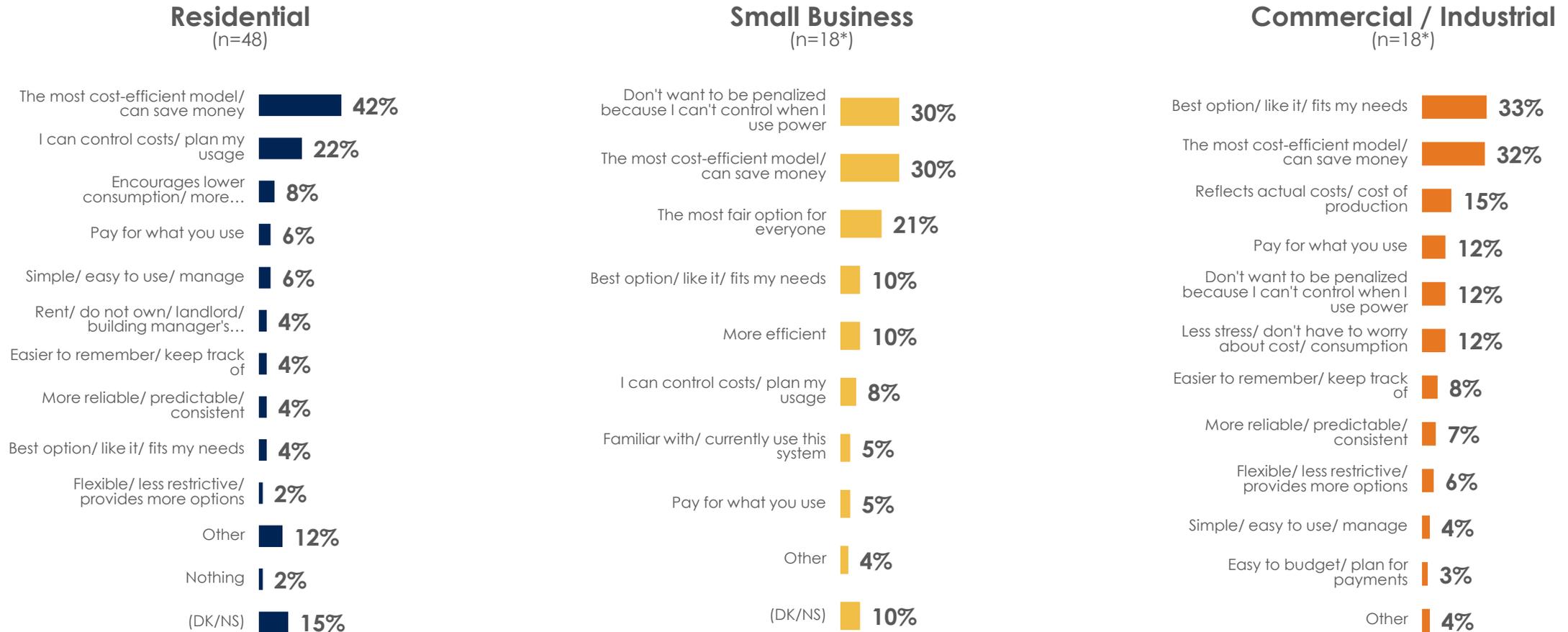


R27/SB31/C32.. You indicated you would prefer [INSERT RESPONSE RANKED 1ST FROM Q26]. Why do you say that?
 Base: All respondents

Responses < 2% not shown

Reason(s) For Hourly Price Model Preference

- Among the few who prefer an hourly price model, Residential consumers are more likely to say it is the most cost-efficient model, while Commercial/Industrial are as likely to cite its cost efficiency as the fact that it fits their needs. Small Business consumers also appreciate the hourly model's cost efficiency, but also want to avoid being penalized for not controlling when they use power.

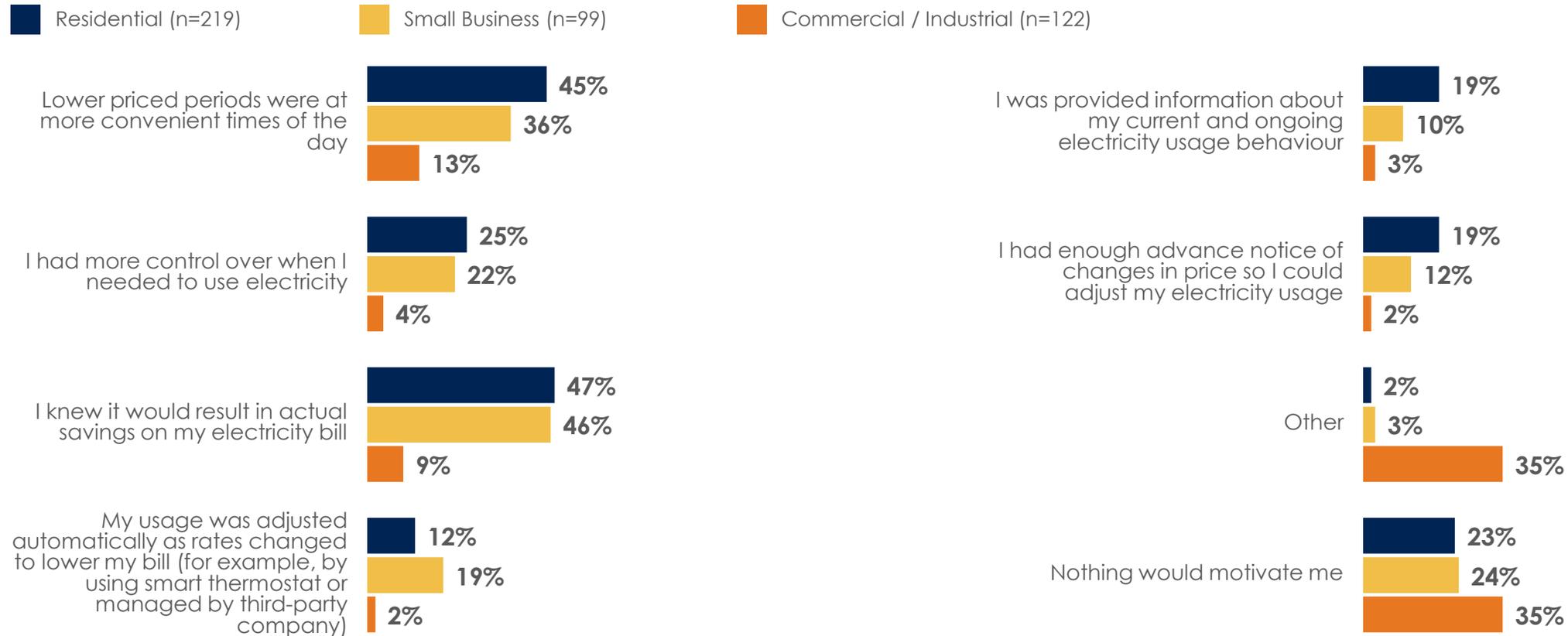


R27/SB31/C32.. You indicated you would prefer [INSERT RESPONSE RANKED 1ST FROM Q26]. Why do you say that?
 Base: All respondents

Responses < 2% not shown

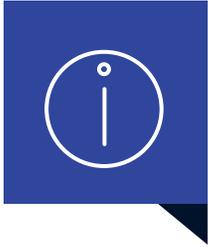
Ways to Increase Support For Dynamic Pricing Models

- The overwhelming majority of consumers who ranked flat price as their preferred electricity pricing model indicate that they can be motivated to support more dynamic pricing models than flat rate pricing. Residential and Small Business consumers say they would respond best to a guarantee of savings on their electricity bill or having lower priced periods at more convenient times of day. Commercial consumers are more difficult to persuade, and more targeted research may be required to better capture their motivations.



R28/SB32/C33. What, if anything, would motivate you to support a more dynamic pricing model? Please select all that apply. Base: Flat Price model ranked 1st

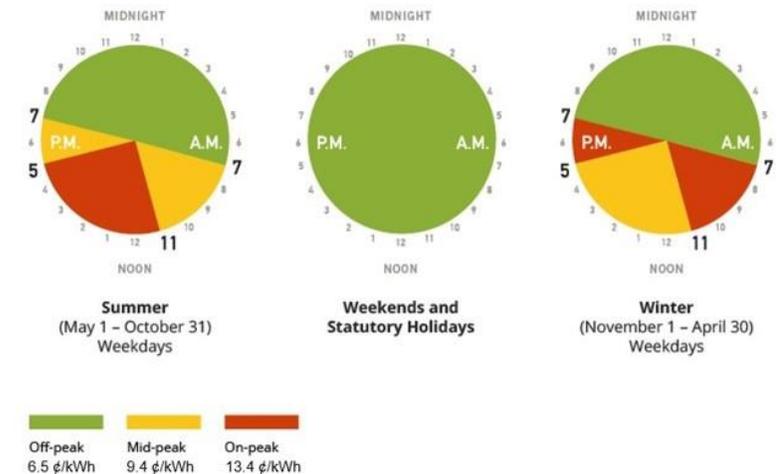
Support For Off-Peak Period Starting Later in the Evening - Information Provided



A detailed description of time of use pricing was provided before asking about support for the off-peak period starting later.

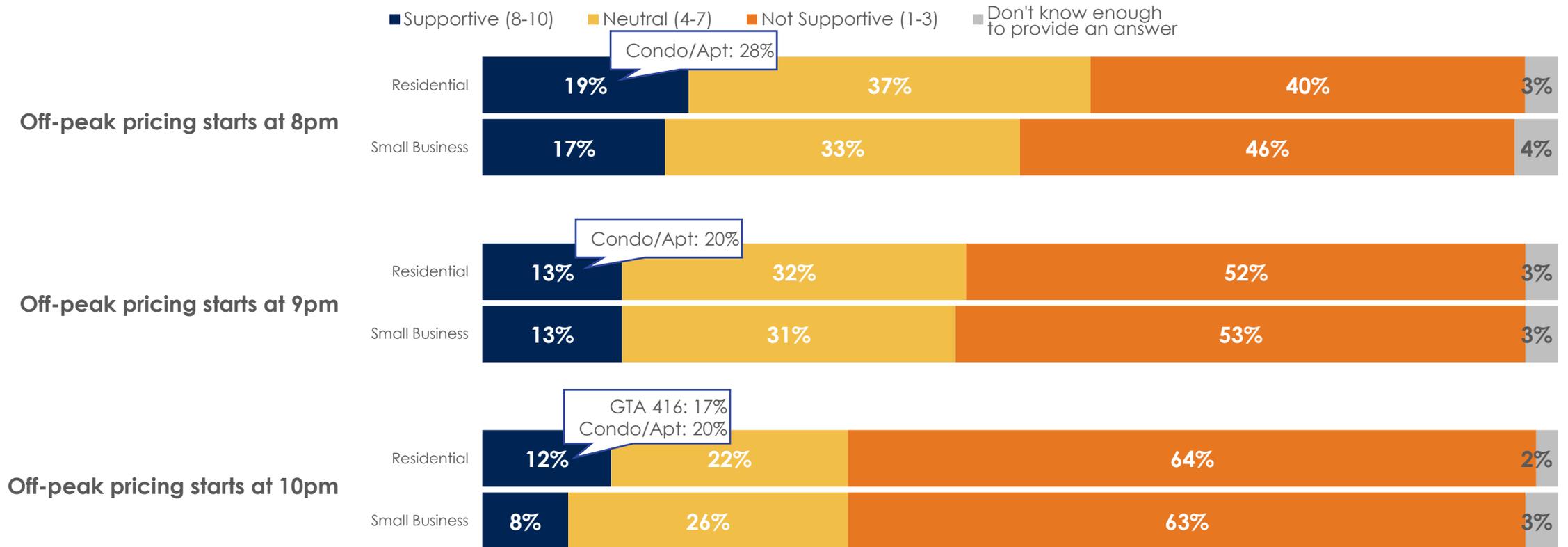
Most people in Ontario are currently charged different prices for consuming electricity at different times of the day or “time of use” pricing (3 periods: off-peak, mid-peak and on-peak). Electricity prices are lowest in off-peak periods when the cost of generating electricity is low and electricity prices are highest in on-peak periods when the cost of generating electricity is high.

Currently, the off-peak price period (lowest prices) are charged on weekdays between 7pm and 7am. However electricity demand and the associated cost of electricity generation tend to be higher than average on weekday evenings between 7pm-10pm.



Support For Off-Peak Period Starting Later in the Evening

- Most Residential and Small Business consumers do not want the off-peak period to start later in the evening than it currently does. Just under two in ten express support for off-peak pricing that starts at 8pm, and support drops off progressively for the 9pm and 10pm options. Residential consumers living in condos or apartments (often younger consumers) are more likely to be supportive of later off-peak pricing at any time, with those living in the GTA 416 region more likely to be supportive of the latest 10pm option.



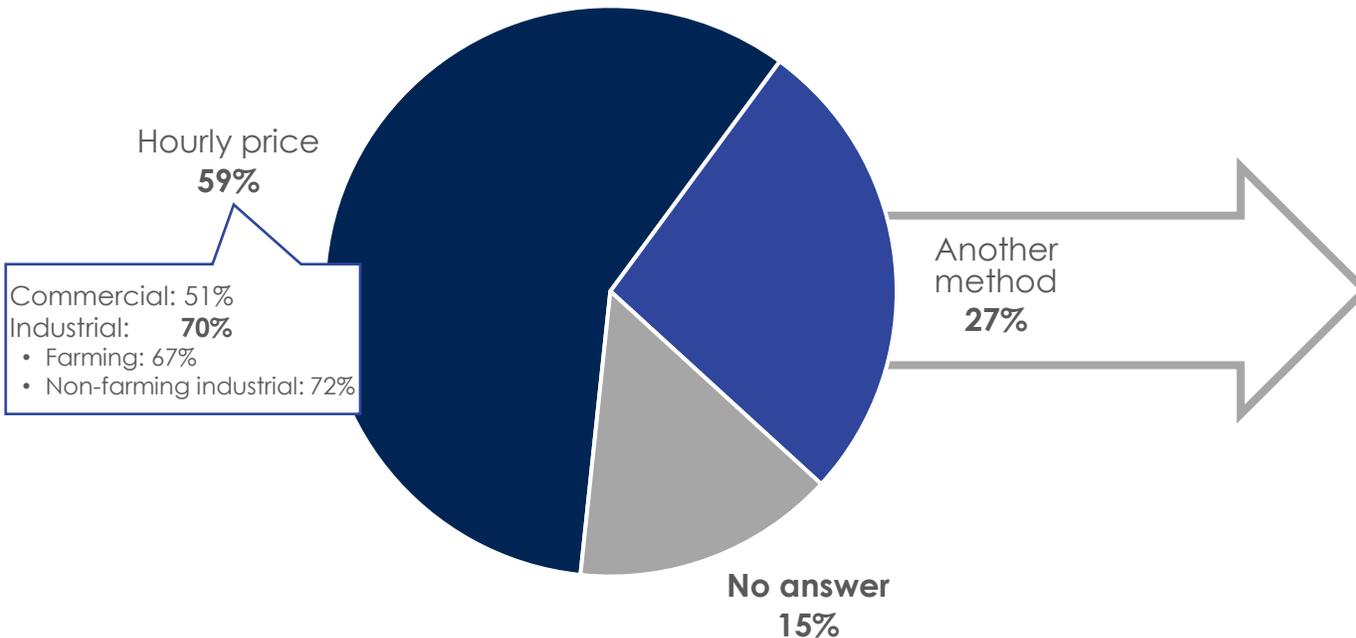
R29/SB33. How supportive would you be if the off-peak period started later in the evening at the following times? Using a scale from 1 to 10, where 1 is 'Not at all supportive' and 10 is 'Extremely supportive'.
 Base: All respondents [Residential (n=800); Small Business (n=251)]

Business Support Level for Dynamic Pricing Model

- While a majority of Commercial/Industrial consumers say their rates are calculated hourly (rising to 70% among Industrial consumers), one quarter say their business uses another method that is not hourly and dynamic. Among these consumers, there is significant hesitancy in expressing support for moving to a more dynamic price structure, with more consumers saying they would be unsupportive than supportive. Roughly six in ten fall somewhere in the middle, suggesting they could potentially be won over with the right messaging.

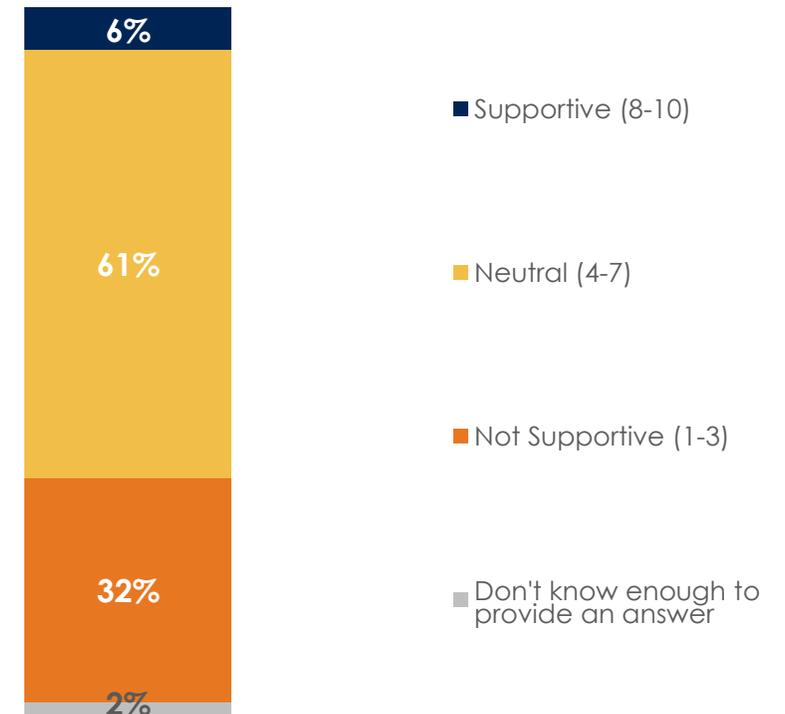
Commercial / Industrial: Current Charge Method

(n=249)



Commercial / Industrial: Dynamic Pricing Support

(n=64)



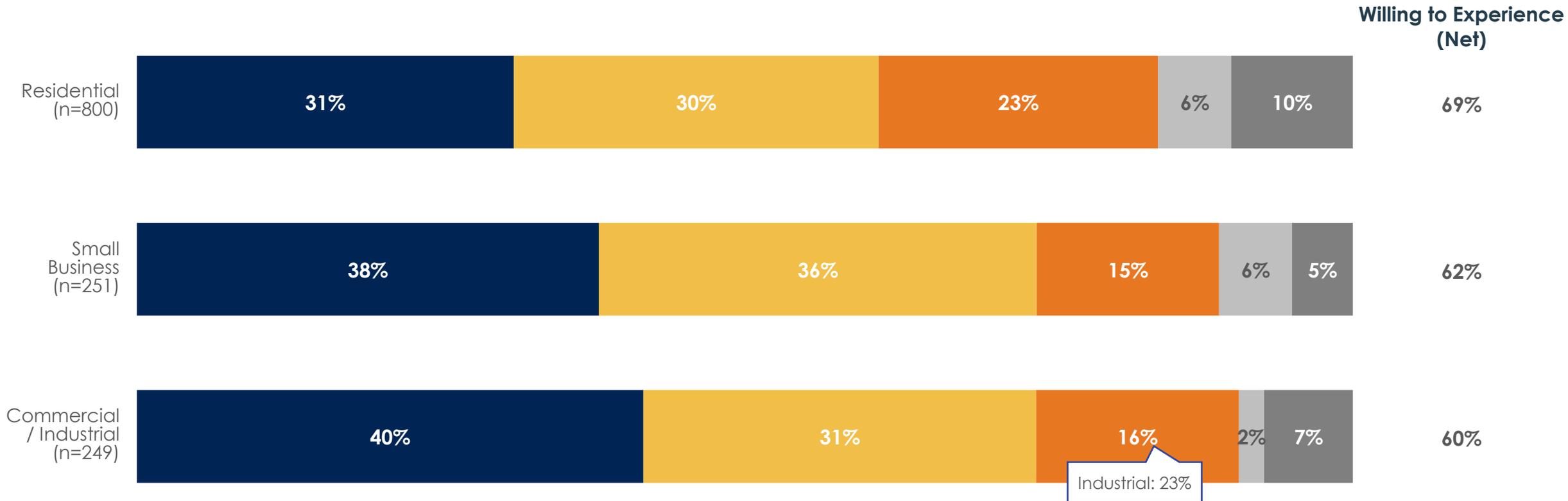
C35. How supportive would you be for your business to be charged a more dynamic price that changes more hour to hour compared to the current price? That is, prices would be lower during periods of lower province-wide demand and higher during periods of higher province-wide demand compared to current prices. Using a scale from 1 to 10, where 1 is 'Not at all supportive' and 10 is "Extremely supportive".
 Base: 'Another method' selected

C34. How are the electricity rates your business is charged currently calculated?
 Base: All respondents

Frequency Willing to Experience Dynamic Pricing

- At six in ten or higher, the majority of all consumer groups would be willing to experience dynamic pricing at least once a year. Residential consumers are the most willing to experience dynamic pricing (seven in ten say they would), while Small Business and Commercial/Industrial consumers are somewhat less likely. The largest proportion of consumers in each group are willing to experience 1-4 dynamic pricing events per year, while fewer are willing to experience this type of pricing more frequently.

■ Zero times a year (unwilling) ■ 1-4 times a year ■ 5-10 times a year ■ 11-15 times a year ■ 16+ times a year



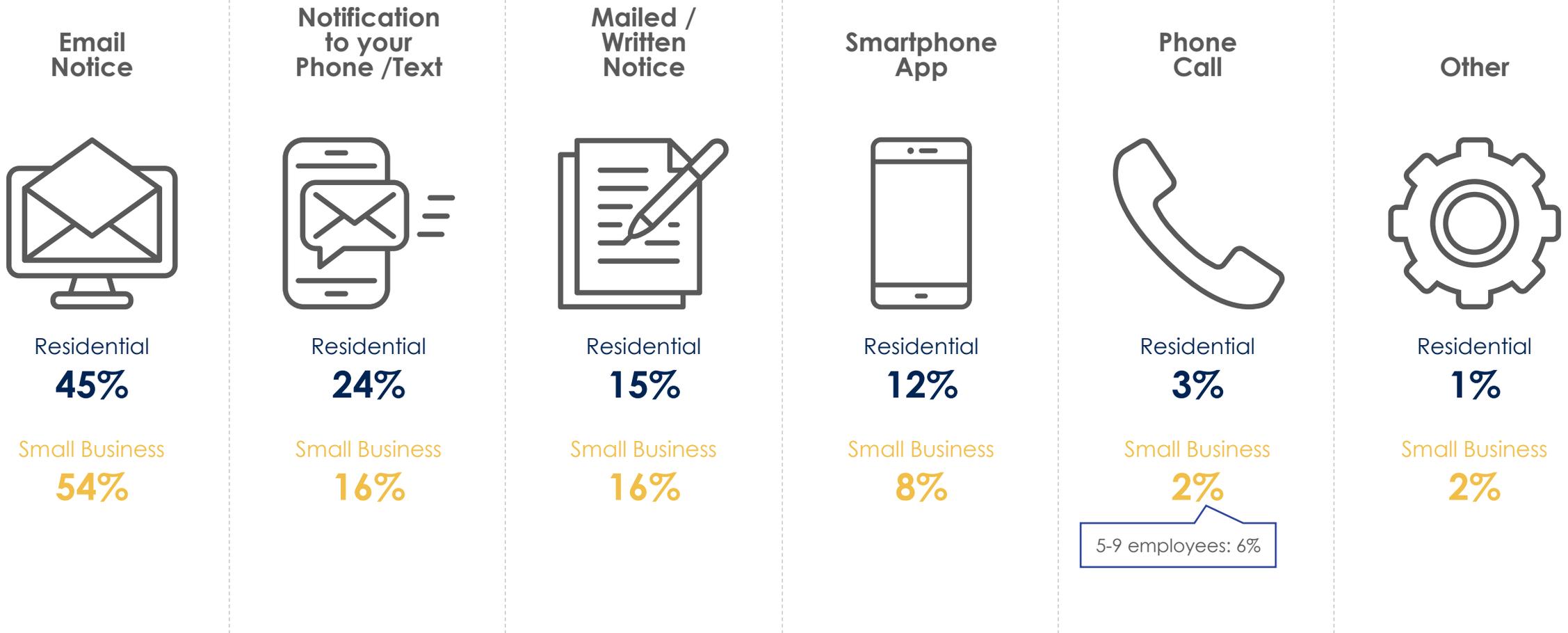
Every year, typically in the summer, there are a small number of hours in which electricity demand and the cost of generation is higher than any other time of the year. During these hours, the value of reducing electricity consumption is also the highest. The "Critical Peak Pricing" model seeks to increase the price during these high value hours and lower the cost of electricity in all other hours so as to reward customers who reduce their consumption when it is most needed. Customers would be notified 1-3 days in advance of these "Critical Peak Pricing" hours.

R30/SB34/C36. How frequently would you be willing to experience these high-priced hours in exchange for lower prices in all other hours? Please select one.

Base: All respondents

Electricity Price Notifications: Best Method

- Email notices are by far the most preferred notification method for both Residential and Small Business consumers, followed distantly by phone/text notifications. About one in six prefer to receive a written notice in the mail, while one in ten prefer to get their notification through a smartphone app. Very few want to get notifications from a phone call.



R31/SB35/C37. What would be the best way for your utility to notify you of electricity prices, a change in electricity pricing, or our electricity consumption behaviour? Please select one.
 Base: All respondents [Residential (n=800); Small Business (n=251)]

Electricity Pricing Statements

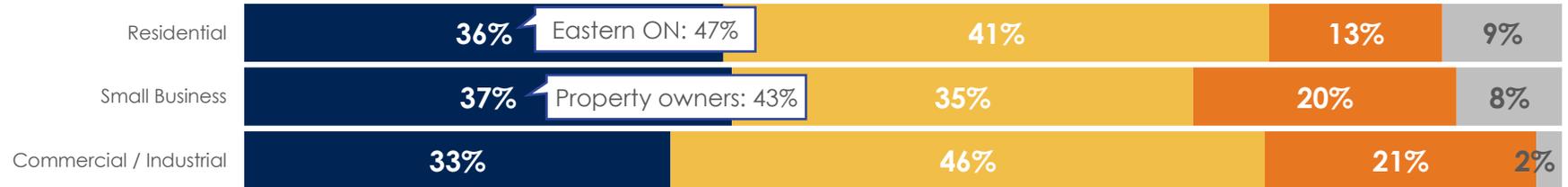
- Predictability matters more than dynamic pricing for nearly half of Commercial/Industrial consumers, rising to two in three working for businesses with 100 or more employees. Half of Small Business consumers and nearly half of Residential consumers think they should be given the option of choosing the pricing method that fits them best. Across all groups, opinions are divided on whether it is more economically efficient to charge dynamically than to offer a flat rate. There is net agreement overall, but many are on the fence.

■ Agree (8-10)
 ■ Neutral (4-7)
 ■ Disagree (1-3)
 ■ Don't know enough to provide an answer

I place more importance on the predictability of my electricity bill than on having the price change more dynamically based on the cost of production



It is more economically efficient to charge different prices at different times than to charge a flat-rate for electricity given the cost of producing power changes at different times



Customers should be given the option of choosing the pricing method used to determine the amount they are charged for electricity (i.e. range of pricing plans from less to more dynamic)



R32/SB36/C38. Please indicate whether you agree or disagree with the following statements. Using a scale from 1 to 10, where 1 is 'Strongly disagree' and 10 is 'Strongly agree'.

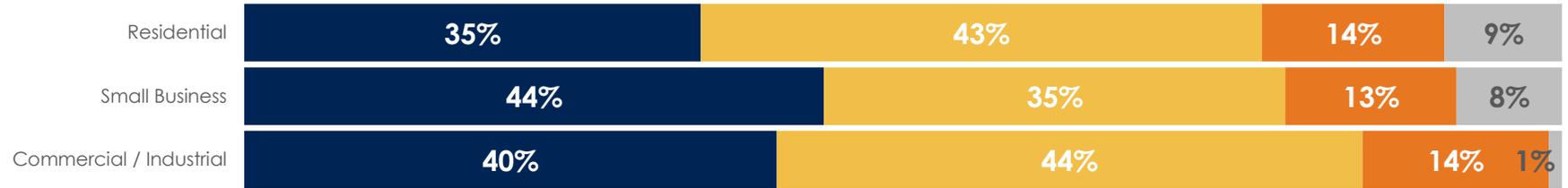
Base: All respondents [Residential (n=800); Small Business (n=251); Commercial / Industrial (n=249)]

Electricity Pricing Statements (cont'd)

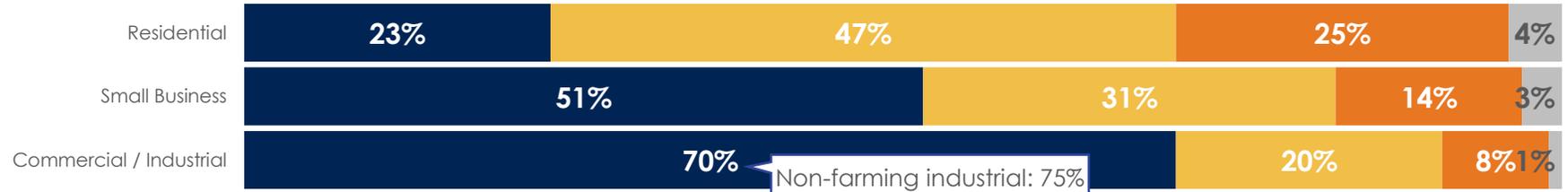
- Most Commercial/Industrial consumers and half of Small Businesses agree strongly that it is difficult for them to reduce their electricity usage during high price periods, while Residential consumers are more able to be flexible. Consequently, Commercial/Industrial and Small Business consumers are more likely to be skeptical about dynamic pricing's ability to bring them any savings. Across all groups, one in three agree that an automated process for dynamic pricing would help them be more supportive – though nearly as many Commercial respondents disagree.

■ Agree (8-10)
 ■ Neutral (4-7)
 ■ Disagree (1-3)
 ■ Don't know enough...

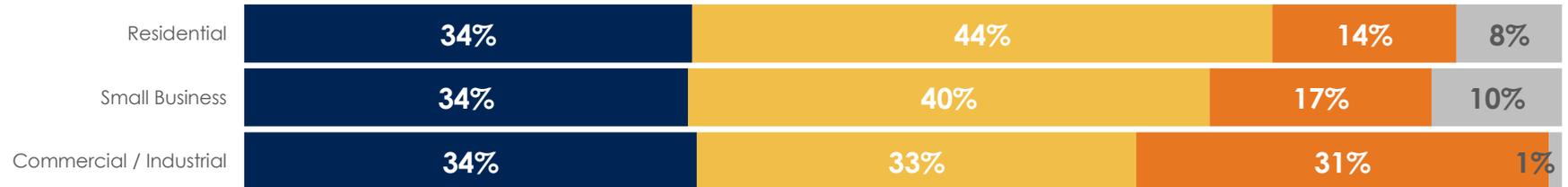
I am not convinced more dynamic electricity pricing would result in actual savings on my electricity bill



It is difficult for me to reduce my electricity usage during high price periods and shift my consumption to when electricity is cheaper



I would be more supportive of dynamic electricity pricing if the process was automated so that my usage is automatically reduced during higher priced periods so I can guarantee savings on my bill



R32/SB36/C38. Please indicate whether you agree or disagree with the following statements. Using a scale from 1 to 10, where 1 is 'Strongly disagree' and 10 is 'Strongly agree'.

Base: All respondents [Residential (n=800); Small Business (n=251); Commercial / Industrial (n=249)]

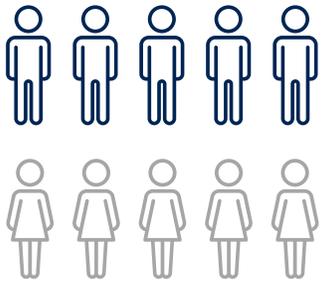
APPENDIX

7

Demographics/ Firmographics

Demographics: Residential

GENDER



49%

Male

51%

Female

AGE



28%

18 to 34



40%

35 to 54



32%

55+

EMPLOYMENT

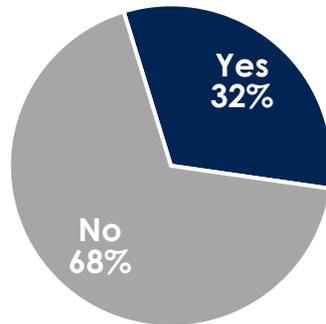
Employed full-time	50%
Employed part-time	7%
Self-employed, own/operate home-based business	4%
Self-employed, own/operate business at another location	1%
Homemaker	5%
Student	3%
Retired	24%
Currently unemployed	6%
Other	1%

IN HOUSEHOLD



2.55

CHILDREN <18



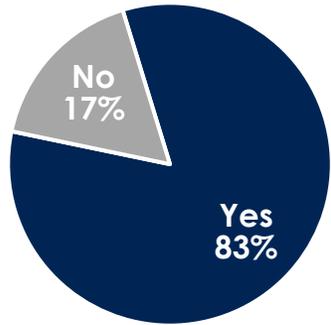
HOUSEHOLD INCOME



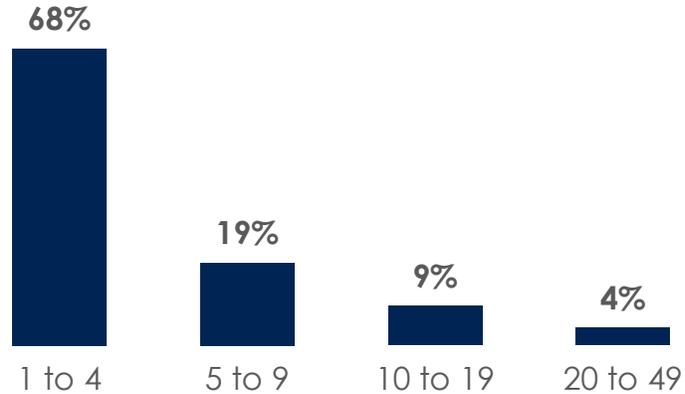
Base: All respondents (n=xxx)

Demographics: Small Business

ELECTRICITY SERVICE DECISION-MAKER



NUMBER OF EMPLOYEES



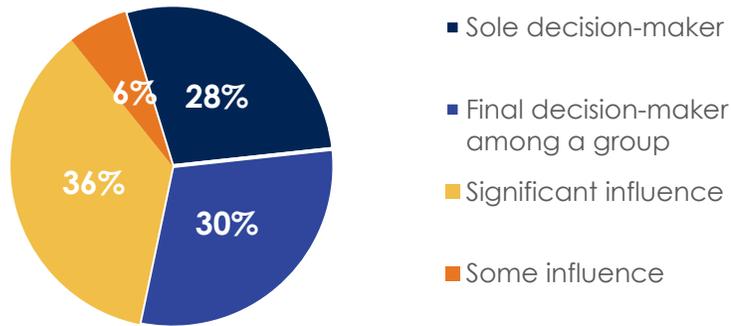
SECTOR

Professional and Technical Services	18%
Construction	10%
Retail Trade	9%
Information Technology	8%
Arts, Entertainment, and Recreation	7%
Health Care Services	7%
Real Estate and Leasing	7%
Accommodation and Food Services	6%
Manufacturing	5%
Agriculture and Forestry	4%
Education Services	4%
Finance and Insurance	4%
Administration and Support Services	3%
Wholesale Trade	3%
Mining	1%
Transportation and Warehousing	0%
Other	16%

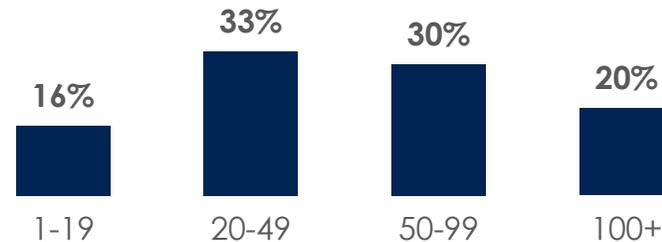
Base: All respondents (n=xxx)

Demographics: Commercial/Industrial

ELECTRICITY SERVICE DECISION-MAKER



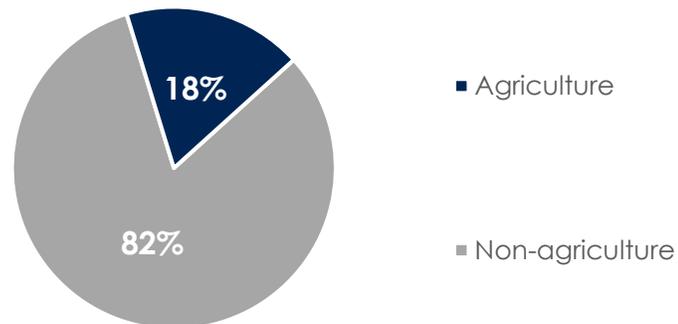
NUMBER OF EMPLOYEES



TITLE

Senior management	42%
Operations Director/Manager	11%
Facility Director/Manager	8%
Administrator	6%
Property/Building Director/Manager	3%
Maintenance Manager	3%
Purchasing Manager	2%
Energy Management Manager	1%
Other	24%

NAICS CODE



SEGMENT

Farmers - all emp size	18%
Non-Farmer Industrial 20-49	12%
Commercial 20-49	23%
Non-Farmer Industrial 50+	12%
Commercial 50+	35%

Base: All respondents (n=xxx)