Appendix A

Material Investments

MATERIAL INVESTMENT NARRATIVE

PROJECT / PROGRAM:

CYBERSECURITY

INVESTMENT CATEGORY: GENERAL PLANT

A. GENERAL INFORMATION ON THE PROJECT/PROGRAM

1. OVERVIEW

LPDL categories Cybersecurity as its own investment, which includes software and hardware related to cybersecurity.

In December 2017, the OEB introduced its Ontario Cyber Security Framework aimed at enhancing security and privacy within LDCs, with the ultimate goal of mitigating cyber risks and strengthening service resilience. Additionally, in 2018, the OEB released a Notice of Amendments to the Distribution System Code, setting forth regulatory obligations for licensed distributors to report their actions related to managing cyber security risks.

LPDL is investing in advanced cybersecurity measures, deemed highly critical for maintaining operations and customer data integrity. These investments include the installation of upgraded firewalls at substations ($25,000), the deployment of immutable backup servers ($18,000)—designed to be tamper-proof unlike conventional backup solutions—and a network vulnerability assessment tool ($30,000). Justification for these cybersecurity expenditures also encompasses requirements from our insurance provider, which has highlighted these measures as top priorities.

2. TIMING

i. Start Date: 2025

ii. In-Service Date: 2029

iii. Key factors that may affect timing:

- Changes in technology
- Emergence of new threats
- Budget constraints

3. HISTORICAL AND FUTURE CAPITAL EXPENDITURES

The below table summarizes the historical and future capital expenditures.

Category	Historical ($'000)					Bridge	Forecast ($'000)				
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Cybersecurity	0	18	0	11	0	200	100	50	30	30	40

4. ECONOMIC EVALUATION (EXPANSION PROJECTS)

This is not applicable.

5. COMPARATIVE HISTORICAL EXPENDITURE

Historical expenditures have been detailed in Section A3. As the threat of cybersecurity attacks becomes more prevalent, LPDL is proactively installing new software and hardware to address the issue. Therefore, historical expenditures do not compare to the capital required to deal with this advanced threat.

6. INVESTMENT PRIORITY

Cybersecurity placed 2nd highest in project prioritization, with a score of 70, based on individual category rankings as follows:

Public and Worker Safety (Weighting 6): Value 4 out of 4

System Reliability or Capacity (Weighting 5): Value 4 out of 4

Operational Efficiency and Productivity (Weighting 3): Value 2 out of 4

Customer Preference (Weighting 3): Value 4 out of 4.

Innovations (Weighting 2): Value 4 out of 4

Environmental Concerns (Weighting 2): Value 0 out of 4

Investments in this project ensure upgrades align with technology and cybersecurity management trends, maintaining robust IT systems and security protocols, which contribute to overall reliability. The shift to a hybrid work environment has influenced IT hardware deployment and cybersecurity upgrades, making it a key factor in prioritizing asset replacements or upgrades.

For more details on LPDL's project prioritization process, refer to section 5.3.1.3 of the DSP.

7. ALTERNATIVES ANALYSIS

Lakeland Power considered the following options:

i. **Do nothing:** Doing nothing is not a viable option. Threats evolve too fast to rely on yesterday's protection.

ii. **Carry out the proposed pacing of investments**: This is the preferred option as it allows Lakeland Power to carry out the operations and maintenance activities of all departments.

8. INNOVATIVE NATURE OF THE PROJECT

This is not applicable.

9. LEAVE TO CONSTRUCT APPROVAL

This is not applicable.

B. EVALUATION CRITERIA AND INFORMATION/REQUIREMENTS

1. EFFICIENCY, CUSTOMER VALUE, RELIABILITY & SAFETY

Primary Criteria for Evaluating Investments	Investment Alignment
Efficiency	Investments in cybersecurity are critical safeguards against digital threats that can significantly compromise the operational efficiency of companies. If a malicious actor were to breach LPDL's network, they may obtain unauthorized access to sensitive data and control systems, thereby disrupting business processes and potentially causing extensive damage.
Customer Value	LPDL's operations heavily depend on Information Technology (IT) infrastructure, including hardware and cybersecurity solutions, to deliver services to customers. Implementing robust hardware and security measures ensures the corporation and its personnel can provide timely and secure services, thus maintaining the integrity of service delivery and protecting customer privacy.
Reliability	Cybersecurity is a pivotal factor in maintaining the reliability of electrical system operations. In the absence of adequate network protection, cyber attackers could potentially gain control over critical grid components such as switches, or infiltrate the Supervisory Control and Data Acquisition (SCADA) systems. To prevent such vulnerabilities, LPDL must proactively implement comprehensive cybersecurity strategies.
Safety	Ensuring cybersecurity measures are in place is vital to prevent unauthorized access to customer data and control over the distribution system. Cyberattacks can lead to the compromise of sensitive information or render systems inoperable, often resulting in prolonged downtime and significant operational disruptions. Investing in advanced cybersecurity protocols mitigates these risks and enhances overall system safety.

2. INVESTMENT NEED

i. Main Driver: Legal & Moral Obligations

ii. Secondary Drivers: Reliability & Safety

iii. Information Used to Justify the Investment: In today's threat landscape, where cyber attacks continue to evolve and become more sophisticated, implementing a vulnerability management system for operational technology (OT) is crucial for several reasons:

- Complexity of OT Environments: OT systems, including industrial control systems (ICS) and SCADA (Supervisory Control and Data Acquisition) systems, are becoming increasingly interconnected with IT networks. This integration creates new attack surfaces and vulnerabilities that can be exploited by malicious actors.
- High Stakes of OT Breaches: Unlike breaches in traditional IT environments, vulnerabilities and breaches in OT systems can have immediate and severe consequences, including physical damage, production downtime, environmental damage, and threats to human safety.
- Rapidly Evolving Threat Landscape: The threat landscape is constantly evolving, with threat actors developing new tactics, techniques, and procedures (TTPs) to exploit vulnerabilities in OT systems. A vulnerability management system helps organizations stay proactive in identifying and mitigating these emerging threats.
- Asset Visibility and Inventory Management: OT environments often lack comprehensive visibility and inventory management, making it challenging to identify all devices, software, and configurations present in the network. A vulnerability management system helps organizations gain visibility into their OT assets and prioritize remediation efforts based on risk.
- Patch Management Challenges: Patching OT systems can be challenging due to concerns about system stability, compatibility issues, and operational disruptions. A vulnerability management system helps organizations assess the risks associated with unpatched vulnerabilities and develop effective patch management strategies.
- Incident Response and Recovery: In the event of a security incident or breach, a vulnerability management system provides valuable data and insights that help organizations respond quickly, contain the damage, and recover critical OT systems and processes.
- Overall, a vulnerability management system for operational technology is essential for organizations to proactively identify, assess, prioritize, and mitigate vulnerabilities in their OT environments, thereby reducing the risk of cyber attacks and ensuring the continued reliability, safety, and integrity of critical infrastructure and industrial processes

3. INVESTMENT JUSTIFICATION

i. Demonstrating Accepted Utility Practice: Many industries, such as energy, utilities, transportation, and manufacturing, are subject to strict regulatory requirements regarding

the security and resilience of OT systems. Implementing a vulnerability management system helps organizations demonstrate compliance with these regulations and standards.

ii. Cost-Benefit Analysis: Cybersecurity, while technically discretionary, is a prudent part of business operations. To not invest in it would be an unacceptable risk.

iii. Historical Investments & Outcomes Observed: LPDL has a skilled IT team who manages our Cybersecurity. To date, our investments have allowed us to remain out of harms way with regard to cybersecurity attacks.

iv. Substantially Exceeding Materiality Threshold: This is not applicable.

4. CONSERVATION AND DEMAND MANAGEMENT

This is not applicable.

5. INNOVATION

This is not applicable.

MATERIAL INVESTMENT NARRATIVE

PROJECT / PROGRAM:

TRANSPORTATION EQUIPMENT/FLEET

INVESTMENT CATEGORY: GENERAL PLANT

A. GENERAL INFORMATION ON THE PROJECT/PROGRAM

1. OVERVIEW

LPDL considers the age, usage and ongoing maintenance costs when considering vehicles for replacement. Our general guidelines are listed in the table below.

Vehicle Type	Age Threshold	Usage Threshold
Pickup/van/car	10 years	200,000 km
Dump trucks (all sizes)	10 to 20 years	220,000 km or 10,000 hours
Large Specialized Vehicle	10 to 20 years	10,000 hours

Different vehicles also wear out more rapidly than others depending on their usage type and frequency. To incorporate vehicles not referenced in the above criteria, there must be a second type of criteria used for this type of evaluation in addition to the above or on an individual basis. The following criteria chart is presented to be incorporated as secondary criteria:

Due to vehicle supply chain constraints in 2021 and 2022, a new double bucket truck was pre-ordered. A portion of the truck's cost has been paid, with the remainder outstanding, resulting in a cost spike in 2025. The existing double bucket truck to be replaced was ~18 years old, with ~8000 hours of usage.

The overall cost of vehicles has increased over the historical period. Replacements are scheduled for a small bucket truck at ~5 years old, a dump truck at >10 years old, and several smaller trucks coming of age throughout the forecast period. However, final replacement decisions will depend on several variables, such as ongoing maintenance costs and vehicle mileage. If a vehicle performs well without major breakdowns, its replacement may be deferred.

2. TIMING

i. Start Date: 2025

ii. In-Service Date: 2029

iii. Key factors that may affect timing: Ongoing maintenance costs of vehicles (affects justification to replace a vehicle), and specific failures.

3. HISTORICAL AND FUTURE CAPITAL EXPENDITURES

LPDL's historical and future capital expenditures are summarized in the table below.

Category	Historical ($'000)					Bridge	Forecast ($'000)				
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Transportation Equipmer	254	40	590	140	300	470	730	300	400	400	300

4. ECONOMIC EVALUATION (EXPANSION PROJECTS)

This is not applicable.

5. COMPARATIVE HISTORICAL EXPENDITURE

Lakeland Power follows annual vehicle replacement according to Fleet Replacement plan. Historical costs for the 2019-2023 period are reflected in Section A3. Historical costs have varied year over year in accordance with specific needs identified and have been impacted by other factors such as supply chain issues and budget reallocations to higher priority projects. The table below details a summary of work that was completed as part of this program over the historical period.

6. INVESTMENT PRIORITY

Transportation is ranked highest on LPDL's priority matrix, at 73, due mainly to value 4 rankings (out of 4) in the top 3 most heavily weighted of the 6 ranking criteria categories.

Equipment such as bucket trucks and dump trucks are paramount to the operation, maintenance, and safety of LPDL's distribution system. The increase in expenditures in 2025 is due to the replacement of a double-bucket truck.

During the forecast period, a dump truck and several smaller trucks are to be investigated through the fleet replacement cycle. These will be prioritized or deferred depending on the factors below.

LPDL considers many factors when prioritizing the replacement of it's vehicles. The below table summarizes the factors considered.

Factor Points	Factor Points
Age	One point for each year of chronological age, based on in-service data.
Kilometers/Hours	One point for each 25,000 km driven or 640 hours of usage.
Type of Service	Type of Service 1, 3 or 5 points are assigned based on the type of service that vehicle receives. For instance, a Roads patrol car would be given a 5 because it has a severe duty service. In contrast, an administrative sedan would score 1.
Reliability	Points are assigned as 1, 5, or 10 depending on the frequency that a vehicle is in the shop for repair. A 10 would be assigned to a vehicle that

	is in the shop two or more times per month on average, while a 1 would be assigned to a vehicle in the shop an average of once every three months or less.
Maintenance and Repair ("M&R") Costs	M&R Costs 1 to 10 points are assigned based on total life M&R costs (not including repair of accident damage). A 10 is assigned to a vehicle with life M&R costs equal to or greater than the vehicle's original purchase price, while a 1 is given to a vehicle with life M&R costs equal to 20% or less of its original purchase cost.
Condition	This category takes into consideration body condition, rust, interior condition, accident history, anticipated repairs, etc. A scale of 1 to 5 points is used with 5 being poor condition.

The point ranges for the secondary criteria are as follows:

Under 18 points – Condition I – Excellent.

18 to 22 points – Condition II – Good.

23 to 27 points – Condition III – Qualifies for replacement.

28 points and above – Condition IV – Needs immediate consideration.

7. ALTERNATIVES ANALYSIS

Lakeland Power considered the following options:

Do nothing: Doing nothing is not a viable option. Status quo would mean continuous maintenance; however, this option will drive O&M costs up over time as well as put LPDL staff and customers at risk of mechanical breakdown due to aging equipment which could have impacts on reliability, employee safety, and overall customer satisfaction.

Carry out the proposed pacing of investments: This is the preferred option as it allows Lakeland Power to carry out regular activities with reliable vehicles and less fleet downtime

8. INNOVATIVE NATURE OF THE PROJECT

This is not applicable.

9. LEAVE TO CONSTRUCT APPROVAL

This is not applicable.

B. EVALUATION CRITERIA AND INFORMATION/REQUIREMENTS

1. EFFICIENCY, CUSTOMER VALUE, RELIABILITY & SAFETY

Table 3: Investment Evaluation - Efficiency, Customer Value, Reliability & Safety

Primary Criteria for Evaluating Investments	Investment Alignment
Efficiency	Old vehicles necessitate the use of additional resources for maintenance due to their age and wear. The frequent need for repairs and maintenance not only increases operating costs but also reduces overall operational efficiency. Investing in newer vehicles can significantly cut down on these maintenance costs and improve the service's efficiency.
Customer Value	Customers greatly benefit from having reliable and well-maintained vehicles in operation. This reliability translates to better service delivery, fewer delays, and higher customer satisfaction. In addition, by maintaining and upgrading the system with dependable vehicles, the quality of the service provided to customers is consistently high.
Reliability	Ensuring continuous investment in reliable vehicles is critical to maintaining the overall reliability of Lakeland Power's system. Such investments are crucial as they impact all departments, ranging from operations to finance. Reliable vehicles ensure that all facets of the service run smoothly, minimizing disruptions and maintaining a stable power supply.
Safety	The safety of both the system and our customers is significantly enhanced by this project. Newer vehicles ensure that operations crews can be deployed promptly and safely to respond to any calls, thereby maintaining the integrity of the power supply system and ensuring the well-being of the customers who depend on our services.

2. INVESTMENT NEED

i. Main Driver: Public & worker safety, reliability.

ii. Secondary Drivers: Mitigate costs due to operation of old, deteriorated vehicles.

iii. Information Used to Justify the Investment:

iv. The information used to justify investments are detailed in the overview and section A6.

3. INVESTMENT JUSTIFICATION

i. Demonstrating Accepted Utility Practice: Maintaining a reliable fleet is crucial for LPDL to manage the distribution system effectively. Reliable vehicles allow staff to address outages promptly, impacting key metrics like SAIDI and on-

time appointments. If vehicles fail or are unavailable, reliability could suffer due to delayed response times.

LPDL must adhere to various codes and regulations, making a dependable fleet essential. This includes emergency response times of under an hour throughout LPDL's service area and following the DSC guidelines for customer requests and appointments.

ii. Cost-Benefit Analysis: Each vehicle is reviewed on a case-by-case basis, and is thorough tracked in LPDLs financial system. With all maintenance history tracked, LPDL is able to determine the optimal point that a vehicle should be replaced for both financial and reliability reasons.

iii. Historical Investments & Outcomes Observed: Historical investments are detailed in Section A3. Outcomes of vehicle replacement have resulted in less frequent visits to repair shops, less associated labor, and less frequent project rescheduling due to unforeseen breakdowns.

iv. Substantially Exceeding Materiality Threshold: This is not applicable.

4. CONSERVATION AND DEMAND MANAGEMENT

This is not applicable.

5. INNOVATION

This is not applicable.

MATERIAL INVESTMENT NARRATIVE

PROJECT / PROGRAM:

GENERAL ASSET REPLACEMENT

INVESTMENT CATEGORY: SYSTEM RENEWAL

A. GENERAL INFORMATION ON THE PROJECT/PROGRAM

1. OVERVIEW

Proactive replacement, the replacement of an asset before a failure occurs, is appropriate where asset replacement ensures public safety, protects the environment and to maintain system reliability. This can be done in clusters, or at various independent locations depending on the asset type.

General asset replacement refers to asset replacement that is not part of another project. This includes but is not limited to poles, conductors and distribution transformers.

Historically, the spending dropped in 2020 due to focus on other operational priorities during the COVID-19 pandemic. 2021 and 2022 saw an increase in general asset replacement to address the backlog, and LPDL is now forecasting spending based on historical figures, balanced throughout the forecast period.

2. TIMING

i. Start Date: 2025

ii. In-Service Date: 2029

iii. Key factors that may affect timing:

- Asset Condition Assessment
- Reactive work based on inspections and identified hazards
- Project prioritization
- Supply chain issues
- Budgetary constraints

3. HISTORICAL AND FUTURE CAPITAL EXPENDITURES

Historical and future capital expenditures are summarized in the table below.

Category	Historical ($'000)					Bridge	Forecast ($'000)				
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
General Asset Replacement	289	131	491	406	342	360	350	350	350	350	350

4. ECONOMIC EVALUATION (EXPANSION PROJECTS)

This is not applicable.

5. COMPARATIVE HISTORICAL EXPENDITURE

Historical expenditures are detailed in Section A3.

This project may see fluctuations in spending based on several factors including rising costs of materials and material availability. As shown in the graph above, 2020 and 2023 saw large swings in spending in this line item. In 2020 the COVID-19 pandemic caused LPDL to reduce the amount of contact staff had with each other and with outside groups. This limited project spends across all capital projects. In 2023 supply chain issues cause several projects to be delayed or moved causing LPDL to reassign work to areas where materials were available.

Another significant factor contributing to the rise in capital expenditures is the high escalation in equipment and material costs since the last DSP. This includes higher prices for all assets including essential components such as transformers, switchgear, and cabling. These expenditures are integral to maintaining the integrity and efficiency of the electrical infrastructure.

6. INVESTMENT PRIORITY

General Asset Replacement ranked fourth on project prioritization, at 59. This category normally consists of various smaller projects that are identified through inspections and hazard assessments. As such, each identified project will be evaluated and ranked individually, based on the severity of the findings.

Due to the need for proactive replacement before a failure occurs to ensure public safety and maintain system reliability, this project ranked 4 (out of 4) on the two highest weighted priority categories, safety and reliability, ensuring it is considered a high-priority project overall.

7. ALTERNATIVES ANALYSIS

Lakeland Power considered the following options:

Do nothing: This is not a prudent approach for all assets, nor is it efficient, as it becomes inefficient to manage returning to individual locations multiple times to replace each individual asset as it fails. This method also tends to entail a ‘like for like’ replacement rather than upgrading materials or adding technology. Where asset failures pose little or no impact to public safety, the

environment or customer service, the assets will be operated until failure (run to failure) and replaced reactively. The decision to run to failure also takes into account redundancy, contingencies and availability of spare units or components.

Carry out the proposed pacing of investments: This is the preferred option as it allows Lakeland Power to complete upgrades in a timely, efficient and cost effective manner.

8. INNOVATIVE NATURE OF THE PROJECT

This is not applicable.

9. LEAVE TO CONSTRUCT APPROVAL

This is not applicable.

B. EVALUATION CRITERIA AND INFORMATION/REQUIREMENTS

1. EFFICIENCY, CUSTOMER VALUE, RELIABILITY & SAFETY

Primary Criteria for Evaluating Investments	Investment Alignment
Efficiency	The infrastructure will be upgraded to current LPDL specifications design standards, which are intended to enhance operational reliability. Proactive replacement of assets is more cost-effective than unplanned, reactive replacements, which often necessitate overtime crew-hours for emergency work. Furthermore, when an individual asset (e.g., pole) is replaced, LPDL may concurrently replace associated assets such as transformers and switches that are deemed to be at or near the end of their operational life, thus avoiding the need for future interventions.
Customer Value	The proactive replacements facilitated by this project are less costly than reactive replacements, thereby optimizing financial efficiency. It also reduces the number of in-service assets with a higher potential for failure, thereby mitigating associated safety hazards and enhancing overall system integrity.
Reliability	This project's completion is anticipated to boost reliability by:

	a) Lowering failure risk with the replacement of aging assets; b) Installing new standards like fiberglass brackets, larger insulators, and animal guards to minimize wildlife-related outages; and c) Proactively scheduling asset replacements to reduce outage durations.
Safety	Many of these projects involve the replacement of assets that present an imminent risk of failure, thereby eliminating potential safety hazards and ensuring compliance with safety regulations and standards.

2. INVESTMENT NEED

i. Main Driver: Safety - the identified asset is usually in unacceptable condition that may pose a safety risk to the public.

ii. Secondary Drivers: Reliability – the identified asset is usually in unacceptable condition that may be at risk for failure very soon.

Information Used to Justify the Investment: Lakeland Power's asset replacement strategy includes a combination of planned and reactive replacement practices. Asset replacement decisions are driven by a number of considerations and constraints, including asset failure history, safety risks, failure risk (due to asset deterioration), functional obsolescence, asset performance trends, as well as alignment with applicable standards, capacity requirements, field inspection results, and third- party requests (such as third party attachments).

3. INVESTMENT JUSTIFICATION

i. Demonstrating Accepted Utility Practice: LPDL inspects assets and makes informed decisions when prioritizing replacements. If an asset is found to be particularly hazardous or at risk for failure, a reactive replacement or refurbishment is recommended.

Cost-Benefit Analysis: The majority of projects are approved because there is a safety or reliability risk identified that should be addressed in the short term.

ii. Historical Investments & Outcomes Observed: LPDL budgets for general asset replacements knowing that there will be observations such as significantly rotten poles, poles with woodpecker holes, transformers leaking oil, etc. Addressing these issues is important to maintain safety and reliability in the distribution system.

iii. Substantially Exceeding Materiality Threshold: This is not applicable.

4. CONSERVATION AND DEMAND MANAGEMENT

This is not applicable.

5. INNOVATION

This is not applicable.

MATERIAL INVESTMENT NARRATIVE

PROJECT / PROGRAM:

TROUBLE CALL CAPITAL

INVESTMENT CATEGORY: SYSTEM RENEWAL

Material Investment Narrative

Investment Category: System Renewal

Trouble Call Capital

A. GENERAL INFORMATION ON THE PROJECT/PROGRAM

1. OVERVIEW

This investment is summarized as capital work emerging due to trouble calls, such as severe weather, motor vehicle accidents, or other factors that may cause pole or wire breakage. LPDL budgets for this separately as the damaged assets may not have been identified previously through the ACA or inspections, but rather may include assets that were otherwise in good condition.

LPDL budgets this category based on historical factors, and accounts for inflation in it's forecast.

2. TIMING

i. Start Date: 2025

ii. In-Service Date: 2029

iii. Key factors that may affect timing: Replacements are typically reactive in response to damage.

3. HISTORICAL AND FUTURE CAPITAL EXPENDITURES

Historical and future capital expenditures are summarized in the table below.

Category	Historical ($'000)					Bridge	Forecast ($'000)				
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Trouble Call Capital	195	127	128	249	134	250	250	250	250	250	250

4. ECONOMIC EVALUATION (EXPANSION PROJECTS)

This is not applicable.

5. COMPARATIVE HISTORICAL EXPENDITURE

Historical expenditures are detailed in Section A3.

Outage information is detailed in Section 5.2.3.2. Note that not all outages result in trouble call capital expenditures. The majority of expenditures resulting from outages will fall under O&M.

6. INVESTMENT PRIORITY

Trouble Call Capital is not included in LPDL's investment priority list as it typically involves emergency repair or replacement work that is required for safety reasons, or to restore power.

7. ALTERNATIVES ANALYSIS

When damage occurs, LPDL conducts a detailed analysis on a case-by-case basis to explore all possible alternatives. For instance, if poles or wires are broken, LPDL evaluates whether it would be more prudent to replace the overhead infrastructure with underground systems, considering factors such as cost, feasibility, and long-term reliability. Additionally, LPDL assesses whether implementing advanced technologies or materials could enhance the resilience and efficiency of the repaired infrastructure.

Despite this thorough evaluation process, the majority of the time, assets are replaced in a like-for-like configuration to ensure quick restoration and continuity of service. This approach minimizes downtime and ensures safety and reliability for customers.

8. INNOVATIVE NATURE OF THE PROJECT

This is not applicable.

9. LEAVE TO CONSTRUCT APPROVAL

This is not applicable.

B. EVALUATION CRITERIA AND INFORMATION/REQUIREMENTS

1. EFFICIENCY, CUSTOMER VALUE, RELIABILITY & SAFETY

Table 3: Investment Evaluation - Efficiency, Customer Value, Reliability & Safety

Primary Criteria for Evaluating Investments	Investment Alignment
Efficiency	Performing work under this category is typically not efficient. It is reactive and often necessitates after-hours work. This can lead to higher labor costs and logistical challenges. Planning and proactive maintenance could enhance efficiency, reducing emergency interventions.
Customer Value	Customers may be without power due to trouble calls, which disrupt normal activities and can lead to dissatisfaction. LPDL is obligated to respond promptly to these issues. In cases where assets must be replaced for reliability or safety reasons, such investments are categorized under trouble call capital. Ensuring reliable service can improve customer satisfaction and trust.
Reliability	Completing work under this category is often essential to restoring power and maintaining a stable supply. This ensures that customers experience minimal disruptions and that the electrical grid remains resilient against future issues. Proactive investments in reliability can prevent larger, costlier problems down the line.
Safety	Often, trouble call capital is the result of some damage or hazard, such as fallen power lines or equipment failures. LPDL is obligated to perform repairs to eliminate these hazards and ensure the safety of both the public and the workers. Investments in safety measures can prevent accidents and enhance the overall well-being of the community.

2. INVESTMENT NEED

i. Main Driver: Safety

ii. Secondary Drivers: Reliability

iii. Information Used to Justify the Investment: LPDL is obligated to respond to

trouble calls, especially where a public safety risk may be involved. We will receive information usually from customers or our SCADA system in the event that damage occurs.

3. INVESTMENT JUSTIFICATION

i. Demonstrating Accepted Utility Practice: Asset replacements under trouble call capital will normally be in accordance with LPDL's latest design standards. In exceedingly rare cases like-for-like may need to be claimed, but this is not preferred.

ii. Cost-Benefit Analysis: This is not applicable.

iii. Historical Investments & Outcomes Observed: This is not applicable.

iv. Substantially Exceeding Materiality Threshold: This is not applicable.

4. CONSERVATION AND DEMAND MANAGEMENT

This is not applicable.

5. INNOVATION

This is not applicable.

MATERIAL INVESTMENT NARRATIVE

PROJECT / PROGRAM:

UNDERGROUND RENEWAL

INVESTMENT CATEGORY: SYSTEM RENEWAL

A. GENERAL INFORMATION ON THE PROJECT/PROGRAM

1. OVERVIEW

This program addresses the primary underground cables that are considered to be at a high risk of failure. When evaluating replacements, the ACA takes into account the potential impacts of failure, including service interruptions and repair costs.

There are two major projects proposed for the 2025-2029 planning period:

1. Westvale Drive: Scheduled to begin in 2025, this project aims to replace aging infrastructure to ensure continuous and reliable service. The budget for this project is $290K.

2. Meadow Heights Drive: Set for the years 2028-2029, this project will focus on upgrading the underground cable network to mitigate risks and improve system resilience. The budget for this project is $800K, with more than 50% ($420K) in the first year, and the remainder in 2029 ($380K).

These projects are essential for maintaining the integrity and reliability of the power distribution system and are part of a broader effort to modernize the infrastructure.

2. TIMING

- Start Date: 2025
- In-Service Date: December 2029
- Key factors that may affect timing: Whether the projects are also converted to 27.6kV will depend on the timing of the new 27.6kV substation construction.

3. HISTORICAL AND FUTURE CAPITAL EXPENDITURES

Below summarizes LPDL's historical and future capital expenditures for Underground Renewal.

Table 1: Historical & Future Capital Expenditures

Category	Historical ($'000)					Bridge	Forecast ($'000)				
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Underground Renewal	336	39	0	117	0	0	290	0	0	420	380

4. ECONOMIC EVALUATION (EXPANSION PROJECTS)

This is not applicable.

5. COMPARATIVE HISTORICAL EXPENDITURE

Table 2: Summary of Work Completed Over Historical Period

Year	Summary of Work Completed
2019	Replaced underground primary cables on Catherine Cres, to facilitate new subdivision development.
2020	Some remaining expenditures on Catherine Cres, and some expenditures on Lakeview Dr.
2021	None. Note that Lakeview Dr was deferred due to Covid.
2022	Replace underground primary cables on Lakeview Dr, Huntsville.
2023	None.

6. INVESTMENT PRIORITY

When compared to the other projects that have been deemed high priority, underground renewal placed relatively low on the prioritization matrix, at 45.

7. ALTERNATIVES ANALYSIS

LPDL considered the following options:

i. Do nothing: In the case of the “do nothing” option, old and deteriorating assets would remain in the field without intervention. Identifying underground faults can prove to be difficult, time consuming and can result in safety risks, lengthy customer outages, and increases to system O&M (trouble calls) costs. Therefore, this alternative is not recommended.

ii. Replacement of Assets without voltage conversion: Replacement of assets without voltage conversion would mitigate the failure risk and maintain the cost per customer at current levels. However, there will still be no redundancy in case of failure and LPDL needs to continue paying shared distribution cost to HONI. Therefore, it is not an optimal option.

iii. Carry out the proposed project: Project as planned replaces assets that are at failure risk

due to the end of life through a planned approach. This will mitigate the cost of an unplanned outage.

8. INNOVATIVE NATURE OF THE PROJECT

This is not applicable.

9. LEAVE TO CONSTRUCT APPROVAL

This is not applicable.

B. EVALUATION CRITERIA AND INFORMATION/REQUIREMENTS

1. EFFICIENCY, CUSTOMER VALUE, RELIABILITY & SAFETY

Table 3: Investment Evaluation - Efficiency, Customer Value, Reliability & Safety

Primary Criteria for Evaluating Investments	Investment Alignment
Efficiency	The projects gain efficiency by making improvements in both asset renewal, and reducing ongoing costs incurred due to shared distribution charges from HONI.
Customer Value	The project aligns with the following customer priorities: **Maintaining and upgrading equipment to ensure a safe and reliable electricity supply:** Replacing aging assets will improve reliability. **New technology to support renewable energy generation, electric vehicles, etc.:** With the construction of the new 27.6kV substation, LPDL will aim to connect the two subdivisions to its system. There is no significant additional expenditures to facilitate a conversion to 27.6kV, because the 27.6kV system is very close in both cases. **Improved outage communication (outage map, social media, etc.):** Currently, LPDL has no visibility on HONI-owned assets, including the non-telemetered reclosers currently employed at Beaumaris DS. As such, LPDL must continuously call HONI for an update. LPDL requests HONI to provide updates proactively, but normally this does not occur. As such,

	with the new subdivisions connected to LPDL's 27.6kV system, they will be part of an overall smarter grid that communicates directly to LPDL's SCADA system and outage map.
Reliability	There are two main reliability benefits for completing underground renewal in the two proposed areas: 1. Replacement of aging assets reduces the likelihood of failure later on. The cost of reactive replacement is normally very costly, especially for old cable that is direct buried. 2. Currently, LPDL relies solely on customer calls to be aware of outages on Beaumaris DS. The rights to install or operate equipment on HONI-owned stations is very limited as we do not own the line or the poles. Feeding the subdivisions from LPDL's 27.6kV system will greatly impact reliability and visibility, allowing for faster outage response times.
Safety	These projects aim to replace assets in poor condition, which are likely to fail soon. Doing so will prevent potential safety hazards.

2. INVESTMENT NEED

i. Main Driver: Efficiency, Renewal, Performance Improvement

ii. Secondary Drivers: Future energy cost reduction by load removal from HONI DS

iii. Information Used to Justify the Investment:

Westvale Dr., Bracebridge

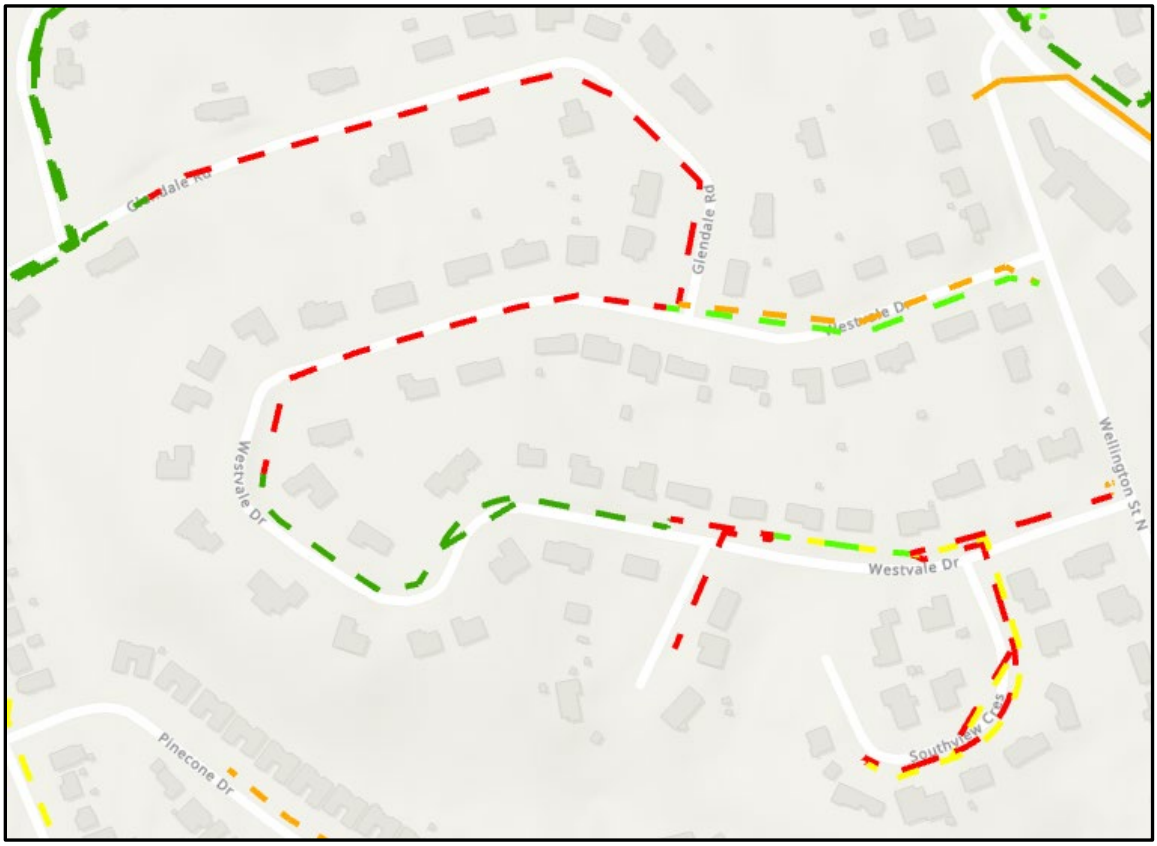
The underground high voltage cable servicing Westvale Dr. in Bracebridge has been in operation for over 40 years and is now approaching the end of its service life. Historical data indicates that LPDL has experienced multiple failures of these underground high voltage cables in this subdivision. Inspections have further documented the deterioration of critical components such as elbows and vaults, highlighting an urgent need for renewal.

Originally constructed as a 12.47kV radial feed, the Westvale Dr. subdivision will undergo significant upgrades during this renewal project. The system will be upgraded to a loop feed configuration connected to the 27.6kV system. This change will not only enhance contingency measures in the event of a failure but will also significantly improve the overall reliability of the electrical supply to the area.

Moreover, this upgrade will mitigate the load on the HONI-owned Beaumaris Distribution Station (DS) by removing the existing 12.47kV load. Reducing reliance on HONI stations will consequently lower shared distribution charges for LPDL, leading to cost savings. This strategic renewal of the underground infrastructure at Westvale Dr. exemplifies LPDL's commitment to maintaining efficiency, reliability, and customer value while ensuring the safety of its electrical distribution network.

Below is a snapshot of LPDL's ACA, represented geographically using ArcGIS Pro.

Figure 1: Westvale Dr Underground Renewal



Meadow Heights Dr, Bracebridge

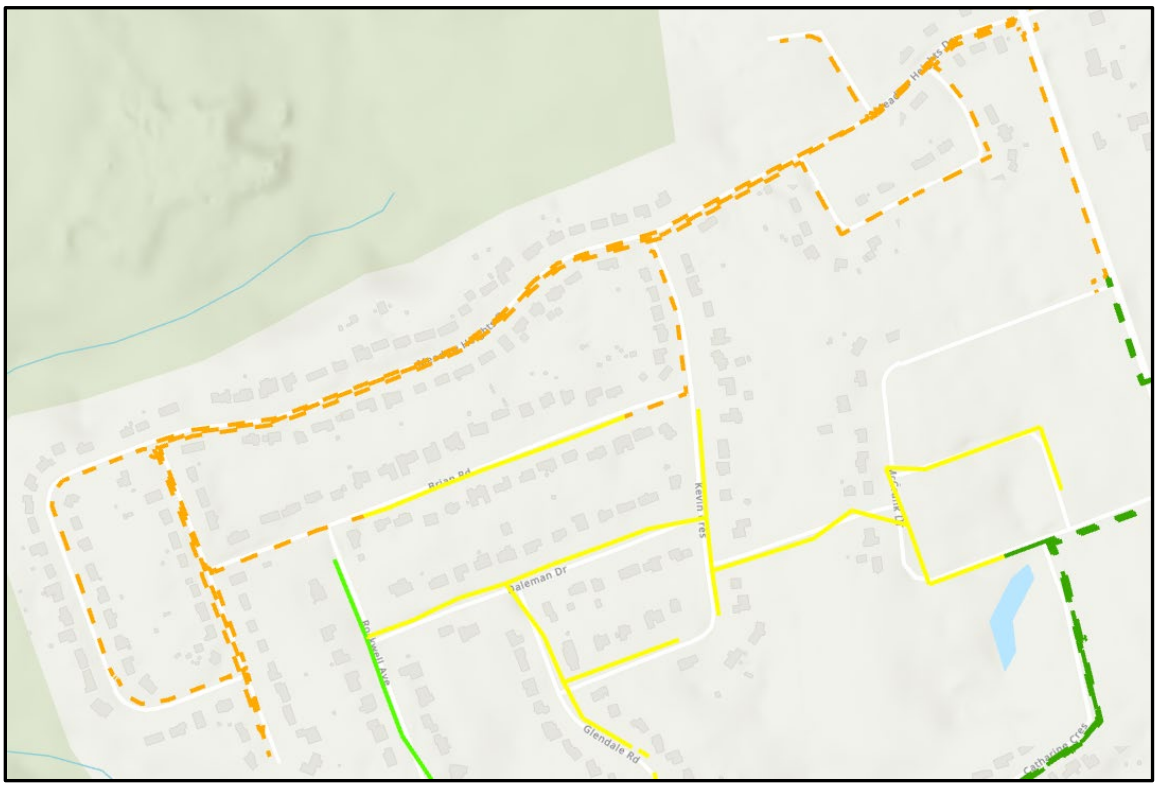
Meadow Heights Dr is a significant subdivision in Bracebridge, where the high voltage cable will have surpassed 40 years of operation by the commencement of the renewal project. The aging infrastructure places the subdivision at an elevated risk of service interruptions, affecting a substantial number of customers in the event of cable failure.

Furthermore, Meadow Heights Dr. contributes a considerable portion of the customer load on the Beaumaris DS. Consequently, converting the system to 27.6kV presents substantial benefits for both LPDL and its customer base. This conversion will not only enhance the reliability and

efficiency of the electrical supply to this area but also alleviate the financial burden of shared distribution charges currently imposed.

Below is a snapshot of LPDL's ACA, represented geographically using ArcGIS Pro.

Figure 2: Meadow Heights Dr. Underground Renewal



3. INVESTMENT JUSTIFICATION

i. Demonstrating Accepted Utility Practice: Replacement of old primary underground cables is considered a proactive aspect of any LDCs business, and is common practice due to the high risk involved with primary cable failure.

ii. Cost-Benefit Analysis: LPDL considers the cost of such projects and compares it with the risk involved, as well as the additional costs of reactive replacements. While LPDL does not proactively replace secondary cables, LPDL deems it prudent to proactively replace primary cables that are at or near end-of-life.

iii. Historical Investments & Outcomes Observed: LPDL historically spends quite modestly in the underground renewal project. However, in areas where replacements occur, LPDL has observed no premature cable failures. LPDL has high confidence in the manufacturing process and reliability of new XLPE cables.

iv. Substantially Exceeding Materiality Threshold: This is not applicable.

4. CONSERVATION AND DEMAND MANAGEMENT

This is not applicable.

5. INNOVATION

This is not applicable.

MATERIAL INVESTMENT NARRATIVE

PROJECT / PROGRAM:

VOLTAGE CONVERSIONS

INVESTMENT CATEGORY: SYSTEM RENEWAL & SYSTEM ACCESS

A. GENERAL INFORMATION ON THE PROJECT/PROGRAM

1. OVERVIEW

The 4.16kV to 27.6kV conversion projects and the subsequent construction of the new 27.6kV Substation involve the replacement and upgrading of existing pole lines that have reached end of life or require replacement. These upgrades are determined through LPDL's asset management process, which assesses the condition and performance of existing infrastructure. 4.16kV voltage conversions in Bracebridge are considered to go hand-in-hand with the New 27.6kV Substation project.

In 2026, all voltage conversion work in Bracebridge should be completed. LPDL then plans to consistently spend on 4.16kV to 12.47kV conversions in Parry Sound. Similar to Bracebridge, much of the oldest and most deteriorated infrastructure is on the 4.16kV system in Parry Sound.

2. TIMING

i. Start Date: 2025

ii. In-Service Date: 2026 (Bracebridge), 2029 (Parry Sound)

iii. Key factors that may affect timing: The following factors can impact the project schedule:

- Unforeseen changes in supply chain, such as with poles
- Years with several severe storms, requiring adjustments to budget

3. HISTORICAL AND FUTURE CAPITAL EXPENDITURES

Historical and future capital expenditures on 4.16kV conversions are summarized in the table below.

Category	Historical ($'000)					Bridge	Forecast ($'000)				
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
4.16kV Conversions	569	337	281	322	559	610	445	375	390	440	490

Beginning in 2026, LPDL will commence the systematic conversion of systems from 4.16kV to 12.5kV in Parry Sound. In 2025, LPDL plans to install smart-switches at Parry Sound MS5, leveraging its available capacity throughout the forecast period. Several locations suitable for conversion work is also identified in our ACA as elevated risk, thus providing multiple benefits. In addition to reducing line losses and increasing capacity, this initiative will enhance grid stability and future-proof the infrastructure to accommodate future growth.

4. ECONOMIC EVALUATION (EXPANSION PROJECTS)

This is not applicable.

5. COMPARATIVE HISTORICAL EXPENDITURE

Historical expenditure data is detailed in Section A3. From 2019 to 2023, LPDL systematically executed 4.16kV conversion projects in Bracebridge as part of the System Renewal initiatives. These projects involved upgrading existing electrical infrastructure, enhancing the reliability and efficiency of power distribution systems, and ensuring compliance with technical standards. The comprehensive approach included the integration of advanced technologies, such as automated control systems and enhanced protective relays, to optimize operational performance and reduce outage durations. This groundwork sets the stage for subsequent upgrades and expansions, facilitating a more resilient and adaptable grid.

6. INVESTMENT PRIORITY

4.16kV conversions ranked relatively high (56) for Bracebridge, and slightly lower in Parry Sound (55). Because voltage conversions in Bracebridge are strongly tied to the new substation rebuild, and currently only has 1 substation, it would be considered risky to not proceed with conversions in Bracebridge.

In Parry Sound, LPDL will work toward steadily converting all 4.16kV, with the end goal of having three substations, down from five when LPDL merged with Parry Sound Power (PSP). LPDL has already reduced the number to four. At the proposed pace, conversion work in Parry Sound would need to carry on for roughly 15 years before it is completely converted. This is necessary to facilitate future electrification.

7. ALTERNATIVES ANALYSIS

In Bracebridge, the alternative is to maintain the small amount of 4.16kV infrastructure that remains. This is not considered viable, as the system is fed from one substation, and not proceeding would undermine many years of conversion work leading up to this point.

In Parry Sound, the alternative is to maintain the 4.16kV infrastructure as-is. While this is viable, it does not align with government initiatives for the electrification of Ontario. Additionally, the efficiencies of having one voltage class in the town would not be realized. We would need to keep and maintain at least four substations, possibly more as demand increases.

8. INNOVATIVE NATURE OF THE PROJECT

While the project itself is not directly innovative, the increased capacity will support innovation within our customer base. Particularly, the project supports Ontario's goal of increased electrification such as with EVs.

9. LEAVE TO CONSTRUCT APPROVAL

This is not applicable.

B. EVALUATION CRITERIA AND INFORMATION/REQUIREMENTS

1. EFFICIENCY, CUSTOMER VALUE, RELIABILITY & SAFETY

Primary Criteria for Evaluating Investments	Investment Alignment
Efficiency	Typically, our oldest and most at-risk infrastructure is on the 4.16kV system. Regardless of voltage conversions, the infrastructure must be replaced to ensure LPDL is meeting our obligations to safe and reliable power. Efficiencies are gained by coordinating the conversions with the asset replacements.
Customer Value	4.16kV conversions and related deteriorated asset replacements align with all of the top 5 priorities relayed by our customers listed below. Affordable cost of electricity **Maintaining and upgrading equipment to ensure a safe and reliable electricity supply:** In addition to the above points, modern protection and control equipment, as well as communication equipment backed by fiber optical internet will greatly increase reliability. **Storm hardening (physical infrastructure improvements increasing resistance to weather):** Newer infrastructure is more resilient to storms, and thus positively impacts reliability. **New technology to support renewable energy generation, electric vehicles, etc.:** Voltage conversions align with government direction to increase capacity, and benefits our customers as we will be able to facilitate their requests as our system capacity increases. **Improved outage communication (outage map, social media, etc.):** The options for telemetered switches, especially in configurations that can restore power faster, is greater in systems where the voltage is the same. Telemetered switches greatly increase visibility, and assist us in communicating with the customer faster.
Reliability	In Bracebridge, reliability will increase drastically upon completion of the new substation. “Reliability will be increased not only with the new substation, but for other 27.6kV feeders in Bracebridge. The new substation will be fed from Bracebridge TS, which is less than 2km from the proposed substation. Reliability will be gained by automatic switching

	between the new 27.6kV substation and our existing 27.6kV substations, which are on the Muskoka TS, which historically has seen poor reliability performance." In Parry Sound, reliability will be affected mostly by aligning the replacement of old, deteriorated assets with voltage conversions. Thus, we align reliability with increased system capacity while decreasing line losses.
Safety	Safety is improved by ensuring the most at-risk assets are replaced. The environment becomes safer for our workers and the public.

2. INVESTMENT NEED

i. Main Driver: Reliability and system efficiency.

ii. Secondary Drivers: Load growth & supporting new infrastructure & electrification

iii. Information Used to Justify the Investment: Historical data, load forecasting, government initiative for electrification

3. INVESTMENT JUSTIFICATION

i. Demonstrating Accepted Utility Practice: All construction shall be in compliance with Regulation 22/04. 4.16KV conversions are commonplace among utilities in Ontario.

ii. Cost-Benefit Analysis: LPDL is maintaining a conversion pace of 4.16kV in line with traditional standards. Our goal is to invest in a way that balances reliability and expansion against customer rates.

iii. Historical Investments & Outcomes Observed: Historical investments have been made with progression toward converting all 4.16kV in Bracebridge to 27.6kV. The more we continue to do this, we will see reduced line losses, increased visibility, and greater customer communication as a result. In addition, replacement of deteriorated 4.16kV assets in our system is seem as a necessity to ensure our system remains safe to the public and our workforce.

iv. Substantially Exceeding Materiality Threshold: This is not applicable.

4. CONSERVATION AND DEMAND MANAGEMENT

This is not applicable.

5. INNOVATION

This is not applicable.

MATERIAL INVESTMENT NARRATIVE

PROJECT / PROGRAM:

CAPACITY UPGRADES

INVESTMENT CATEGORY: SYSTEM SERVICE

A. GENERAL INFORMATION ON THE PROJECT/PROGRAM

1. OVERVIEW

Capacity upgrades encompasses larger projects in which the driver is to meet growth demand, especially in relation to electrification.

LPDL has two major planned projects over the forecast period:

- Isabella St., Parry Sound
- Beatty St., Parry Sound

Through feeder-modelling and consultation with developers and Electric Vehicle Supply Equipment (EVSE) installers, LPDL has identified critical areas in the north end of Parry Sound that require new conductors to meet the increasing demand. This includes a new subdivision, a high school, a recreation centre, two level-three EVSE charger locations, and several vehicle dealerships installing EVSEs. LPDL plans to commence this essential work in 2025.

Capacity upgrades encompass larger projects aimed at meeting growth demand, particularly concerning electrification. These upgrades are essential for ensuring that our infrastructure can accommodate increasing energy requirements and support the transition to more sustainable energy sources.

LPDL has identified two major planned projects over the forecast period:

- Isabella St., Parry Sound: This project involves the installation of new conductors to address the growing energy demands in the area. The project will support a new subdivision, a high school, a recreation centre, and several other critical infrastructures. The new conductors will ensure reliable energy supply and enhance the overall capacity of the local grid.
- Beatty St., Parry Sound: Similarly, this project aims to upgrade the existing infrastructure to meet the increasing demand driven by new developments and the expansion of EVSE installations. The area includes two level-three EVSE charger locations and several vehicle dealerships that are installing EVSEs. The upgrades will facilitate the seamless integration of these new energy demands into the current grid, ensuring stability and efficiency.

Through meticulous feeder-modelling and close consultation with developers and EVSE installers, LPDL has pinpointed critical areas in the north end of Parry Sound that require immediate attention. These upgrades are not merely anticipatory but are driven by concrete developments in the region that necessitate an enhanced and reliable power supply.

LPDL plans to commence this essential work in 2025.. By addressing these critical areas, LPDL aims to ensure that the infrastructure is robust, future-proof, and capable of supporting the region's growth and development.

2. TIMING

i. Start Date: 2025/2026

ii. In-Service Date: 2026/2027

iii. Key factors that may affect timing: The key factors that may affect timing are:

- Budgetary constraints due to reprioritization
- Unforeseen supply chain issues

3. HISTORICAL AND FUTURE CAPITAL EXPENDITURES

Historical and future capital expenditures are summarized in the table below.

Category	Historical ($'000)					Bridge	Forecast ($'000)				
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Capacity Upgrades	0	0	116	5	0	0	440	190	145	0	0

4. ECONOMIC EVALUATION (EXPANSION PROJECTS)

This is not applicable.

5. COMPARATIVE HISTORICAL EXPENDITURE

Historical expenditures are detailed in Section A3.

In 2021, LPDL undertook a significant project to convert the existing single-phase power lines to three-phase power on Barron Drive in Bracebridge. This project was essential to support the increasing industrial growth in the area. The initiative was partially funded by Natural Resources Canada (NRCan), which provided financial assistance to facilitate this infrastructure upgrade. The successful completion of this project has enhanced the capacity and reliability of the power supply, thereby meeting the growing energy demands of local industries and promoting further economic development in the region.

6. INVESTMENT PRIORITY

This project is ranked as the third highest priority among discretionary projects, boasting a priority rating of 64. Given the ever-increasing emphasis on growth and electrification, addressing these factors is vital for ensuring the continued reliability and robustness of the distribution system. By proactively managing these aspects, Lakeland Power aims to efficiently meet the evolving demands placed on the infrastructure, thereby enhancing service delivery and securing future energy needs. This strategic focus not only supports immediate operational efficiency but also lays the groundwork for sustainable development and long-term economic growth in the region.

7. ALTERNATIVES ANALYSIS

Lakeland Power considered the following options:

i. **Do nothing:** Not upgrading would limit customer growth in the area.

ii. **Carry out the proposed project**: This is the preferred option as it allows

Lakeland Power to meet the customer requirements in this area.

8. INNOVATIVE NATURE OF THE PROJECT

This is not applicable.

9. LEAVE TO CONSTRUCT APPROVAL

This is not applicable.

B. EVALUATION CRITERIA AND INFORMATION/REQUIREMENTS

1. EFFICIENCY, CUSTOMER VALUE, RELIABILITY & SAFETY

Primary Criteria for Evaluating Investments	Investment Alignment
Efficiency	The projects will result in greater operating efficiency with new poles and conductor, reduced line losses, and standardized equipment. LPDL will consolidate a 44kV and 12.47kV circuit to the same pole line, resulting in improved long-term maintenance costs.
Customer Value	This investment is aligned with the following LPDL customer priorities. **Maintaining and upgrading equipment to ensure a safe and reliable electricity supply:** Upgrade of infrastructure will see new poles, consolidated circuits, and increased capacity. New poles will be at less risk of failure. **Storm hardening (physical infrastructure improvements increasing resistance to weather):** New poles supporting 44kV and 12.47kV feeders will be build to LPDL's current design standards. **New technology to support renewable energy generation, electric vehicles, etc.:** The increased capacity will support electric vehicle installations. This specific area has several including a Tesla charging station, EV chargers at vehicle dealerships, and planned EV installations at the new recreational centre. It is foreseeable that other business in the area will seek to install EVs in the near future, so LPDL aims to be ready.
Reliability	Upgrade of infrastructure will see new poles, consolidated circuits, and increased capacity. New poles will be at less risk of failure. New poles supporting 44kV and 12.47kV feeders will be build to LPDL's current design standards.

Safety	This investment will enhance public and worker safety by upgrading poles and their structures to meet LPDL's current design standards.

2. INVESTMENT NEED

i. Main Driver: Customer growth, capacity

ii. Secondary Drivers: Innovation (EVs)

iii. Information Used to Justify the Investment:

Isabella/Joseph St.

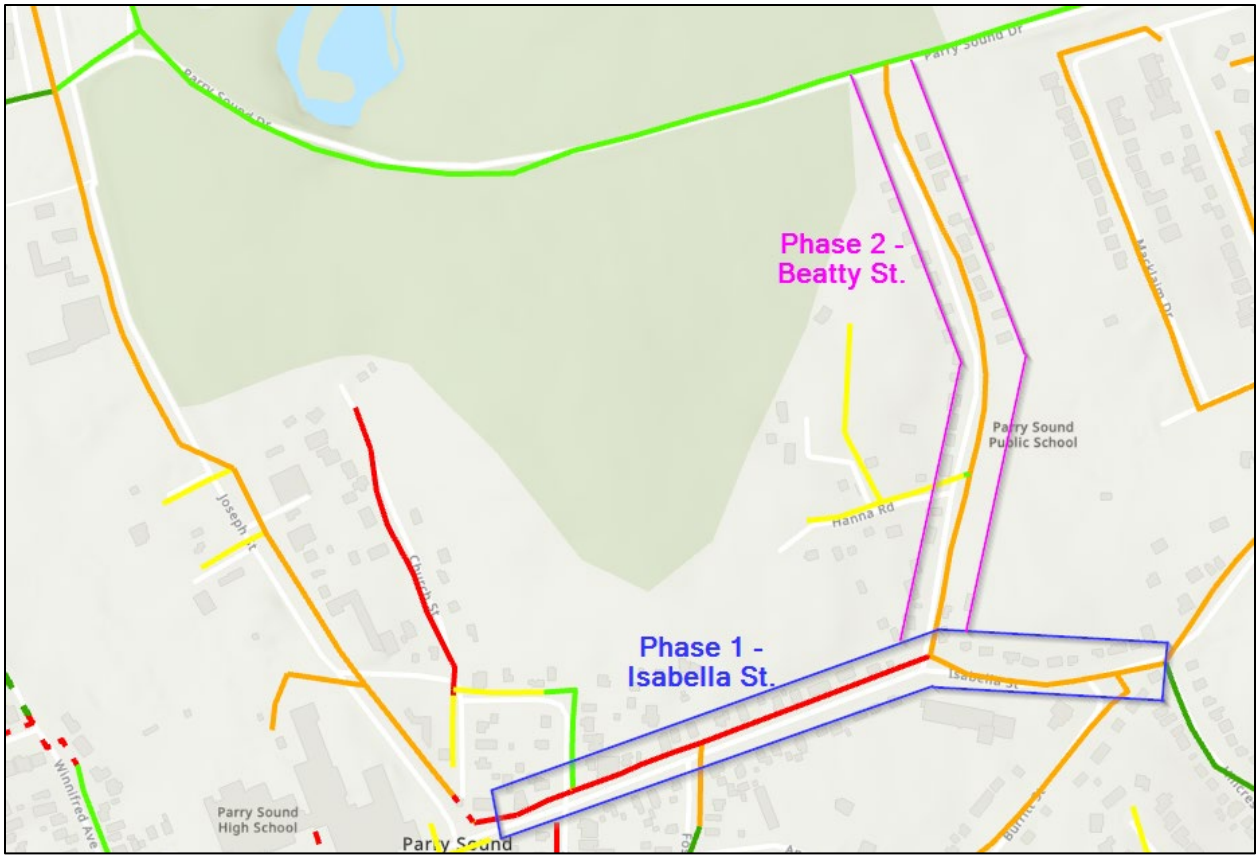
The northern part of Parry Sound has experienced considerable development over recent years, with enhancements to existing infrastructure and the introduction of new projects. In 2023, LPDL engaged an independent engineering firm to perform a feeder modeling study in the area, which suggested upgrading the conductors as one viable solution. This region is serviced by the Parry Sound MS3 F2 feeder, particularly the segment from Hillcrest Dr. to Joseph St. on Isabella St., which currently comprises #2 and 1/0 aluminum conductor. These conductors are inadequate for supporting additional load and require an upgrade.

The project will include re-conductoring with 336 AAC conductors along the existing 44kV pole line on the south side of the road on Isabella St. This process will necessitate replacing poles on the 44kV circuit where space constraints do not align with current standards. Constructing the new circuit on the 44kV pole line will allow LPDL to remove the 12kV pole line on the north side of Isabella St., which is in fair to poor condition.

Beatty St.:

Following the completion of Isabella St., Beatty St. will also undergo re-conductoring to 336 AAC. The current wire in use is #2 aluminum. This section is part of a loop that supplies power to a substantial commercial zone, including car dealerships, restaurants, a college, a high school, an elementary school, and several residential customers. Moreover, this re-conductoring will facilitate further expansion on Winnifred Ave., where a new subdivision is planned. Future conversions from 4.16kV to 12.47kV are also dependent on this work.

The following image illustrates the two planned projects described above.



3. INVESTMENT JUSTIFICATION

i. Demonstrating Accepted Utility Practice: LPDL constructs all new infrastructure to its latest design standards. LPDL is a member of the Utility Standards Forum (USF) and actively engages in its design standard revision working group.

ii. Cost-Benefit Analysis: LPDL mainly considered the impact of not completing the project when considering whether to invest. Ultimately, not investing in the area would be contradictory to the OEB's directive to account for future growth. In this particular area, we have consulted extensively with customers and developers, resulting in an unequivocal decision to move forward.

iii. Historical Investments & Outcomes Observed: The project on Barron Dr. allowed a manufacturing facility in Bracebridge to expand. LPDL was successful in working with the customer toward a common goal, resulting in greater customer satisfaction.

iv. Substantially Exceeding Materiality Threshold: This is not applicable.

4. CONSERVATION AND DEMAND MANAGEMENT

This is not applicable.

5. INNOVATION

This is not applicable.

MATERIAL INVESTMENT NARRATIVE

PROJECT / PROGRAM:

DISTRIBUTION AUTOMATION / SCADA

INVESTMENT CATEGORY: SYSTEM SERVICE

A. GENERAL INFORMATION ON THE PROJECT/PROGRAM

1. OVERVIEW

The majority of expenditures in distribution automation and SCADA systems are allocated towards the integration of advanced smart-switches.These include viper reclosers managed by Schweitzer Engineering Laboratories (SEL) 651R relays. These switches are pivotal in enhancing operational efficiency and significantly minimizing outage durations through improved fault isolation and automated restoration capabilities. Additionally, customer communication is enhanced as LPDL's system visibility and real-time data acquisition capabilities are greatly improved.

LPDL is committed to ensuring that its electrical grid infrastructure is aligned with the latest technological advancements. This commitment not only promises increased reliability but also a future-proof grid capable of adapting to emerging innovations and demands.

The two locations for upgraded switches in 2025 are Magnetawan, with one recloser at $90K and MS5 which will be receiving two new units at a cost of $200K.

2. TIMING

i. Start Date: 2025

ii. In-Service Date: 2029

iii. Key factors that may affect timing: Budgetary constraints. Since this project is discretionary, it may be moved lower on the priority list.

3. HISTORICAL AND FUTURE CAPITAL EXPENDITURES

Historical and future capital expenditures are summarized in the table below.

Category	Historical ($'000)					Bridge	Forecast ($'000)				
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
SCADA/Grid Automation	2	0	0	50	191	140	266	70	70	250	250

4. ECONOMIC EVALUATION (EXPANSION PROJECTS)

This is not applicable.

5. COMPARATIVE HISTORICAL EXPENDITURE

Historical expenditures are detailed in Section A3.

Prior to 2022, LPDL did not make any significant investments into this project.

In 2022, LPDL purchased a viper recloser and 651R relay, but did not install it until 2023.

In 2023, LPDL installed three viper reclosers at key feeder tie points, which are communicating through SCADA system.

Costs have significantly increased since these reclosers were purchased

6. INVESTMENT PRIORITY

Distribution Automation / SCADA was given a rating of 55, which is roughly average.

7. ALTERNATIVES ANALYSIS

Lakeland Power considered the following options:

Do nothing: This is viable, however does not align with customer preferences to better outage communication. Furthermore, it leaves LPDL lagging in grid innovation development, and has a negative impact on reliability.

Carry out the proposed project: This is the preferred option as it allows Lakeland Power to meet the customer requirements in this area.

8. INNOVATIVE NATURE OF THE PROJECT

Continuous development of LPDL's distribution automation and SCADA system is paramount to ensuring the company can enhance operational efficiency, reliability, and customer satisfaction. By integrating advanced technologies such as the viper reclosers and 651R relays, LPDL can significantly improve grid stability, reduce downtime during outages, and provide better communication to customers during service interruptions. These upgrades also facilitate remote monitoring and control, streamlining maintenance processes and optimizing resource allocation. Consequently, LPDL is better positioned to meet the evolving demands of its customer base and stay at the forefront of grid innovation.

9. LEAVE TO CONSTRUCT APPROVAL

This is not applicable.

B. EVALUATION CRITERIA AND INFORMATION/REQUIREMENTS

1. EFFICIENCY, CUSTOMER VALUE, RELIABILITY & SAFETY

Primary Criteria for Evaluating Investments	Investment Alignment
Efficiency	Standardization. This project will standardize our equipment and create ease of use for staff who have familiarity with similar devices in several LPDL locations. Visibility. LPDL will have better visibility into the distribution system with the updated devices and can be integrated into LPDL's SCADA system for remote operation.
Customer Value	Customer value will be enhanced by a safer and more stable distribution system. Customer communication will be improved due to real-time outage map updates.
Reliability	During a feeder trip, LPDL will have visibility through its SCADA system to diagnose issues, dispatch crews with real time data and restore feeder remotely without have to dispatch a crew to the station to close the feeder once the fault has been identified and fixed.
Safety	If a conductor comes down or a tree is on a line the new reclosers will react faster to isolate the voltage to the circuit. Replacing the oil reclosers with Solid Dielectric reclosers will remove another oil filled device from the systems resulting in a lessor chance of spill and contamination.

2. INVESTMENT NEED

i. Main Driver: Reliability, efficiency, performance improvement, innovation

ii. Secondary Drivers: Customer communication

Information Used to Justify the Investment: LPDL's Parry Sound MS5 substation currently relies on 9 oil reclosers to operate the 3 high-voltage feeders in the MS5 substation, which protects the primary cabling from faults and over-loading. LPDL's current reclosers are aging and several are showing signs of deterioration and prone to failure. By upgrading to modern, intelligent Viper reclosers, this will improve reliability, system visibility and derive other benefits for the distribution system and its customers.

In 2025, the replacement program will include replacing the 9 oil reclosers with 9 solid dielectric reclosers. These reclosers will be controlled with 3-651R relays installed with firewalls for cyber security reasons. These relays, once connected to LPDL's SCADA network will be able to be monitored and controlled remotely, improving response time for feeder restoration and feeder load balancing.

3. INVESTMENT JUSTIFICATION

i. Demonstrating Accepted Utility Practice: Accepted practices in the electricity sector show its transformation, influenced by energy decentralization and increased use of DERs, supported by digital advancements. Although customers worry about costs, they expect LPDL to invest in these technologies. Despite uncertainty in their pace, these trends are driving the future of energy, including the electrification of heating and transportation.

ii. Cost-Benefit Analysis: LPDL carefully considers locations that are strategically beneficial for operational efficiencies and reliability. In 2025, replacing the reclosers at Parry Sound MS5 will give us more flexibility to expand the 12.47kV system.

iii. Historical Investments & Outcomes Observed: In 2023, LPDL made it's first large investment into distribution automation. The main outcome was operational efficiency and reliability. For example, during the failure of Centennial MS, which affects over 1000 customers, LPDL was able to restore the majority of customers (Centennial-F1) immediately using the viper reclosers installed in 2023.

iv. Substantially Exceeding Materiality Threshold: This is not applicable.

4. CONSERVATION AND DEMAND MANAGEMENT

This is not applicable.

5. INNOVATION

Detailed in Section A8.

MATERIAL INVESTMENT NARRATIVE

PROJECT / PROGRAM:

COMPUTER SOFTWARE

INVESTMENT CATEGORY: GENERAL PLANT

lakeland POWER

Material Investment Narrative

Investment Category: General Plant

Computer Software

A. GENERAL INFORMATION ON THE PROJECT/PROGRAM

1. OVERVIEW

Expenditures in computer software are crucial to ensuring LPDL's business operations stay efficient and modern to match today's technological era.

In 2025, LPDL is planning to upgrade it's Geographic Information System (GIS) from the old Geometric model to the Utility Network Model. This is a move that most utilities in Ontario are planning to complete at some point. The Geometric model is coming into mature support on March 1, 2026, which poses cybersecurity risks long term.

Expenditures in computer software are crucial to ensuring LPDL's business operations stay efficient and modern to match today's technological era. In 2025, LPDL is planning to upgrade its Geographic Information System (GIS) from the old Geometric model to the Utility Network Model (UNM). This strategic initiative is imperative for maintaining competitiveness and operational security.

The current geometric model, although functional, is approaching mature support, which poses significant cybersecurity risks and operational inefficiencies in the long term. By transitioning to the UNM, LPDL aims to harness the latest advancements in GIS technology, which will enable more precise mapping, robust data management, and improved integration with other systems.

Furthermore, this upgrade will facilitate better decision-making capabilities and enhance the overall reliability of our infrastructure. The move is in line with industry trends, as most utilities in Ontario and beyond are making similar upgrades to bolster their systems against emerging threats and to take advantage of new technological capabilities.

2. TIMING

i. Start Date: January 2025

ii. In-Service Date: December 2025

iii. Key factors that may affect timing:

- External parties timing
- ESRI (Software vendor)
- QSI (Consultant)
- CHEC (Consultant)

3. HISTORICAL AND FUTURE CAPITAL EXPENDITURES

Category	Historical ($'000)					Bridge	Forecast ($'000)				
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Computer Software	48	56	0	55	86	75	150	75	75	75	75

4. ECONOMIC EVALUATION (EXPANSION PROJECTS)

- This is not applicable.

5. COMPARATIVE HISTORICAL EXPENDITURE

Migration to the UNM has recently emerged as a significant trend in Ontario's utilities sector. Until a few years ago, no LDCs had completed this migration. However, the landscape is now rapidly evolving, with an increasing number of LDCs successfully transitioning to the UNM framework. For LPDL, aligning with this trend is not just about staying current; it is crucial for maintaining system reliability and security. The transition will allow LPDL to leverage vendor support, ensure compliance with industry standards, and mitigate the growing risks associated with outdated software systems. By adopting the UNM, LPDL can safeguard its infrastructure against potential data breaches, cyber-attacks, and other vulnerabilities, thus ensuring the continued integrity and functionality of its operations.

6. INVESTMENT PRIORITY

Computer Software ranked below average, with a rating of 50, on LPDL's investment priorities. This is primarily because Public & Worker safety carries the highest criteria weight, while IT Software's impact on this aspect is minimal. Nonetheless, System Reliability and Capacity are somewhat affected due to the heightened security risks inherent in not upgrading to the UNM. These risks include potential data breaches, compliance issues with industry standards, and increased vulnerability to cyber-attacks, which could compromise the integrity and reliability of our system infrastructure.

7. ALTERNATIVES ANALYSIS

Lakeland Power considered the following options:

i. **Do nothing:** Software updates, including security patches for ArcMap, will cease in 2024 and support of ArcMap will be completely phased out by 2026. Lack of vendor support and security vulnerabilities present significant risks to the business.

ii. **Carry out the proposed pacing of investments**: This is the preferred option as it ensures LPDL is keeping pace with other utilities, can call on support from the vendor, and will help ensure our system is not subject to undue vulnerabilities.

8. INNOVATIVE NATURE OF THE PROJECT

This is not applicable.

9. LEAVE TO CONSTRUCT APPROVAL

This is not applicable.

B. EVALUATION CRITERIA AND INFORMATION/REQUIREMENTS

1. EFFICIENCY, CUSTOMER VALUE, RELIABILITY & SAFETY

Table 3: Investment Evaluation - Efficiency, Customer Value, Reliability & Safety

Primary Criteria for Evaluating Investments	Investment Alignment
Efficiency	LPDL will achieve significant efficiencies with updated software as it provides greater flexibility of information. The new (UNM) comprehends three-phase systems, unlike the geometric model, which does not. This allows for more accurate and efficient system operations, reducing downtime and improving overall productivity.
Customer Value	GIS software plays a critical role in our asset management process. By ensuring LPDL has an accurate and up-to-date representation of our distribution system, GIS helps us make well-informed investment decisions that directly benefit our customers. It enhances service delivery, reduces outages, and ensures safety in our operations.
Reliability	GIS is indispensable in maintaining reliability as it integrates seamlessly with our Asset Management Process. It allows for predictive maintenance, early failure prediction, and swift response to issues, thereby significantly reducing the likelihood of service interruptions and ensuring a more reliable grid for our customers.
Safety	Upgrading to the UNM will significantly enhance our ability to track and manage assets, ensuring they are regularly inspected and maintained. Not upgrading poses a cybersecurity risk, as outdated software can be vulnerable to breaches that could compromise customer information. The new system will bolster our cybersecurity measures, protecting both our infrastructure and our customers' private data.

2. INVESTMENT NEED

i. Main Driver: Keeping pace with technological advancements & securing our operations

ii. Secondary Drivers: Software security vulnerability risk due to mature support

Information Used to Justify the Investment: LPDL's GIS team has leveraged Esri's ArcMap software for utility asset database recording, system mapping, analysis, and other geospatial functions to support operational and business needs. Software updates, including security patches, will cease in 2024 and the support of ArcMap will be completely phased out by 2026. Anticipating these changes, the GIS team is proposing migration to ArcGIS Pro - the next generation Esri GIS desktop software to replace ArcMap.

In addition to upgrading the desktop tool, it is also necessary to replace the underlying data model with Esri's Utility Network (UN), a requirement to edit and analyze utility network data using ArcGIS Pro. The Utility

Network (UN) model offers a digital representation of the network systems that is more accurate, more useful and more reliable than the legacy, antiquated Geometric Network model. The data model migration to UN will modernize GIS utility maintenance and functionality, will deliver the full value of the ArcGIS platform, and can result in increased operational efficiency, customer value, reliability and safety.

3. INVESTMENT JUSTIFICATION

i. Demonstrating Accepted Utility Practice: UNM migration is an increasingly common topic among LDCs as they seek to switch. LPDL seeks to remain up to date with the latest technology.

ii. Cost-Benefit Analysis: This program is being completed to ensure LPDL remains in a position to take advantage of modern methodologies and business practices.

iii. Historical Investments & Outcomes Observed: This is not applicable.

iv. Substantially Exceeding Materiality Threshold: This is not applicable.

4. CONSERVATION AND DEMAND MANAGEMENT

This is not applicable.

5. INNOVATION

This is not applicable.

MATERIAL INVESTMENT NARRATIVE

PROJECT / PROGRAM:

SA –Contributed Customer Capital

INVESTMENT CATEGORY: SYSTEM ACCESS

A. GENERAL INFORMATION ON THE PROJECT/PROGRAM

1. OVERVIEW

This program focuses on LPDL's projects for new and upgraded services, as detailed in the DSC. It budgets based on past costs, growth estimates, and feedback from developers and municipalities, responding to customer requests. Projects include designing and installing new or upgraded residential and commercial services, like upgrading 100A residential panels to 200A for increased loads such as EVs. Standardized designs adhere to O.Reg 22/04, with LPDL's contribution determined by the DSC methodology and Conditions of Service.

2. TIMING

i. Start Date: January 2025

ii. In-Service Date: 2024-2029

iii. Key factors that may affect timing:

- Customer delays
- Timing of planned LPDL projects
- Material procurement (particularly transformers)
- Major Storms

3. HISTORICAL AND FUTURE CAPITAL EXPENDITURES

Table 1: Historical & Future Capital Expenditures

Category	Historical ($'000)					Bridge	Forecast ($'000)				
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Customer Un-Contributed Capital	121	167	189	158	163	150	150	150	150	150	150

The biggest risk to the completion of this program as planned relates to the cost and timing of the investment. Projects within this program are often initiated by customers or developers, leading to variability in actual spending between years. The specific design and implementation options for these projects are not determined until a customer service request is received, adding another layer of uncertainty. In general, designs can vary significantly from project to project and must adhere to Lakeland Power Distribution Ltd. (LPDL)'s Conditions of Service. Whenever possible, LPDL utilizes standardized designs to ensure consistency and efficiency. Final design and implementation decisions are made by LPDL's engineering department, which assesses each project on a case-by-case basis to meet all regulatory and operational requirements.

4. ECONOMIC EVALUATION (EXPANSION PROJECTS)

This is not applicable.

5. COMPARATIVE HISTORICAL EXPENDITURE

Historical costs have been provided in Section A3. The tables below summarize the historical and forecast number of new connections per year.

	Historical				
	2019	2020	2021	2022	2023
New Connections	136	138	200	195	209

	Bridge	Forecast				
	2024	2025	2026	2027	2028	2029
New Connections	145	145	149	148	150	152

6. INVESTMENT PRIORITY

The projects under this program are dealt with a high priority based on customer requests. This process is managed by LPDL staff through various systems to ensure proper visibility and timeliness.

7. ALTERNATIVES ANALYSIS

This is not applicable.

8. INNOVATIVE NATURE OF THE PROJECT

This is not applicable.

9. LEAVE TO CONSTRUCT APPROVAL

This is not applicable.

B. EVALUATION CRITERIA AND INFORMATION/REQUIREMENTS

1. EFFICIENCY, CUSTOMER VALUE, RELIABILITY & SAFETY

Table 3: Investment Evaluation - Efficiency, Customer Value, Reliability & Safety

Primary Criteria for Evaluating Investments	Investment Alignment

Efficiency	All new installations adhere to LPDL's latest standards, specifications, and system requirements to ensure the most efficient and cost-effective service for customers.
Customer Value	LPDL strives to connect customers promptly and cost-effectively, ensuring value. They also complete service upgrades for vehicle electrification and heating/cooling, helping customers benefit from the energy transition.
Reliability	While projects under this program don't aim to boost reliability, all new constructions follow LPDL's latest standards and specifications, ensuring more reliable performance. The construction process is coordinated to minimize disruption to existing customers.
Safety	While projects under this program don't usually target existing safety issues with the distribution system, they adhere to LPDL's latest standards and specifications that meet or surpass industry norms, thereby ensuring safety for both the public and operational staff.

2. INVESTMENT NEED

i. Main Driver: OEB Mandates, Customer Requirement, Growth

ii. Secondary Drivers: There are no secondary drivers for this program.

iii. Information Used to Justify the Investment: LPDL's capital expense reflects budget for customer paid specific projects throughout the forecast period. LPDL deals with a variety of requests that are not known at the time of budgeting. These may include any projects requested by customers/ developers for upgrade or expansion work that are paid by the customers.

3. INVESTMENT JUSTIFICATION

This is an OEB-mandated activity. LPDL has highly trained staff that work with project developers to the best of their ability to manage timelines and accommodate customer requests. Meetings with customers take place

i. Demonstrating Accepted Utility Practice: All new installations adhere to the most current LPDL standards, specifications, and system requirements to ensure they serve customers efficiently and cost-effectively.

ii. Cost-Benefit Analysis: LPDL strives to connect customers within mandated timelines, aiming to offer maximum value through cost-effective and timely solutions tailored to their needs. Additionally, service enhancements are carried out to support vehicle electrification and improved heating/cooling systems, enabling customers to take advantage of the ongoing energy transition.

iii. Historical Investments & Outcomes Observed: Although projects installed under this

program are not meant for reliability improvements, all new constructions follow LPDL's current standards and specifications, enhancing performance reliability. Construction is coordinated to minimise disruption to existing customers.

iv. Substantially Exceeding Materiality Threshold: While these projects generally do not aim to resolve current safety issues within the distribution network, their design and construction adhere to LPDL's most recent standards and specifications. These standards meet or exceed relevant industry benchmarks, thereby inherently enhancing safety for the public and operational staff.

4. CONSERVATION AND DEMAND MANAGEMENT

This is not applicable.

5. INNOVATION

This is not applicable.

MATERIAL INVESTMENT NARRATIVE

PROJECT / PROGRAM:
METERS

INVESTMENT CATEGORY: SYSTEM ACCESS

A. GENERAL INFORMATION ON THE PROJECT/PROGRAM

1. OVERVIEW

LPDL has an active and stock meter population (total meter count) of 15,500. LPDL replaces damaged and failed meters in the field on an as needed basis.
On a proactive basis LPDL schedules regular Meter reverification changeouts and sampling practices to ensure all active meters in the field have a current seal period. Mass deployment of smart meters occurred in 2009 with a seal year of 2019, a Measurement Canada approved sampling of these meters was completed in 2019 to acquire an 8 year extension given the majority of LPDL's current active meters a 2027 seal.
LPDL purchased a larger than normal number of meters in 2023, explained further in section 3.

2. TIMING

i. Start Date: 2025

ii. In-Service Date: 2025-2029

iii. Key factors that may affect timing:

- Supply chain issues, material availability

3. HISTORICAL AND FUTURE CAPITAL EXPENDITURES

Due to supply chain issues and perceived increased customer growth from 2021-2023, LPDL proactively ordered a larger than typical number of meters in the end of 2023. The manufacturer, Honeywell, claimed that delivery times were 52 weeks at minimum, and likely to increase. However, LPDL received the meters beginning in Spring 2024, in only a fraction of the predicted timeframe. The below table summarizes historical and future expenditures over the historical and forecast periods.

Category	Historical ($'000)					Bridge	Forecast ($'000)				
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Meters	212	106	136	89	105	380	50	150	150	150	150

4. ECONOMIC EVALUATION (EXPANSION PROJECTS)

This is not applicable.

5. COMPARATIVE HISTORICAL EXPENDITURE

Lakeland Power replaces meters according to seal date expiry as per Measurement Canada

requirements. Historical costs for the 2019-2023 period are reflected in Section A3. Historical costs have varied year over year in accordance with the number of meters replaced.
In addition, meters are replaced due to failure, and new meters are installed for new connections Due to the variability of the number of new meters each year, and those requiring replacement, the seal date expiry varies from year to year and a comparison of historical figures is not indicative of any particular trend.

The table below details a summary of work that was completed as part of this program over the historical period.

Table 2: Summary of Work Completed Over Historical Period

Year	Summary of Work Completed
2020	Replaced 303 meters
2021	Replaced 240 meters
2022	Replaced 220 meters
2023	Replaced 204 meters
2024	Replaced 200 meters up until Sept 30, estimated annual total of 265

6. INVESTMENT PRIORITY

The projects under this program are dealt with a high priority based on customer requests. This process is managed by LPDL staff through various systems to ensure proper visibility and timeliness.

7. ALTERNATIVES ANALYSIS

This project is a regulatory mandate and an essential compliance measure. Metering asset management is dictated by Measurement Canada regulations and the necessity to meet customer requirements for new and upgraded services.
No feasible alternatives were evaluated, as non-compliance with installing, repairing, replacing, and/or resealing meters would contravene the Distribution System Code and Measurement Canada Guidelines. Such non-compliance could adversely affect the accurate provision of billing settlement data.

8. INNOVATIVE NATURE OF THE PROJECT

This is not applicable.

9. LEAVE TO CONSTRUCT APPROVAL

This is not applicable.

B. EVALUATION CRITERIA AND INFORMATION/REQUIREMENTS

1. EFFICIENCY, CUSTOMER VALUE, RELIABILITY & SAFETY

Table 3: Investment Evaluation - Efficiency, Customer Value, Reliability & Safety

Primary Criteria for Evaluating Investments	Investment Alignment
Efficiency	N/A
Customer Value	Advantages to the customer include prompt service and consistent electricity supply, enhanced by Time of Use (TOU) pricing and data transparency. Furthermore, by upgrading and renewing expiring meters, LPDL ensures continuous functionality and accurate electricity usage data capture for customers.
Reliability	The installation of new meters that comply with current industry standards guarantees the sustained reliability of the metering infrastructure, thus ensuring the integrity of billing and settlement data.
Safety	Newly installed meters will adhere to all relevant safety standards.

2. INVESTMENT NEED

i. Main Driver: This is a Measurement Canada-mandated activity.

ii. Secondary Drivers: Customer connections

iii. Information Used to Justify the Investment: LPDL Power has 335 meters with a seal date of 2015 that will expire in 2025, these meter changes will be done in accordance with Measurement Canada obligations. This Capital costs include replacement of expired meters and testing / re-sealing of meters.

3. INVESTMENT JUSTIFICATION

i. Demonstrating Accepted Utility Practice: LPDL ensures that all new and in-service meters comply with Measurement Canada regulations. LPDL employs two certified metering technicians and conducts regular testing of meters and instrument transformers on all three-phase services. Furthermore, LPDL cooperates with Measurement Canada upon receiving notice of a field audit.

ii. Cost-Benefit Analysis: This is not applicable.

iii. Historical Investments & Outcomes Observed: Sections A3 and A5 of this document provide details on historical costs and meters purchased. LPDL's metering program has effectively met customer needs, followed regulatory guidelines, and ensured precise measurement and billing for electricity consumption.

iv. Substantially Exceeding Materiality Threshold: This is not applicable.

4. CONSERVATION AND DEMAND MANAGEMENT

This is not applicable.

5. INNOVATION

This is not applicable

MATERIAL INVESTMENT NARRATIVE

PROJECT / PROGRAM:
NON-CONTRIBUTED CUSTOMER CAPITAL

INVESTMENT CATEGORY: SYSTEM ACCESS

A. GENERAL INFORMATION ON THE PROJECT/PROGRAM

1. OVERVIEW

Expenditure under Non-Contributed Customer Capital is for new connections and service work that the customer is not required to pay capital contribution. This includes project that is covered under the basic connection per the Distribution System Code.

2. TIMING

i. Start Date: January 2025

ii. In-Service Date: 2024-2029

iii. Key factors that may affect timing:

- Customer delays
- Timing of planned LPDL projects
- Material procurement (particularly transformers)
- Major Storms

3. HISTORICAL AND FUTURE CAPITAL EXPENDITURES

Table 1: Historical & Future Capital Expenditures

Category	Historical ($'000)					Bridge	Forecast ($'000)				
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Customer Un-Contributed Capital	121	167	189	158	163	150	150	150	150	150	150

The biggest risk to the completion of this program as planned relates to the cost and timing of the investment. Projects within this program are often initiated by customers or developers, leading to variability in actual spending between years. The specific design and implementation options for these projects are not determined until a customer service request is received, adding another layer of uncertainty. In general, designs can vary significantly from project to project and must adhere to Lakeland Power Distribution Ltd. (LPDL)'s Conditions of Service. Whenever possible, LPDL utilizes standardized designs to ensure consistency and efficiency. Final design and implementation decisions are made by LPDL's engineering department, which assesses each project on a case-by-case basis to meet all regulatory and operational requirements.

4. ECONOMIC EVALUATION (EXPANSION PROJECTS)

This is not applicable.

5. COMPARATIVE HISTORICAL EXPENDITURE

Historical costs have been provided in Section A3. The tables below summarize the historical and forecast number of new connections per year.

	Historical				
	2019	2020	2021	2022	2023
New Connections	136	138	200	195	209

	Bridge	Forecast				
	2024	2025	2026	2027	2028	2029
New Connections	145	145	149	148	150	152

6. INVESTMENT PRIORITY

The projects under this program are dealt with a high priority based on customer requests. This process is managed by LPDL staff through various systems to ensure proper visibility and timeliness.

7. ALTERNATIVES ANALYSIS

This is not applicable.

8. INNOVATIVE NATURE OF THE PROJECT

This is not applicable.

9. LEAVE TO CONSTRUCT APPROVAL

This is not applicable.

B. EVALUATION CRITERIA AND INFORMATION/REQUIREMENTS

1. EFFICIENCY, CUSTOMER VALUE, RELIABILITY & SAFETY

Table 3: Investment Evaluation - Efficiency, Customer Value, Reliability & Safety

Primary Criteria for Evaluating Investments	Investment Alignment

Efficiency	All new installations adhere to LPDL's latest standards, specifications, and system requirements to ensure the most efficient and cost-effective service for customers.
Customer Value	LPDL strives to connect customers promptly and cost-effectively, ensuring value. They also complete service upgrades for vehicle electrification and heating/cooling, helping customers benefit from the energy transition.
Reliability	While projects under this program don't aim to boost reliability, all new constructions follow LPDL's latest standards and specifications, ensuring more reliable performance. The construction process is coordinated to minimize disruption to existing customers.
Safety	While projects under this program don't usually target existing safety issues with the distribution system, they adhere to LPDL's latest standards and specifications that meet or surpass industry norms, thereby ensuring safety for both the public and operational staff.

2. INVESTMENT NEED

i. Main Driver: OEB Mandates, Customer Requirement, Growth

ii. Secondary Drivers: There are no secondary drivers for this program.

iii. Information Used to Justify the Investment: LPDL's capital expense reflects budget for customer paid specific projects throughout the forecast period. LPDL deals with a variety of requests that are not known at the time of budgeting. These may include any projects requested by customers/ developers for upgrade or expansion work that are paid by the customers.

3. INVESTMENT JUSTIFICATION

This is an OEB-mandated activity. LPDL has highly trained staff that work with project developers to the best of their ability to manage timelines and accommodate customer requests. Meetings with customers take place

i. Demonstrating Accepted Utility Practice: All new installations adhere to the most current LPDL standards, specifications, and system requirements to ensure they serve customers efficiently and cost-effectively.

ii. Cost-Benefit Analysis: LPDL strives to connect customers within mandated timelines, aiming to offer maximum value through cost-effective and timely solutions tailored to their needs. Additionally, service enhancements are carried out to support vehicle electrification and improved heating/cooling systems, enabling customers to take advantage of the ongoing energy transition.

iii. Historical Investments & Outcomes Observed: Although projects installed under this

program are not meant for reliability improvements, all new constructions follow LPDL's current standards and specifications, enhancing performance reliability. Construction is coordinated to minimise disruption to existing customers.

iv. Substantially Exceeding Materiality Threshold: While these projects generally do not aim to resolve current safety issues within the distribution network, their design and construction adhere to LPDL's most recent standards and specifications. These standards meet or exceed relevant industry benchmarks, thereby inherently enhancing safety for the public and operational staff.

4. CONSERVATION AND DEMAND MANAGEMENT

This is not applicable.

5. INNOVATION

This is not applicable.

MATERIAL INVESTMENT NARRATIVE

PROJECT / PROGRAM:

NEW 27.6KV SUBSTATION

INVESTMENT CATEGORY: SYSTEM SERVICE

lakeland POWER

Material Investment Narrative

Investment Category: System Service

New 27.6kV Substation

A. GENERAL INFORMATION ON THE PROJECT/PROGRAM

1. OVERVIEW

The 4.16kV to 27.6kV conversion projects and the subsequent construction of the new 27.6kV Substation involve the replacement and upgrading of existing pole lines that have reached end of life or require replacement. These upgrades are determined through LPDL's asset management process, which assesses the condition and performance of existing infrastructure.

LPDL has been systematically converting 4.16kV circuits to 27.6kV for over a decade. This conversion process has reached its final phases, with the completion of the new 27.6kV substation being the critical endpoint.

The new substation is expected to significantly enhance the reliability and capacity of the electrical distribution network, providing improved voltage regulation, reduced line losses, and increased system resilience. This upgrade will address the growing energy demands of our customer base, ensuring a stable and efficient power supply. The project also includes the integration of modern protection and control systems, which will facilitate better monitoring and management of the electrical grid.

2. TIMING

i. Start Date: 2026

ii. In-Service Date: 2027

iii. Key factors that may affect timing:

Transformer procurement

Substation transformers are heavily affected by supply chain issues. Current manufacturing lead times are roughly 2 years.

27.6kV Conversions

The construction of the new substation relies on completion of all identified 27.6kV conversion projects.

The conversion projects are slated to be completed within the System Renewal annual program between 2025-2026. Historically, construction is mainly completed between May and November due to road restrictions enforced by municipalities. The engineering and procurement of these projects is be completed in advance to facilitate the construction of the capital projects.

3. HISTORICAL AND FUTURE CAPITAL EXPENDITURES

Historical capital expenditures for this project encompass a range of preparatory activities including detailed engineering design, topographical and cadastral surveying, ground impedance testing, and comprehensive geotechnical investigations. These initial assessments

are critical for the precise and reliable design of the new substation infrastructure.

Projected future capital expenditures for the fiscal years 2026 and 2027 are earmarked for the acquisition of a 10/13.3/16.6MVA substation transformer and the extensive site construction activities required for its installation. This includes civil works, foundation laying, auxiliary equipment necessary for operational readiness.

Table 1: Historical & Future Capital Expenditures

Category	Historical ($'000)					Bridge	Forecast ($'000)				
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
New 27.6kV Substation	0	0	0	0	6	50	0	1000	2000	0	0

4. ECONOMIC EVALUATION (EXPANSION PROJECTS)

This is not applicable.

5. COMPARATIVE HISTORICAL EXPENDITURE

As detailed in Section A3, historical expenditures include all preliminary work with regard to the design of the new substation.

6. INVESTMENT PRIORITY

The new 27.6kV substation is paramount to the continued efficient and reliable operations of LPDL's distribution system in Bracebridge. Currently, Bracebridge MS3 is the last remaining 4.16kV substation in Bracebridge, and therefore has no reliable backup. We are currently relying on emergency backup from a small 27.6kV-4.16kV step-down transformer.

This project has been ranked 3rd highest in our investment priorities with a rating of 64. The project is considered to be ranked high for Reliability & Capacity, Organizational Efficiency and Productivity, medium on Customer Preference, and Low on Innovation & Environmental Concerns.

7. ALTERNATIVES ANALYSIS

The alternative to constructing a new 27.6kV substation involves halting all planned 4.16kV to 27.6kV conversion projects and maintaining the existing infrastructure. However, this approach would significantly undermine the progress achieved over the past 15 years, where extensive efforts have been directed towards upgrading the electrical distribution system to enhance reliability and capacity.

Furthermore, foregoing the new substation would result in continued reliance on the aging 4.16kV Bracebridge MS3 substation and the small 27.6kV-4.16kV step-down transformer currently in use

as an emergency backup. This setup presents severe limitations in terms of operational dependability and increases the susceptibility to system failures and extended outage durations.

In summary, opting against the substation upgrade introduces substantial risks, including potential degradation of service reliability and increased vulnerability to equipment failures, ultimately impacting the efficiency and performance of the entire distribution network.

8. INNOVATIVE NATURE OF THE PROJECT

While the project itself is not directly innovative, the increased capacity will support innovation within our customer base. Particularly, the project supports Ontario's goal of increased electrification.

9. LEAVE TO CONSTRUCT APPROVAL

This is not applicable.

B. EVALUATION CRITERIA AND INFORMATION/REQUIREMENTS

1. EFFICIENCY, CUSTOMER VALUE, RELIABILITY & SAFETY

Table 2: Investment Evaluation - Efficiency, Customer Value, Reliability & Safety

Primary Criteria for Evaluating Investments	Investment Alignment
Efficiency	The expansion of our 27.6kV system aligns with our asset management process in various aspects. Typically, our oldest and most at-risk infrastructure is on the 4.16kV system. Regardless of voltage conversions, the infrastructure must be replaced to ensure LPDL is meeting our obligations to safe and reliable power. Efficiencies are gained by coordinating the conversions with the asset replacements.
Customer Value	27.6kV conversions and related deteriorated asset replacements align with all of the top 5 priorities relayed by our customers listed below. Affordable cost of electricity **Maintaining and upgrading equipment to ensure a safe and reliable electricity supply:** In addition to the above points, modern protection and control equipment, as well as communication equipment backed by fiber optical internet will greatly increase reliability.

	Storm hardening (physical infrastructure improvements increasing resistance to weather): The majority of the new substation infrastructure will feature increased protection from weather and trees. The 44kV sub-transmission service will be upgraded to metal-enclosed switchgear, where it currently is located on a pole. Replacement of aging infrastructure is also conducive to storm hardening. **New technology to support renewable energy generation, electric vehicles, etc.:** The new substation will be equipped with micro-processor controlled viper reclosers, capable of communicating with customer DER and other customer equipment. The upgraded capacity of this substation supports customer EV installations. **Improved outage communication (outage map, social media, etc.):** In addition to increasing reliability, communication equipment will drastically improve our outage communications to customers who are serviced from that substation. Telemetered
Reliability	Reliability will be increased not only with the new substation, but for other 27.6kV feeders in Bracebridge. The new substation will be fed from Bracebridge TS, which is less than 2km from the proposed substation. Reliability will be gained by automatic switching between the new 27.6kV substation and our existing 27.6kV substations, which are on the Muskoka TS, which historically has seen poor reliability performance.
Safety	The new substation has been designed to minimize exposure of energized apparatus to workers, trees, and animal life. In addition, new protection and control equipment has the ability to detect and clear faults significantly faster than standard fusing, which is currently employed at the substation.

2. INVESTMENT NEED

i. Main Driver: Reliability and system efficiency.

ii. Secondary Drivers: Load growth & supporting new infrastructure & electrification

iii. Information Used to Justify the Investment: Load forecasting models and historical reliability data from Muskoka TS highlight the critical need for an additional 27.6kV substation. During peak summer months, the strain on the existing infrastructure (both on HONI's 44kV subtransmission feeders and LPDL's 27.6kV feeders) becomes evident, particularly when Centennial MS experienced a failure. This event led to an influx of low voltage complaints. In addition, Golden Beach MS was operating beyond its normal capacity. The proposed substation will alleviate these issues by redistributing the load

more efficiently, thus enhancing the overall stability and reliability of the distribution system.

3. INVESTMENT JUSTIFICATION

i. Demonstrating Accepted Utility Practice: All construction shall be in compliance with Regulation 22/04. The transformer will be built to the latest CSA standards. The new substation is designed by a subject matter expert with safety as it's highest priority and will be tested thoroughly.

ii. Cost-Benefit Analysis: LPDL is maintaining a conversion pace of 4.16kV in line with traditional standards. Our goal is to invest in a way that balances reliability and expansion against customer rates.

iii. Historical Investments & Outcomes Observed: Historical investments have been made with progression toward converting all 4.16kV in Bracebridge to 27.6kV. The more we continue to do this, we will see reduced line losses, increased visibility, and greater customer communication as a result. In addition, replacement of deteriorated 4.16kV assets in our system is seem as a necessity to ensure our system remains safe to the public and our workforce.

iv. Substantially Exceeding Materiality Threshold: This is not applicable.

4. CONSERVATION AND DEMAND MANAGEMENT

This is not applicable.

5. INNOVATION

This is not applicable.

Appendix B

DSP Customer Engagement Survey Results (2024)

Application Specific Customer Engagement Survey

Survey was posted on our website and promoted in social media and on our bills.

Please select your municipality.

- Bracebridge
- Huntsville
- Burk's Falls
- Sundridge
- Magnetawan
- Parry Sound

Please select the type of electric account you have with Lakeland Power.

- Residential
- Small Business
- Large commercial

Please review the options below and select 5 options that are most important to you.

- Maintaining and upgrading equipment to ensure a safe and reliable electricity supply
- Increased community involvement
- Enhanced digital solutions to improve customer service (website, online forms, outage Chat, etc.)
- Affordable cost of electricity
- Improved outage communication (outage map, social media, etc.)
- Improved outage restoration time
- Increased vegetation management efforts (tree trimming for increased safety and reliability)
- Improved customer education (electrical safety, financial assistance, energy conservation, etc.)
- Cybersecurity to prevent data breaches and system disruptions
- Storm hardening (physical infrastructure improvements increasing resistance to weather)
- New technology for improved infrastructure communication and outage management
- New technology to support renewable energy generation, electric vehicles, etc.
- Attracting and retaining highly skilled employees to deliver the best service

Additional comments

(Free form box)

Please enter your account number or address for your chance to win.

(Free form box)

Application Specific Customer Engagement Survey Results

There were 462 responses

Options Please review the options below and select 5 options that are most important to you.	# of times selected
• Affordable cost of electricity	328
• Maintaining and upgrading equipment to ensure a safe and reliable electricity supply	325
• Storm hardening (physical infrastructure improvements increasing resistance to weather)	244
• New technology to support renewable energy generation, electric vehicles, etc.	149
• Improved outage communication (outage map, social media, etc.)	139
• New technology for improved infrastructure communication and outage management	134
• Attracting and retaining highly skilled employees to deliver the best service	129
• Increased vegetation management efforts (tree trimming for increased safety and reliability)	124
• Cybersecurity to prevent data breaches and system disruptions	119
• Improved outage restoration time	115
• Improved customer education (electrical safety, financial assistance, energy conservation, etc.)	109
• Enhanced digital solutions to improve customer service (website, online forms, outage Chat, etc.)	105
• Increased community involvement	29

Appendix C

Customer Satisfaction Survey Results (2019, 2021, 2023)

ADVANIS for LakelandPower

2023 Customer Satisfaction Survey

March 2023

Deliverables

Advanis is pleased to provide **this report with results of the 2023 Customer Satisfaction study**.

- We include comparisons to previous years of the study, where applicable.

In addition to this report, you have access to **Advanis' Online Reporting Environment** (ORE) which allows you to:

- create charts and tables like those contained in this report
  - you will be able to do much more analysis than we had space for in this overall report (e.g., look at results comparing segments of the annual consumption index or the regions within your LDC, if applicable)
- review the verbatim responses to:
  - the open-ended question "Is there anything you would like your LDC to do to improve its services to you?".
  - Note that you can export the verbatim responses to Excel at the click of a button; and
  - search for key words or filter the results by different segments (e.g., customer type, region) or other questions in the survey.

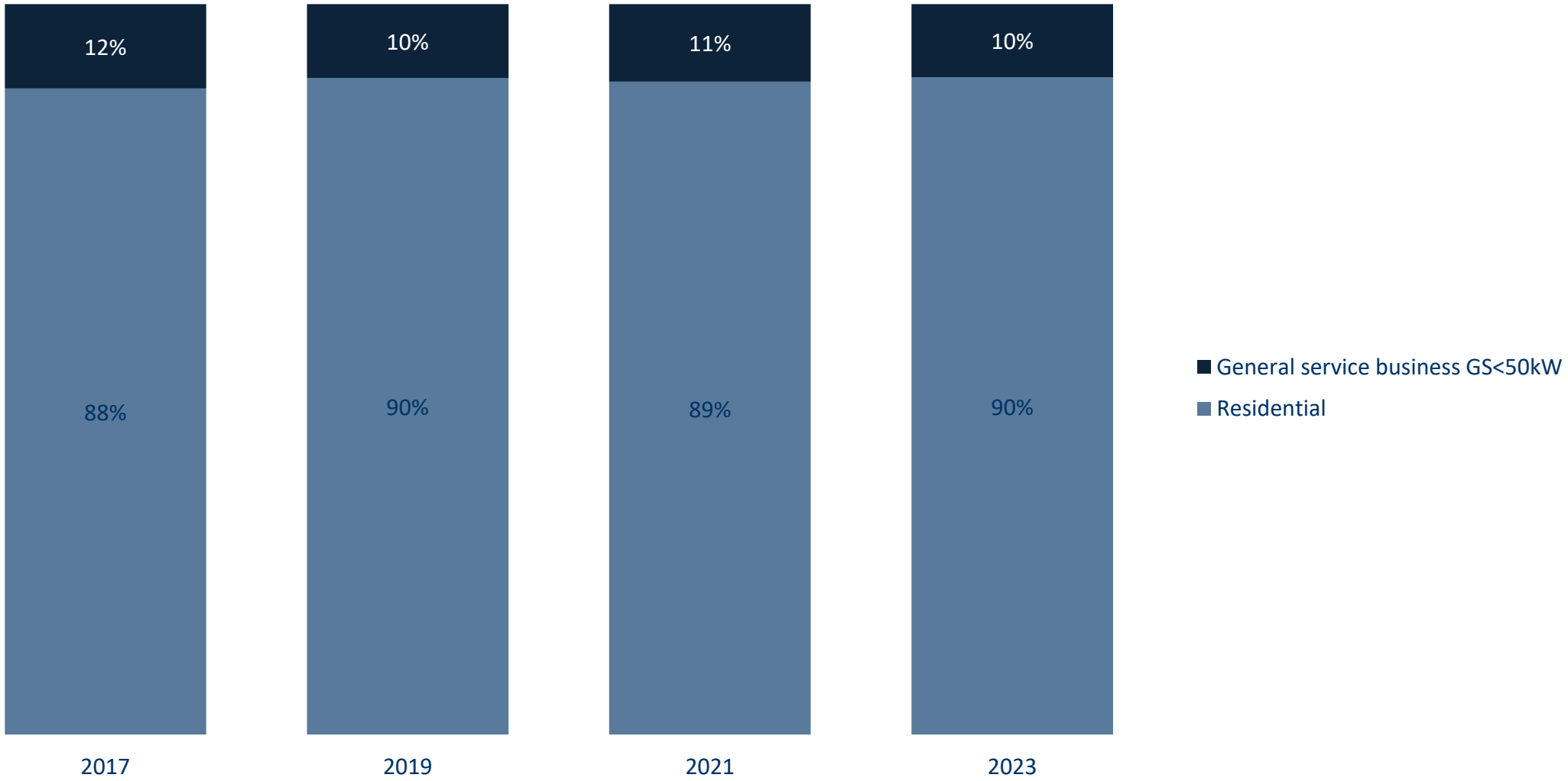
To access the ORE, visit this link: portal.advanis.net and enter your username in the format firstname_lastname. If you've forgotten your password, there is a link to reset it on the login page. If you have any questions, please contact Gary.Offenberger@advanis.net.

Contents

Lead Consultant: Gary.Offenberger@advanis.net // 780.229.1140

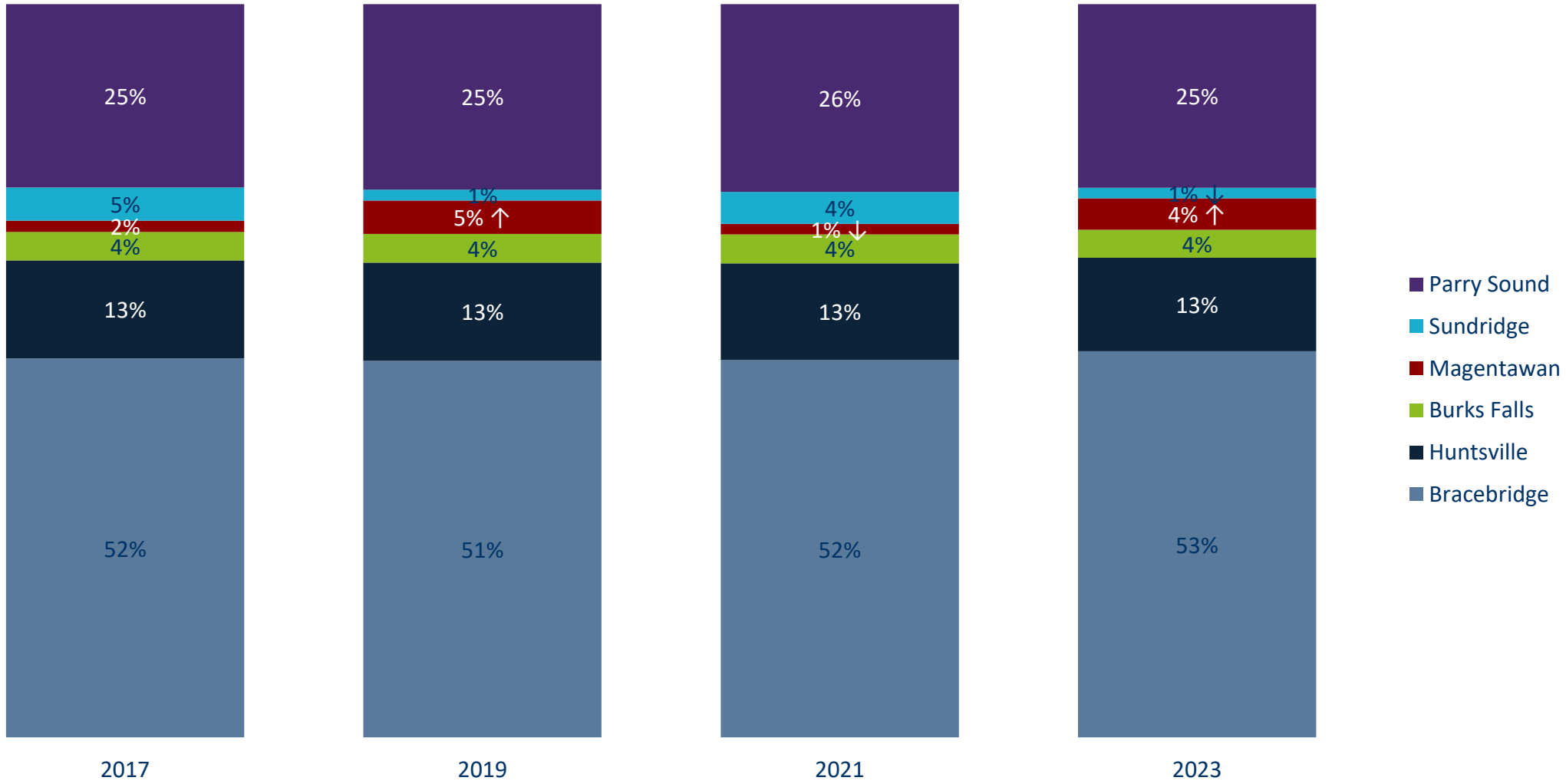
Customer (i.e., Survey Respondent) Profile

Customer Type - information provided by Lakeland Power



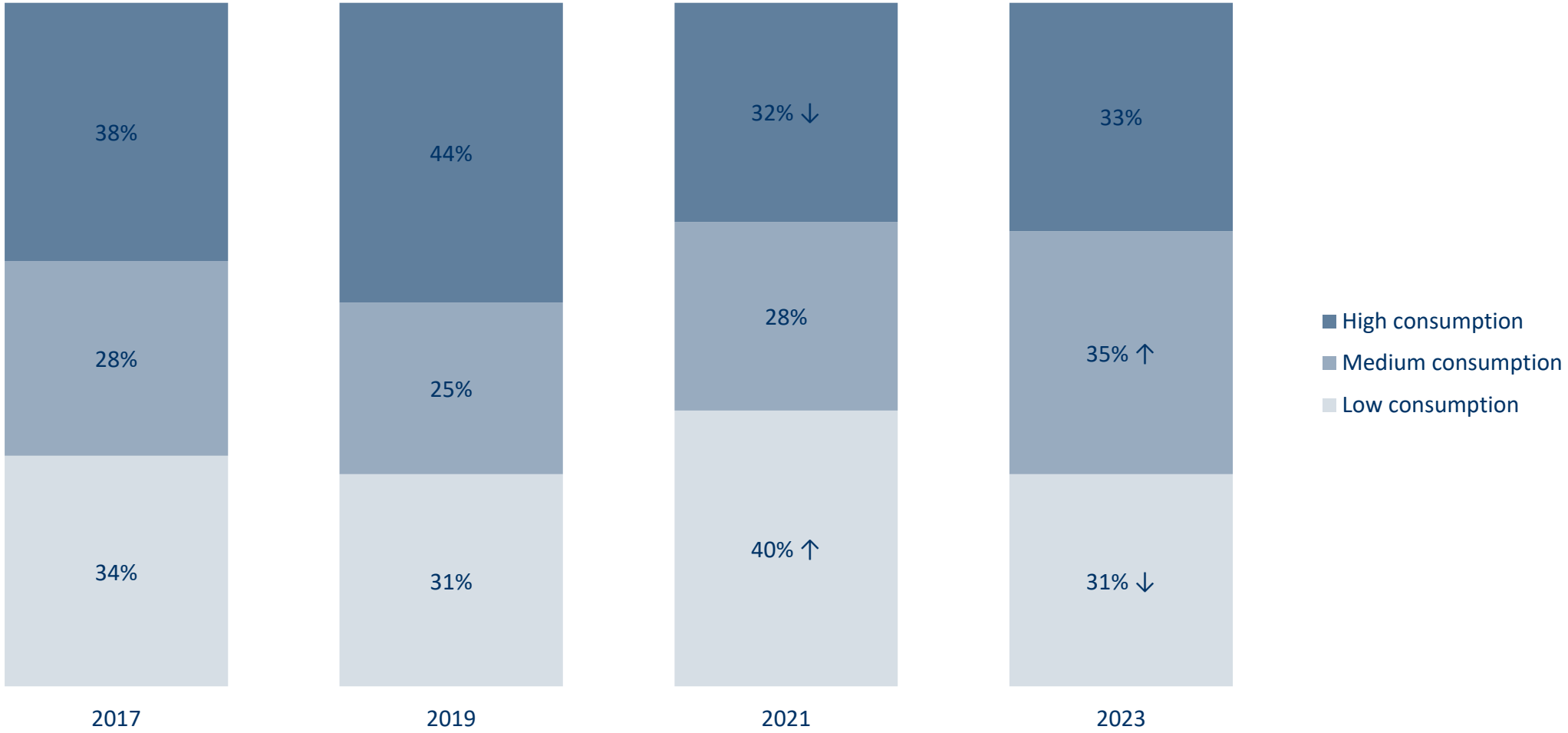
Weight: Aggregate weight for LDC based on customer_type
Filters: LDC: Lakeland Power

Region - information provided by Lakeland Power



Weight: Aggregate weight for LDC based on customer_type
Filters: LDC: Lakeland Power

Indexed score of annual consumption (Only have GS data for 2023 onwards) - information provided by Lakeland Power

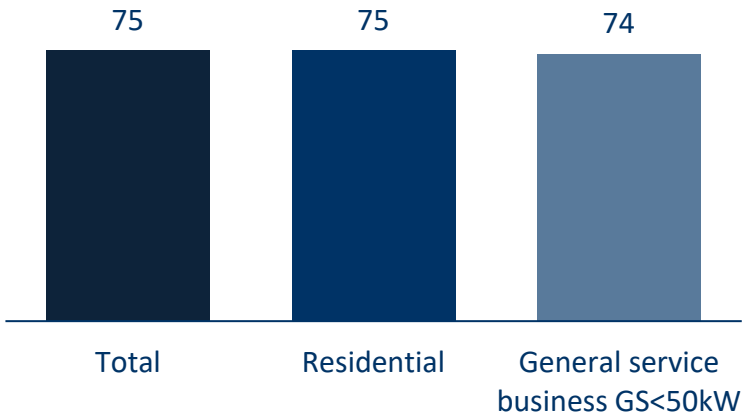


Weight: Aggregate weight for LDC based on customer_type
Filters: LDC: Lakeland Power

Customer Satisfaction Index Score – 2023 Results & Trend

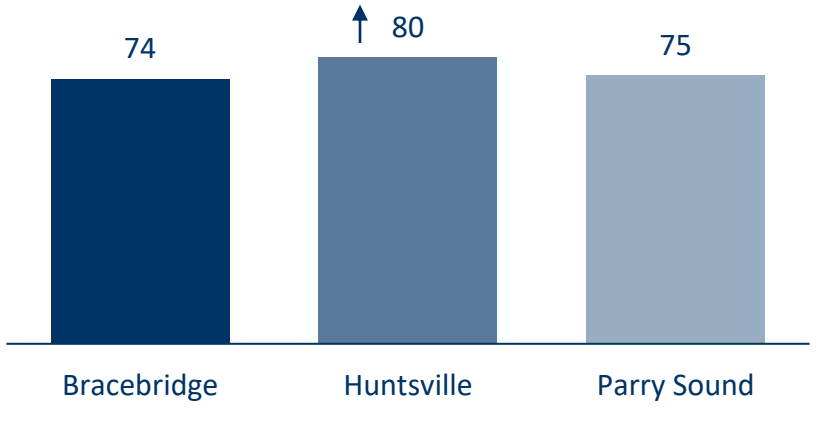
Customer Satisfaction Index: Lakeland Power for 2023

CSI Score – Total and by Customer Type

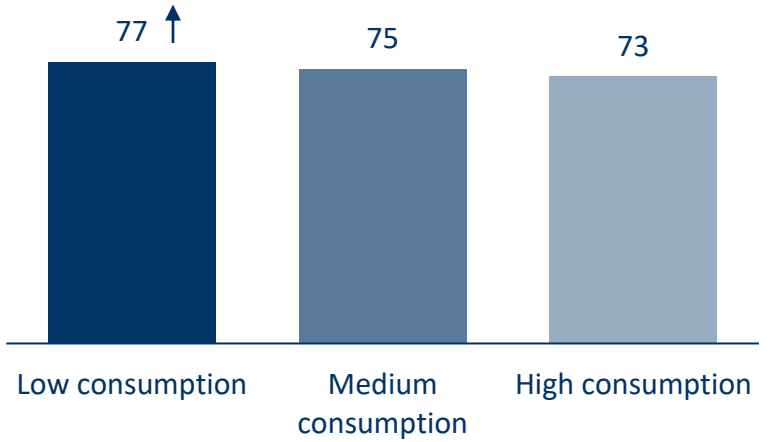


CSI Score by Region

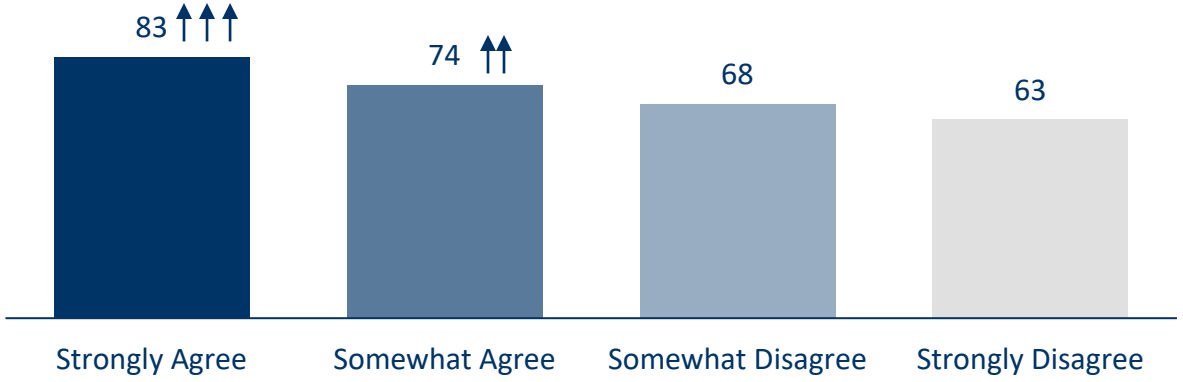
(only regions with ~40 or more completed surveys)



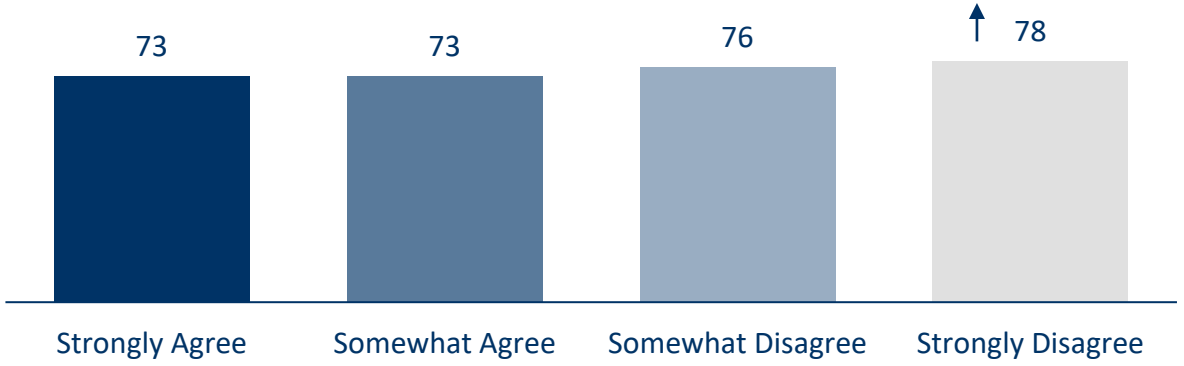
CSI Score by Annual Consumption Index



CSI Score for each segment of agreement with: "Customers are well served by the electricity system in Ontario"



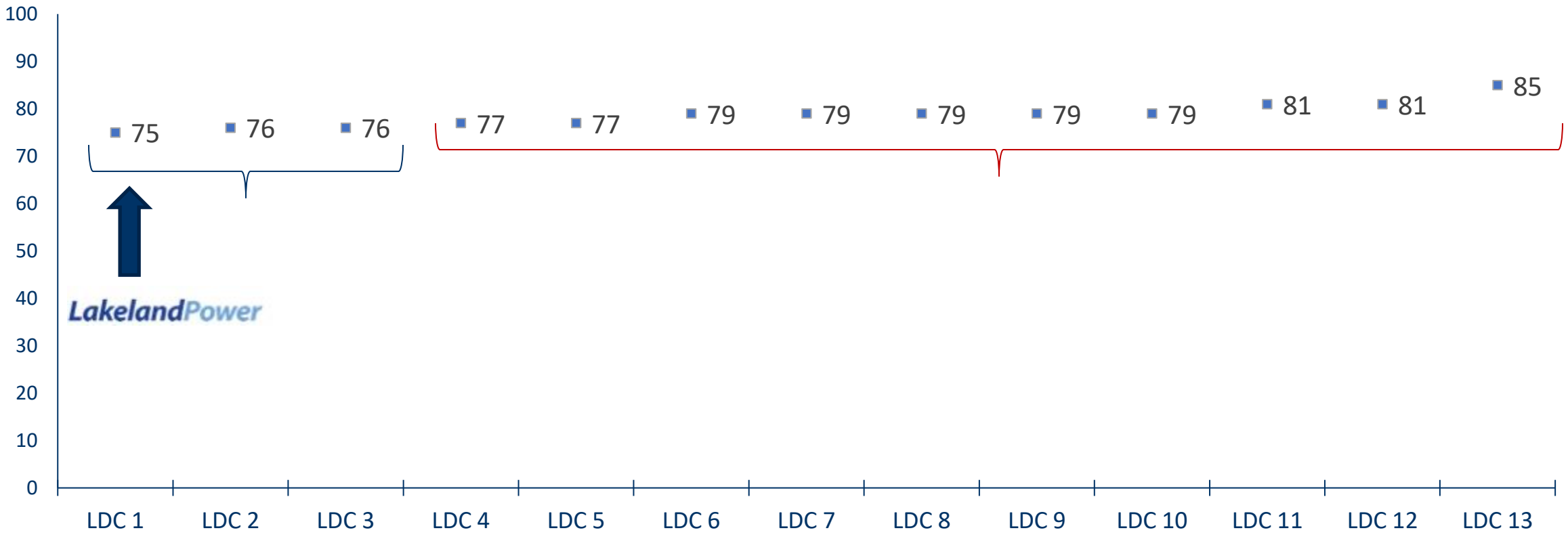
CSI Score for each segment of agreement with: "The cost of my electricity bill has a major impact [on my personal finances] / [the bottom line of my organization]"



Weight: Aggregate weight for LDC based on customer_type
Filters: Year of Data Collection: 2023; LDC: Lakeland Power
Note: Arrows denote statistically higher than other segment(s) at 95% confidence level; sometimes an apparent difference is not statistically significant because of low base size in a segment

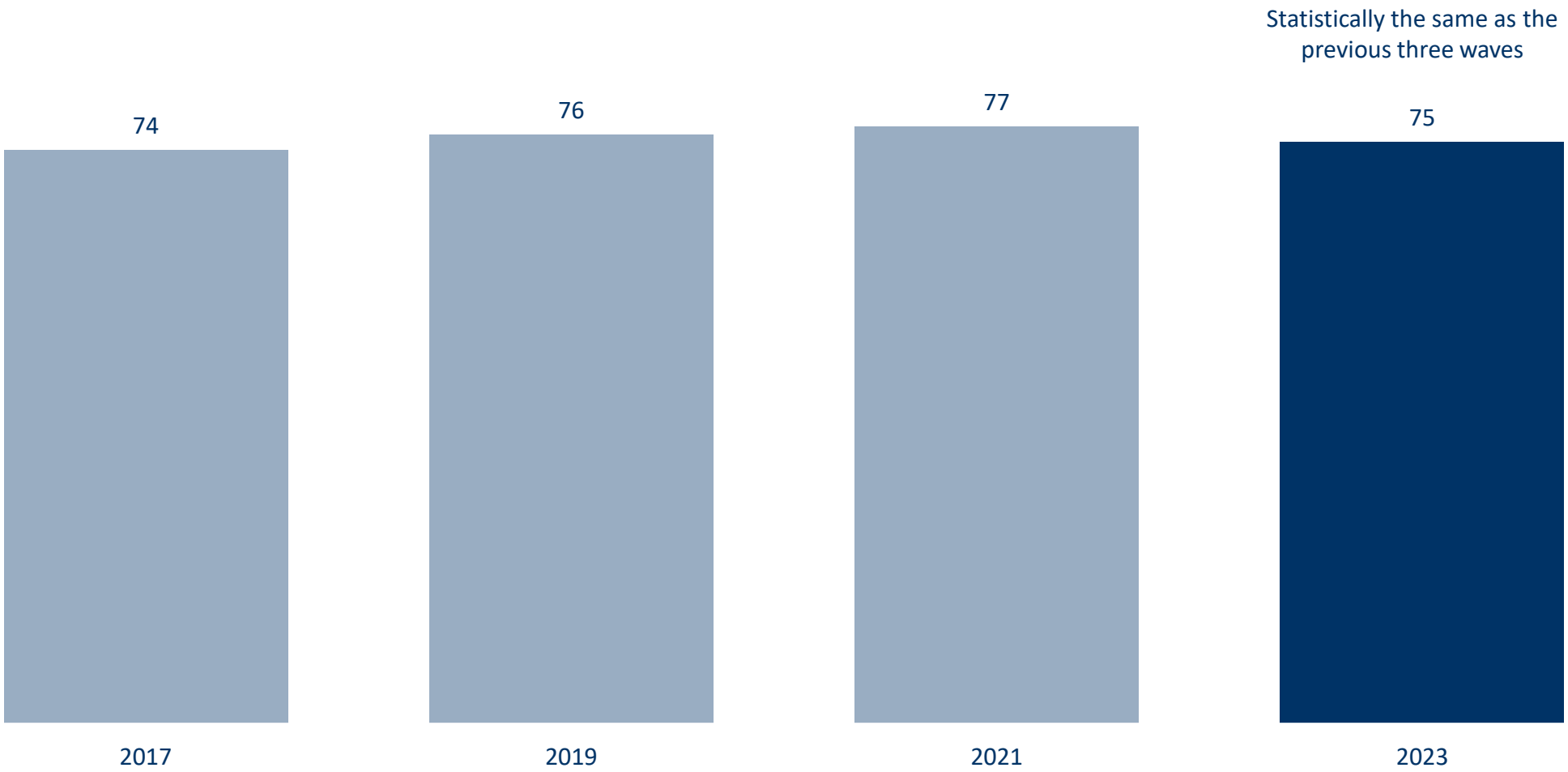
Customer Satisfaction Index: Compared to Other CHEC Members

- In 2023, Lakeland's score of 75 is *statistically* the same as that of 2 other LDCs.
- Lakeland's score is *statistically* lower than that of 10 other LDCs.



Weight: Aggregate weight for LDC based on customer_type
Filters: Year of Data Collection: 2023
Note: Statistical differences at 95% confidence level; sometimes an apparent difference is not statistically significant because of low base size in a segment

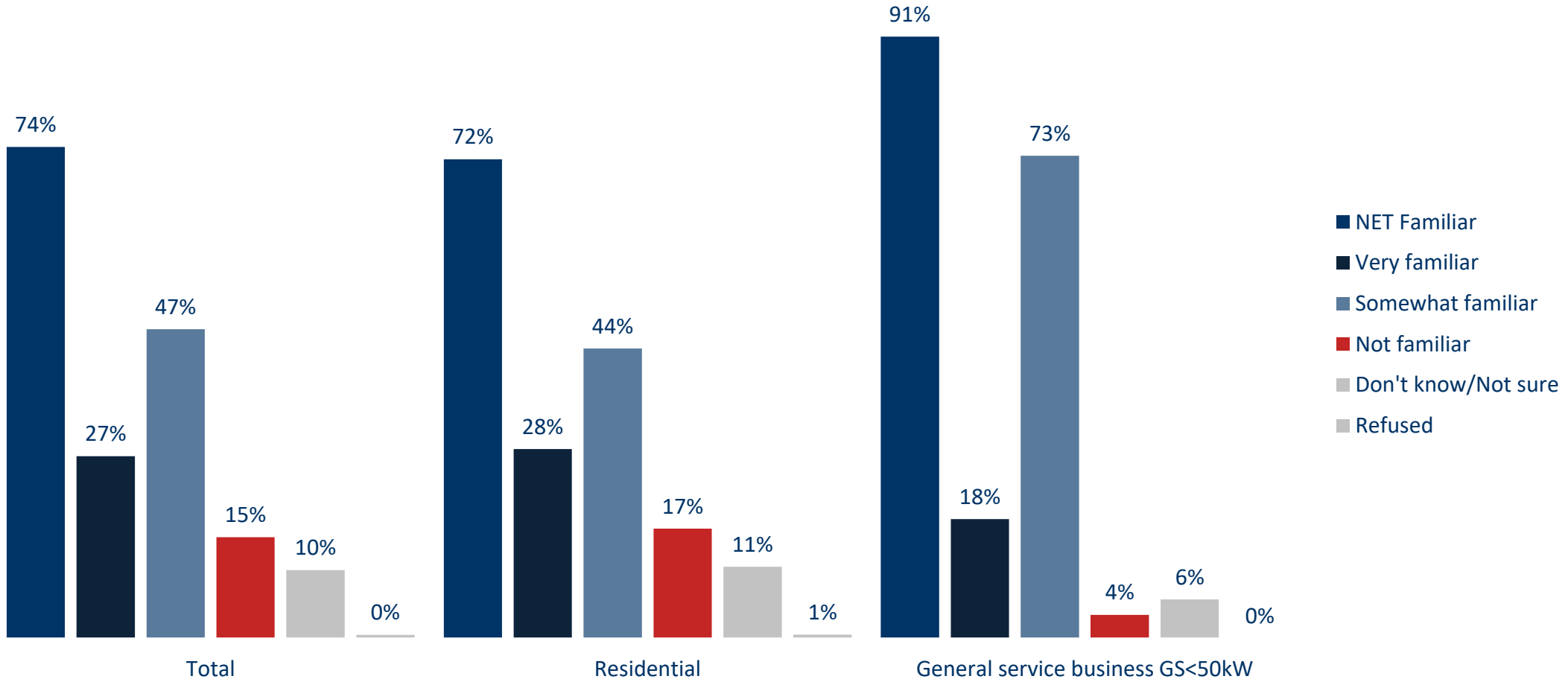
Lakeland Power's Customer Satisfaction Index by Year



Weight: Aggregate weight for LDC based on customer_type
Filters: LDC: Lakeland Power
Note: Statistical differences at 95% confidence level; sometimes an apparent difference is not statistically significant because of low base size in a segment

Core (OEB) Survey Questions – 2023 Results

How familiar are you with Lakeland Power, which operates the electricity distribution system in your community?



Weight: Aggregate weight for LDC based on customer_type
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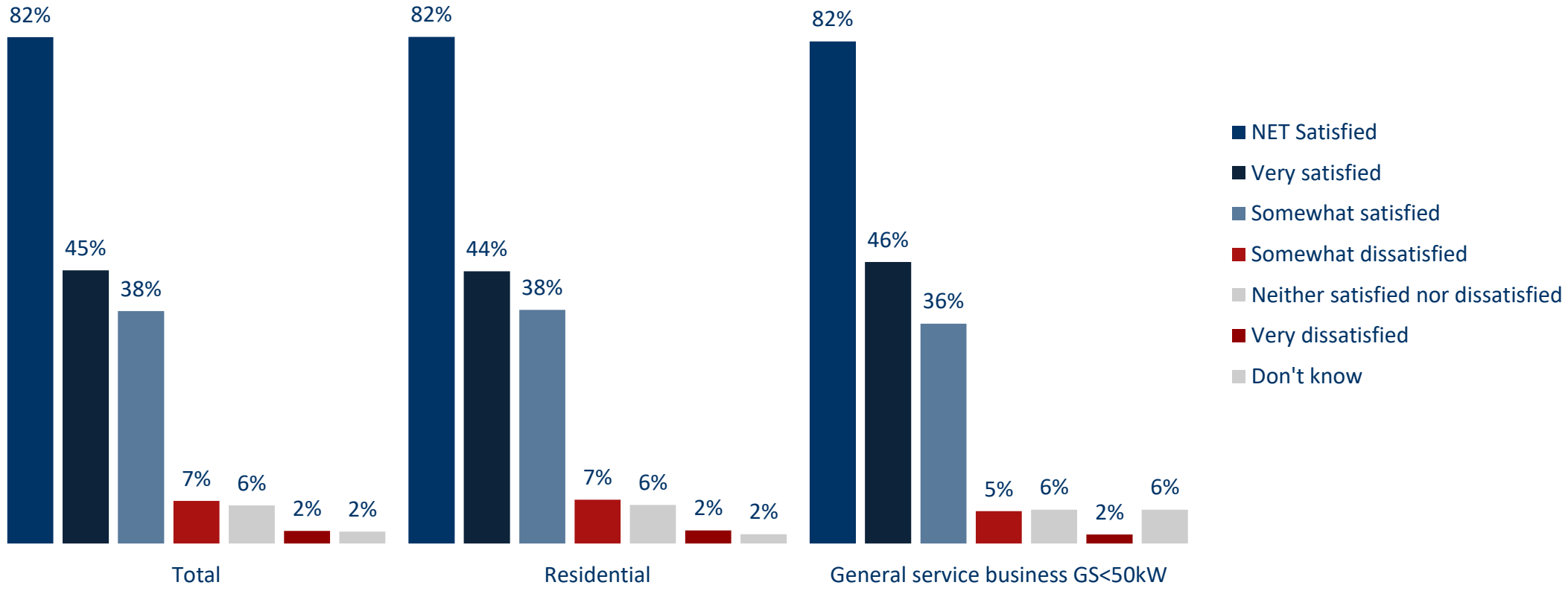
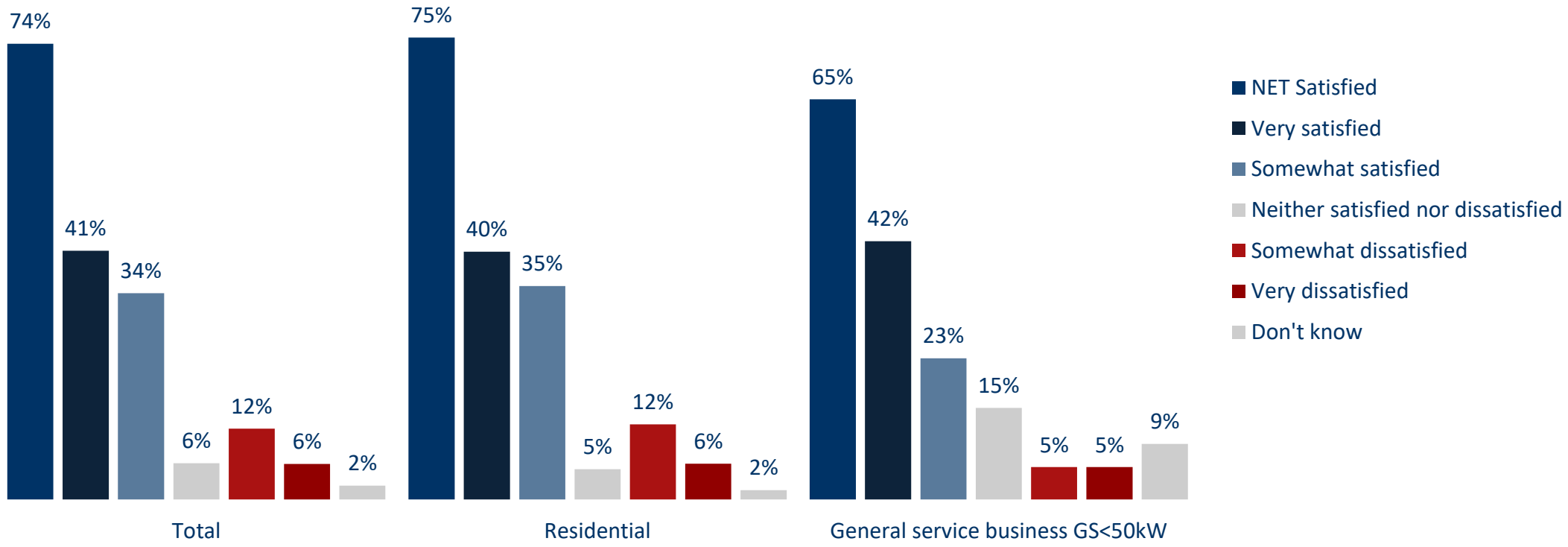
Thinking specifically about the services provided to you and your community by Lakeland Power, OVERALL, how satisfied are you with the services that you receive?



Weight: Aggregate weight for LDC based on customer_type
Filters: Year of Data Collection: 2023, LDC: Lakeland Power

How satisfied are you with the electrical service that you receive from Lakeland Power - based on the RELIABILITY of your electrical service as judged by the number of outages you experience?



Weight: Aggregate weight for LDC based on customer_type
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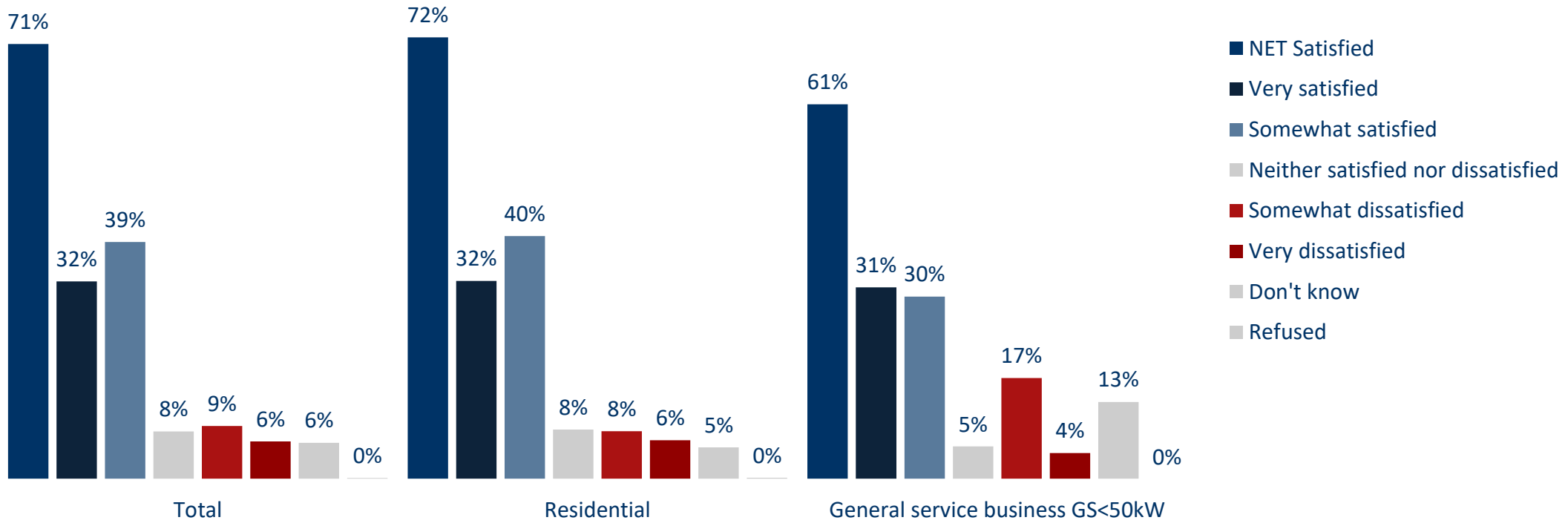

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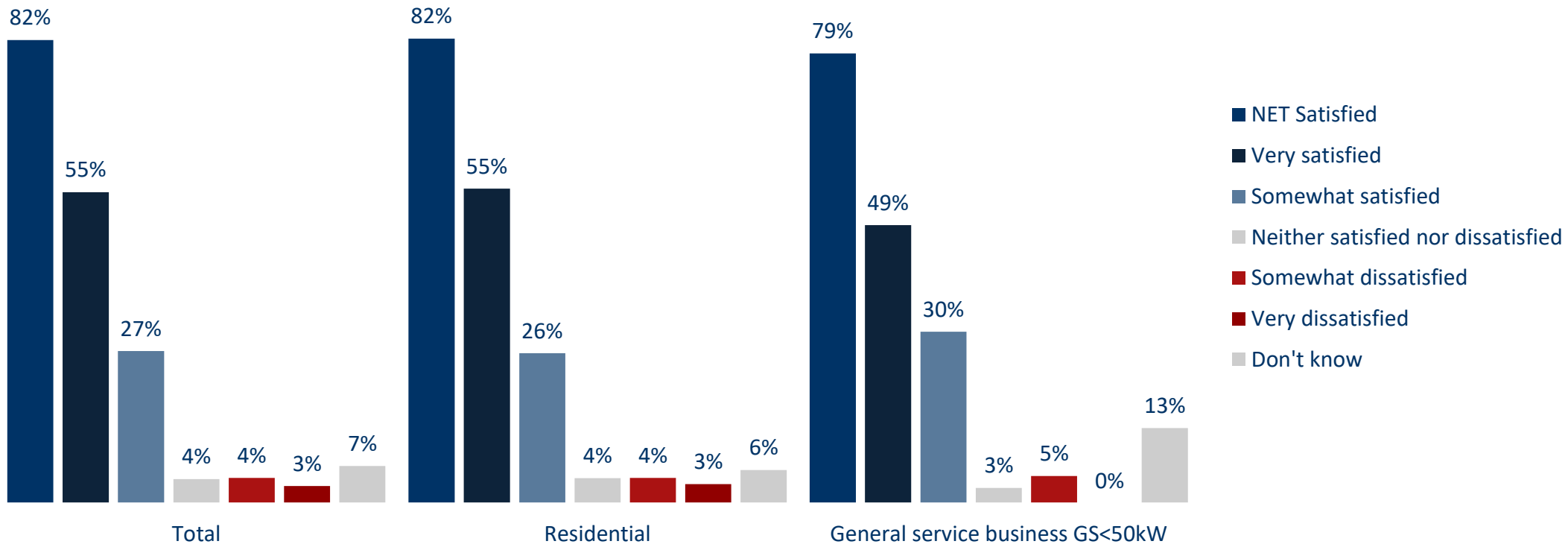

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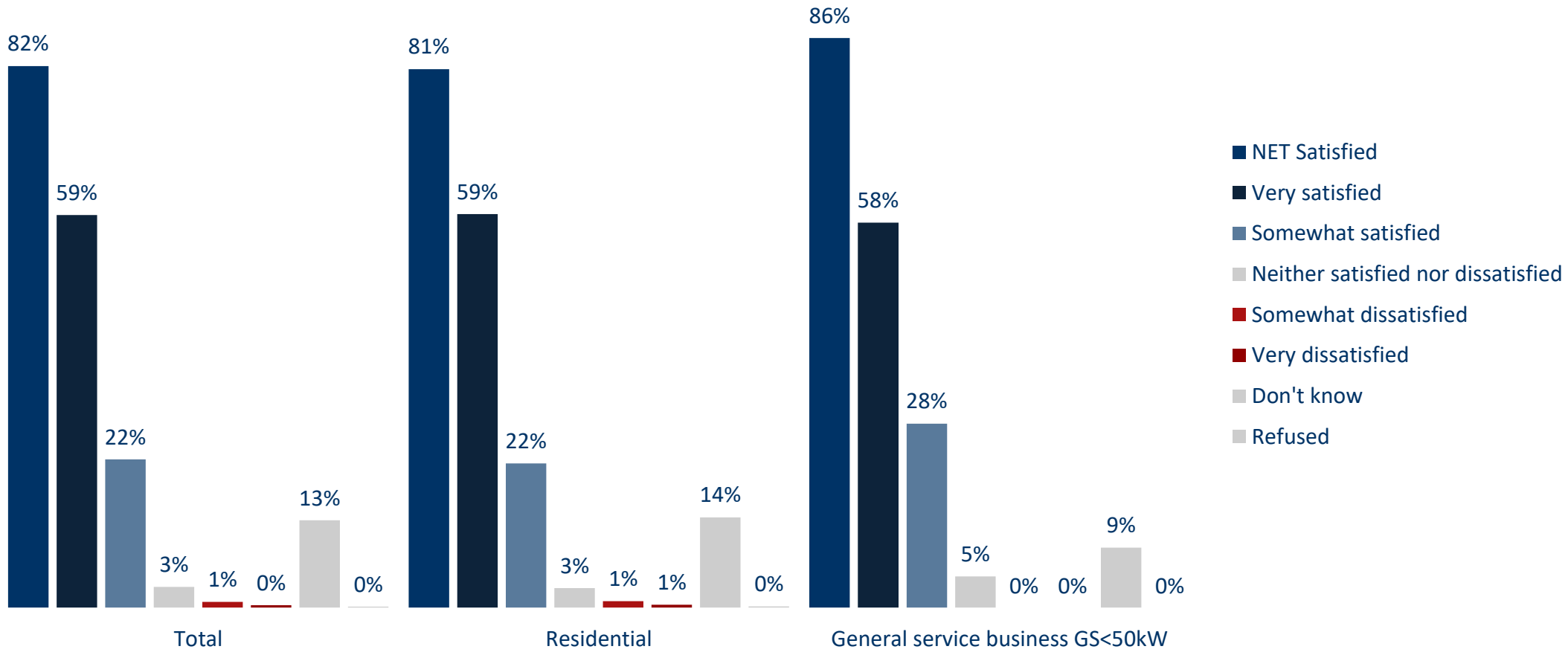

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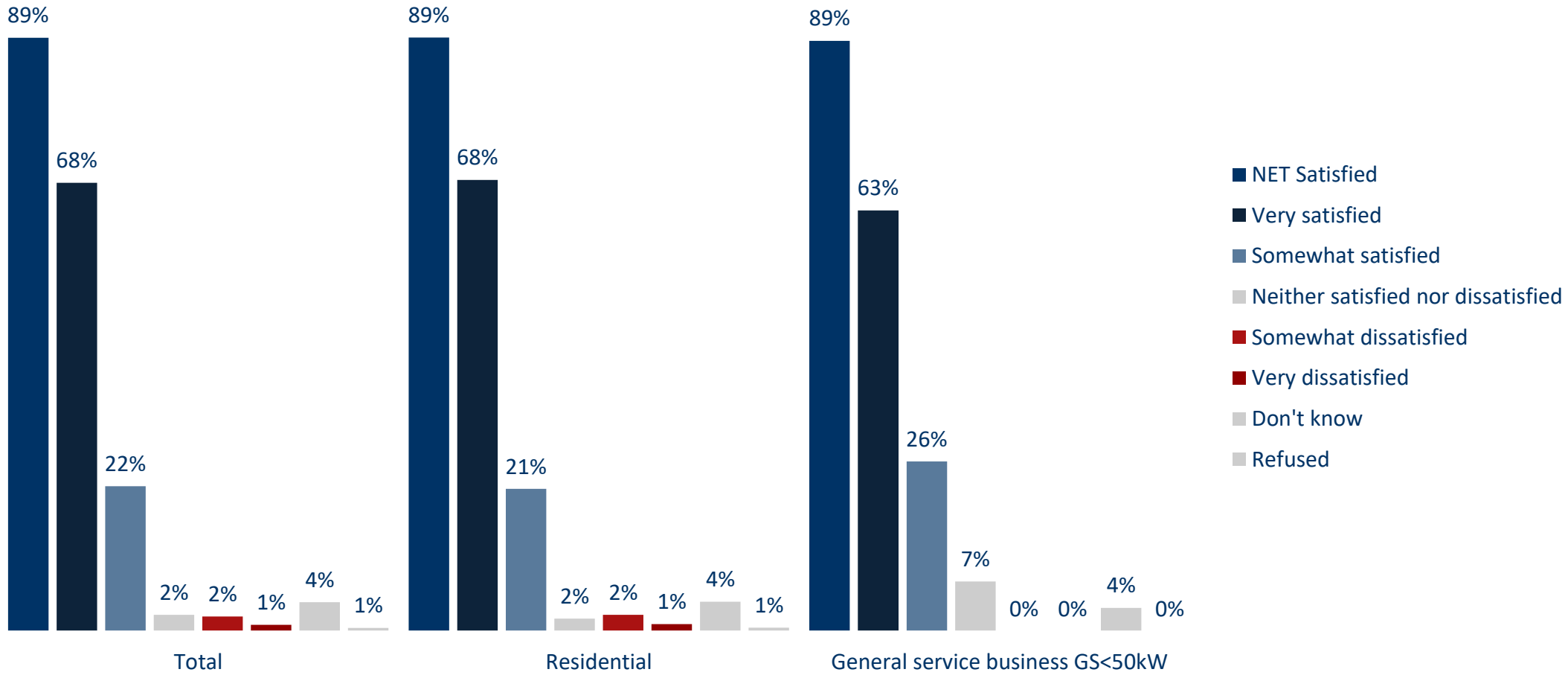

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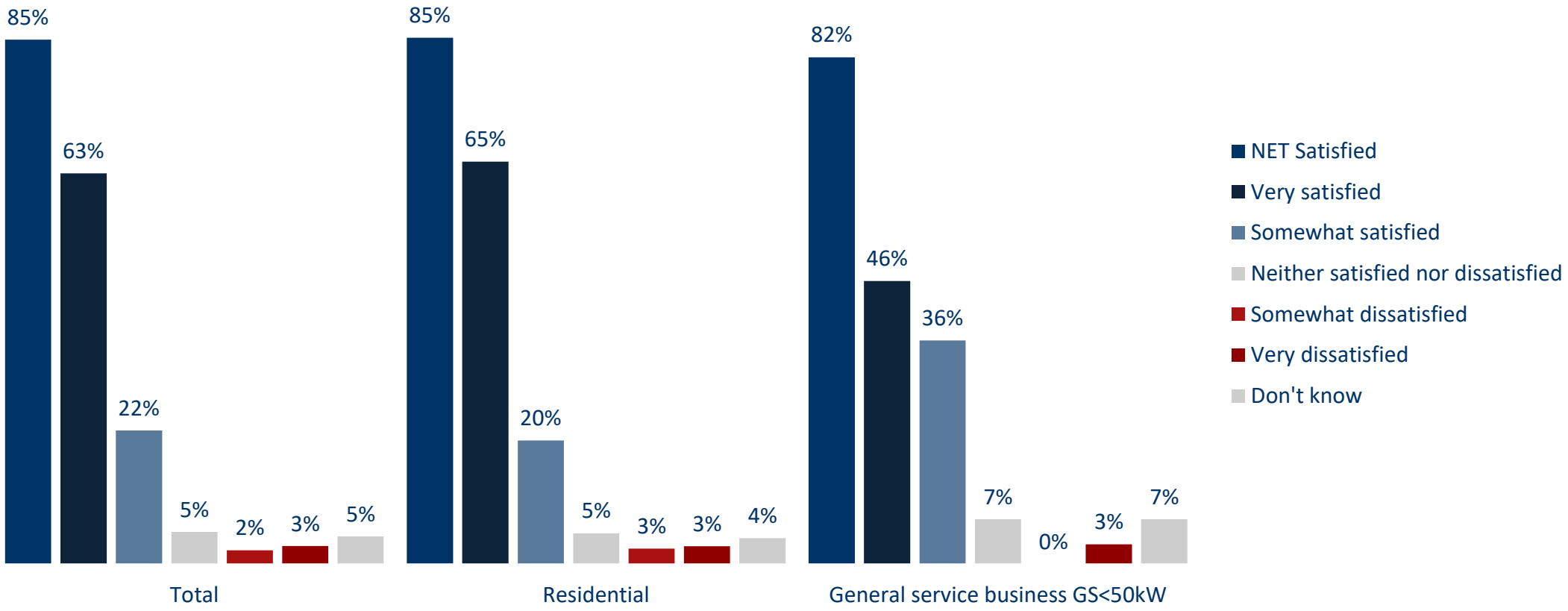

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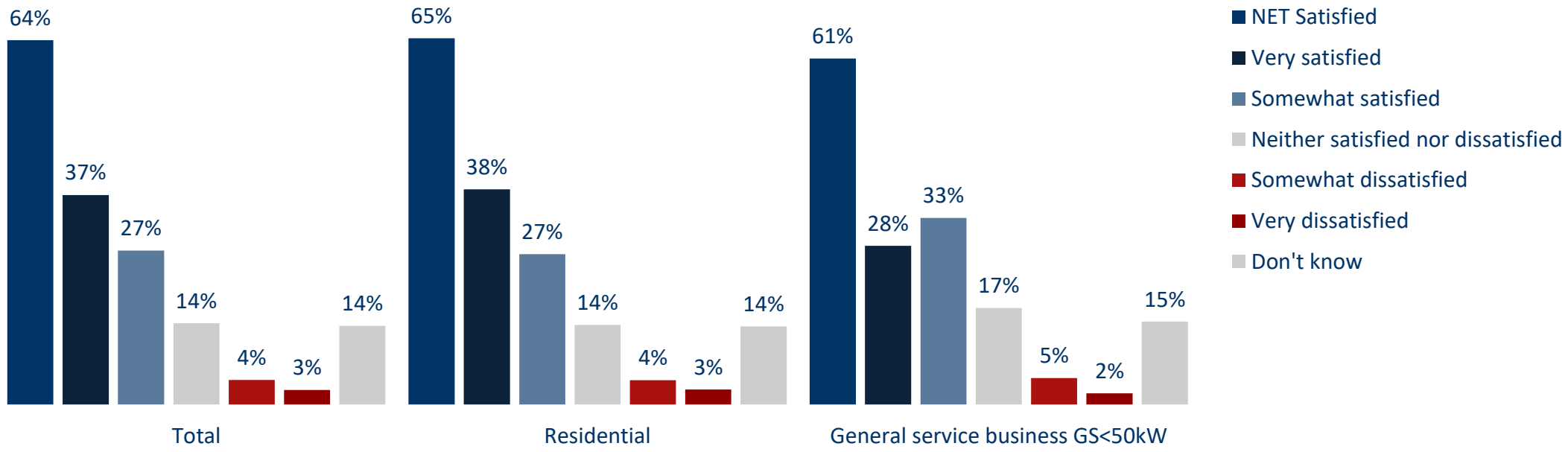
How satisfied are you with the COMMUNICATIONS that you may receive from Lakeland Power without talking directly to an employee, including information found on their website, bill inserts, advertising, notices, emails, or social media sites?



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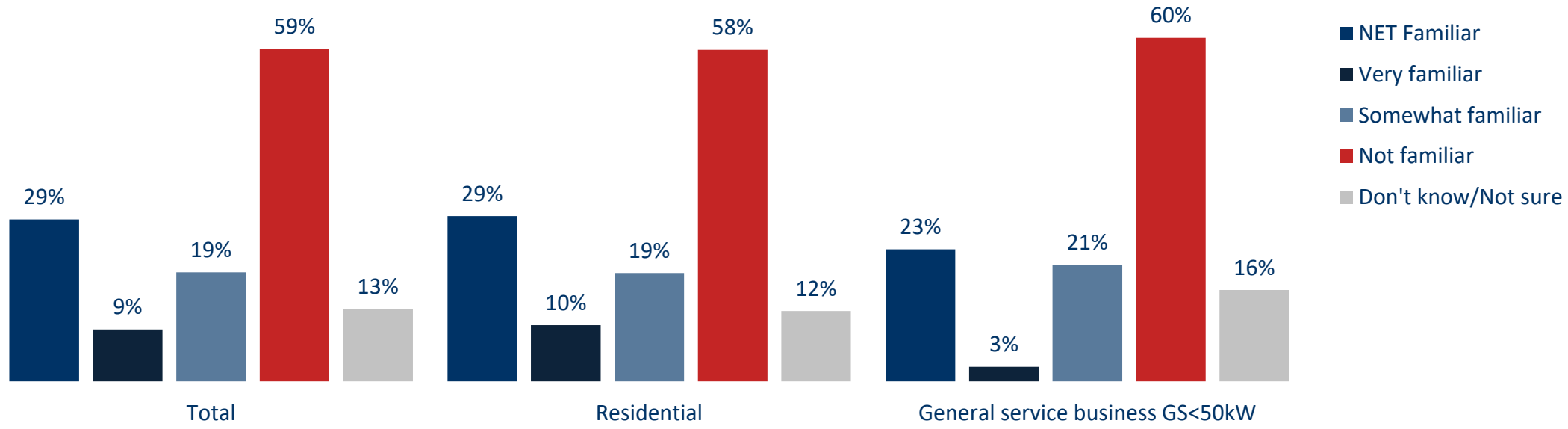
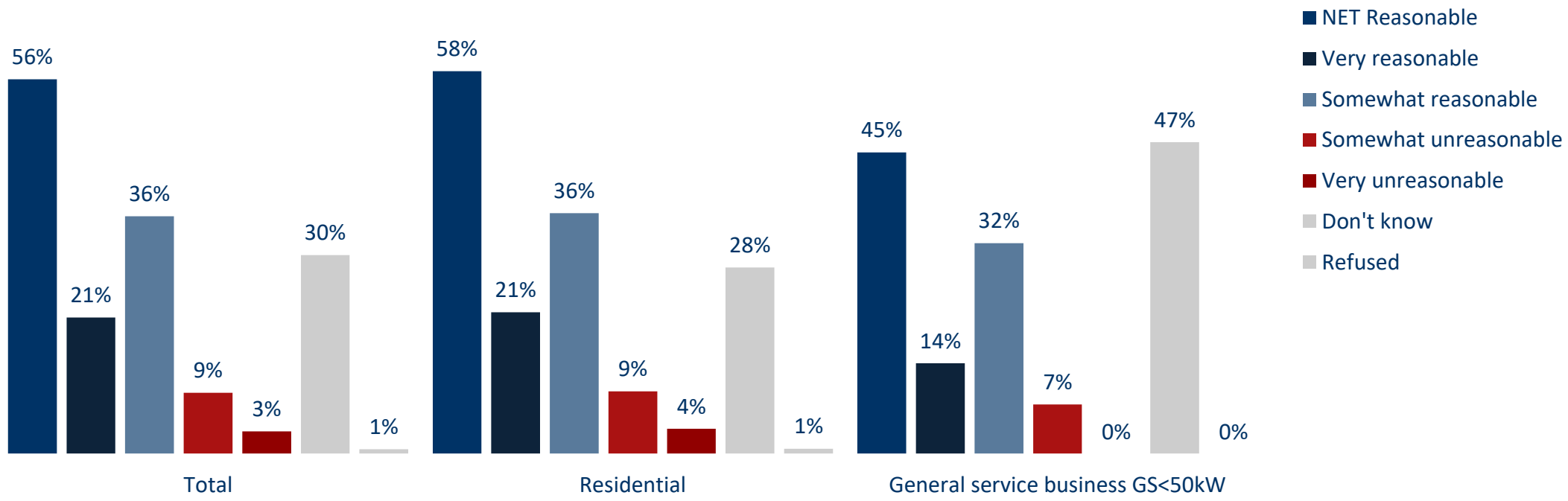


Weight: Aggregate weight for LDC based on customer_type
Filters: Year of Data Collection: 2023, LDC: Lakeland Power

Do you feel that the percentage of your total electricity bill that you pay to Lakeland Power for the services they provide is...?



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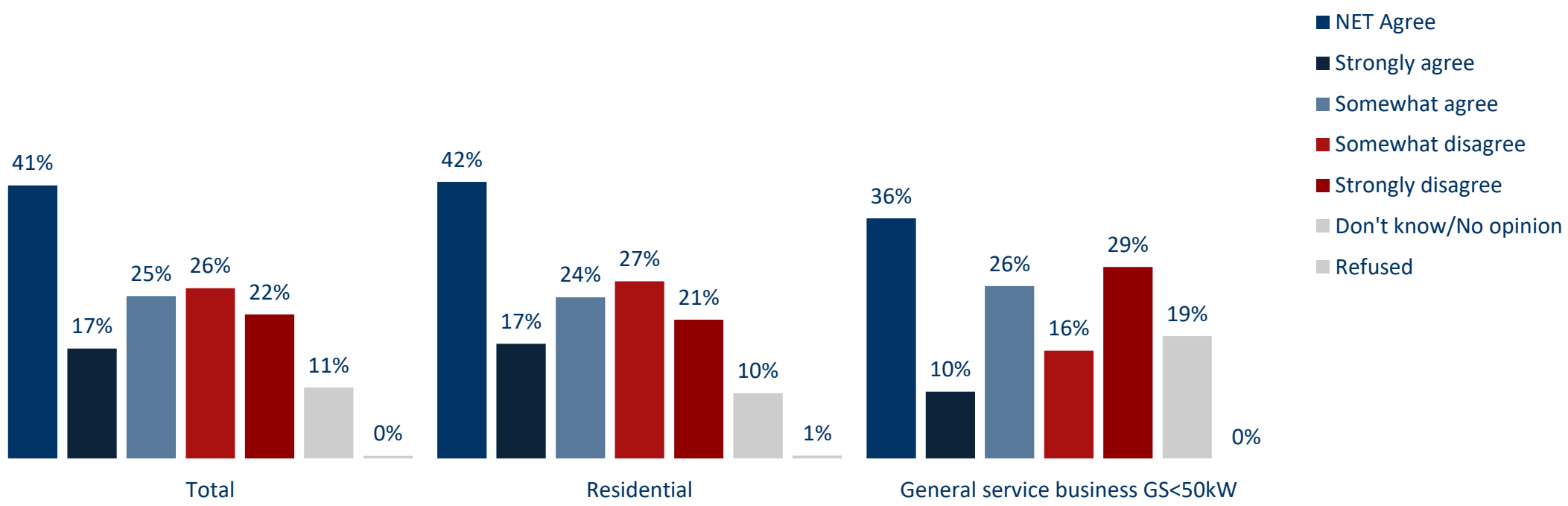
To what extent do you agree with "The cost of my electricity bill has a major impact [on personal finances OR bottom line of organization]"?



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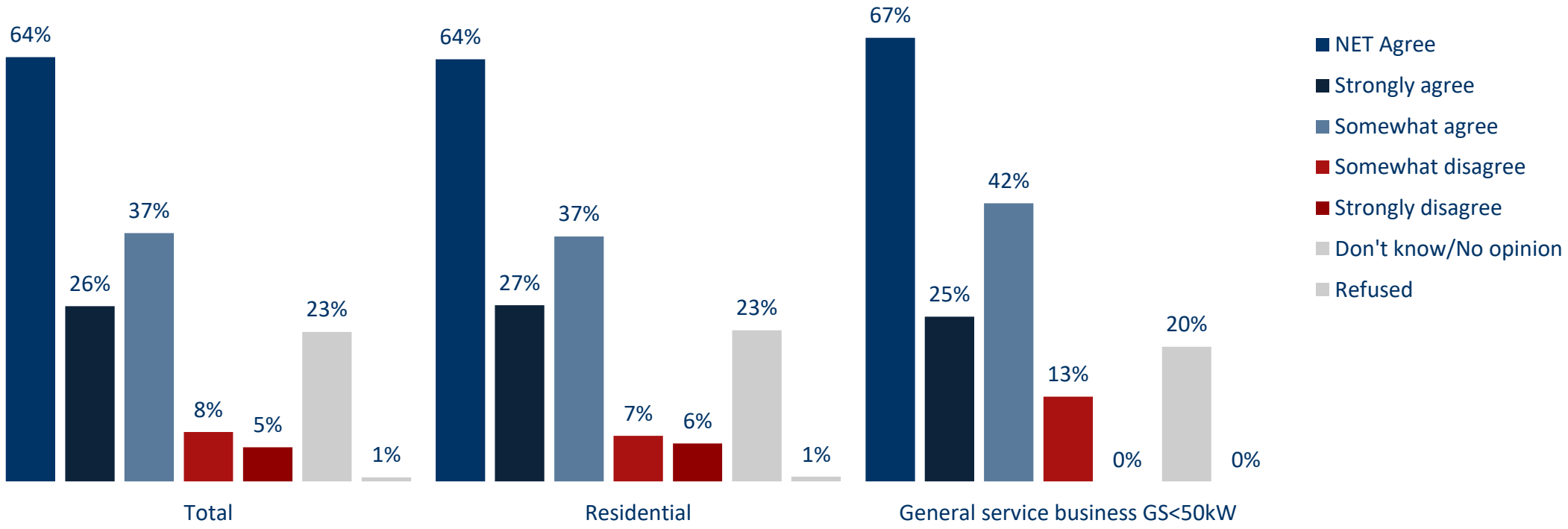
To what extent do you agree with "Customers are well served by the electricity system in Ontario"?



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Core (OEB) Survey Questions – Trend over Time

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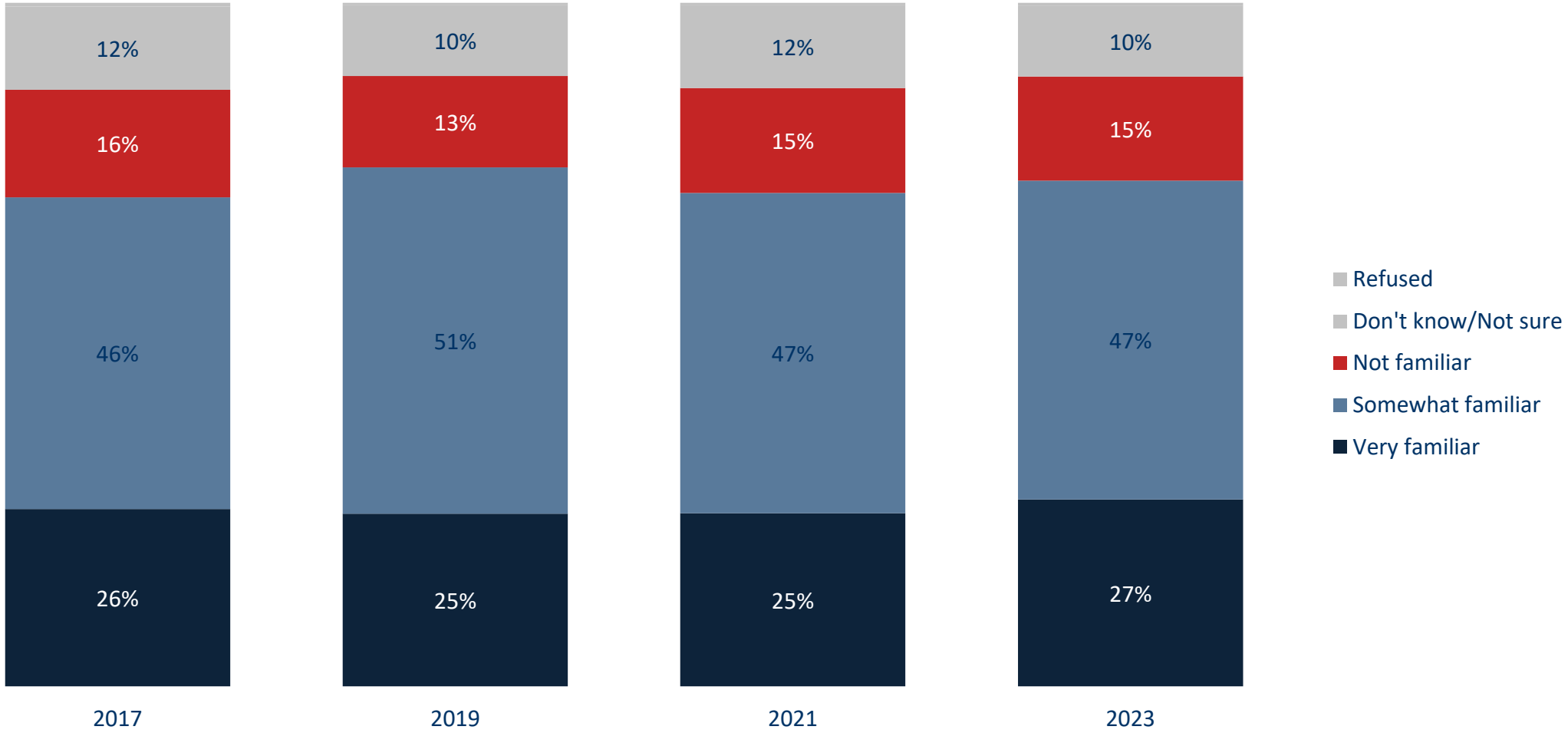

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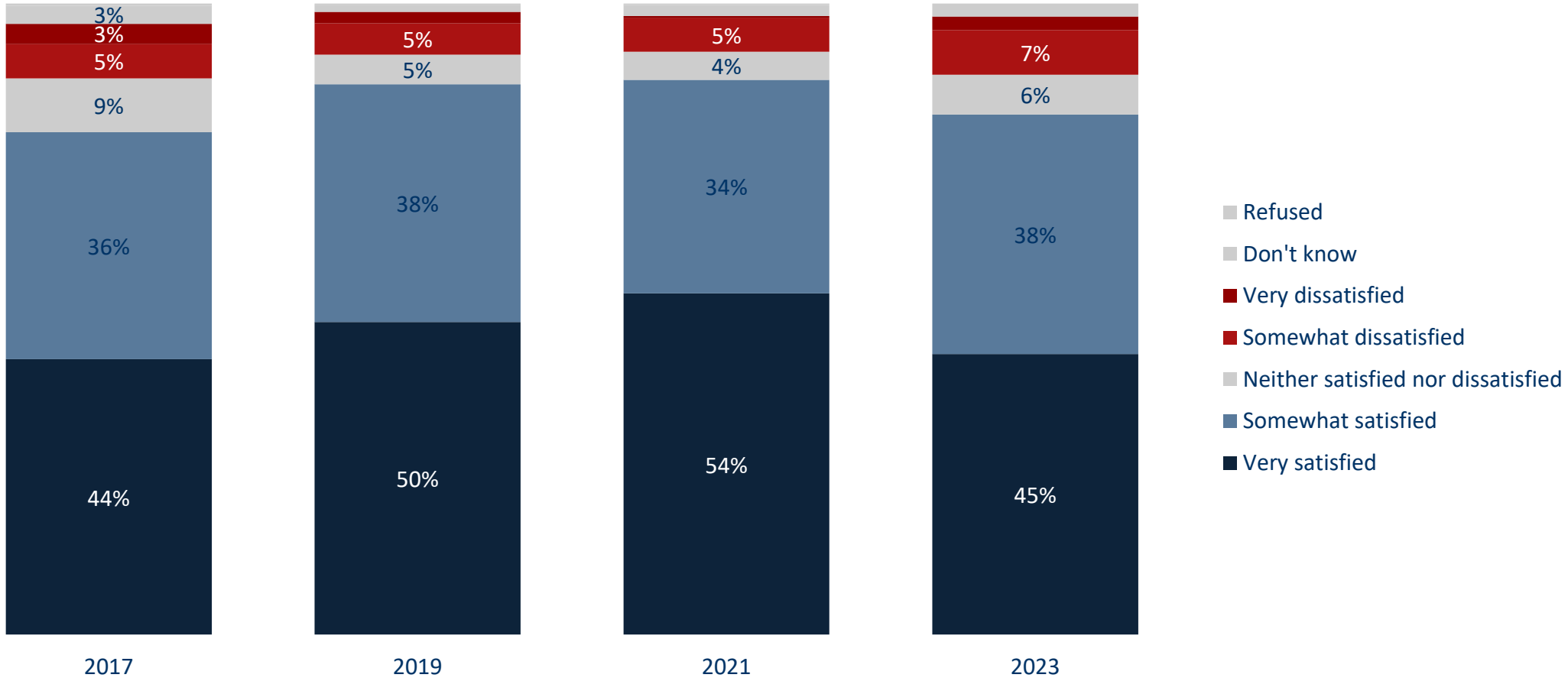

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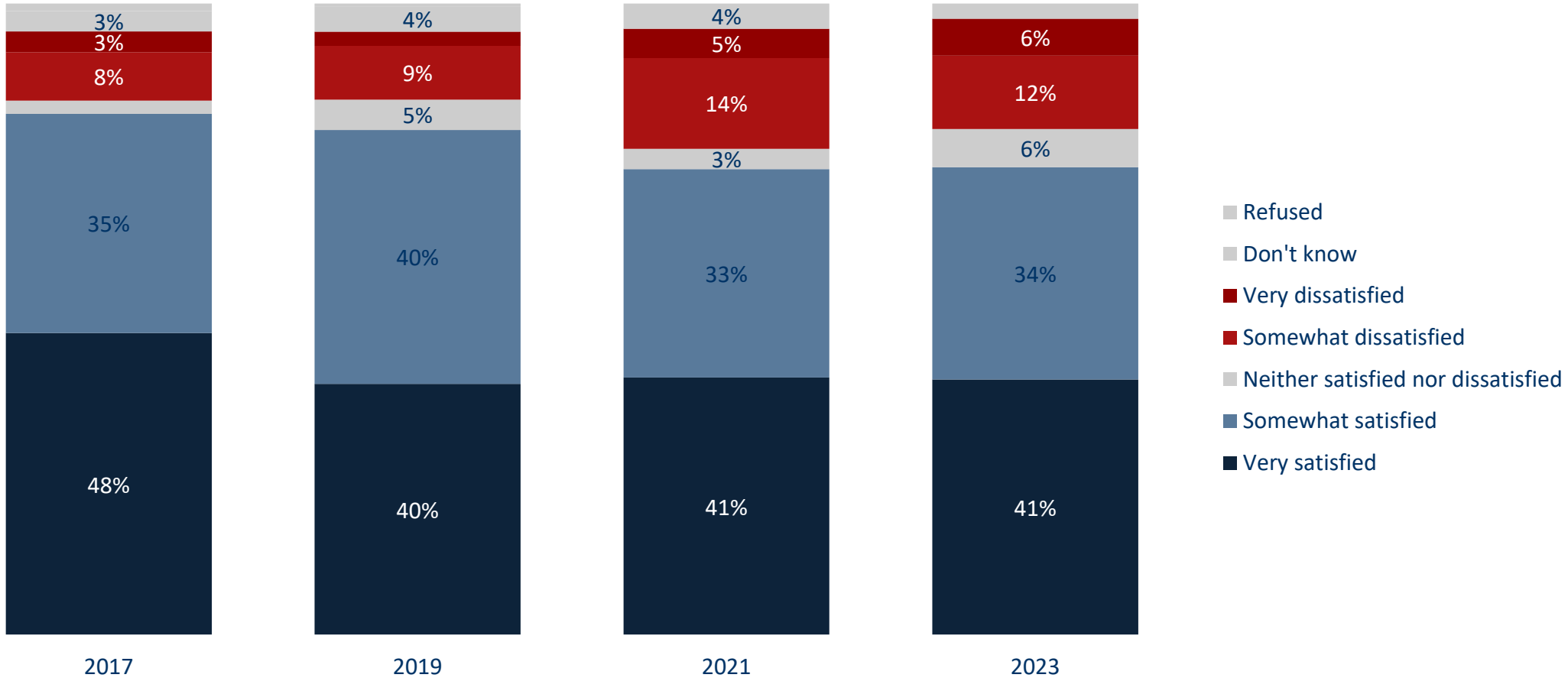

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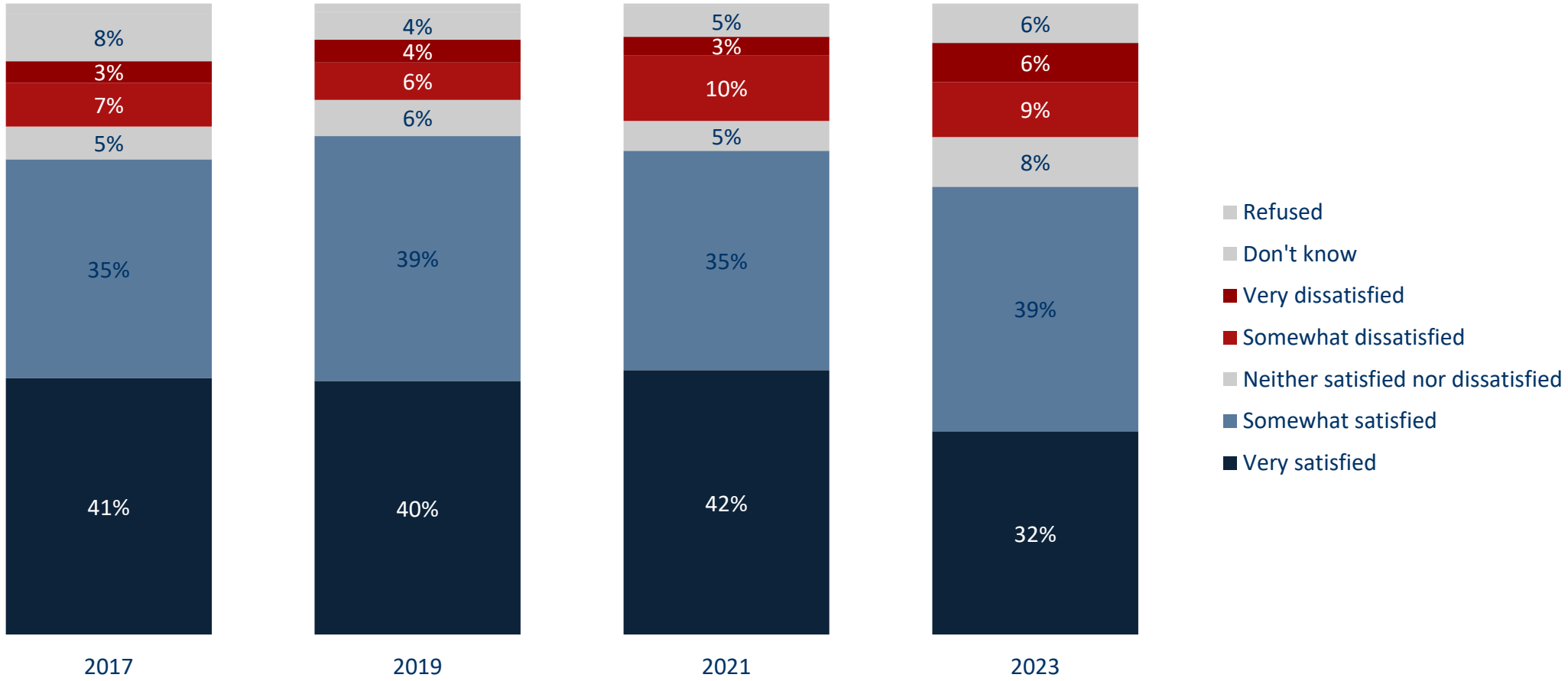

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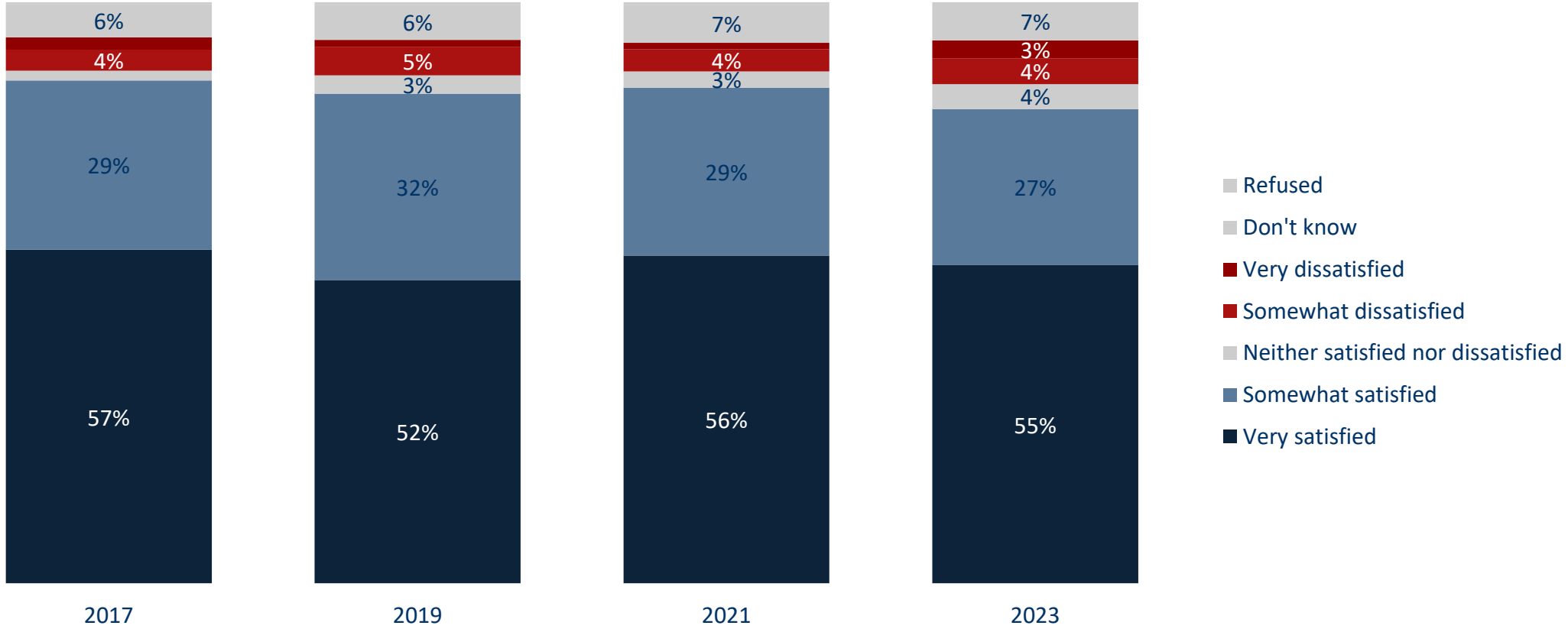

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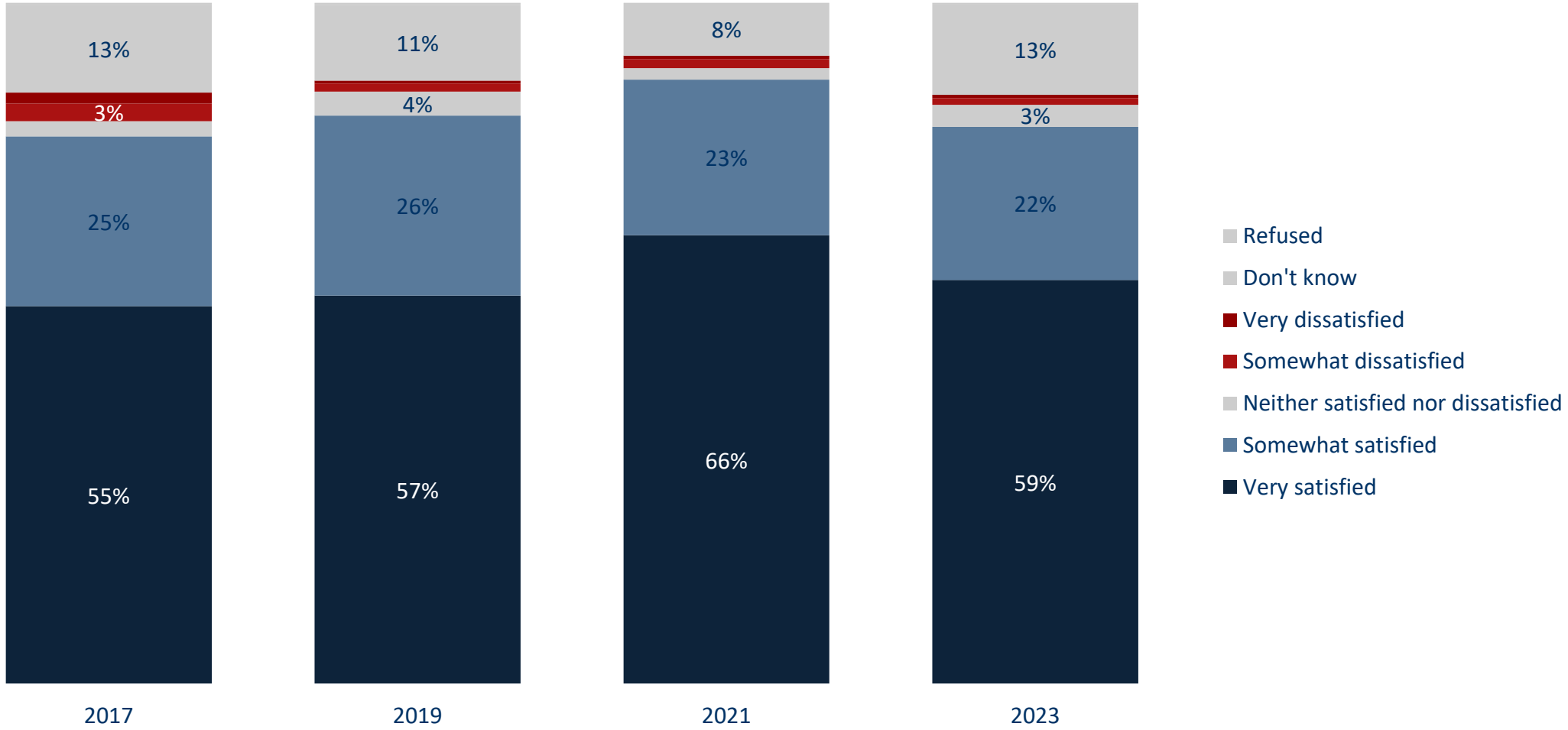

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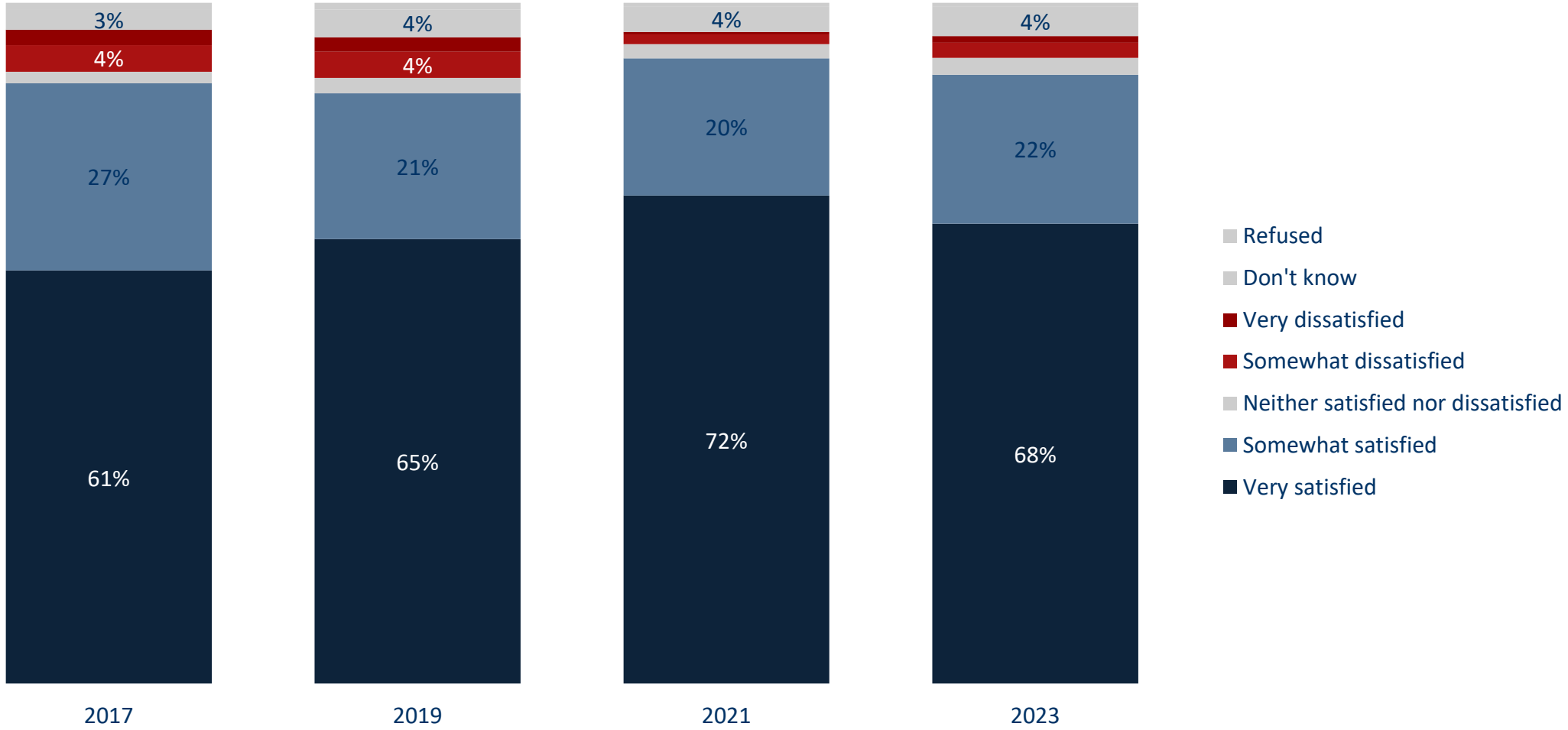

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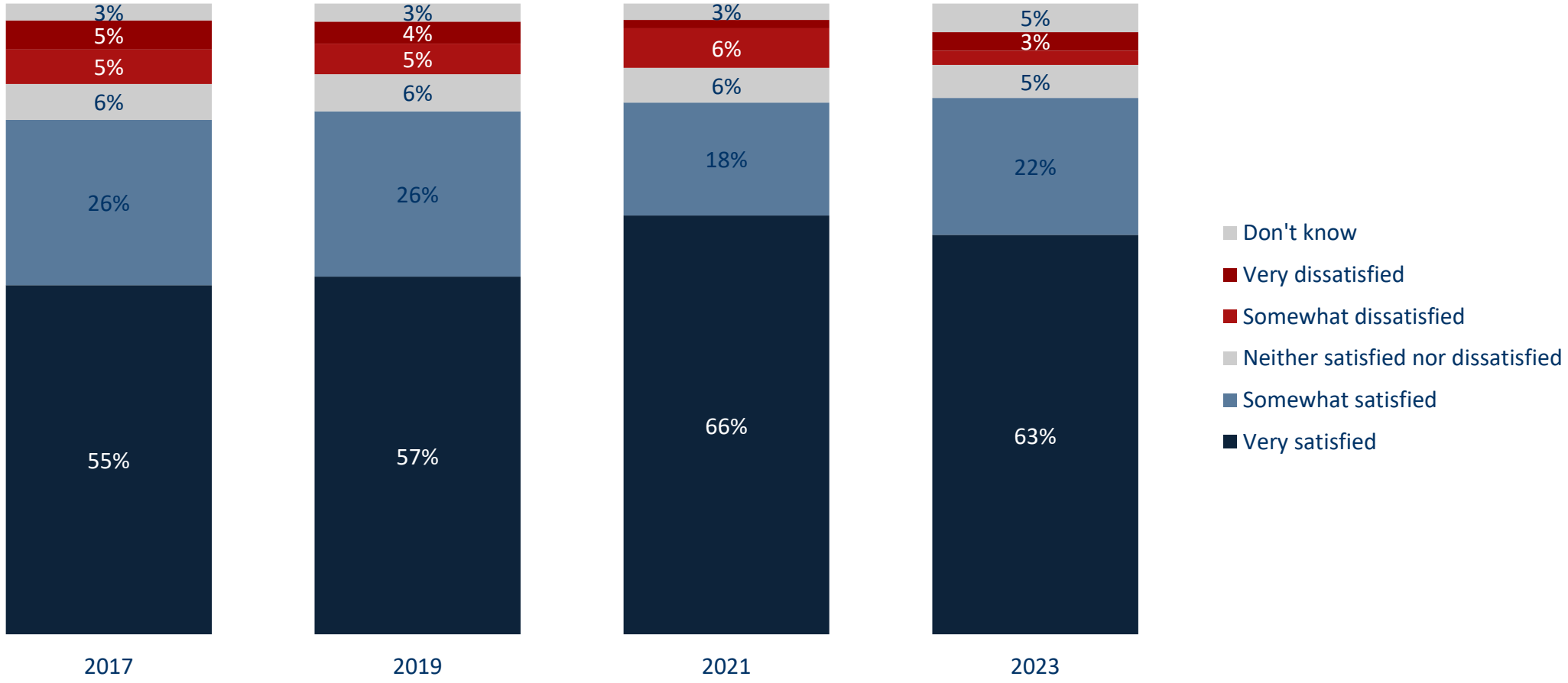

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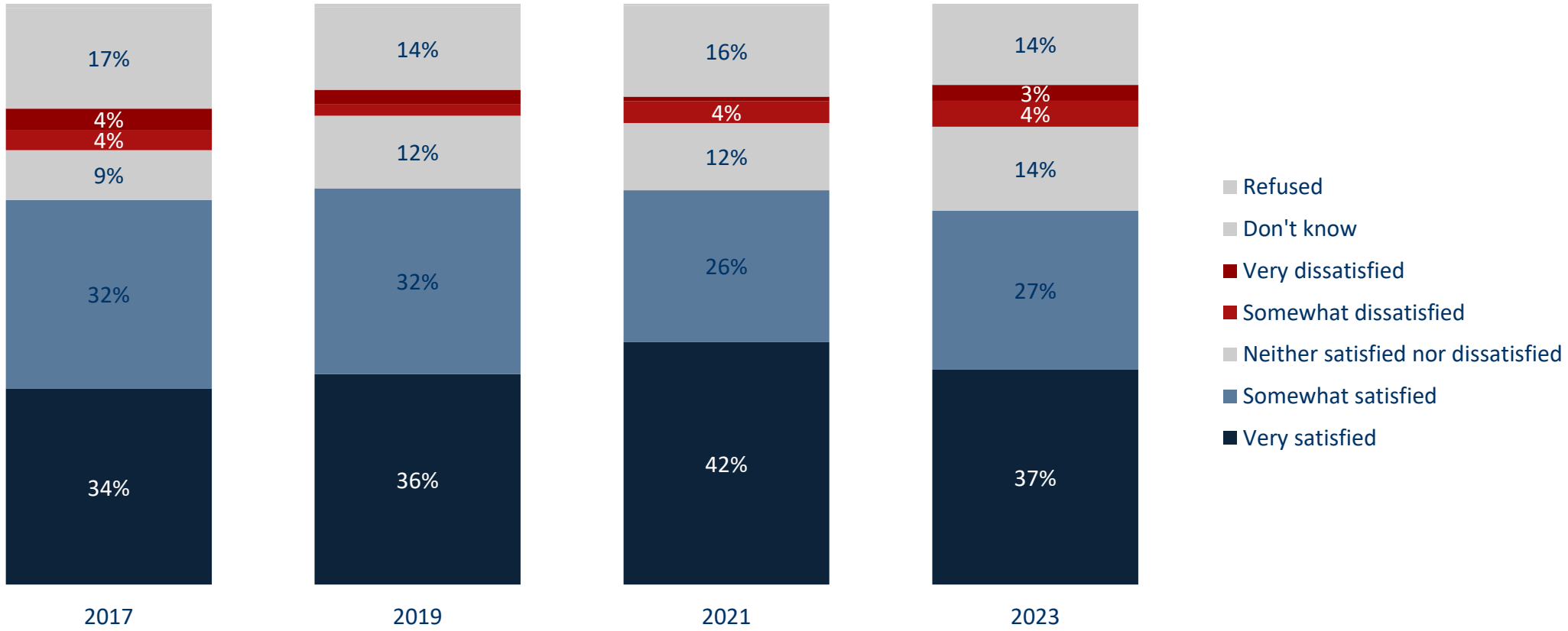

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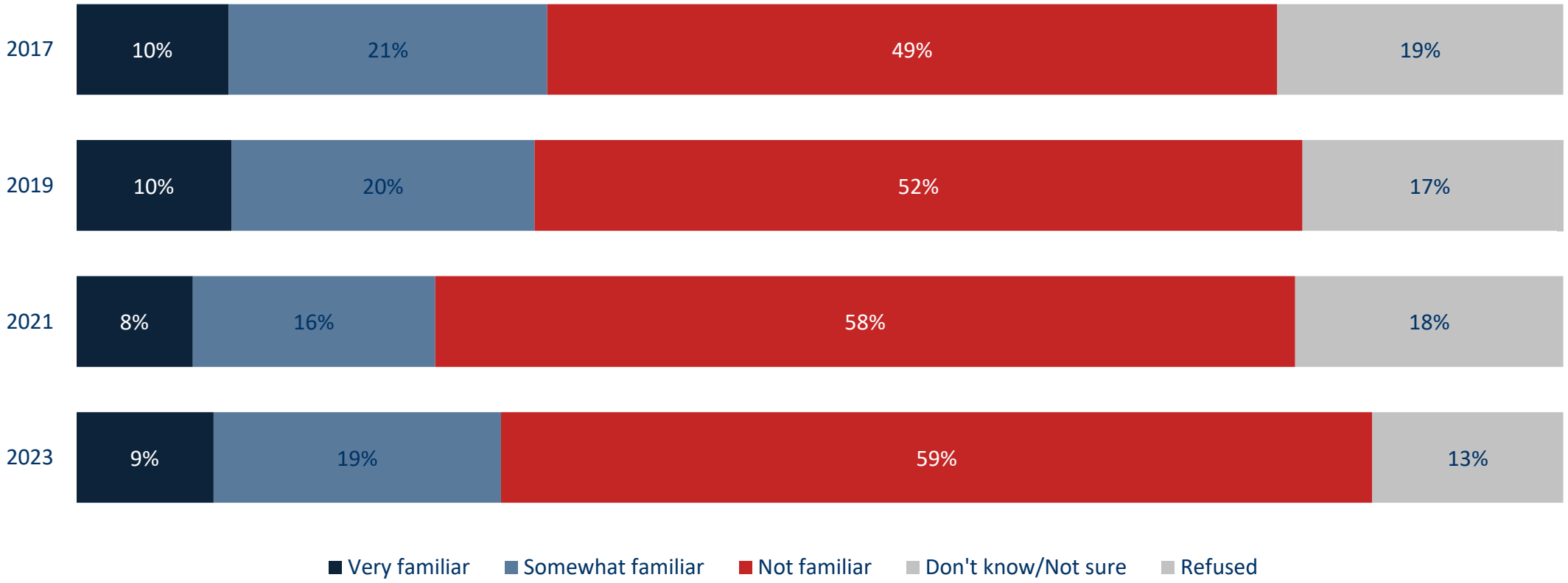

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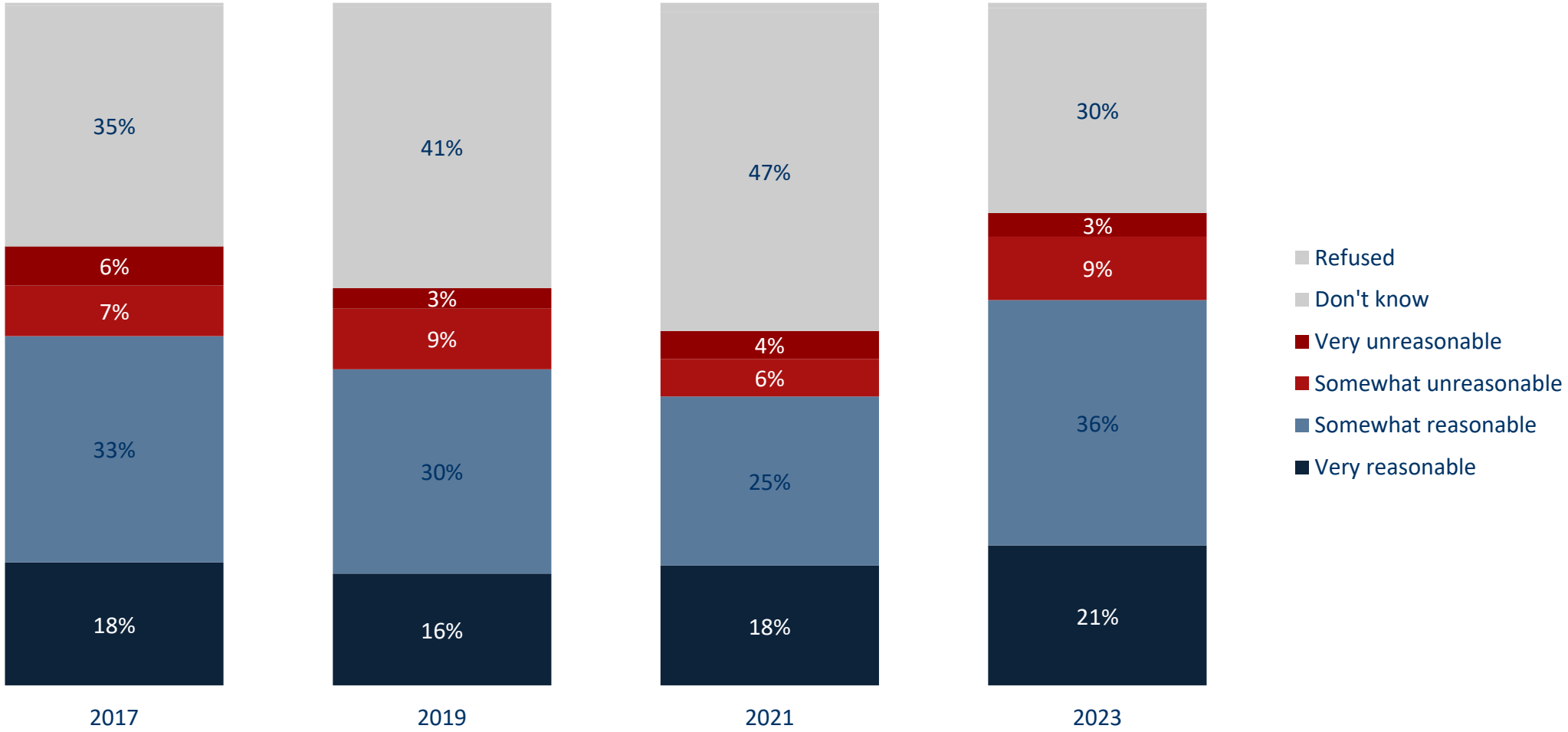

Weight: Aggregate weight for LDC based on customer_type
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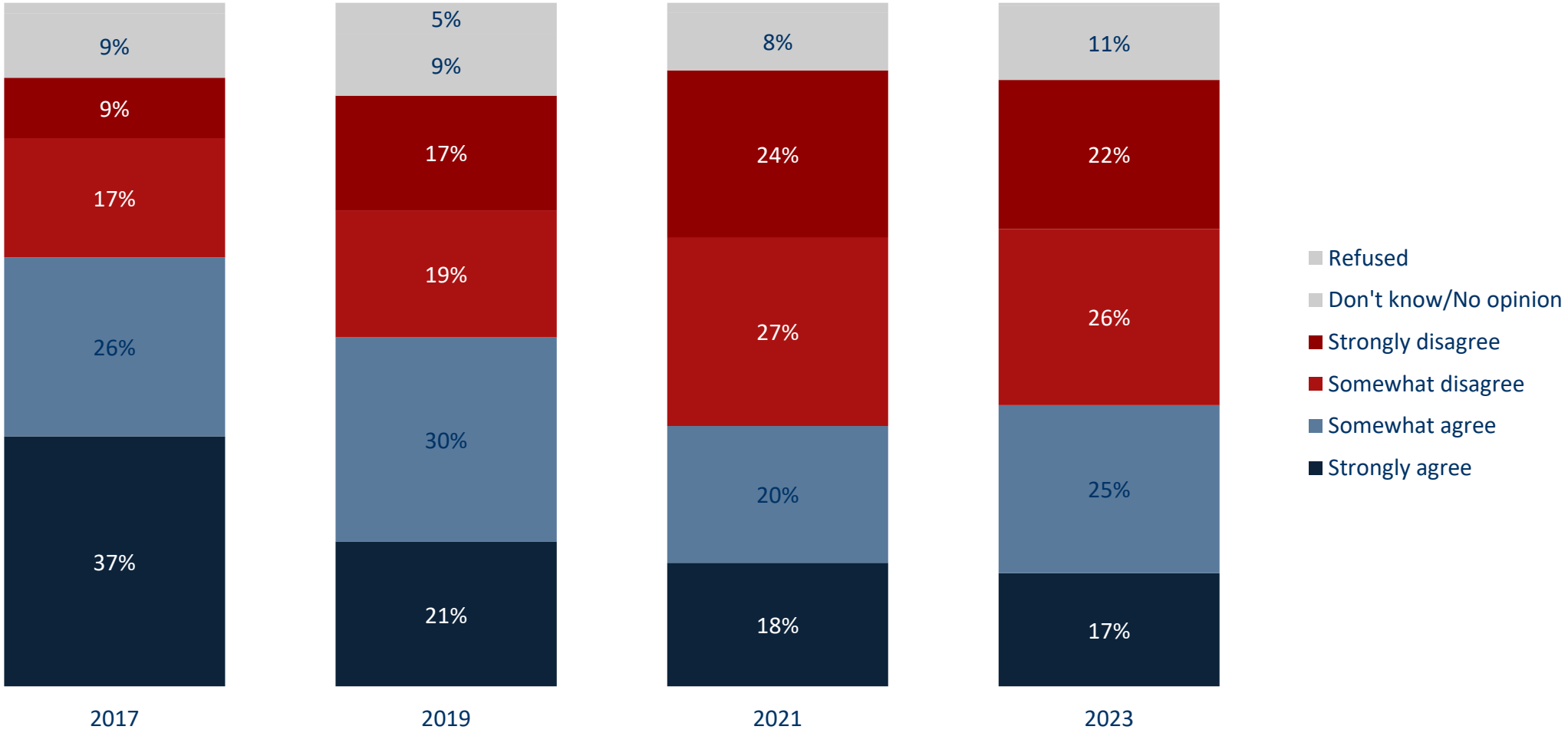
To what extent do you agree with "The cost of my electricity bill has a major impact [on personal finances OR bottom line of organization]"?



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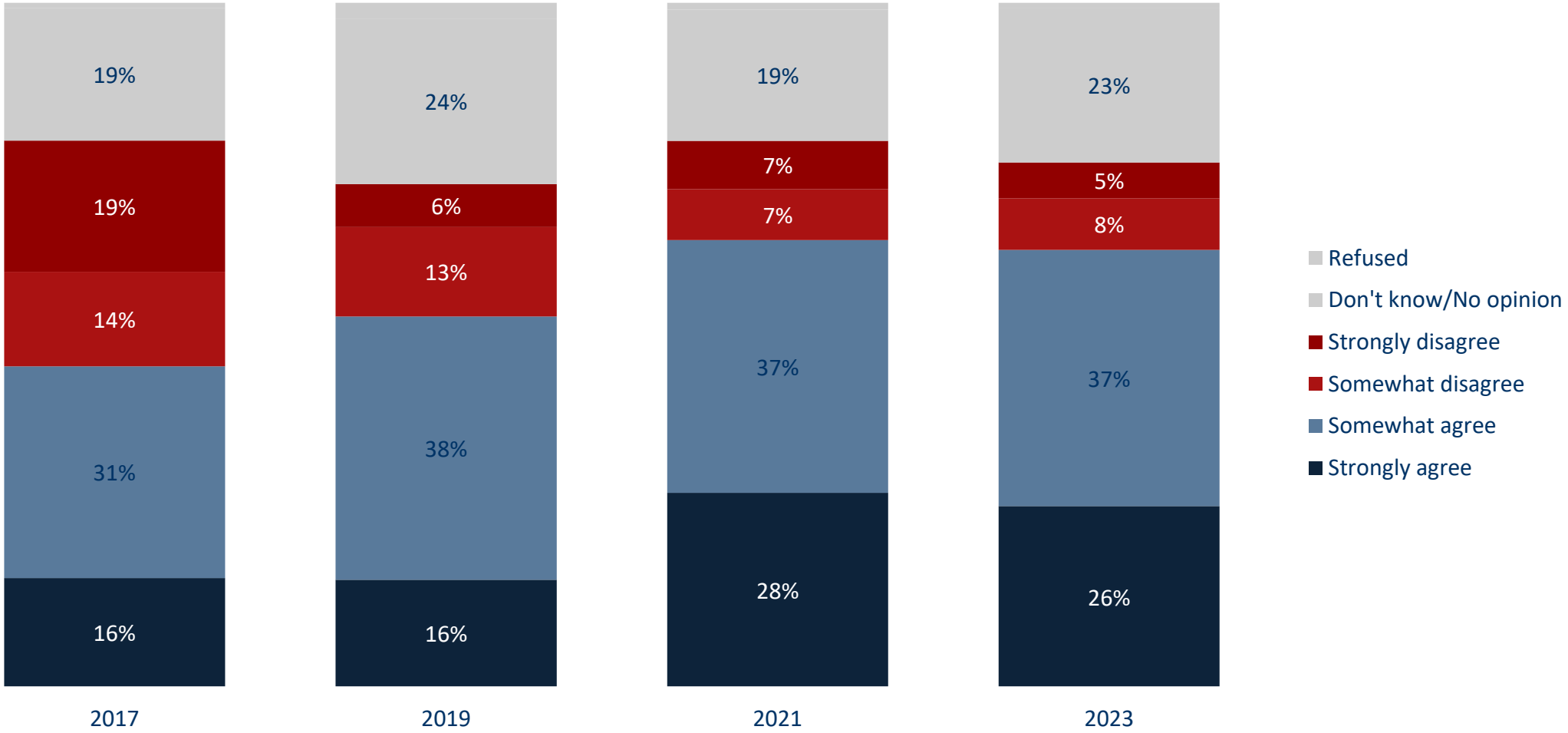

Weight: Aggregate weight for LDC based on customer_type
Filters: LDC: Lakeland Power

Methodology

Methodology Summary

Commissioned by	Lakeland Power
Sample size	400 randomly selected customers
Margin of error	±4.8 percentage points, 19 times out of 20
Survey mode	Random telephone survey of customer base, CATI data collection
Survey sample	Residential and GS <50kWh customer lists provided by Lakeland Power
Time of calling	4PM-9PM Weekdays, 10AM-5PM Saturdays, scheduled callbacks
In-field dates	January 9-February 17, 2023
Language	English only
Survey author	Innovative Research/Electricity Distributors Association
Question Order	Core (OEB) questions then LDC-specific questions
Question Wording	Questions shown in report largely as asked; exact questionnaire available upon request
Survey Company	Advanis Gary.Offenberger@advanis.net

Methodology Details (1/4)

Target Respondents

The respondents of the survey were Ontario residents who are the primary bill payer or share the responsibility if residential or the person in-charge of managing the electricity bill at the organization if general service, and who resided within one of LDC's service territory(ies). Service territories were determined based on customer lists provided by the LDC.

Sample Size and Statistical Reliability

The final total completed surveys by LDC, and the associated margin of error for each, are shown below.

All margins of error are shown at a 95% confidence level.

- E.g., the margin of error associated with a sample size of 400 for a large (infinite) population is ±4.9 percentage points, 19 times out of 20.

Since each LDC has a finite population, we used the specific population sizes (i.e., the number of sample records received from each LDC) in the calculation of margin of error. Doing so is more accurate, and results in a narrower margin of error than if we simply assumed large (infinite) population for each.

Sample sizes were set according to the *LDC Customer Satisfaction Survey: Methodology & Survey Implementation Guide*, prepared for the Electrical Distributors Association (April 19, 2016 revision):

Where possible, sample size of n=400.
Distributors with 3000 to 4999 customers (residential + GS<50), n=300
Distributors with <3000 customers (residential + GS<50), n=200

Methodology Details (2/4)

Sampling Methodology

Advanis was provided sample lists from each LDC. Customer lists included all basic information required such as name, telephone number, region (where applicable), customer type (residential or GS<50), LDC fee, Annual or Monthly consumption values. Redhead then calculated which quartile group each resident belonged to by evenly dividing them into four groups within each region and customer type. These quartiles were calculated based on annual consumption value.

To minimize low response:

- Sample was loaded in batches to ensure the sample was fully utilized before moving onto fresh sample records;
- Calls were made between the hours of 4pm and 9pm ET; and
- Call backs were scheduled and honored between the hours of 9am and 9pm ET.

Sample Cleaning

Redhead cleaned the customer lists individually once received from each LDC to ensure the customer list counts reflected actual individual records that could be called. The following steps were taken during sample cleaning.

- All records with no phone numbers were removed.
- All phone numbers were checked to see if they were valid numbers (i.e., 10 digits, all numerical, etc.) and any bad cases were removed.
- When duplicates were detected based on phone number, the average of the consumption value was calculated and kept for one consolidated record. All others were removed.
- Residential and GS<50KW were separated into their own lists to be loaded and managed separately in the calling system.

Regions within each customer list were given a numerical value to be used for calling quotas.

Methodology Details (3/4)

Questionnaire

The survey instrument was provided by the Electricity Distributors Association (EDA) developed in conjunction with Innovative Research. The survey consisted of an introduction, overall satisfaction, power quality and reliability, billing and payment, customer service experience, communications, price, optional deeper dive questions, and final personal finance / sector mood measures. Additional questions were provided individually by some LDCs. These questions are not required as part of the survey and, as outlined in the methodology guideline, were asked after all the standard and required questions.

Data Collection

Computer aided telephone interviews (CATI) were conducted from **January 9-February 17, 2023.**

Quality Control

- Advanis trained its interviewers to understand the study's objectives;
- Detailed call records are kept by the automated CATI system, and are supplemented by output files to SPSS for productivity analysis (i.e., not subject to human error);
- The survey was soft launched in LDCs that had the most available sample, and the data was then checked before calling began in full for each;
- 100% of all surveys are digitally recorded for potential review (see next bullet);
- Advanis' Quality Assurance team listened to the actual recordings of five-ten percent of completed surveys and compared the responses to those entered by the interviewer to ensure that responses from respondents are properly recorded;
- Team Supervisors conduct regular more formal evaluations with each interviewer, in addition to nightly monitoring of each interviewer on their team;
- Project Managers closely monitored the progress of data collection, including call record dispositions;
- All SPSS code is reviewed by a more senior researcher;
- All report output is reviewed by a more senior researcher; and
- All values in the report are reviewed by another team member to ensure accuracy.

Methodology Details (4/4)

Analysis of Findings & Data Weighting

Results were weighted to match the proportion of low volume rate class records as provided to Advanis after cleaning of the sample file. Where a region flag was also provided, results were weighted to the low volume rate class within each region and regions were weighted proportionately to one another based on the customer base as provided in the cleaned sample file.

The Customer Satisfaction index scores have been highlighted and were calculated as described below, based on instructions in the Survey Methodology Guidelines. The "response values" referenced in the description below were also determined and provided by the survey authors.

Data analysis and cross-tabulation have been conducted using SPSS and Advanis' proprietary Online Reporting Environment software.

This **index score** is calculated using the following process:

Step 1: Weight data to n=400 with each low volume rate class proportionate to its share of LDC customer base.

Step 2: Rescale the index score variables onto the 0 to 1 scale as indicated by the response values detailed below.

Step 3: The average result of the questions asked for each OEB topic and the overall satisfaction score will be added together[3].

	B5
+	**[C6+C7+C8]** divided by 3
+	**[D9+D10]** divided by 2
+	**E11**
+	**F12**
+	**G14**
=	**Total cumulative scores**

Step 4: The total cumulative score from Step 2 will be divided by 6 to generate the **Customer Satisfaction Index Score** (bound between 0-1).

The chart on the following page illustrates how the **Customer Satisfaction Index Score** will be calculated.

As noted above, LDCs without a region flag were weighted to their low volume rate class proportion based on the cleaned sample file. LDCs with a region flag were weighted to their low volume rate class proportion within each region based on the cleaned sample file, and then regions were weighted proportionately to one another based on the customer base as provided in the cleaned sample file.

Specific values of the number of sample records, estimated population proportions, and final weighted sample counts within LDC are provided on the next slide.
The sum of the regional population proportions within an LDC may not equal 100% due to rounding.

Methodology Tables

Margin of error

LDC	Clean Customer Records from LDC	Completed Surveys	Sample Size as % of Customer list	Margin of Error @ 95% confidence level
Lakeland Power	10,582	400	3.78%	+/- 4.8%

* Since each LDC has a finite population, we used the specific population sizes (i.e., the number of sample records received from each LDC) in the calculation of margin of error. Doing so is more accurate, and results in a narrower margin of error than if we simply assumed large (infinite) population for each.

Sample weighting

Lakeland Power						
Regions Flagged in Sample	**Low Volume Rate Class**	**Sample Received** (Cleaned, Deduplicated)	**Rate Class Proportion**	**Estimated Customer Proportion**	**Weighted Sample Count**	**Unweighted Sample Count**
Bracebridge	Residential	5,123	92%	53%	194	190
	General Service < 50 kW	454	8%		17	16
Huntsville	Residential	1,165	86%	13%	44	44
	General Service < 50 kW	186	14%		7	5
Parry Sound	Residential	2,354	89%	25%	13	13
	General Service < 50 kW	291	11%		2	3
Burk's Falls	Residential	352	88%	4%	15	16
	General Service < 50 kW	49	12%		2	2
Sundridge	Residential	137	89%	1%	5	5
	General Service < 50 kW	17	11%		1	1
Magnetawan	Residential	395	87%	4%	89	92
	General Service < 50 kW	59	13%		11	13
TOTAL	**Residential**	**9,526**	**90%**	**100%**	**360**	**360**
	General Service < 50 kW	**1056**	**10%**		**40**	**40**
					400	**400**

www.advanis.net

gary.offenberger@advanis.net
780.229.1140

2021 Lakeland Power Customer Satisfaction Survey

Introduction and Summary

Thank you for selecting Redhead Media Solutions Inc. for this important project for Lakeland Power. We appreciate your confidence in us to provide you with data on Customer Satisfaction that provides both a current snapshot and can be used to compare with previous surveys in 2017, 2019 and among other LDCs that we work with.

It is our goal to always be improving our deliverables and provide value to our clients. To supplement this report, we have also included a stand-alone section on comparable data and verbatims for question G15 (open comments) in spreadsheet format. The methodology guide, as well as residential and general service questionnaires are also included as appendices B, C and D for your reference.

Should there be any specific data or breakouts that you require we would be happy to provide them. Please contact us to discuss how we can assist you and ensure you are getting the most from this project.

Sincerely,

Graydon Smith
President

LakelandPower

REDHEAD INC
MEDIA SOLUTIONS

Introduction and Summary

Redhead Media Solutions Inc. (Redhead), partnering with ADVANIS for data collection and reporting, has been retained (via an RFP process by Cornerstone Hydro Electric Concepts Inc. - CHEC) to conduct a 2021 Customer Satisfaction Survey for Lakeland Power. This survey is a required part of an LDC's Balanced Scorecard and other reporting and regulatory requirements for the Ontario Energy Board (OEB).

The complete group of participating CHEC LDCs are as follows:

- Centre Wellington Hydro
- EPCOR
- ERTH Power
- Grimsby Power
- Lakefront Utilities
- Lakeland Power Distribution
- Niagara-on-the-Lake Hydro
- Orangeville Hydro
- Ottawa River Power
- Renfrew Hydro
- Rideau St. Lawrence Distribution
- Tillsonburg Hydro
- Wasaga Distribution
- Wellington North Power

Introduction and Summary

This final report contains data specifically for Lakeland Power.

The survey is comprised of 404 randomly selected interviews of Lakeland Power customers among the low volume customer base (residential customers and general service under 50kW customers; GS<50kW). Residential customers were asked to confirm that they receive an electricity or hydro bill from Lakeland Power and that they are the primary payer of that bill or share the responsibility.

GS<50kW customers were also asked to confirm they receive an electricity or hydro bill from Lakeland Power, and additionally to confirm that the person who manages the organization's electricity bill was the one to complete the interview. The sample frame is stratified on region (where applicable) and consumption quartiles by rate class in accordance with the "Survey Implementation Requirements" on page 4 of the "EDA/Innovative Customer Satisfaction Scorecard: Methodology & Survey Implementation Guide" which is contained in Appendix B of this report.

The objective of the survey is to provide an Overall Customer Satisfaction index score for Lakeland Power. This is a calculated aggregate value based on responses of to 9 core measures in the survey instrument. In some cases, additional questions were asked but not included in the calculation of the Customer Satisfaction Index Score.

Lakeland Power's 2021 Customer Satisfaction Index Score is 77%, This is 1% greater than the 2019 score (76%) and 2% less than the average of all LDCs (79%).

This falls within a very tight spectrum of index scores we processed for all LDCs that participated in the 2019 survey via Redhead. When the confidence interval is applied to all index scores, there is significant overlap between LDCs which underlines the statistical similarity of performance and satisfaction among participants. Statistically, Lakeland Power is similar to all other LDCs surveyed.

The following report contains graphic data and tables for all core questions as well as any additional questions supplied by the LDC, which were asked after the core questions were completed.

Question scoring and index methodologies were prescribed by the EDA/Innovative. As such, there has been limited additional analysis provided beyond the direction provided to meet the reporting guidelines. Should you wish further analysis of the data please contact our office to discuss.

PARTICIPANT INFORMATION

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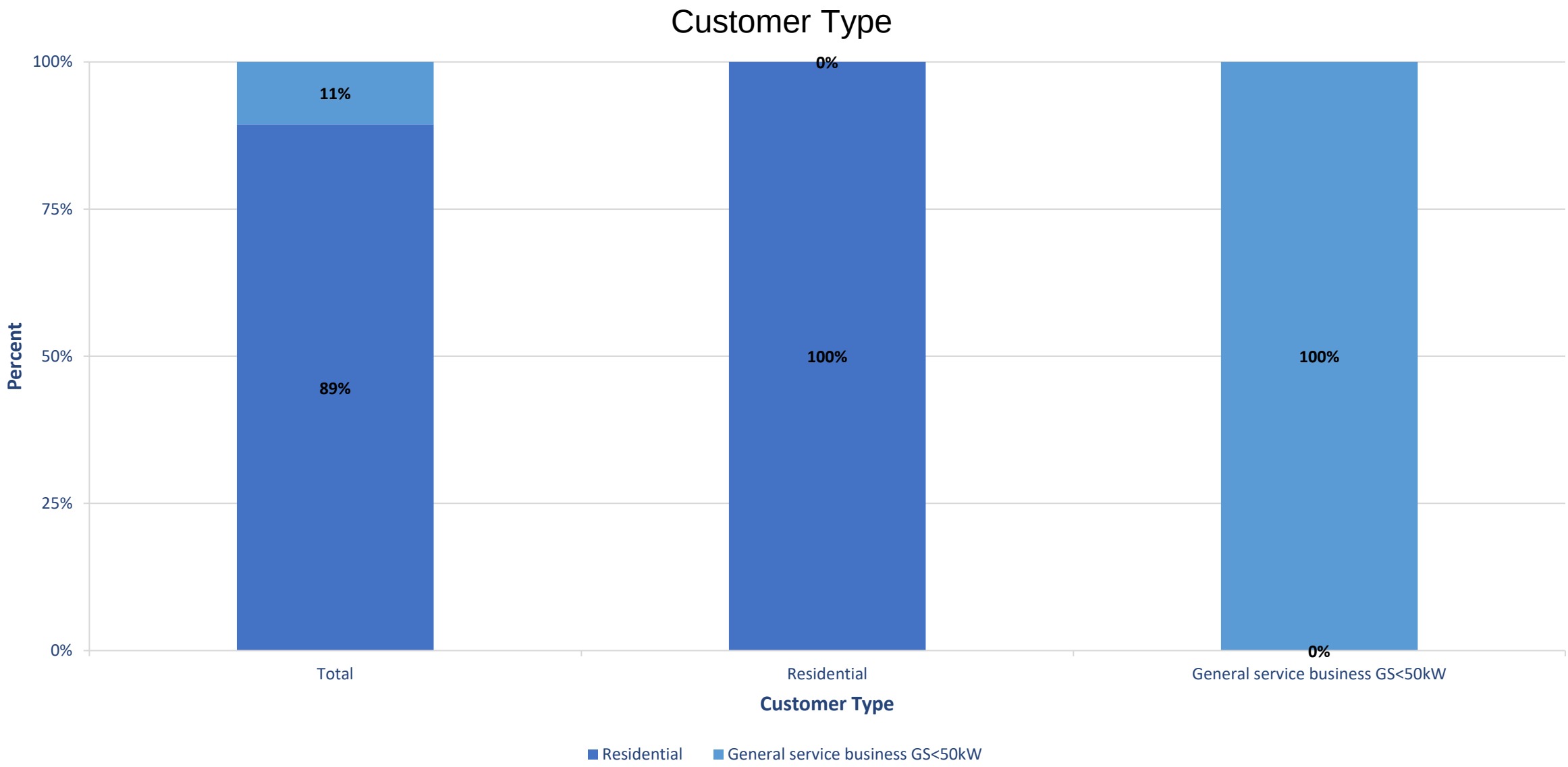

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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QUESTIONS/DATA

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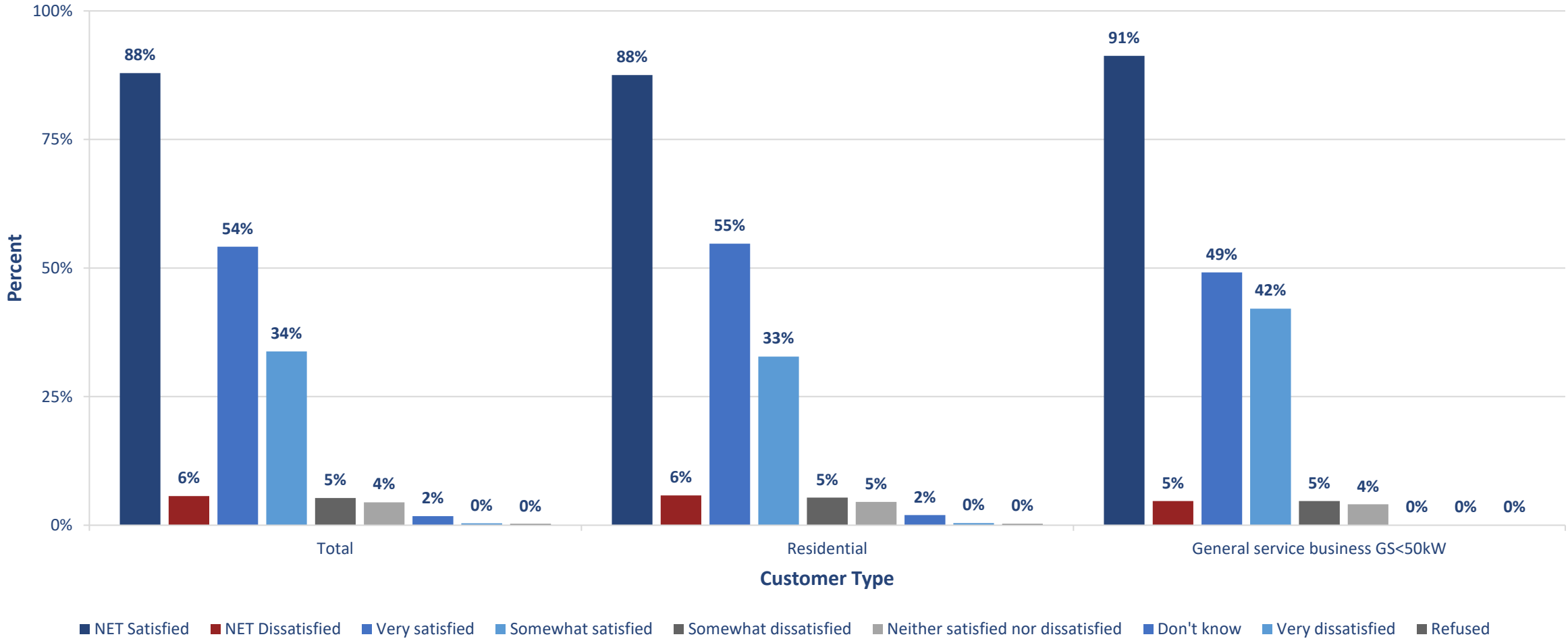
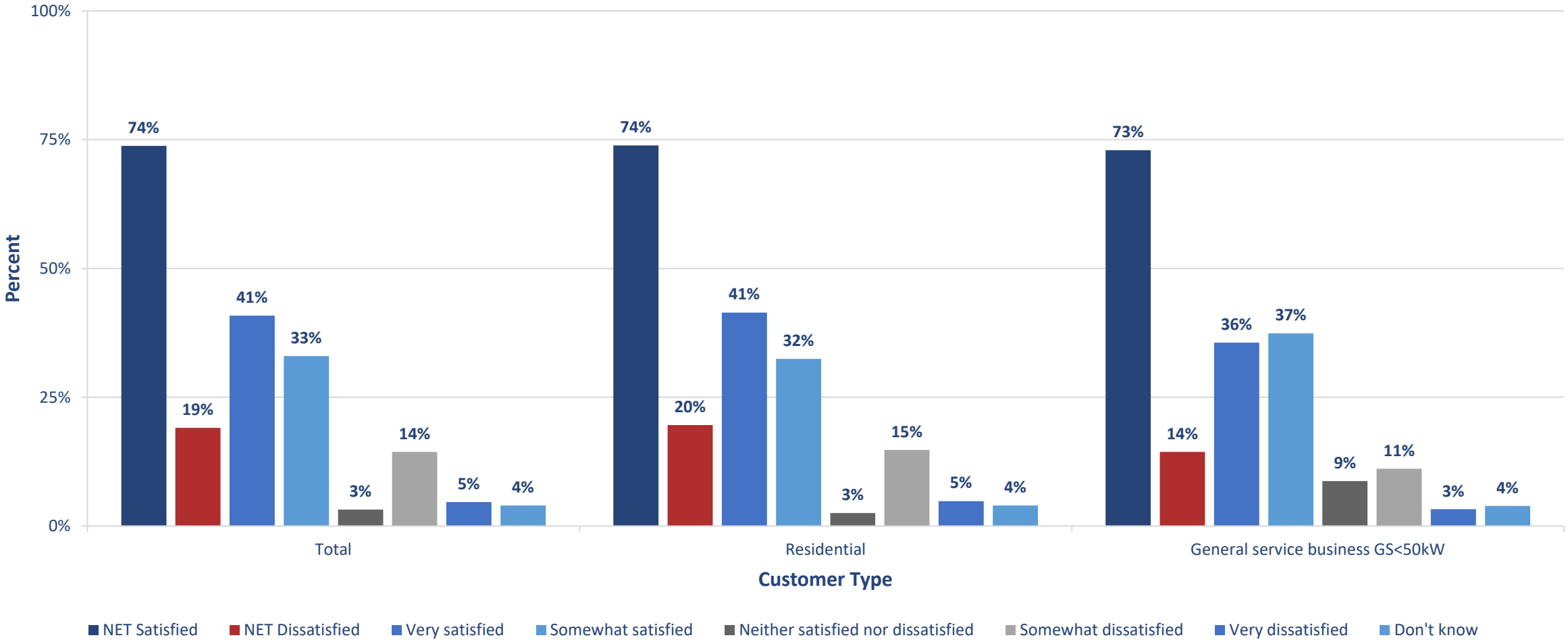
Thinking specifically about the services provided to you and your community by Lakeland Power, overall, how satisfied are you with the services that you receive from Lakeland Power?



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

REDHEAD INC MEDIA SOLUTIONS

The reliability of your electricity service – as judged by the number of power outages you experience: How satisfied are you with the electrical service that you receive from Lakeland Power based on...?



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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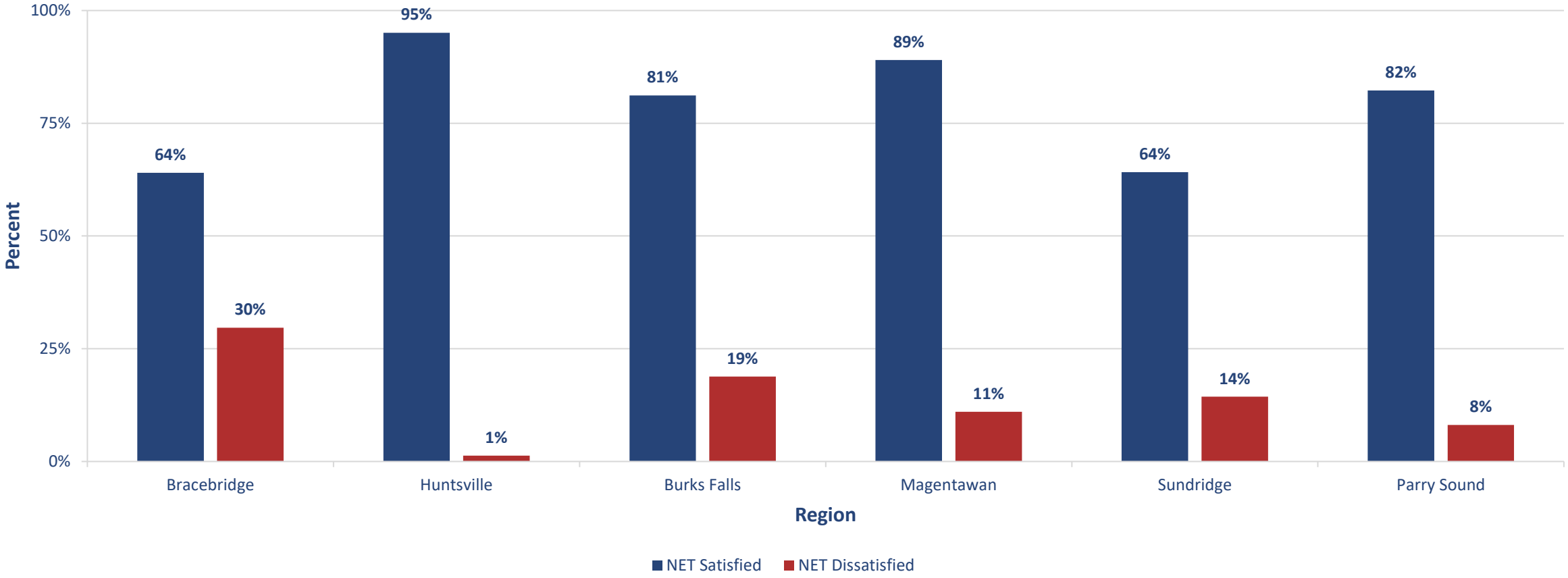
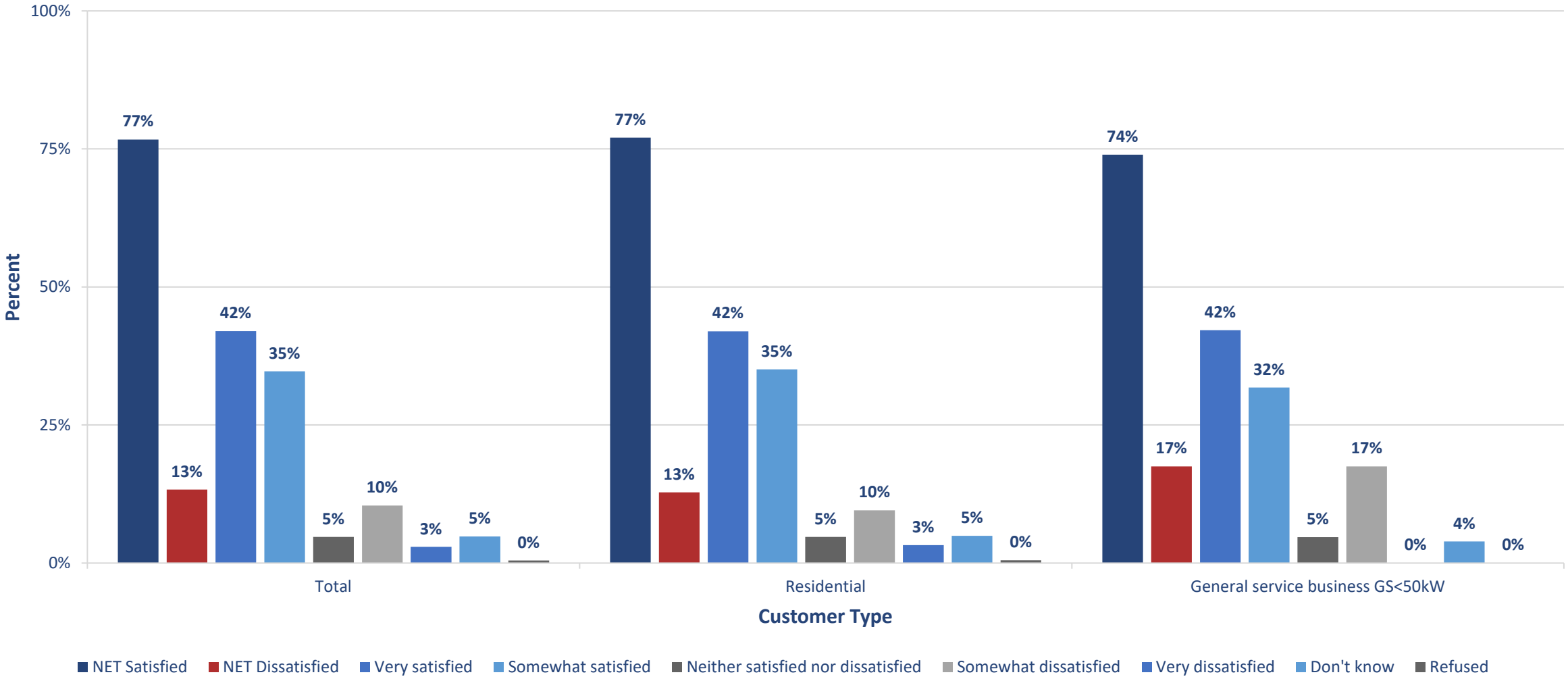
Highlighted Breakout

The reliability of your electricity service – as judged by the number of power outages you experience: How satisfied are you with the electrical service that you receive from Lakeland Power based on...?



The amount of time it takes to restore power when power outages occur: How satisfied are you with the electrical service that you receive from Lakeland Power based on...?



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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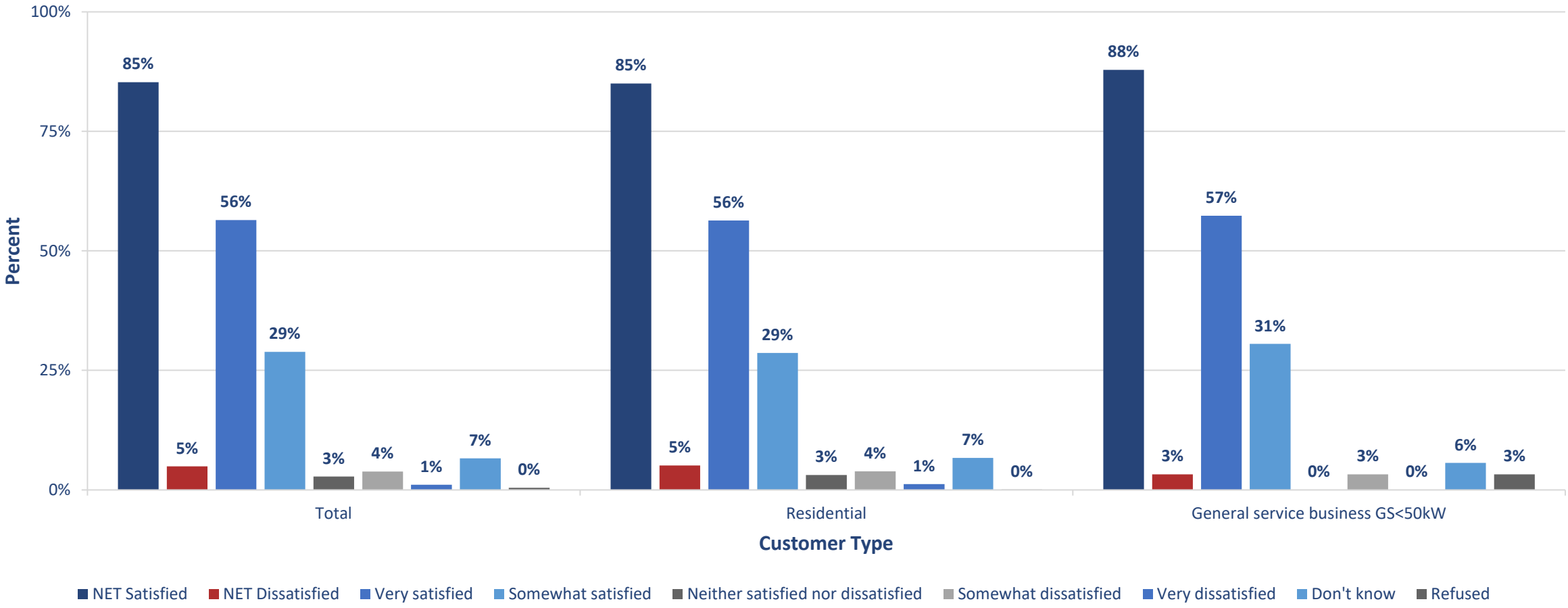
The quality of the power delivered to you as judged by the absence of voltage fluctuations that can result in [flickering/dimming of lights OR have an affect on equipment]: How satisfied are you with the electrical service that you receive from Lakeland Power based on...?



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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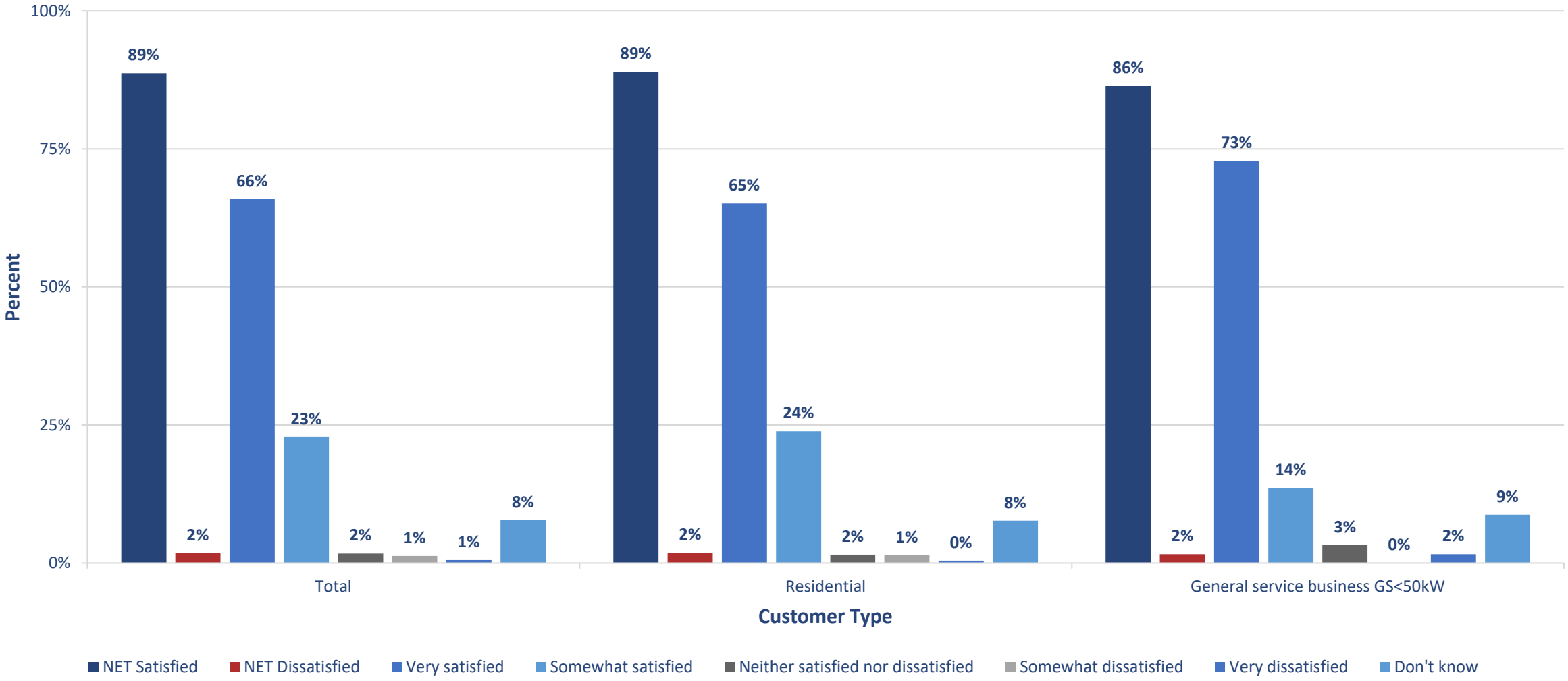
Providing accurate bills: How satisfied are you with the bills that you receive from Lakeland Power based on them...?



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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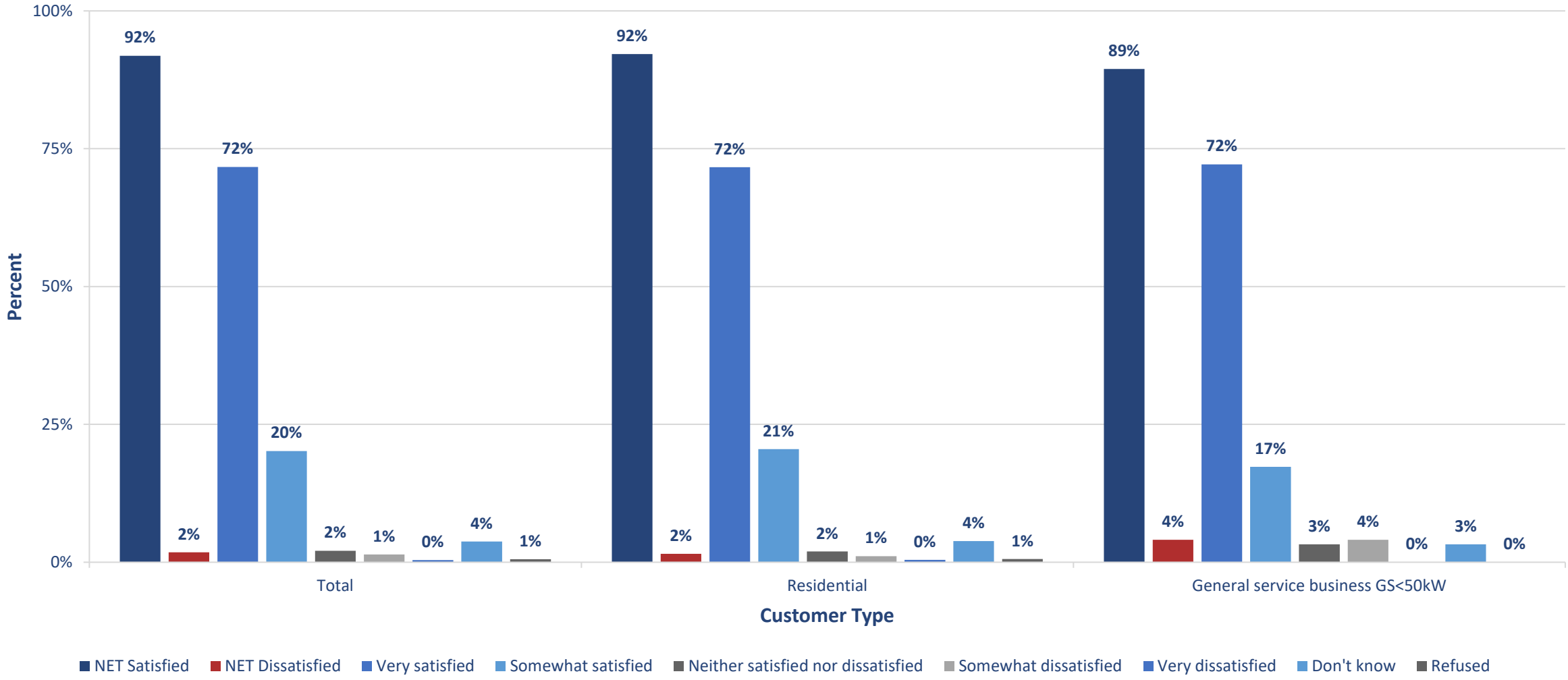
Providing convenient options to both receive and pay your bills: How satisfied are you with the bills that you receive from Lakeland Power based on them...?



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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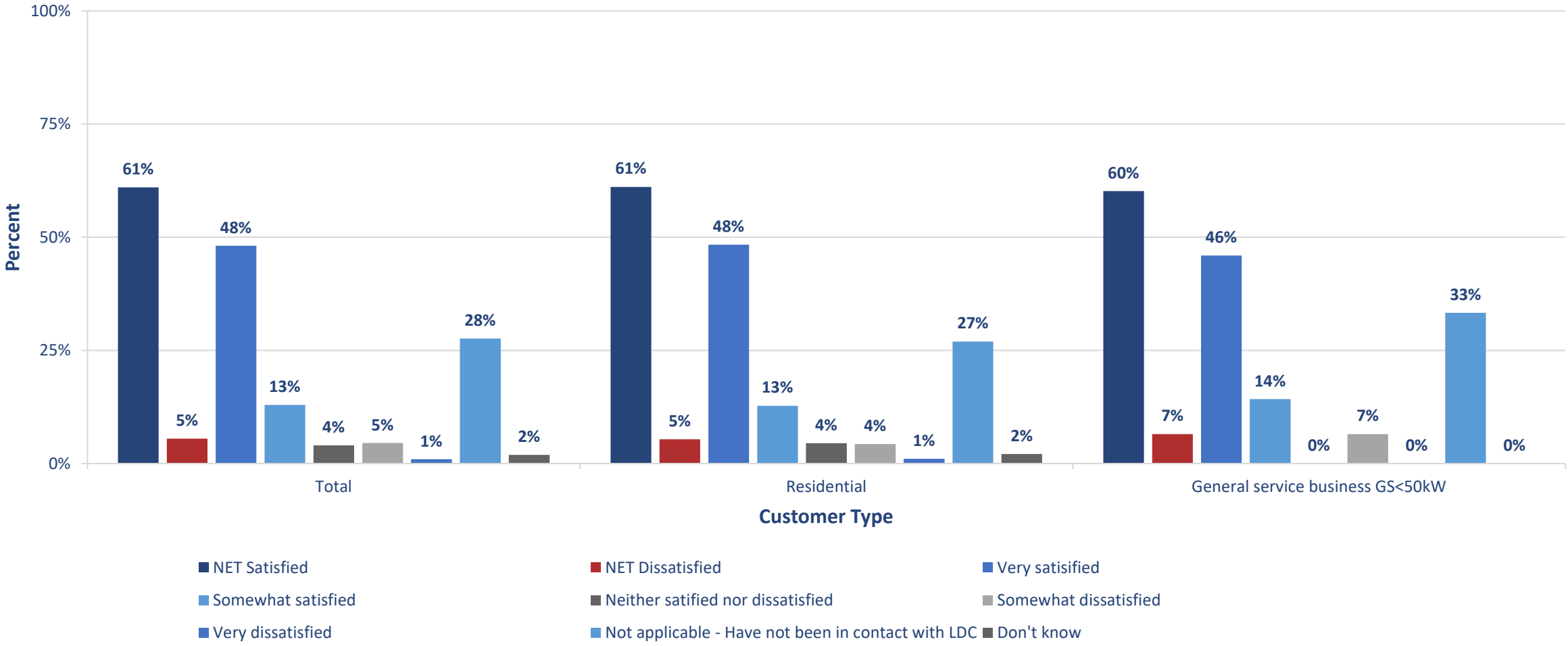
How satisfied are you with the customer service you have received when dealing with employees of Lakeland Power, whether on the telephone, via email, in person or through online conversations including social media?



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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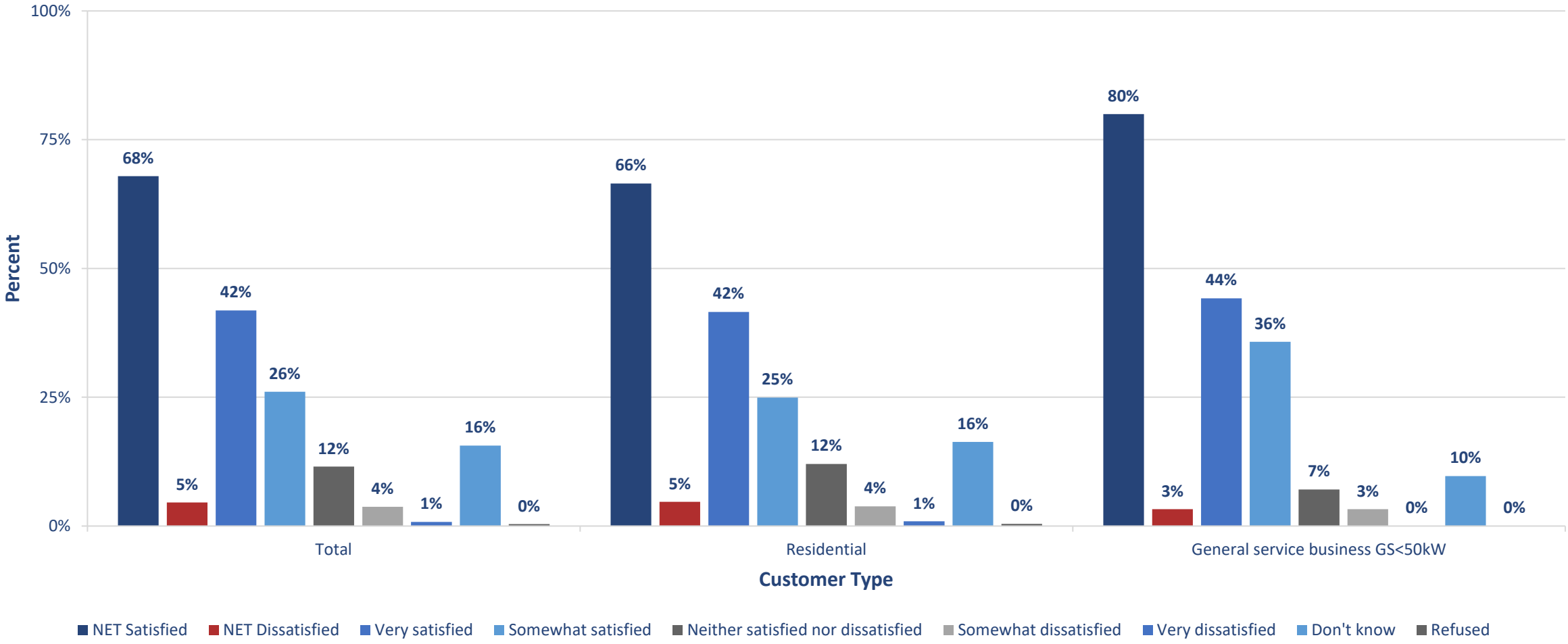
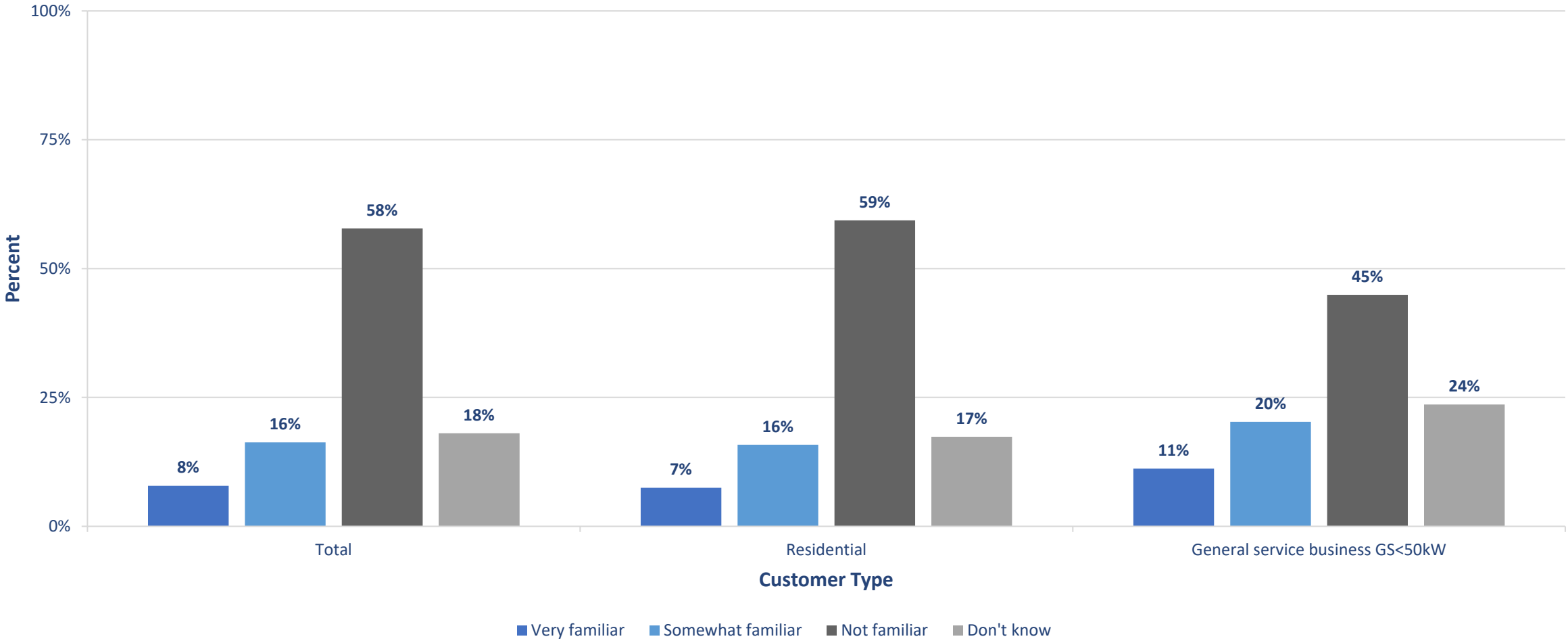
How satisfied are you with the communications that you may receive from Lakeland Power without talking directly to an employee, including information found on their website, bill inserts, advertising, notices, emails, or social media sites?



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

REDHEAD MEDIA SOLUTIONS INC

How familiar are you with the percentage of your electricity bill that went to Lakeland Power? So, NOT the portions allocated to power generation companies, transmission companies, the provincial government and regulatory agencies.



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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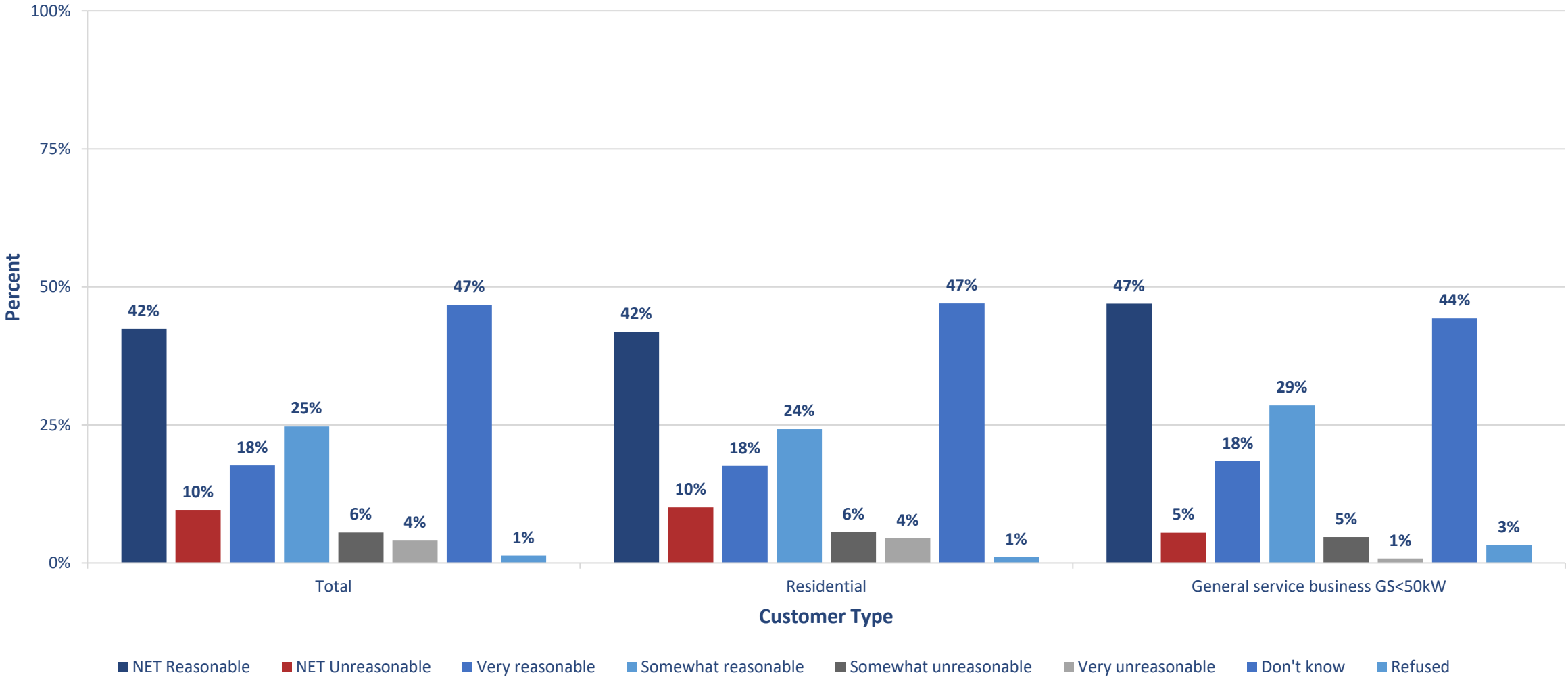
Do you feel that the percentage of your total electricity bill that you pay to Lakeland Power for the services they provide is...?



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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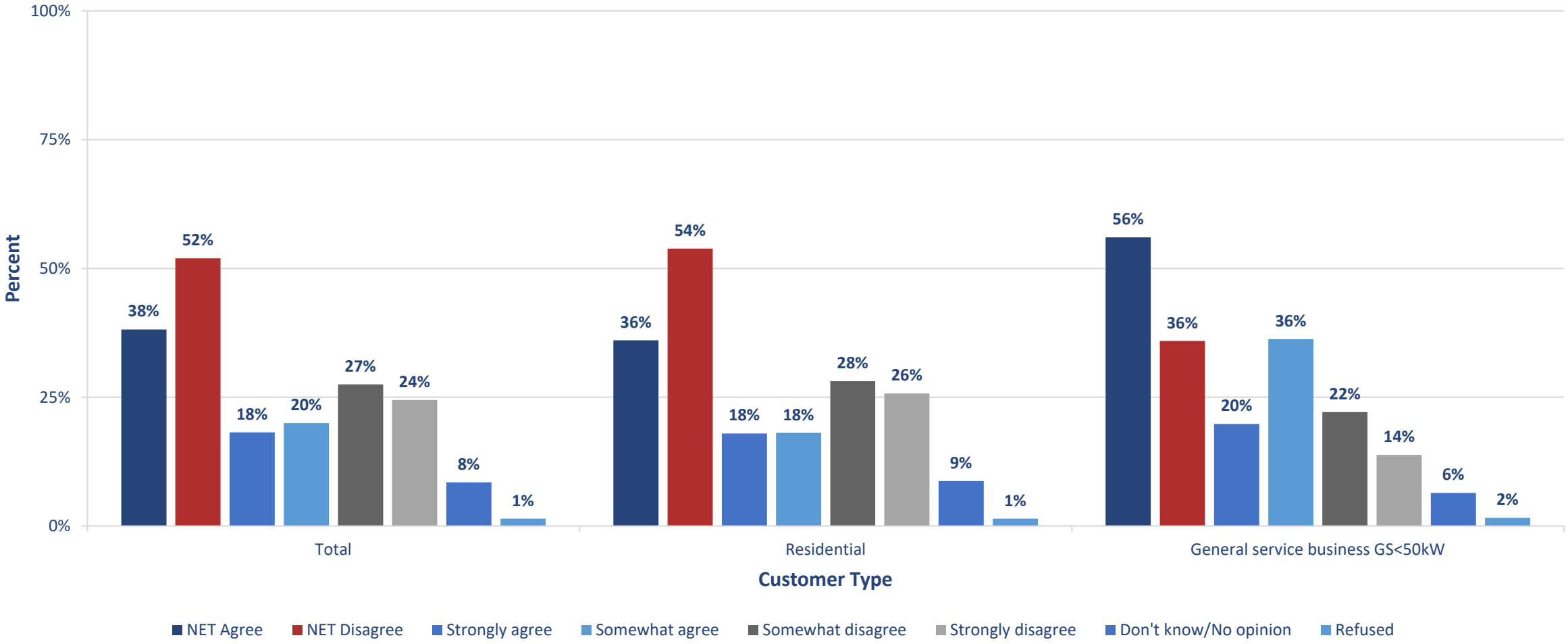
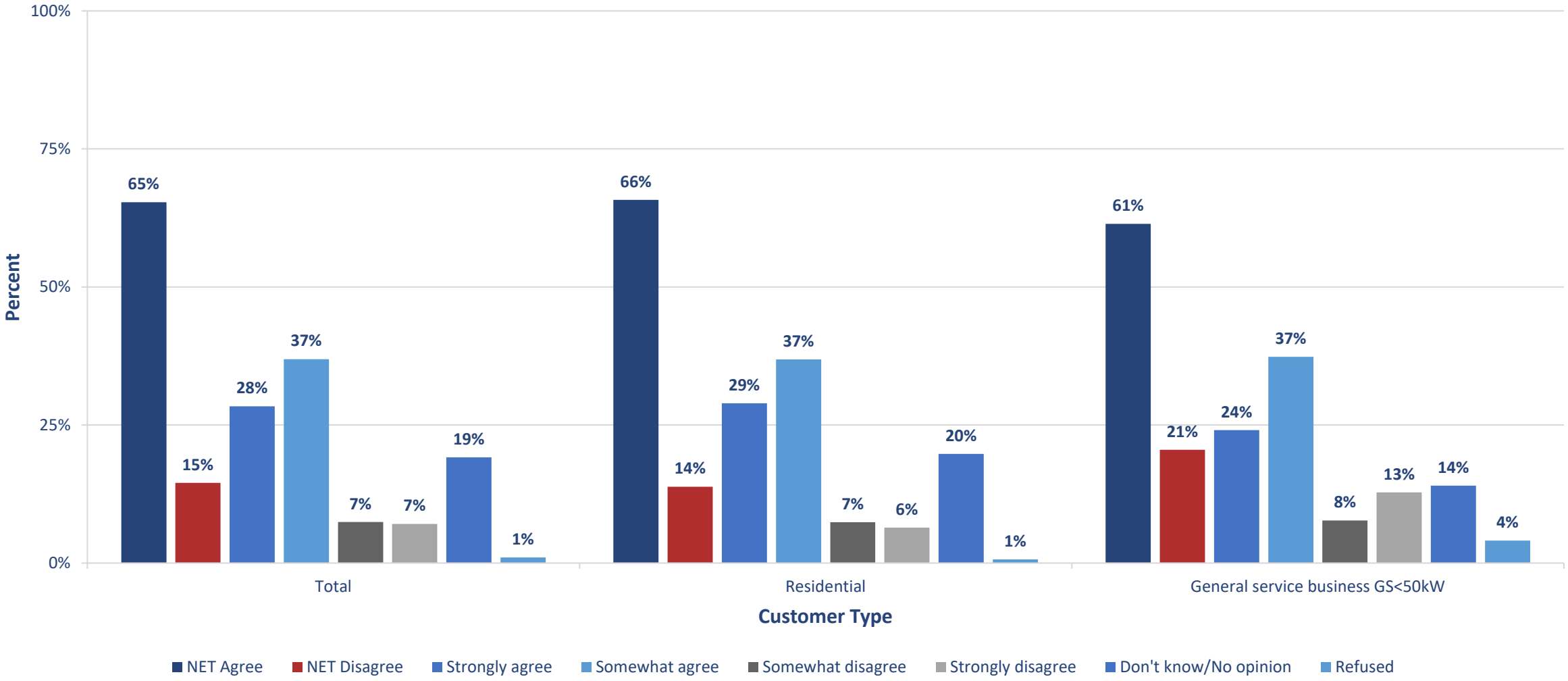
The cost of my electricity bill has a major impact [on personal finances OR bottom line of organization]: To what extent do you agree with the following statements regarding the electricity system in Ontario?



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

REDHEAD INC MEDIA SOLUTIONS

Customers are well served by the electricity system in Ontario: To what extent do you agree with the following statements regarding the electricity system in Ontario?



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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CUSTOMER SATISFACTION INDEX

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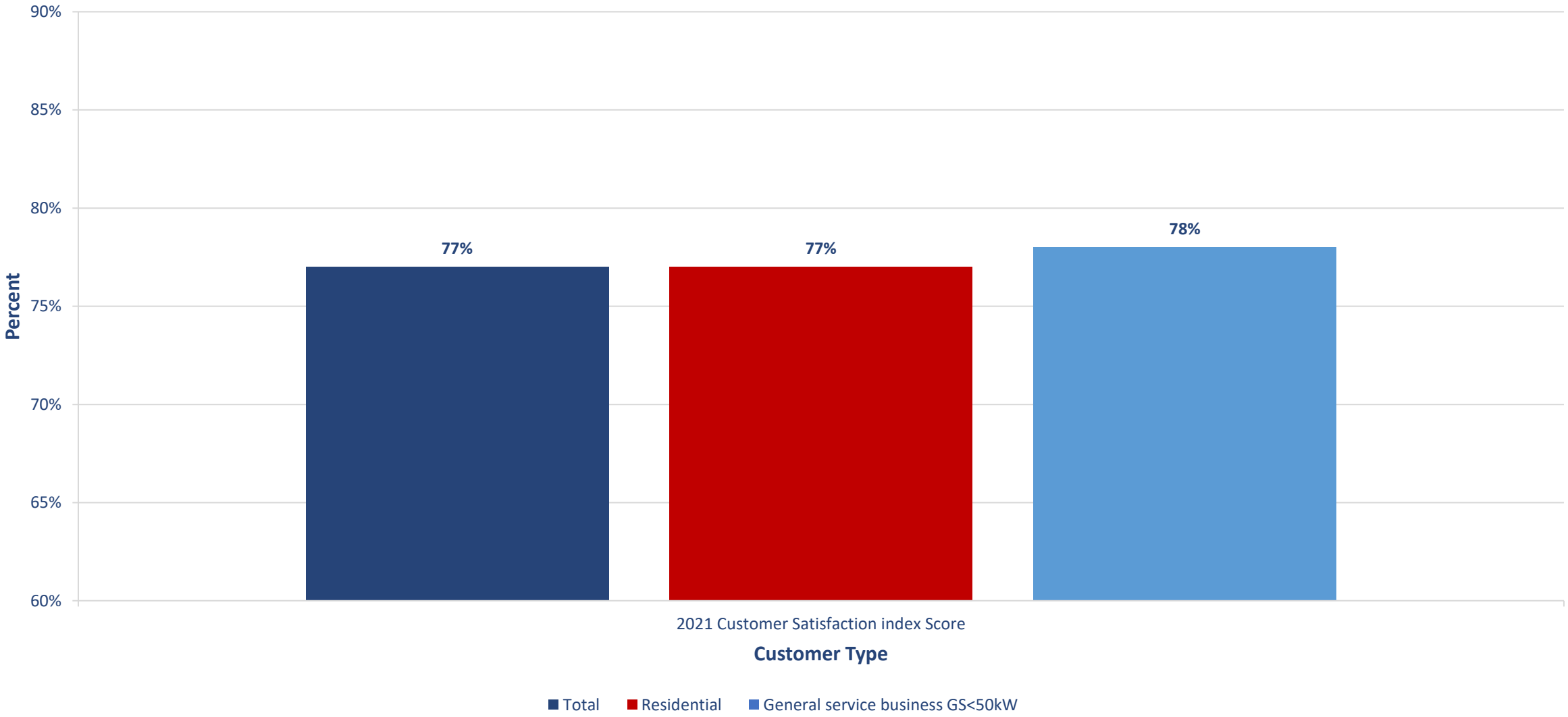
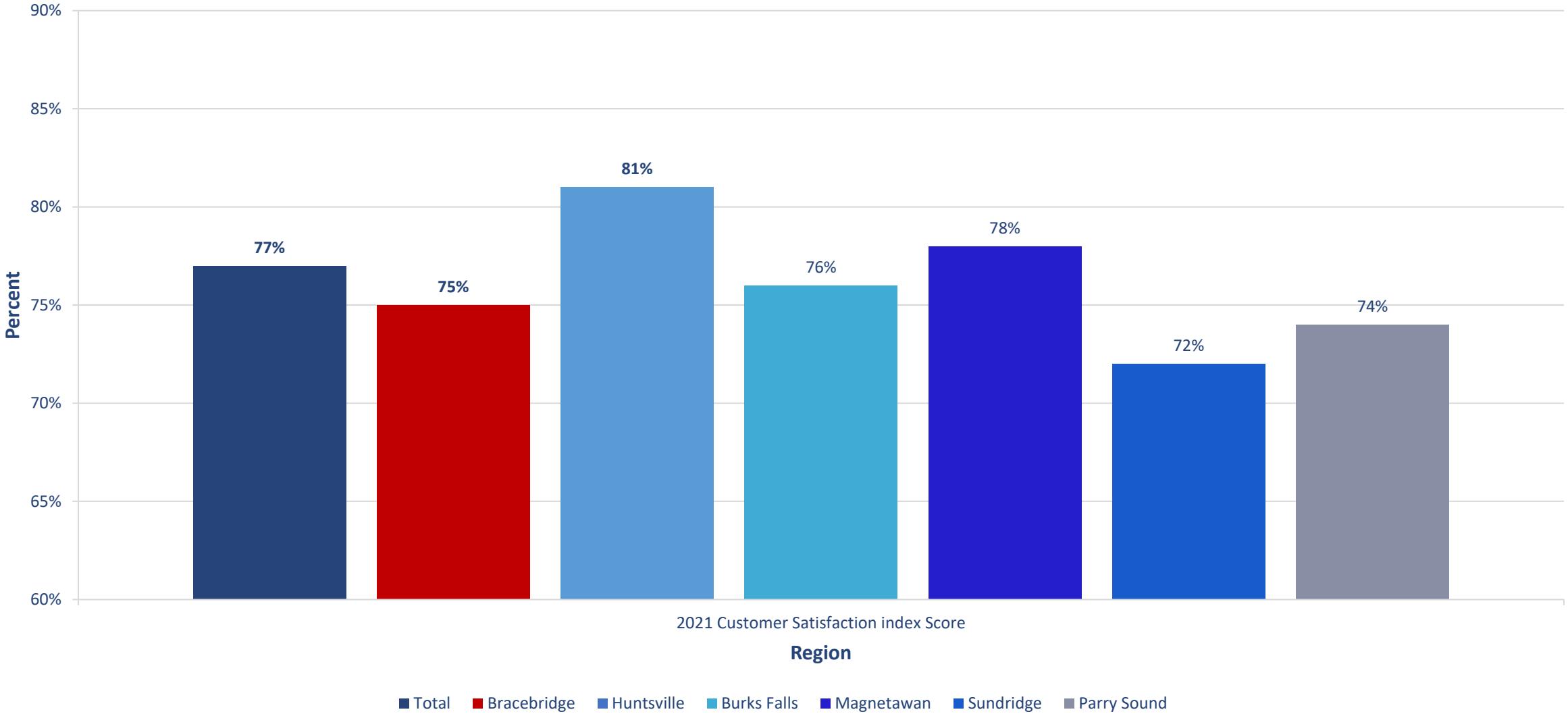
2021 Customer Satisfaction Index Score



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

REDHEAD INC MEDIA SOLUTIONS

2021 Customer Satisfaction Index Score by Region



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 15-February 24, 2021, n=404, accurate 4.9 percentage points plus or minus, 19 times out of 20.

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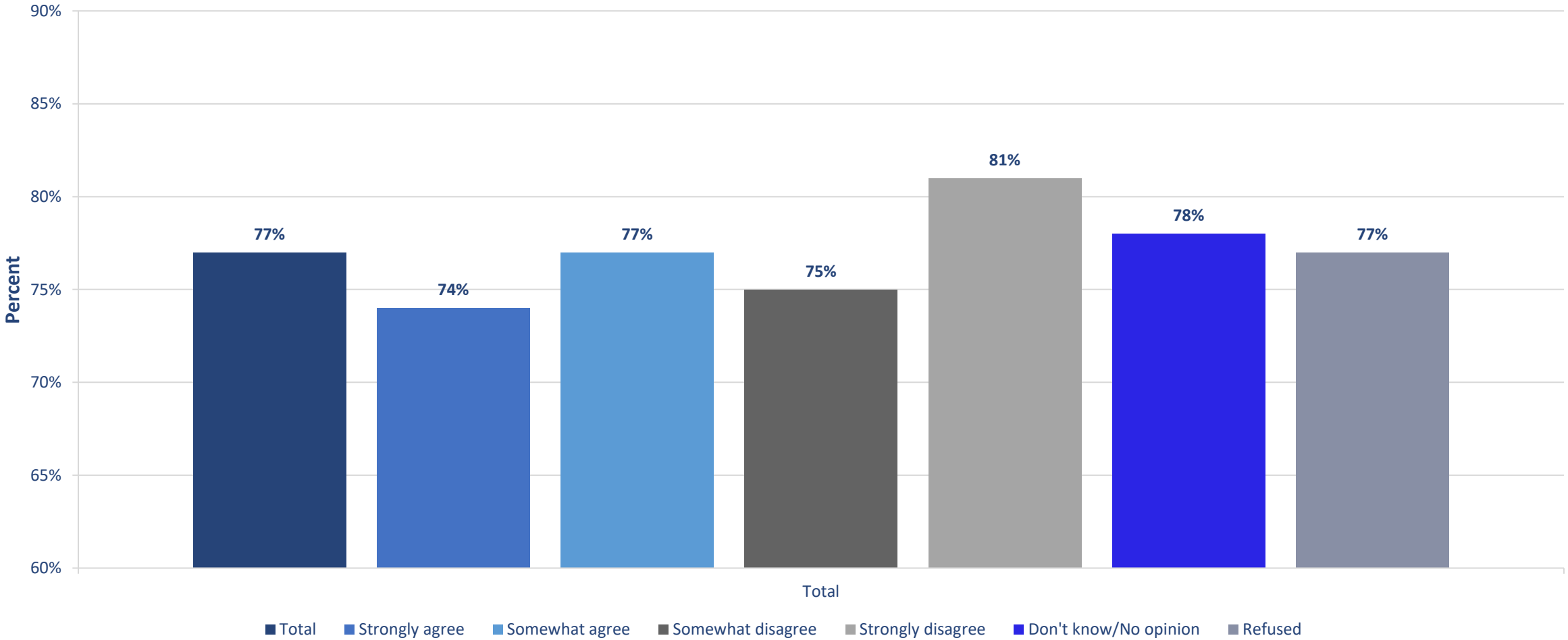
Customer Satisfaction Index by the following statement:

The cost of my electricity bill has a major impact on [my personal finances/bottom line]

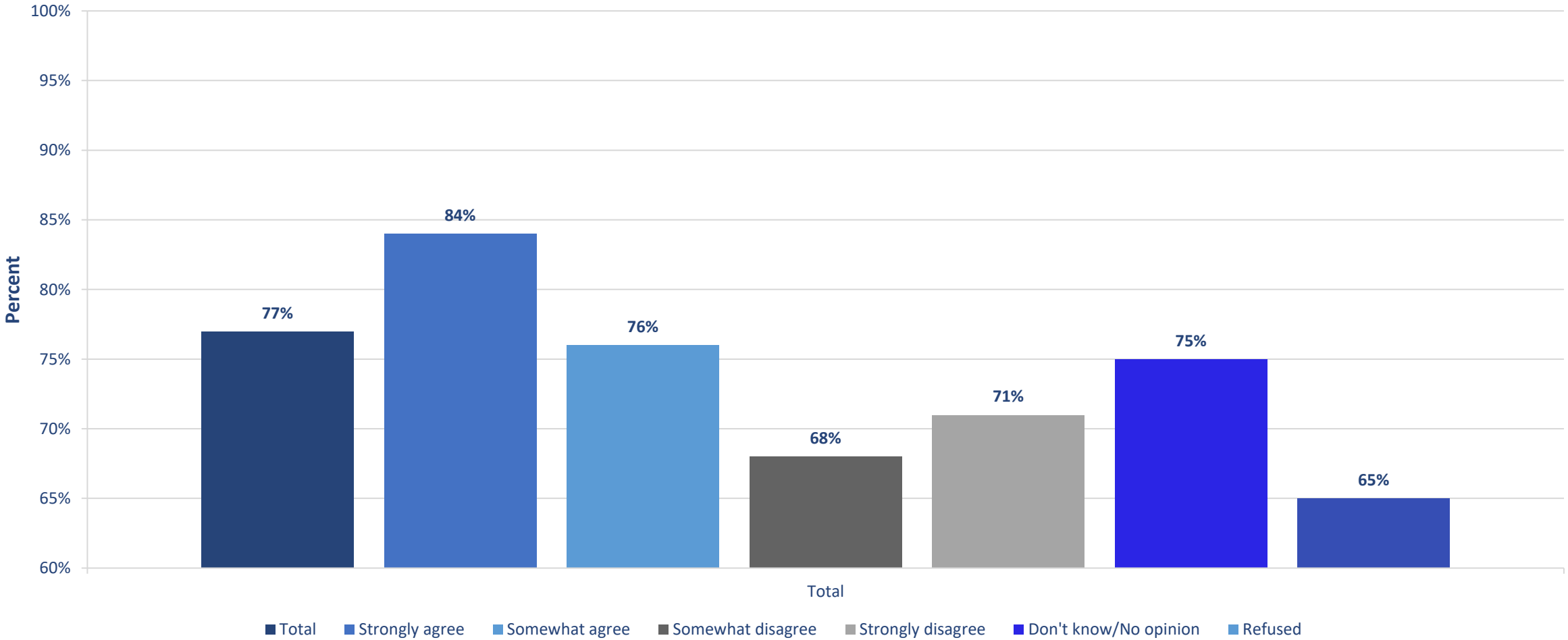


Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

REDHEAD INC MEDIA SOLUTIONS

Customer Satisfaction Index by the following statement:

Customers are well served by the electricity system in Ontario



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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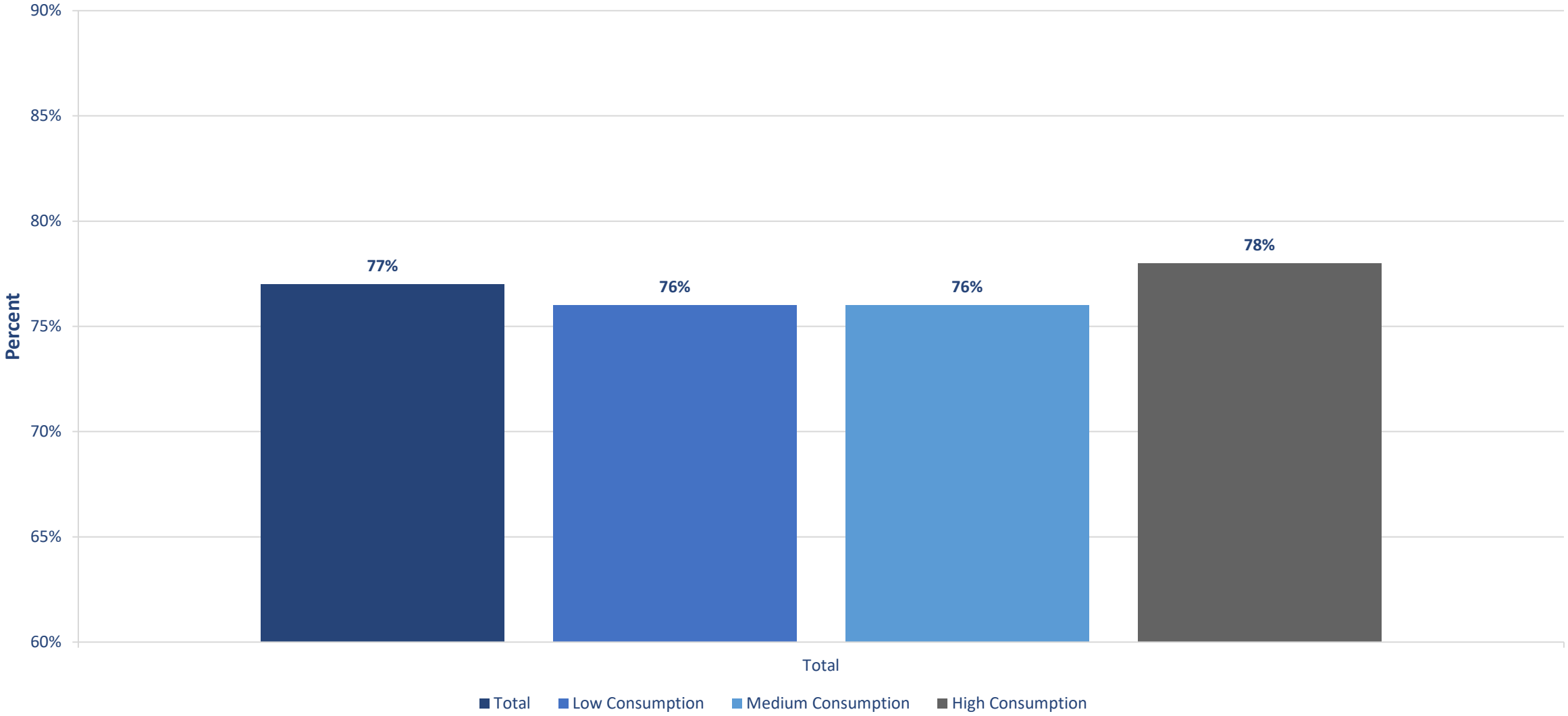
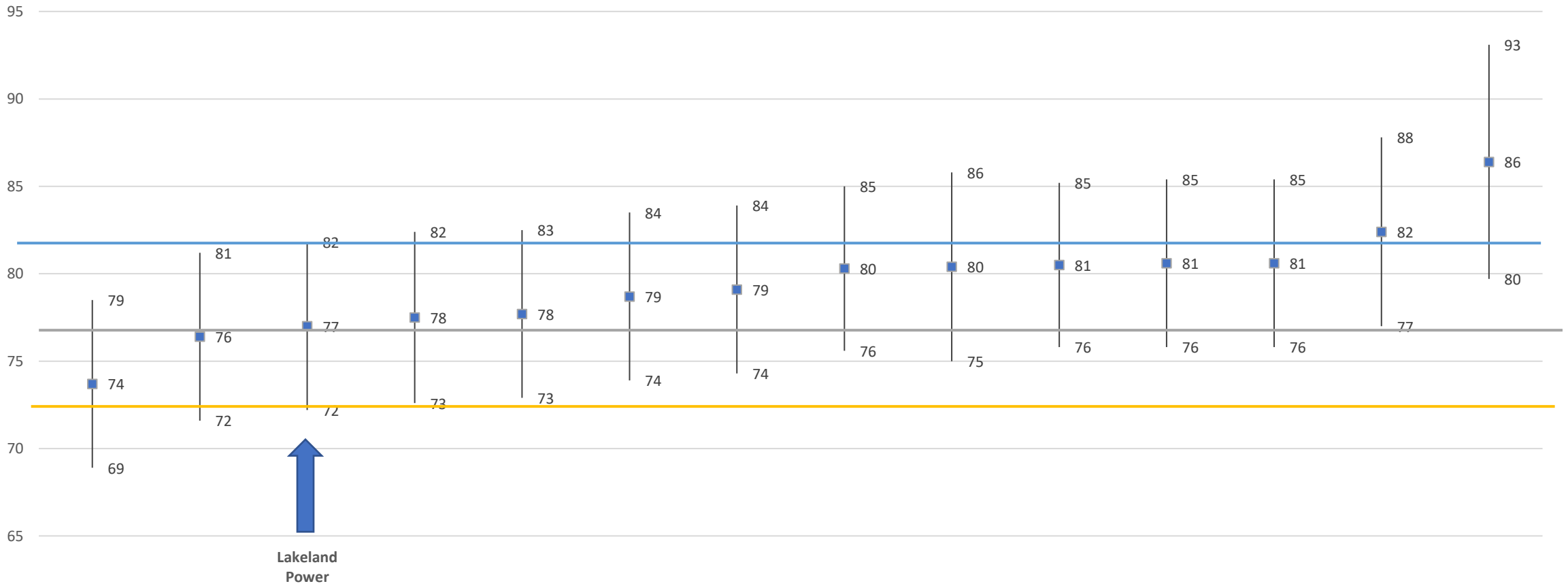
Customer Satisfaction Index by consumption



Source: Redhead Media Solutions/Advanis telephone random customer survey, January 12-February 17, 2021, n=404, accurate 4.8 percentage points plus or minus, 19 times out of 20.

REDHEAD INC MEDIA SOLUTIONS

Customer Satisfaction Index Score Comparison to External LDCs
Upper and Lower Bound



- The lines denote Lakeland Power's upper and lower bound based on the CSI Score.
- Almost all LDCs confidence intervals overlap, similar to 2019.
- Lakeland Power overlaps with all LDCs, indicating statistical uniformity.

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CORE COMPARATIVE DATA 2017-2021

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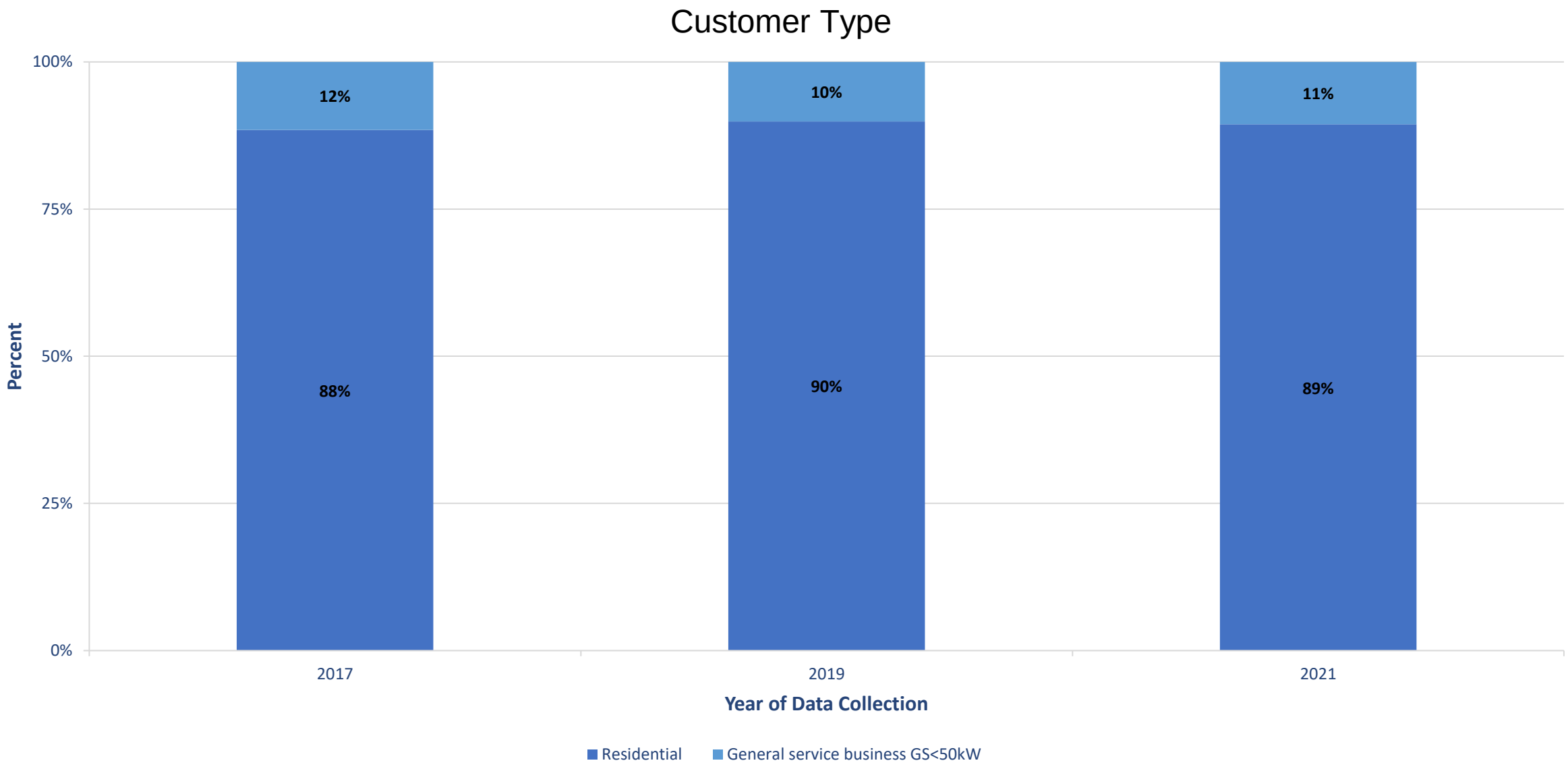
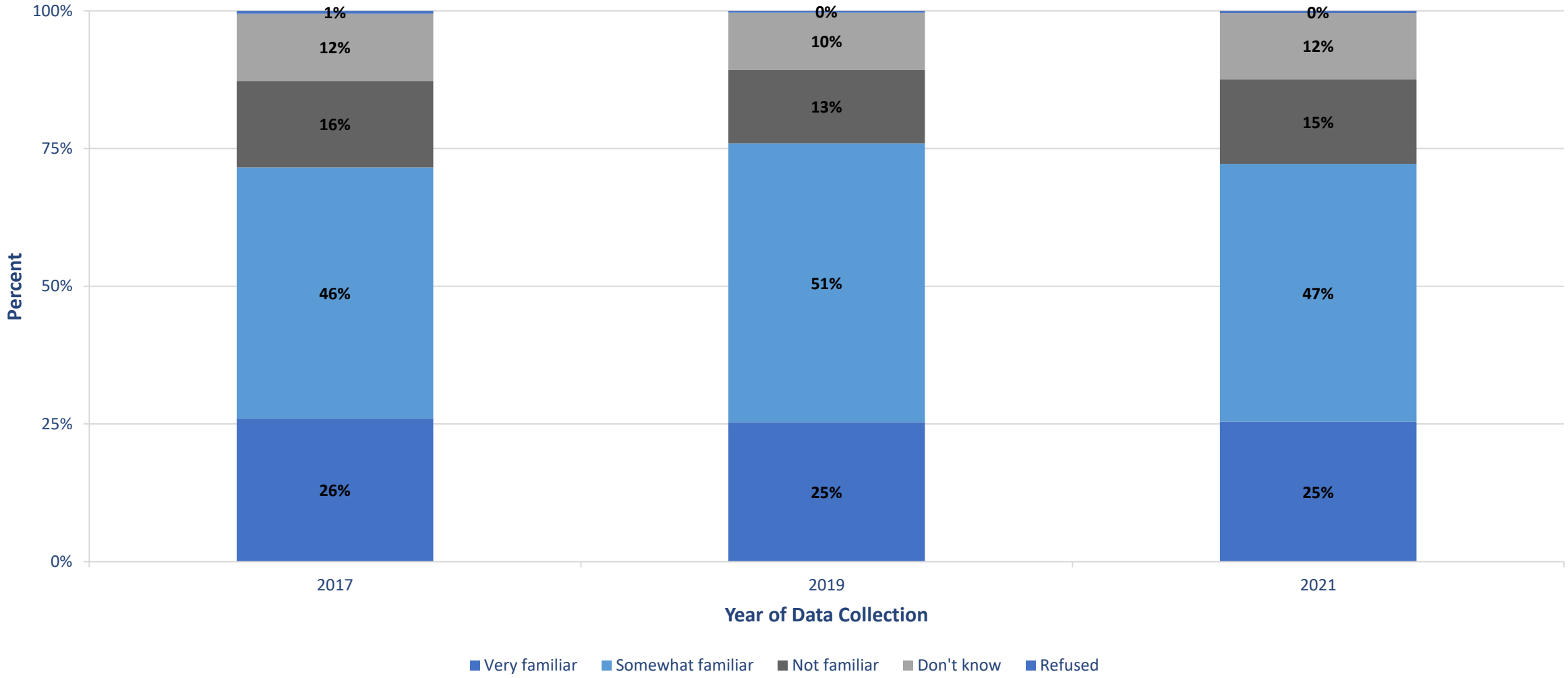

Customer Type
100%
75%
50%
25%
0%
Percent
12%
10%
11%
88%
90%
89%
2017
2019
2021
Year of Data Collection
Residential
General service business GS<50kW

How familiar are you with Lakeland Power, which operates the electricity distribution system in your community?



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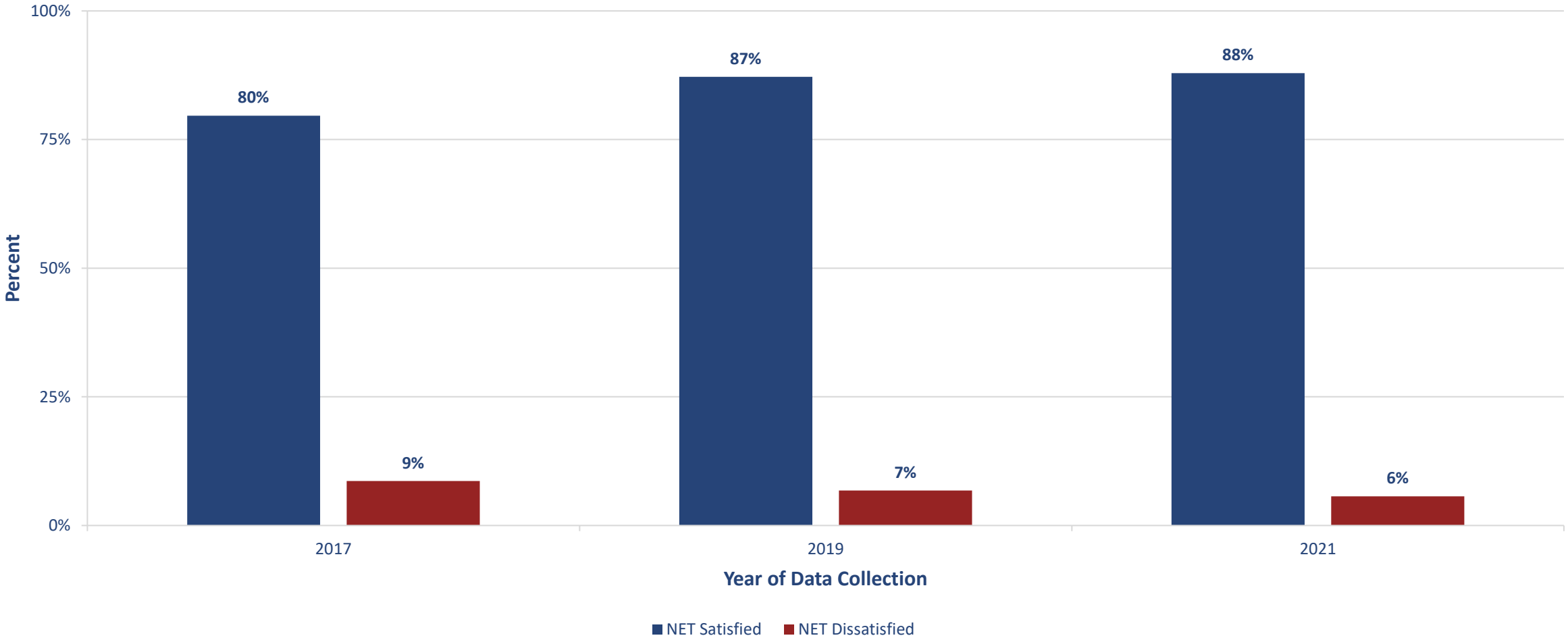
Thinking specifically about the services provided to you and your community by Lakeland Power, overall, how satisfied are you with the services that you receive from Lakeland Power?

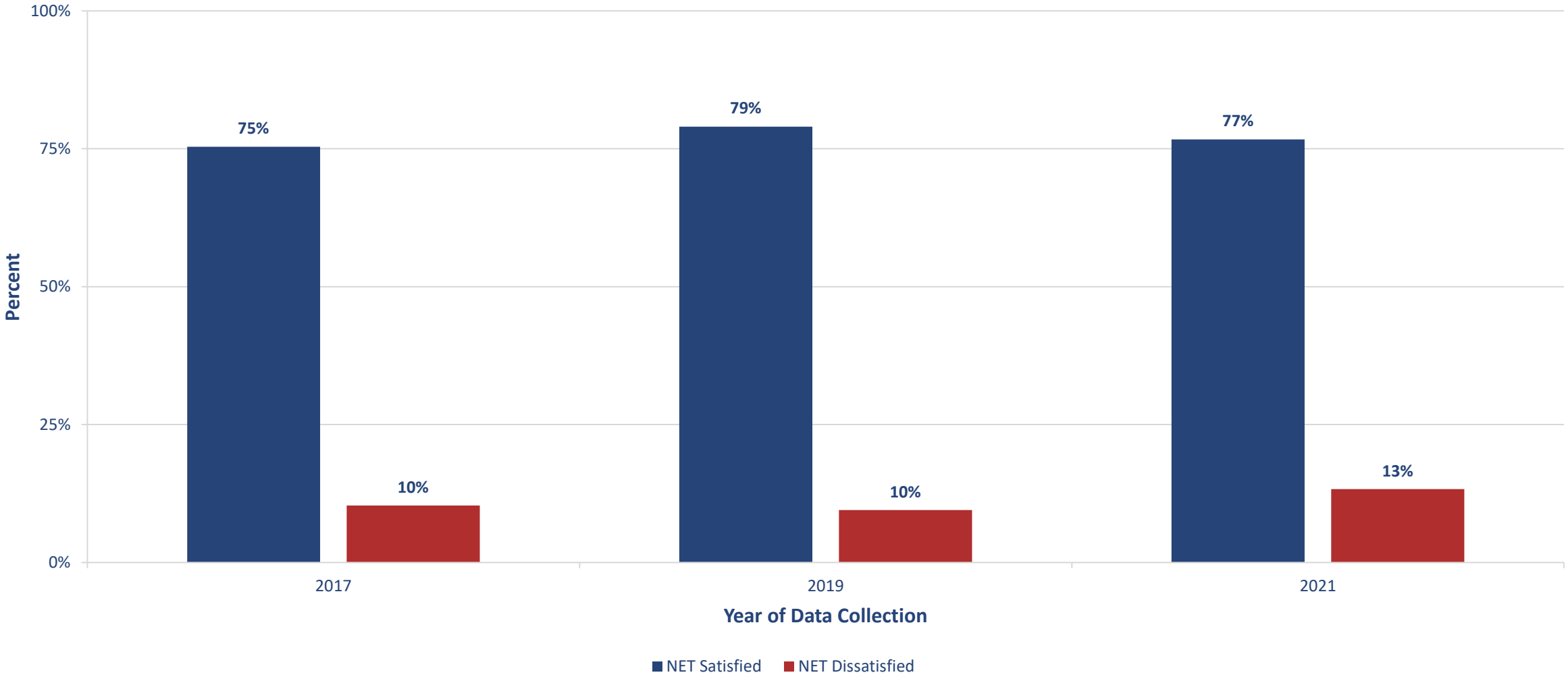


REDHEAD MEDIA SOLUTIONS INC

The reliability of your electricity service – as judged by the number of power outages you experience: How satisfied are you with the electrical service that you receive from Lakeland Power based on...?

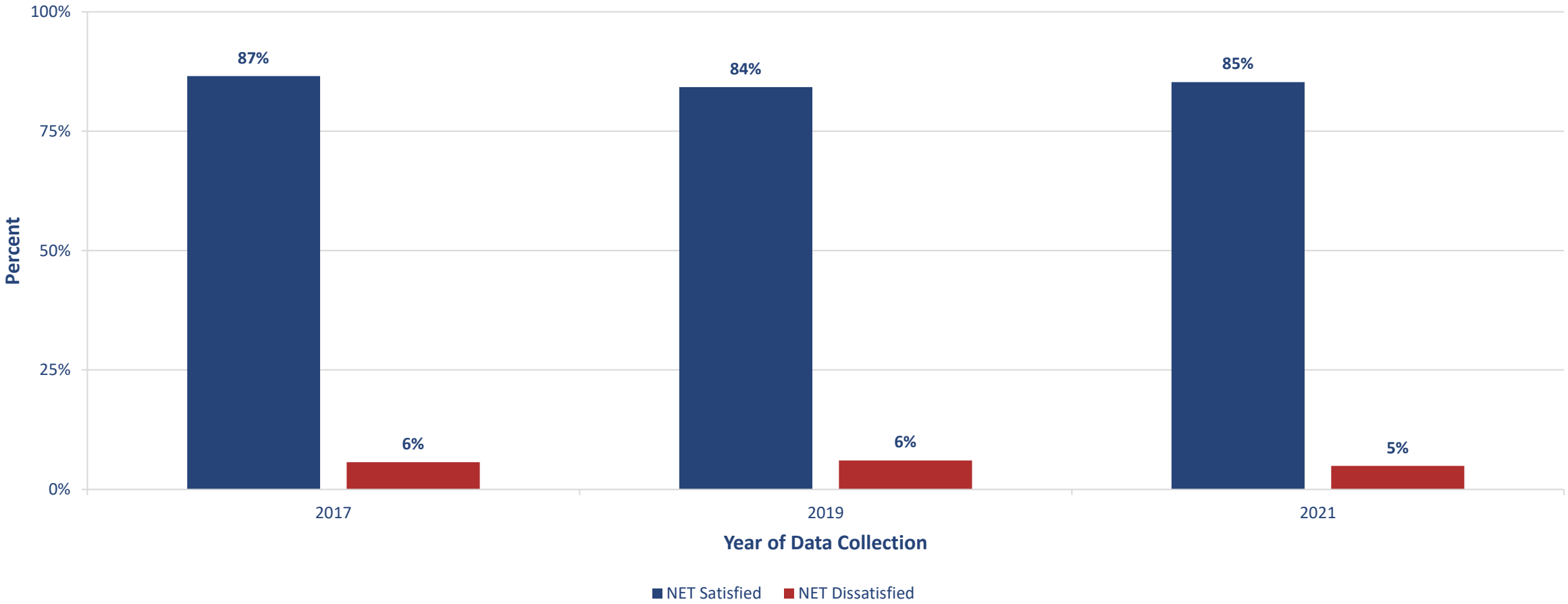
REDHEAD MEDIA SOLUTIONS INC

The amount of time it takes to restore power when power outages occur: How satisfied are you with the electrical service that you receive from Lakeland Power based on...?

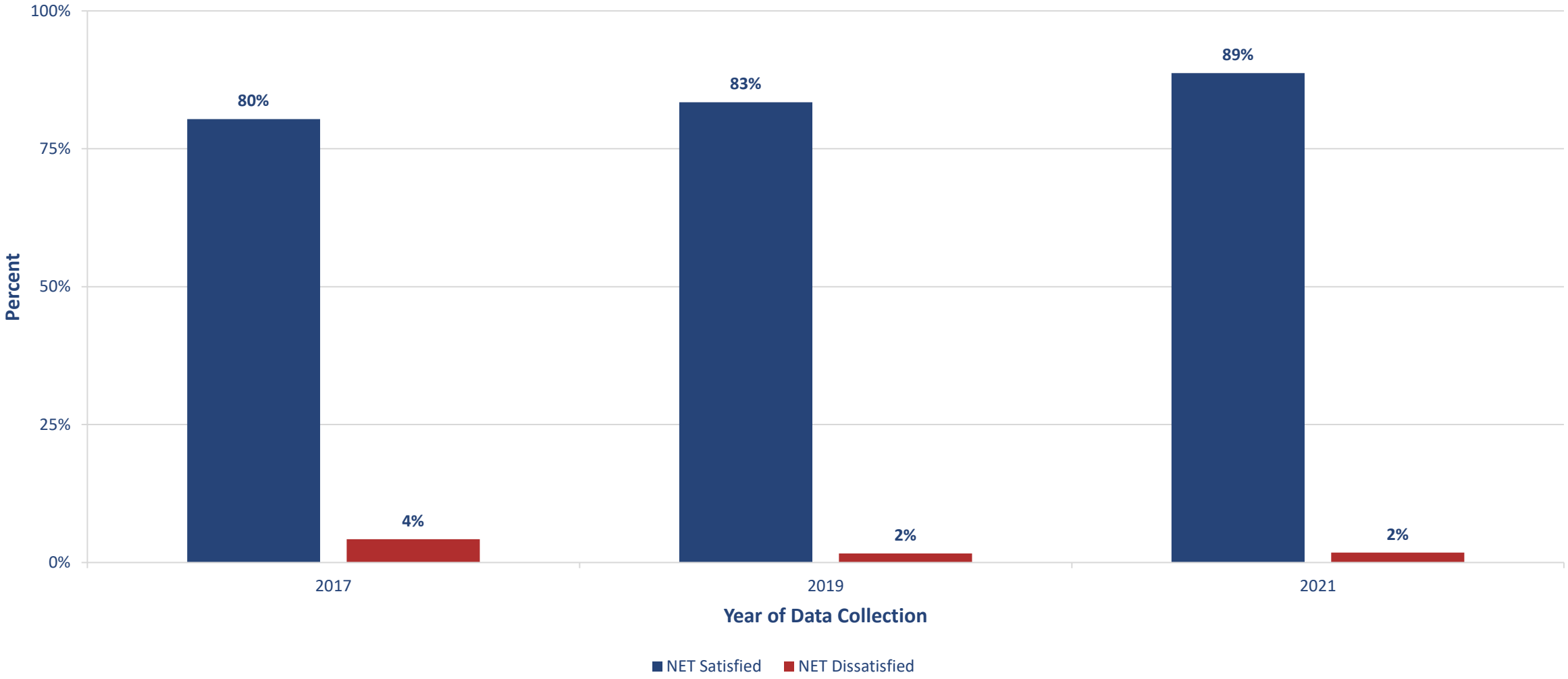


REDHEAD MEDIA SOLUTIONS INC

The quality of the power delivered to you as judged by the absence of voltage fluctuations that can result in [flickering/dimming of lights OR have an affect on equipment]: How satisfied are you with the electrical service that you receive from Lakeland Power based on...?



Providing accurate bills: How satisfied are you with the bills that you receive from Lakeland Power based on them...?



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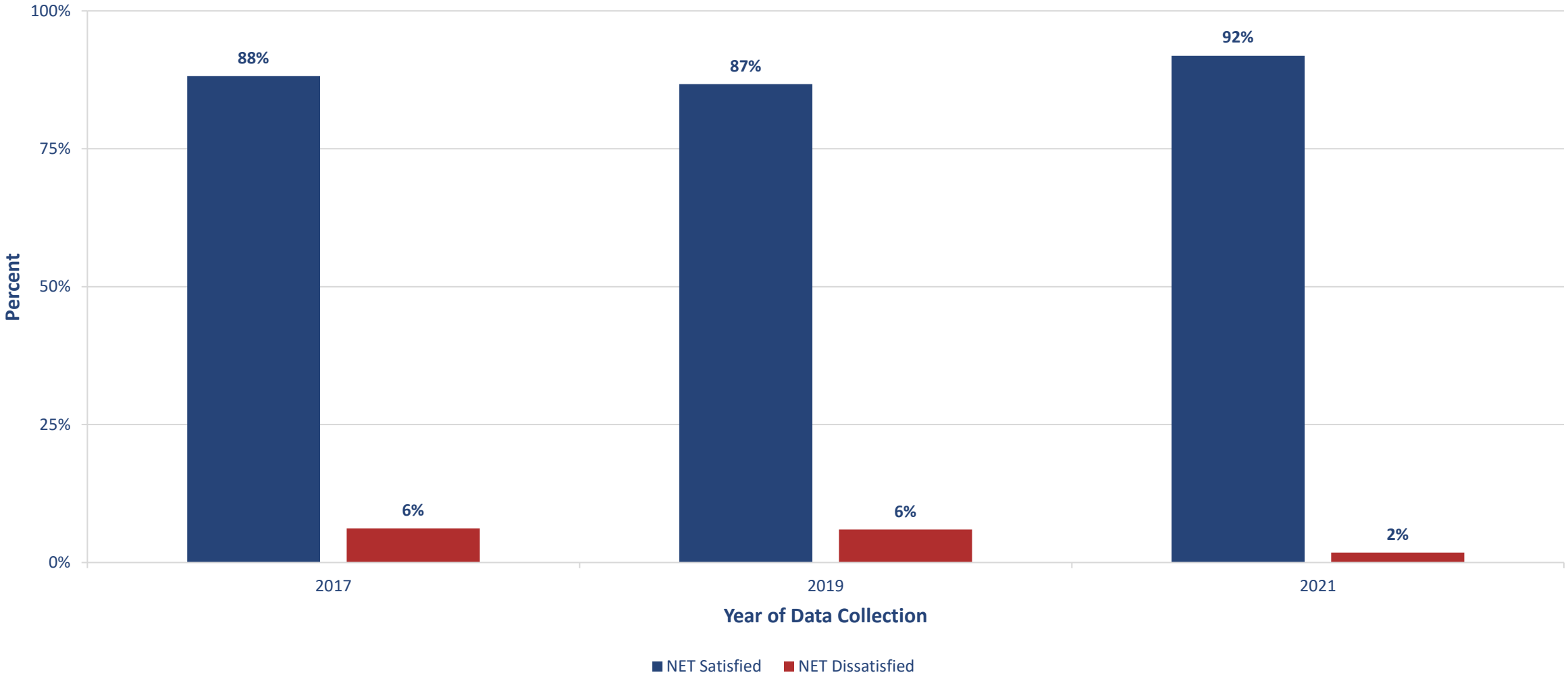
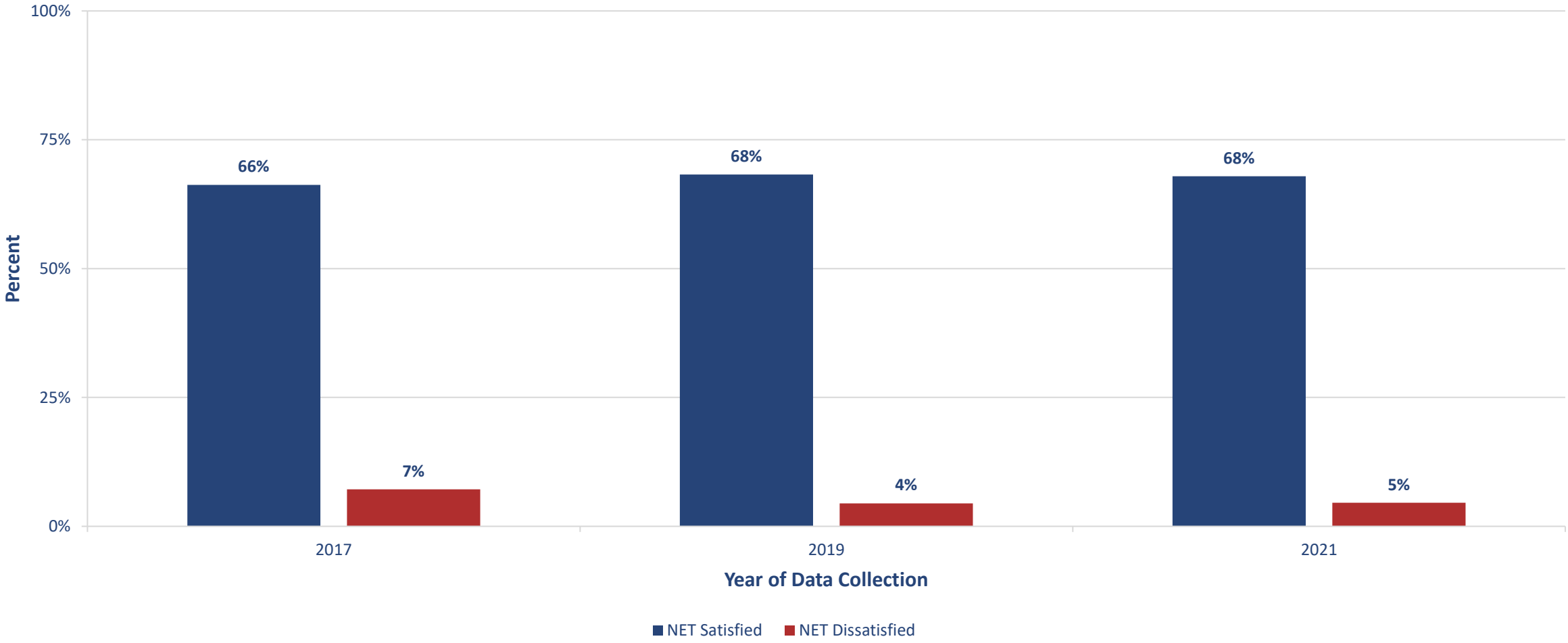
Providing convenient options to both receive and pay your bills: How satisfied are you with the bills that you receive from Lakeland Power based on them...?



How satisfied are you with the customer service you have received when dealing with employees of Lakeland Power, whether on the telephone, via email, in person or through online conversations including social media?

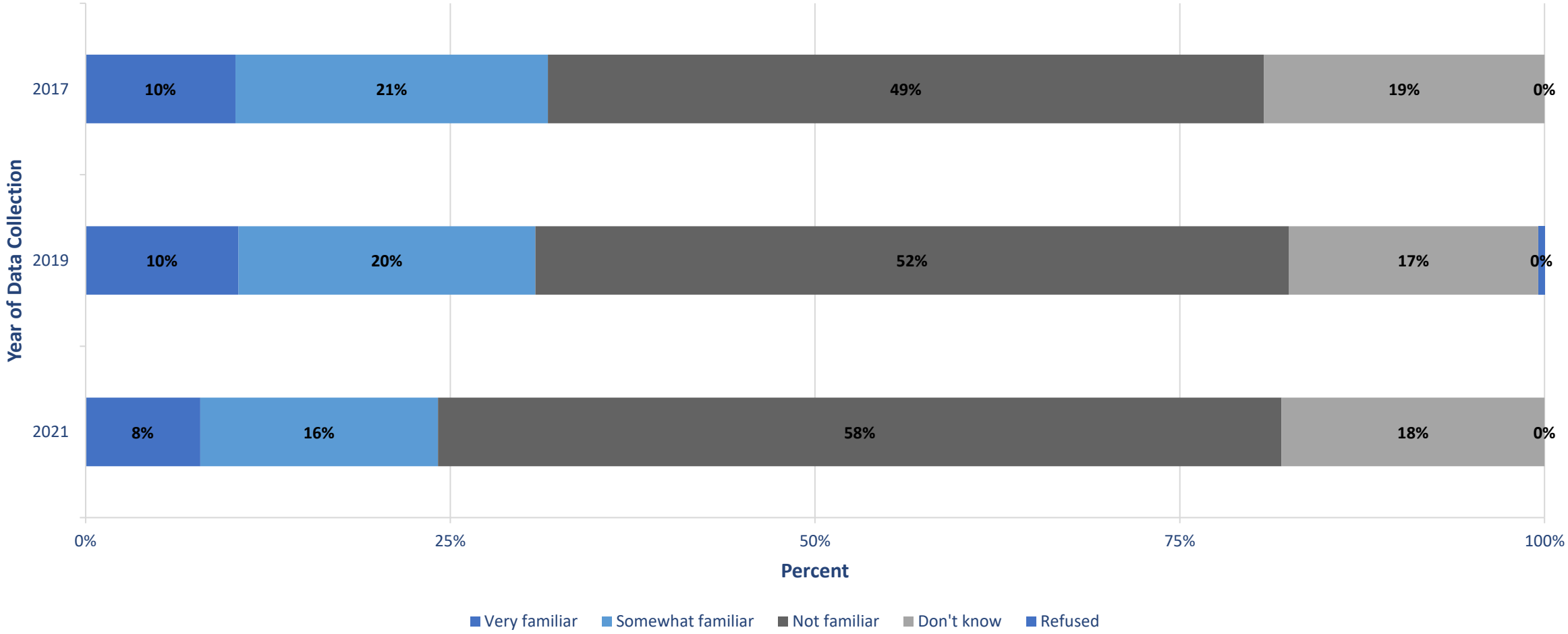
REDHEAD INC MEDIA SOLUTIONS

How satisfied are you with the communications that you may receive from Lakeland Power without talking directly to an employee, including information found on their website, bill inserts, advertising, notices, emails, or social media sites?



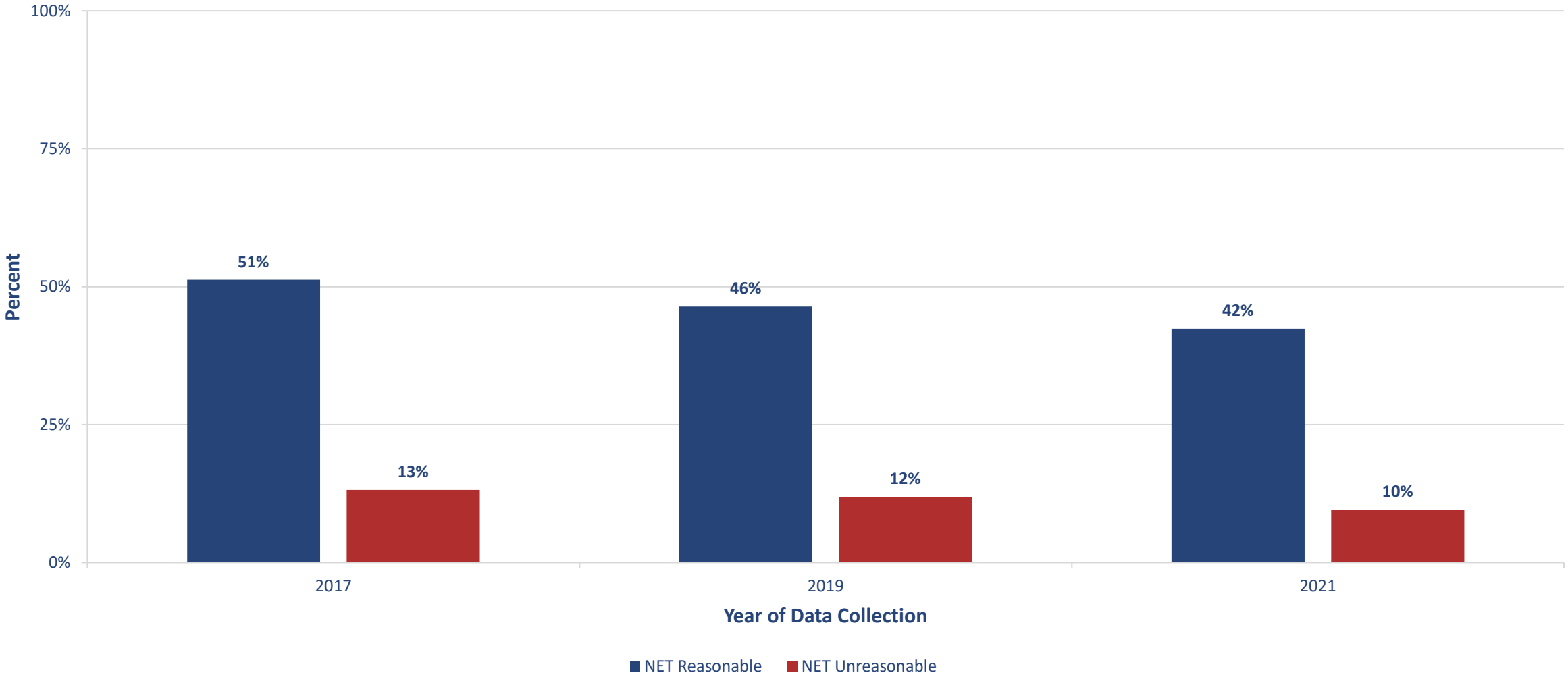
REDHEAD INC MEDIA SOLUTIONS

How familiar are you with the percentage of your electricity bill that went to Lakeland Power? So, NOT the portions allocated to power generation companies, transmission companies, the provincial government and regulatory agencies.



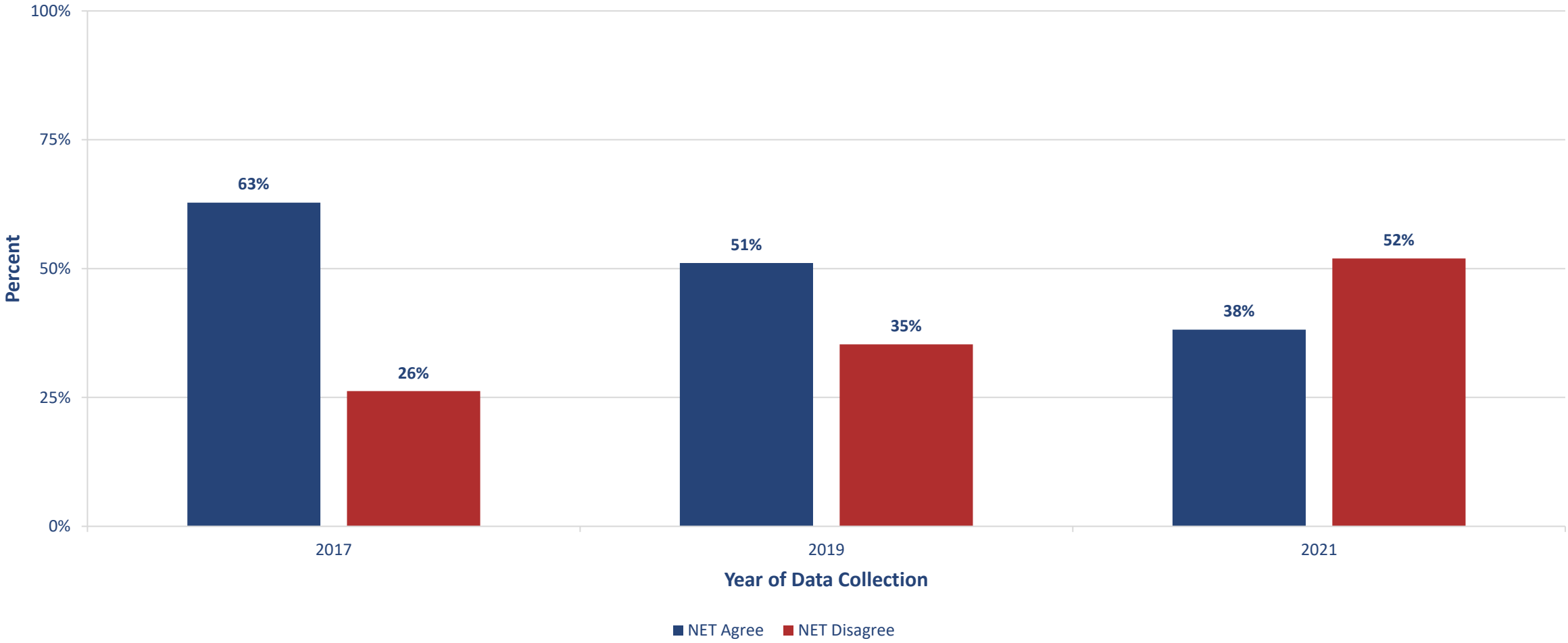
REDHEAD INC MEDIA SOLUTIONS

Do you feel that the percentage of your total electricity bill that you pay to Lakeland Power for the services they provide is...?



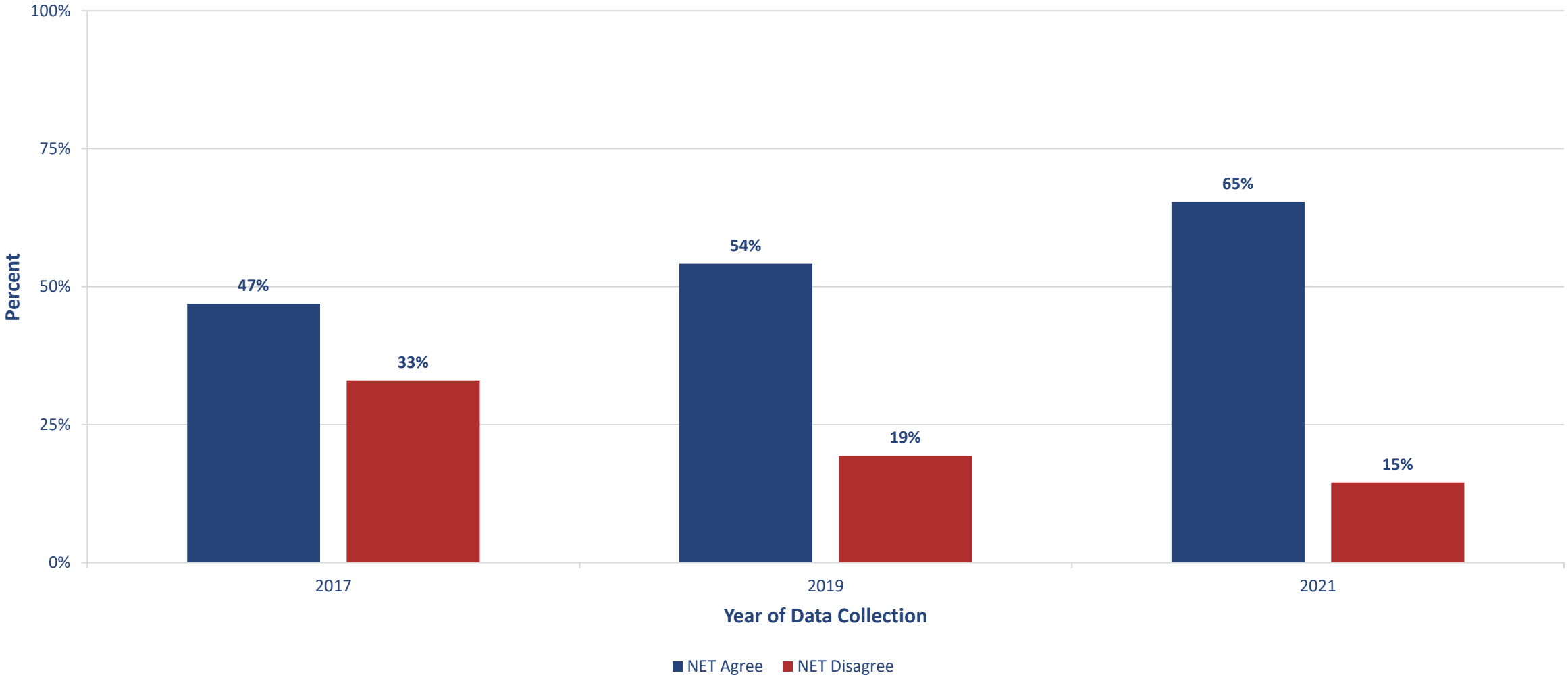
REDHEAD INC MEDIA SOLUTIONS

The cost of my electricity bill has a major impact [on personal finances OR bottom line of organization]: To what extent do you agree with the following statements regarding the electricity system in Ontario?



REDHEAD INC MEDIA SOLUTIONS

Customers are well served by the electricity system in Ontario: To what extent do you agree with the following statements regarding the electricity system in Ontario?



REDHEAD INC MEDIA SOLUTIONS

METHODOLOGY

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Methodology Summary

Commissioned by	Lakeland Power Inc.
Sample size	404 randomly selected customers
Margin of error	±4.8 percentage points, 19 times out of 20
Survey mode	Random telephone survey of customer base, CATI data collection
Survey sample	Residential and GS <50kWh customer lists provided by Lakeland Power
Time of calling	4PM-9PM Weekdays, 10AM-5PM Saturdays, scheduled callbacks
In-field dates	January 12-February 17, 2021
Language	English only
Survey author	Innovative Research/Electricity Distributors Association
Question Order	Report shown in order
Question Wording	Questions shown in report as asked
Survey Company	Redhead Media Solutions Inc/Advanis

Methodology Details

Target Respondents

The respondents of the survey were Ontario residents who are the primary bill payer or share the responsibility if residential or the person in-charge of managing the electricity bill at the organization if general service, and who resided within one of Lakeland Power's service territory(ies). Service territories were determined based on customer lists provided by Lakeland Power.

Sample Size and Statistical Reliability

The final total completed surveys by LDC, and the associated margin of error for each, are shown below.

All margins of error are shown at a 95% confidence level.

- E.g., the margin of error associated with a sample size of 400 for a large (infinite) population is ±4.8 percentage points, 19 times out of 20.

Since Lakeland Power has a finite population, we used the specific population sizes (i.e., the number of samples records received from Lakeland Power) in the calculation of margin of error. Doing so is more accurate, and results in a narrower margin of error than if we simply assumed large (infinite) population for each.

Sample sizes were set according to the *LDC Customer Satisfaction Survey: Methodology & Survey Implementation Guide*, prepared for the Electrical Distributors Association (April 19, 2016 revision):

Where possible, sample size of n=400.
Distributors with 3000 to 4999 customers (residential + GS<50), n=300
Distributors with <3000 customers (residential + GS<50), n=200

Methodology Details

Sampling Methodology

Redhead was provided sample lists from Lakeland Power. Customer lists included all basic information required such as name, telephone number, region (where applicable), customer type (residential or GS<50), LDC fee, Annual or Monthly consumption values. Redhead then calculated which quartile group each resident belonged to by evenly dividing them into four groups within each region and customer type. These quartiles were calculated based on annual consumption value.

To minimize low response:

- Sample was loaded in batches to ensure the sample was fully utilized before moving onto fresh sample records;
- Calls were made between the hours of 4pm and 9pm ET; and
- Call backs were scheduled and honored between the hours of 9am and 9pm ET.

Sample Cleaning

Redhead cleaned the customer lists individually once received from each LDC to ensure the customer list counts reflected actual individual records that could be called. The following steps were taken during sample cleaning.

- All records with no phone numbers were removed.
- All phone numbers were checked to see if they were valid numbers (i.e. 10 digits, all numerical, etc.) and any bad cases were removed.
- When duplicates were detected based on phone number, the average of the consumption value was calculated and kept for one consolidated record. All others were removed.
- Residential and GS<50KW were separated into their own lists to be loaded and managed separately in the calling system.

Regions within each customer list were given a numerical value to be used for calling quotas.

Methodology Details

Questionnaire

The survey instrument was provided by the Electricity Distributors Association (EDA) developed in conjunction with Innovative Research. The survey consisted of an introduction, overall satisfaction, power quality and reliability, billing and payment, customer service experience, communications, price, optional deeper dive questions, and final personal finance / sector mood measures. Additional questions were provided individually by Lakeland Power. These questions are not required as part of the survey and, as outlined in the methodology guideline, were asked after all the standard and required questions.

Data Collection

Computer aided telephone interviews (CATI) were conducted from January 12-February 17, 2021.

Quality Control

- Advanis, on behalf of Redhead, trained the interviewers to understand the study's objectives;
- Detailed call records are kept by the automated CATI system, and are supplemented by output files to SPSS for productivity analysis (i.e., not subject to human error);
- The survey was soft launched in LDCs that had the most available sample, and the data was then checked before calling began in full for Lakeland Power;
- 100% of all surveys are digitally recorded for potential review (see next bullet);
- Advanis' Quality Assurance team listened to the actual recordings of five percent of completed surveys and compared the responses to those entered by the interviewer to ensure that responses from respondents are properly recorded;
- Team Supervisors conduct regular more formal evaluations with each interviewer, in addition to nightly monitoring of each interviewer on their team;
- Project Managers closely monitored the progress of data collection, including call record dispositions;
- All SPSS code is reviewed by a more senior researcher;
- All Report Builder output is reviewed by a more senior researcher; and
- All values in the report are reviewed by another team member to ensure accuracy.

Methodology Details

Analysis of Findings & Data Weighting

Results were weighted to match the proportion of low volume rate class records as provided to Redhead after cleaning of the sample file. Where a region flag was also provided, results were weighted to the low volume rate class within each region and regions were weighted proportionately to one another based on the customer base as provided in the cleaned sample file.

The Customer Satisfaction index scores have been highlighted and were calculated as described below, based on instructions in the Survey Methodology Guidelines. The "response values" referenced in the description below were also determined and provided by the survey authors.

Data analysis and cross-tabulation have been conducted using SPSS and Report Builder software.

This **index score** is calculated using the following process:

Step 1: Weight data to n=400 with each low volume rate class proportionate to its share of LDC customer base.

Step 2: Rescale the index score variables onto the 0 to 1 scale as indicated by the response values detailed below.

Step 3: The average result of the questions asked for each OEB topic and the overall satisfaction score will be added together[3].

	B5
+	**[C6+C7+C8]** divided by 3
+	**[D9+D10]** divided by 2
+	**E11**
+	**F12**
+	**G14**
=	**Total cumulative scores**

Step 4: The total cumulative score from Step 2 will be divided by 6 to generate the **Customer Satisfaction Index Score** (bound between 0-1).

The chart on the following page illustrates how the **Customer Satisfaction Index Score** will be calculated.

As noted above, LDCs without a region flag were weighted to their low volume rate class proportion based on the cleaned sample file. LDCs with a region flag were weighted to their low volume rate class proportion within each region based on the cleaned sample file, and then regions were weighted proportionately to one another based on the customer base as provided in the cleaned sample file.

Specific values of the number of sample records, estimated population proportions, and final weighted sample counts within Lakeland Power are provided below. The sum of the regional population proportions within an LDC may not equal 100% due to rounding.

Methodology Tables

Margin of error

LDC	Customer Records from LDC	Completed Surveys	Sample Size as % of Customer list	Margin of Error @ 95% confidence level
Lakeland Power	11,676	404	3.46%	+/- 4.8%

Sample weighting

Lakeland Power						
Regions Flagged in Sample	Low Volume Rate Class	Clean, Deduplicated Sample Received	Rate Class Proportion	Estimated Customer Proportion	Weighted Sample Count	Unweighted Sample Count
Bracebridge	Residential	5,495	91%	52%	190	129
	General Service < 50 kW	524	9%		18	13
Huntsville	Residential	1,306	85%	13%	45	145
	General Service < 50 kW	227	15%		8	23
Parry Sound	Residential	2,648	89%	26%	14	7
	General Service < 50 kW	338	11%		2	2
Burk's Falls	Residential	404	87%	4%	5	8
	General Service < 50 kW	59	13%		1	1
Sundridge	Residential	438	86%	4%	15	12
	General Service < 50 kW	71	14%		2	2
Magnetawan	Residential	146	88%	1%	92	55
	General Service < 50 kW	20	12%		12	7
TOTAL	**Residential**	**10,437**	**89%**	**100%**	**361**	**356**
	General Service < 50 kW	**1239**	**11%**		**43**	**48**
					404	**404**

REDHEAD MEDIA SOLUTIONS INC

Thank You

We greatly appreciate working on this important project for Lakeland Power and hope we have met or exceeded your expectations.

We are happy to present this data to your staff or Board members upon request. If you wish to do so, please contact us for an appointment.

We look forward to working with you on future projects, including the Electricity Safety Awareness Survey later in 2021. Please note if you have any other projects that we may be able to help you with, don't hesitate to be in touch.

Graydon Smith - President
Redhead Media Solution Inc.
505 Hwy 118 W.
Suite 416
Bracebridge, ON
P1L 2G7

LakelandPower

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2019 Customer Satisfaction Survey Final Report

For Lakeland Power Distribution

By Redhead Media Solutions Inc.

April 15, 2019

Introduction and Summary

Thank you for selecting Redhead Media Solutions Inc. for this important project for Lakeland Power Distribution (Lakeland). We appreciate your confidence in us to provide you with data on Customer Satisfaction that can now be used to compare with the previous survey in 2017 and among other LDCs.

We have restructured our reporting to you this year, replacing the traditional single report with tables and transitioning to a more robust and informative graphics based style that gives you the ability to see differences “at a glance” as opposed to simply comparing numbers. To supplement this report, we have also included the full set of 2019 tables, comparative 2017/2019 tables and comments for question G15 (open comments) in spreadsheet format, allowing you easy access to the data we have generated. You can find this as part of the email we sent labelled “Appendix A”. The methodology guide, as well as residential and general service questionnaires are also included as appendices B, C and D for your reference.

Should there be any specific data or breakouts that you require, please contact us to discuss.

Graydon Smith
President

LakelandPower

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Introduction and Summary

Redhead Media Solutions Inc. (Redhead), partnering with ADVANIS for data collection and reporting, has been retained (via an RFP process by Cornerstone Hydro Electric Concepts Inc. - CHEC) to conduct a 2019 Customer Satisfaction Survey for Lakeland Power. This survey is a required part of an LDC's Balanced Scorecard and other reporting and regulatory requirements for the Ontario Energy Board (OEB).

The complete group of participating CHEC LDCs are as follows:

- Centre Wellington Hydro
- EPCOR
- Grimsby Power
- Lakefront Utilities
- Lakeland Power Distribution
- Niagara-on-the-Lake Hydro
- Orangeville Hydro
- Ottawa River Power
- Renfrew Hydro
- Rideau St. Lawrence Distribution
- Tillsonburg Hydro
- Wasaga Distribution
- Wellington North Power

Additionally, Redhead also provided services for this project outside the CHEC group of LDCs.

Introduction and Summary

This final report contains data specifically for Lakeland Power.

The survey is comprised of 400 randomly selected interviews of Lakeland Power customers among the low volume customer base (residential customers and general service under 50kW customers; GS<50kW). Residential customers were asked to confirm that they receive an electricity or hydro bill from Lakeland Power and that they are the primary payer of that bill, or share the responsibility.

GS<50kW customers were also asked to confirm they receive an electricity or hydro bill from Lakeland Power, and additionally to confirm that the person who manages the organization's electricity bill was the one to complete the interview. The sample frame is stratified on region (where applicable) and consumption quartiles by rate class in accordance with the "Survey Implementation Requirements" on page 4 of the "EDA/Innovative Customer Satisfaction Scorecard: Methodology & Survey Implementation Guide", contained in Appendix B of this report.

The objective of the survey is to provide an Overall Customer Satisfaction index score for Lakeland Power. This is a calculated aggregate value based on responses of to 9 core measures in the survey instrument. In some cases, additional questions were asked but not included in the calculation of the Customer Satisfaction Index Score.

Lakeland Power' 2019 Customer Satisfaction Index Score is 75.5%, This is a 1.0% increase over the 2017 score (74.5%) and 3.9% less than the mean average of all LDCs surveyed (79.4%).

This falls within a very tight spectrum of index scores we processed for all LDCs that participated in the 2019 survey via Redhead. When the confidence interval and margin of error is applied to all index scores, there is significant overlap between LDCs which underlines the statistical similarity of performance and satisfaction among participants. Statistically, Lakeland Power is similar to all the other LDC surveyed.

The following report contains graphic data and tables for all prescribed questions as well as year-over-year comparative data (internal) and comparative scoring data (external). Additional data is available in the attached spreadsheet sheets and tables. (Appendix A)

Question scoring and index methodologies were prescribed by the EDA/Innovative. As such, there has been limited additional analysis provided beyond the direction provided to meet the reporting guidelines. Should you wish further analysis of the data please contact our office to discuss.

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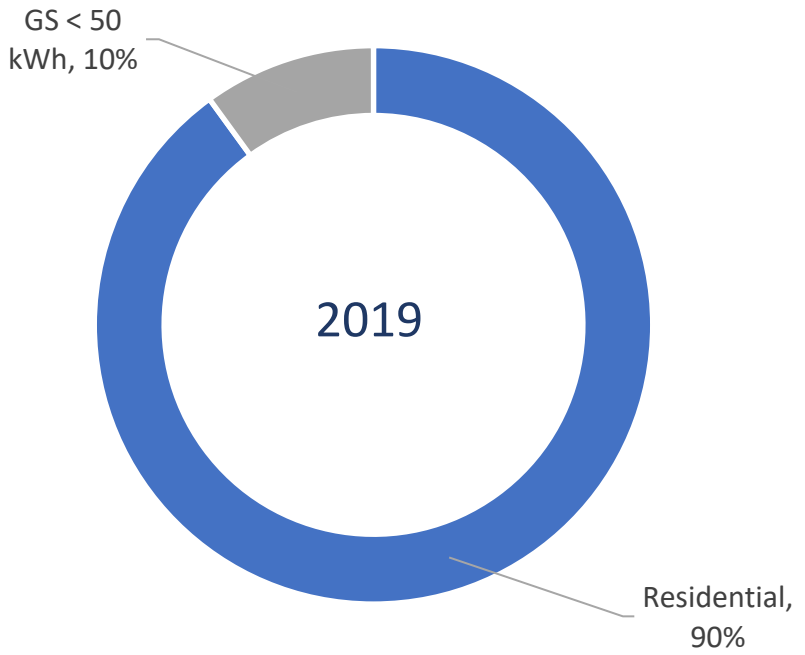
Customer Type: Low Volume Rate Class



	Total	Residential	General service business GS<50kWh
Base: Total answering	400	355	45
Residential	90%	100%	0%
General service business GS<50kWh	10%	0%	100%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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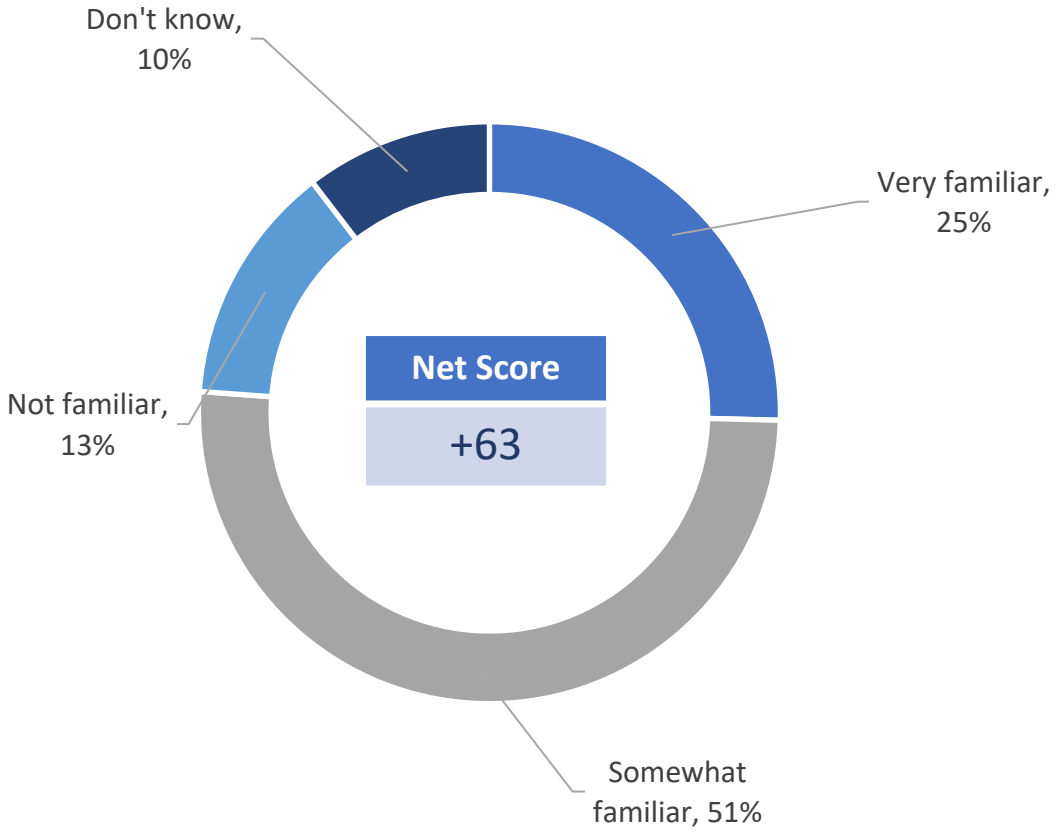
B4: How familiar are you with Lakeland Power, which operates the electricity distribution system in your community?



	Total	Residential	General service business GS<50kWh
Base: Total answering	400	355	45
Very familiar	25%	24%	37%
Somewhat familiar	51%	51%	47%
Not familiar	13%	13%	12%
Don't know	10%	11%	5%
Refused	0%	0%	0%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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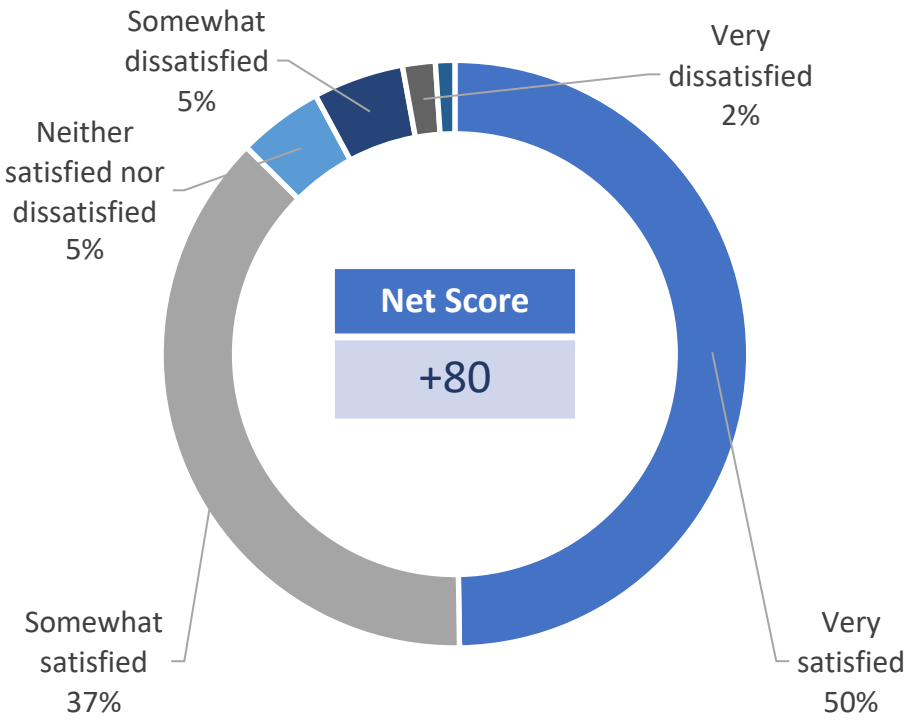
B5: Thinking specifically about the services provided to you and your community by Lakeland Power, overall, how satisfied are you with the services that you receive from Lakeland Power?

Appendix C



	Total	Residential	General service business GS<50kWh
Base: Total Answering	400	355	45
Very satisfied	50%	48%	61%
Somewhat satisfied	37%	38%	32%
Neither satisfied nor dissatisfied	5%	5%	2%
Somewhat dissatisfied	5%	6%	0%
Very dissatisfied	2%	2%	0%
Don't know	1%	1%	4%
Refused	0%	0%	1%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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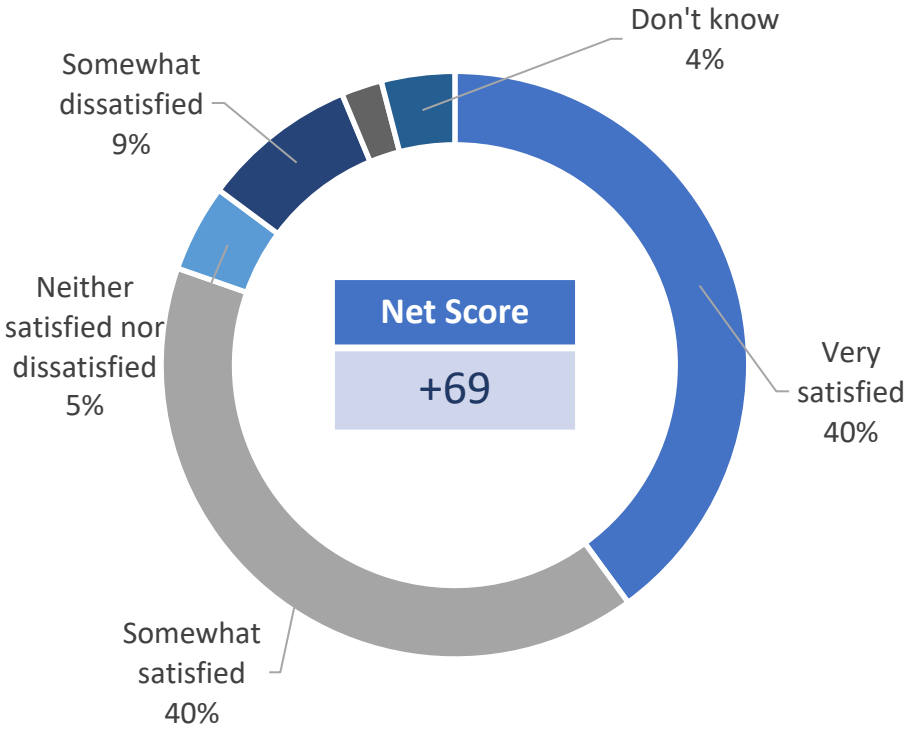
C6: Satisfaction with the reliability of your electricity service – as judged by the number of outages you experience.



	Total	Residential	General service business GS<50kWh
Base: Total Answering	400	355	45
Very satisfied	40%	39%	51%
Somewhat satisfied	40%	42%	28%
Neither satisfied nor dissatisfied	5%	5%	1%
Somewhat dissatisfied	9%	9%	6%
Very dissatisfied	2%	2%	0%
Don't know	4%	3%	10%
Refused	0%	0%	4%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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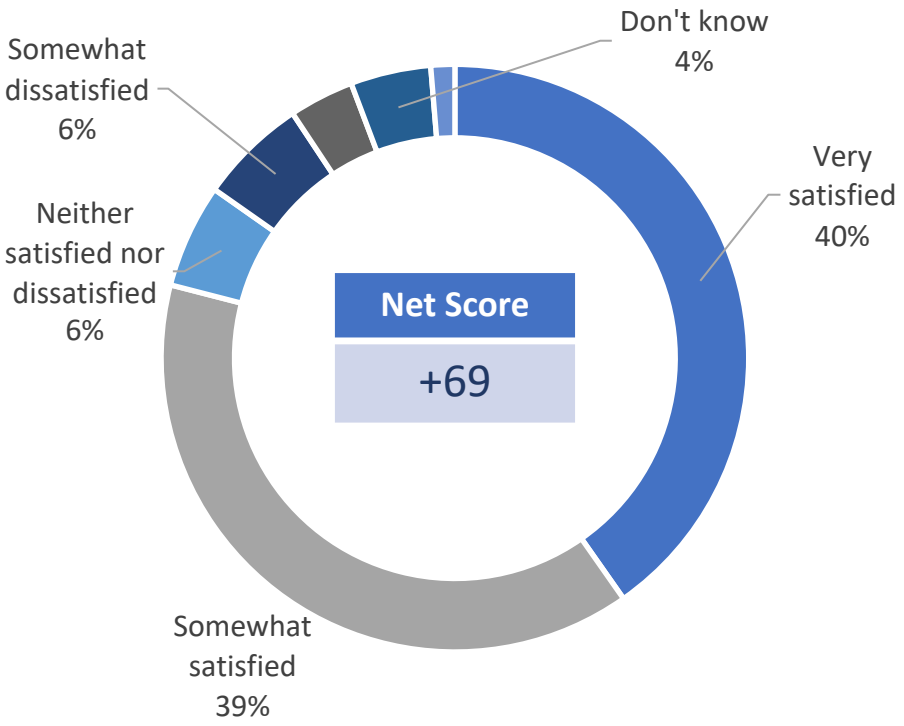
C7: Satisfaction with the amount of time it takes when outages occur.



	Total	Residential	General service business GS<50kWh
Base: Total Answering	400	355	45
Very satisfied	40%	40%	42%
Somewhat satisfied	39%	39%	41%
Neither satisfied nor dissatisfied	6%	6%	1%
Somewhat dissatisfied	6%	7%	1%
Very dissatisfied	4%	4%	1%
Don't know	4%	3%	15%
Refused	1%	1%	0%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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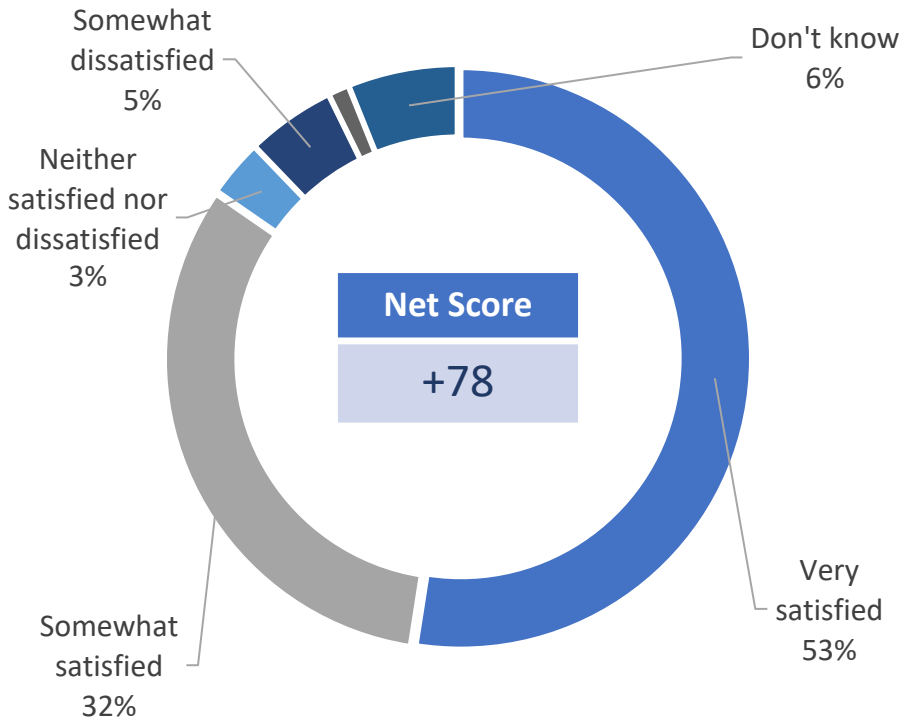
C8: Satisfaction with the quality of power delivered to you as judged by the absence of voltage fluctuations that can result in the flickering or diming of lights or may affect your equipment.



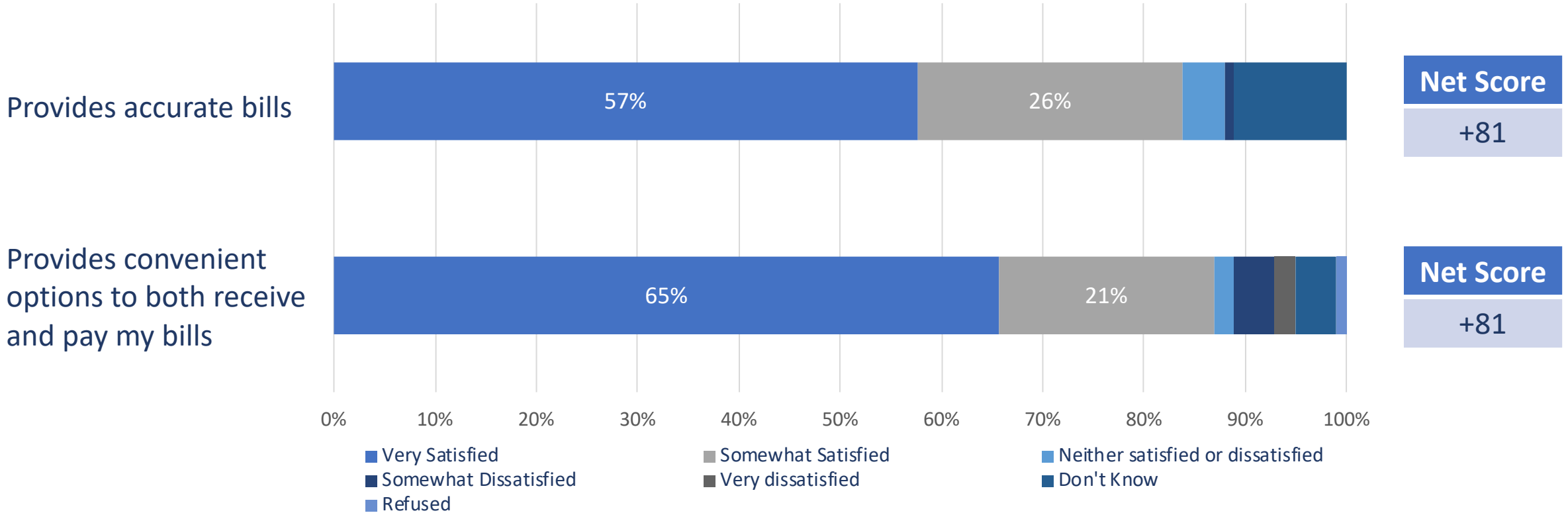
	Total	Residential	General service business GS<50kWh
Base: Total Answering	400	355	45
Very satisfied	52%	52%	57%
Somewhat satisfied	32%	33%	25%
Neither satisfied nor dissatisfied	3%	3%	1%
Somewhat dissatisfied	5%	5%	8%
Very dissatisfied	1%	1%	0%
Don't know	6%	6%	9%
Refused	0%	0%	0%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

REDHEAD MEDIA SOLUTIONS INC

D9/D10: For each of the following statements about the bills that you receive from Lakeland Power, please tell me how satisfied you are…



*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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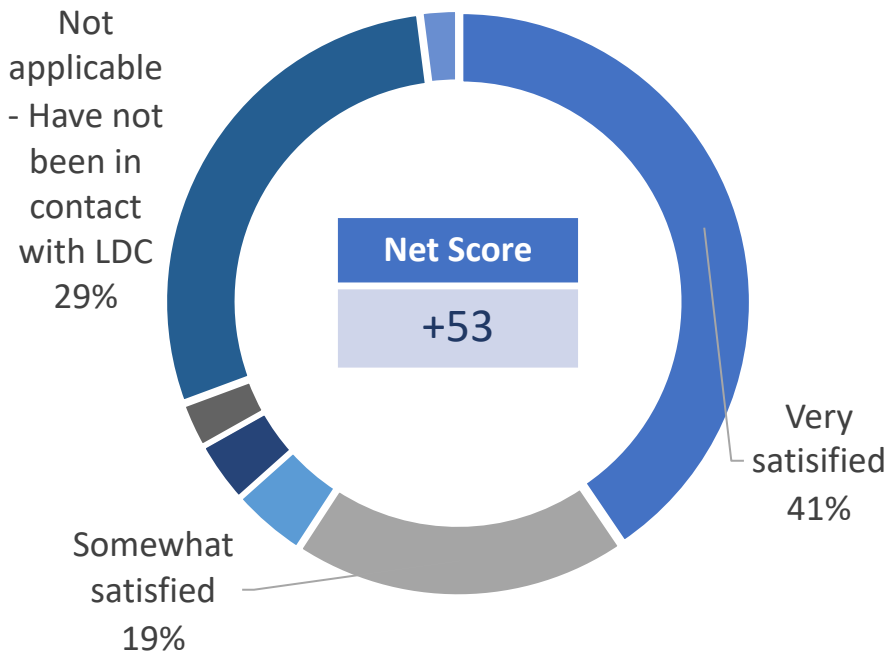
E11: Overall, how satisfied are you with the customer service provided by Lakeland Power?

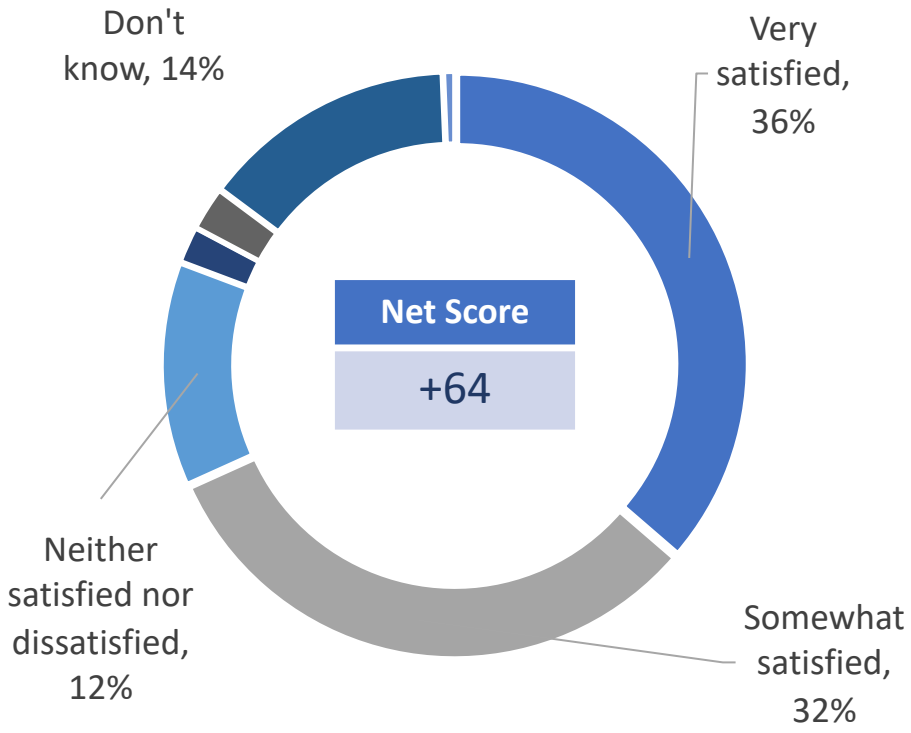


	Total	Residential	General service business GS<50kWh
Base: Total Answering	400	355	45
Very satisfied	41%	40%	47%
Somewhat satisfied	19%	18%	27%
Neither satisfied nor dissatisfied	4%	4%	5%
Somewhat dissatisfied	3%	4%	1%
Very dissatisfied	3%	3%	0%
Not applicable - Have not been in contact with LDC	29%	30%	19%
Don't know	2%	2%	2%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

F12: Overall, how satisfied are you with the communications that you receive from Lakeland Power related specifically to your electrical service?



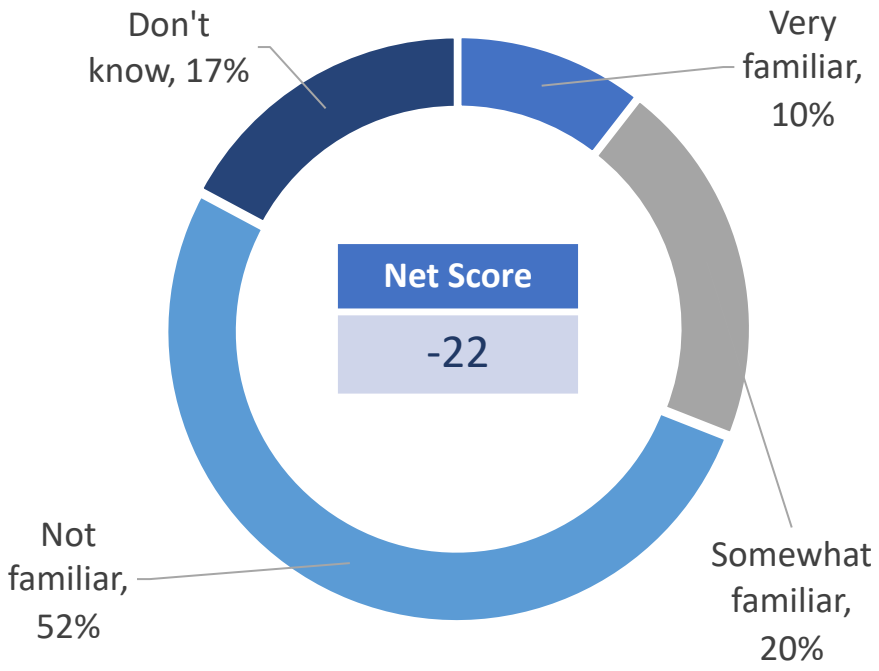
	Total	Residential	General service business GS<50kWh
Base: Total Answering	400	355	45
Very satisfied	36%	36%	42%
Somewhat satisfied	32%	32%	32%
Neither satisfied nor dissatisfied	12%	13%	10%
Somewhat dissatisfied	2%	2%	0%
Very dissatisfied	2%	3%	2%
Don't know	14%	14%	14%
Refused	1%	1%	0%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

REDHEAD MEDIA SOLUTIONS INC

G13: Before this survey, how familiar with you with the percentage of your (household/organization)'s electricity bill that went to Lakeland Power?

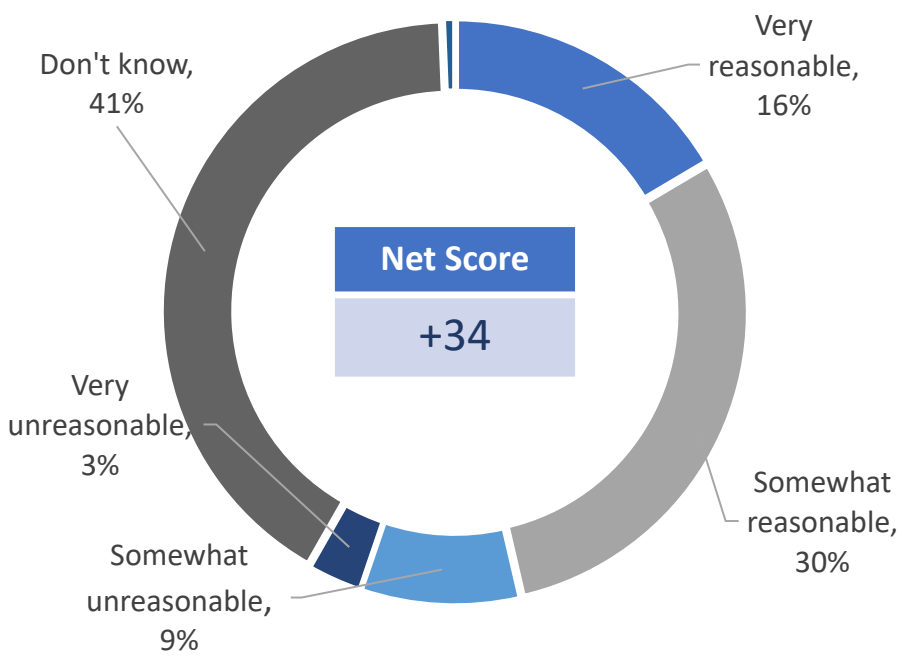


	Total	Residential	General service business GS<50kWh
Base: Total Answering	400	355	45
Very familiar	10%	10%	13%
Somewhat familiar	20%	21%	15%
Not familiar	52%	52%	50%
Don't know	17%	17%	17%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

G14: Do you feel that the percentage of your (household/organizations)'s total electricity bill that you pay to Lakeland Power for the services they provide is…?

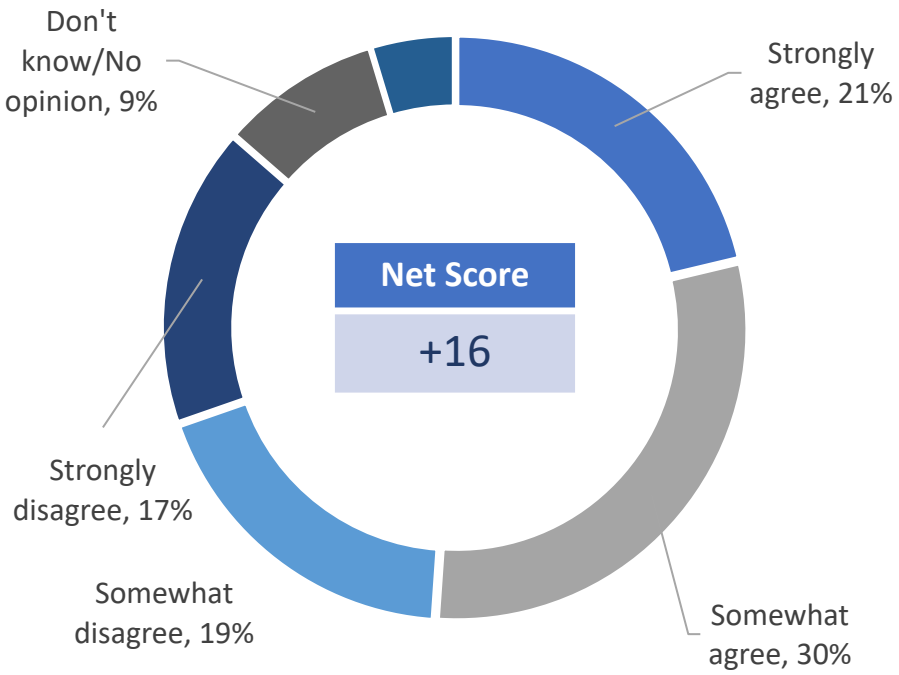


	Total	Residential	General service business GS<50kWh
Base: Total Answering	400	355	45
Very reasonable	16%	15%	26%
Somewhat reasonable	30%	31%	18%
Somewhat unreasonable	9%	9%	4%
Very unreasonable	3%	3%	0%
Don't know	41%	40%	47%
Refused	1%	0%	4%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

H16: The cost of my electricity bill has a major impact on (my finances and requires I do without some other important priorities)/(on the bottom line of my organization and results in some important spending priorities and investments being put off.

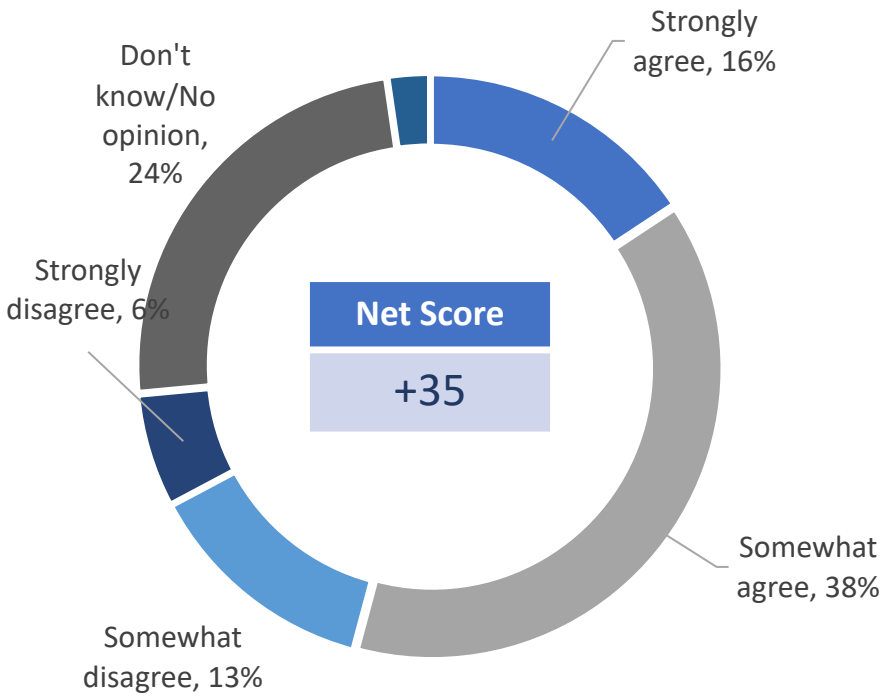


	Total	Residential	General service business GS<50kWh
Base: Total Answering	400	355	45
Strongly agree	21%	19%	38%
Somewhat agree	30%	30%	30%
Somewhat disagree	19%	19%	14%
Strongly disagree	17%	18%	9%
Don't know/No opinion	9%	9%	5%
Refused	5%	5%	4%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

H17: Customers are well served by the electricity system in Ontario.

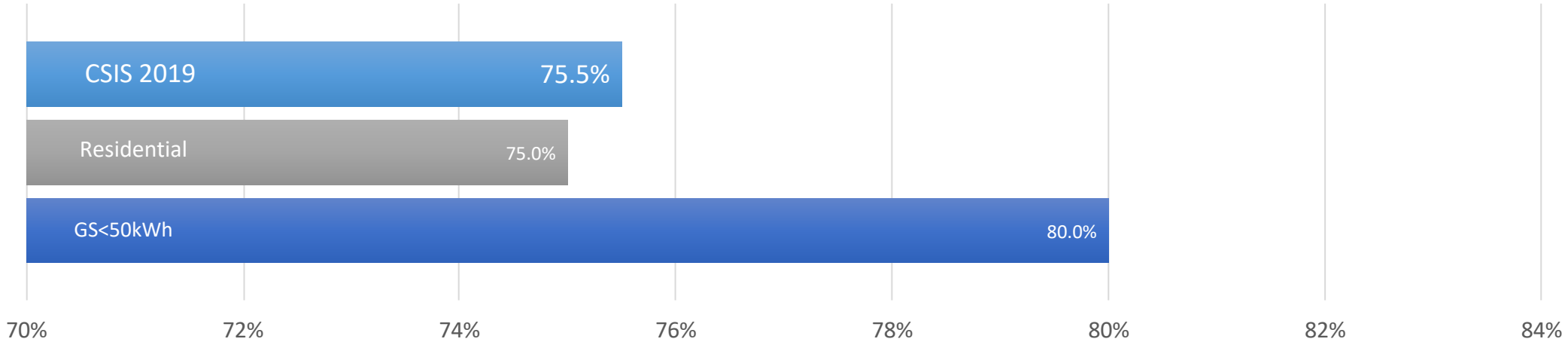


	Total	Residential	General service business GS<50kWh
Base: Total Answering	400	355	45
Strongly agree	16%	15%	21%
Somewhat agree	38%	37%	49%
Somewhat disagree	13%	14%	9%
Strongly disagree	6%	7%	3%
Don't know/No opinion	24%	25%	16%
Refused	2%	2%	2%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

Customer Satisfaction Index Score



	Total	Residential	General service business GS<50kWh
Base: Total Answering	400	355	45
Customer Satisfaction index score	75.5%	75.0%	80.0%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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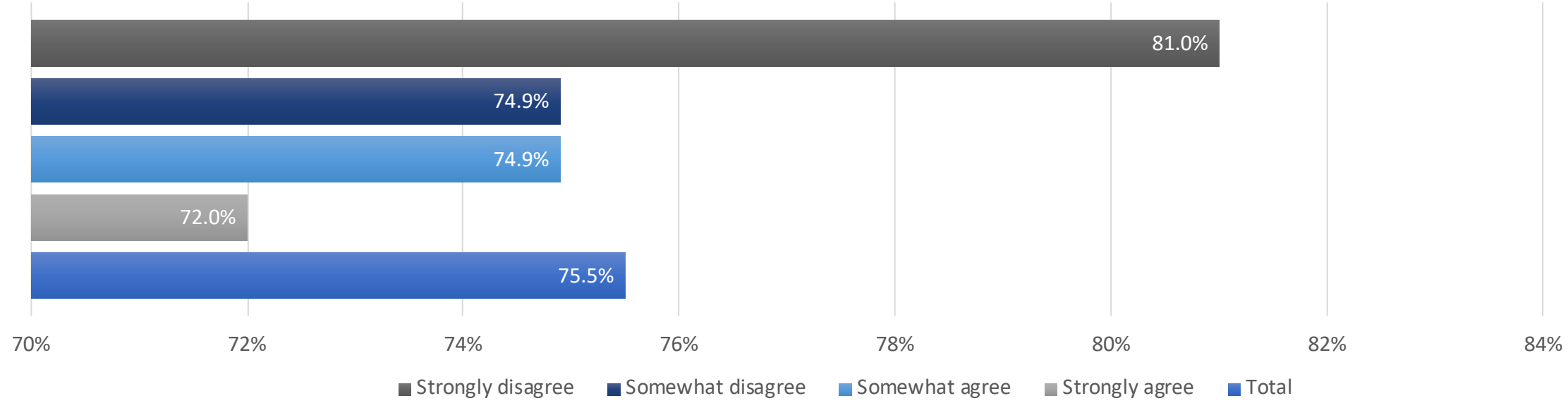
Customer Satisfaction Index Score by reply to question H16 (Electricity bill impact on finances)



	Total	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
Base: Total Answering	400	87	107	87	67
Customer Satisfaction index score	75.5%	72.0%	74.9%	74.9%	81.0%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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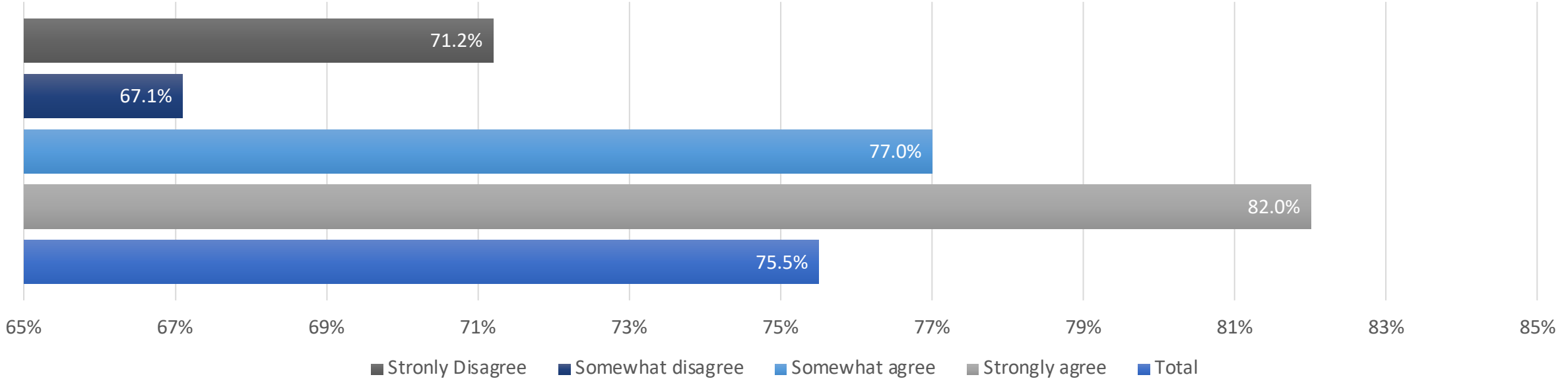
Customer Satisfaction Index Score by reply to question H17 (Well served by electricity system)



	Total	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
Base: Total Answering	400	65	157	45	27
Customer Satisfaction index score	75.5%	82.0%	77.0%	67.1%	71.2%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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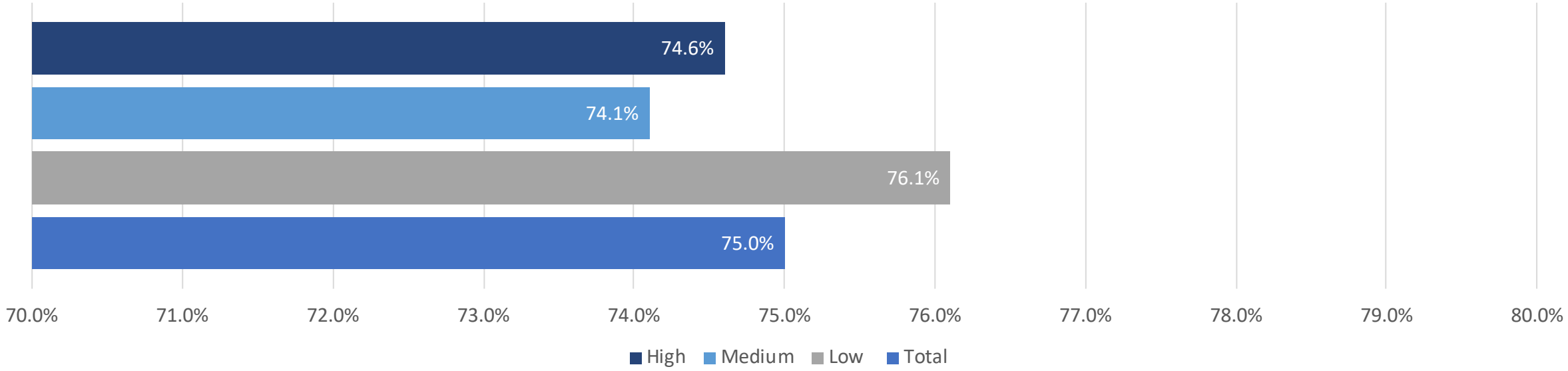
Customer Satisfaction Index Score by consumption tranches (residential)



	Total	Low consumption	Medium consumption	High consumption
Base: Residential customers	355	113	91	151
Customer Satisfaction index score	75.0%	76.1%	74.1%	74.6%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=355.

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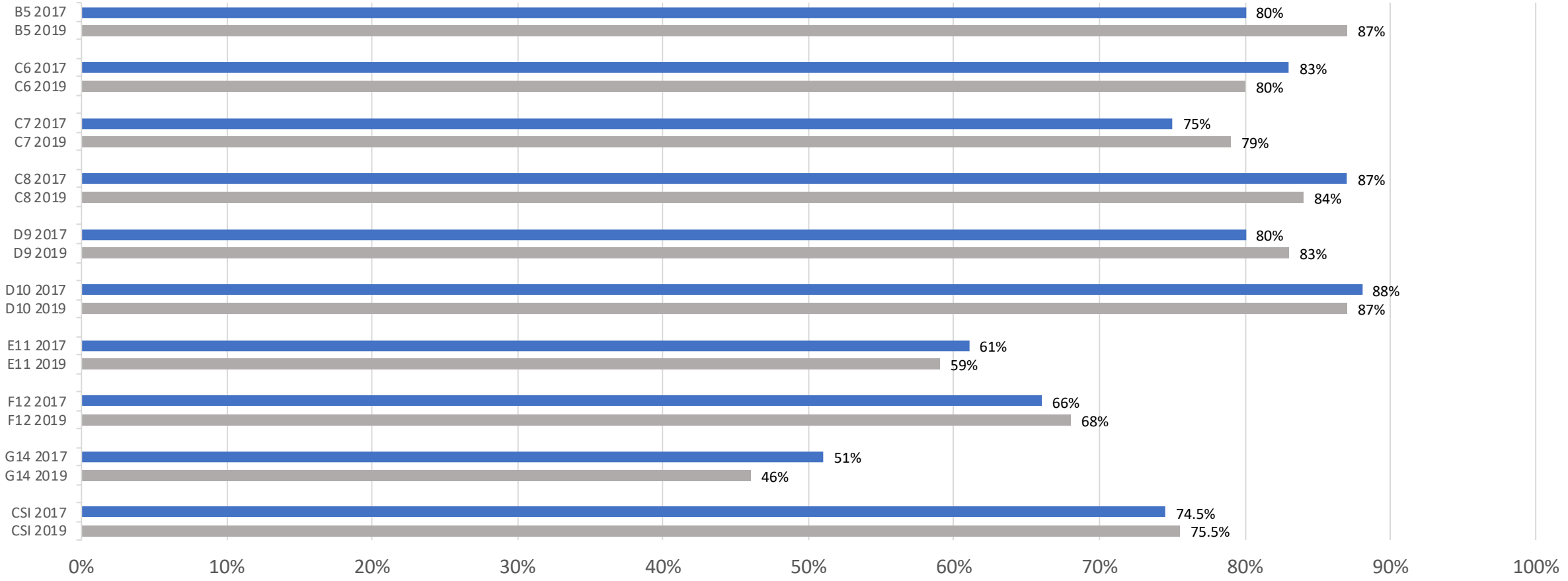
Comparative Data – Core CSI Questions 2017/2019
Net Satisfied Response

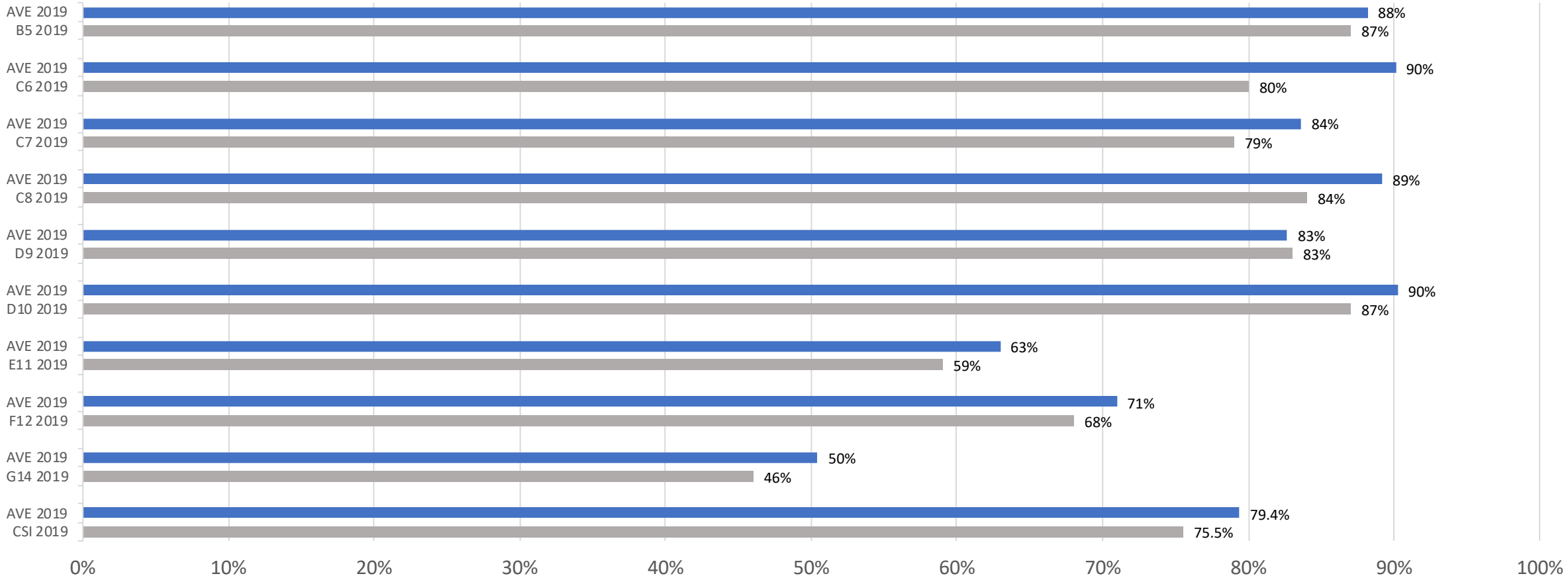


*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

REDHEAD MEDIA SOLUTIONS INC

Comparative Data – Core CSI Questions Participant Ave/Lakeland Power Net Satisfied Response



*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

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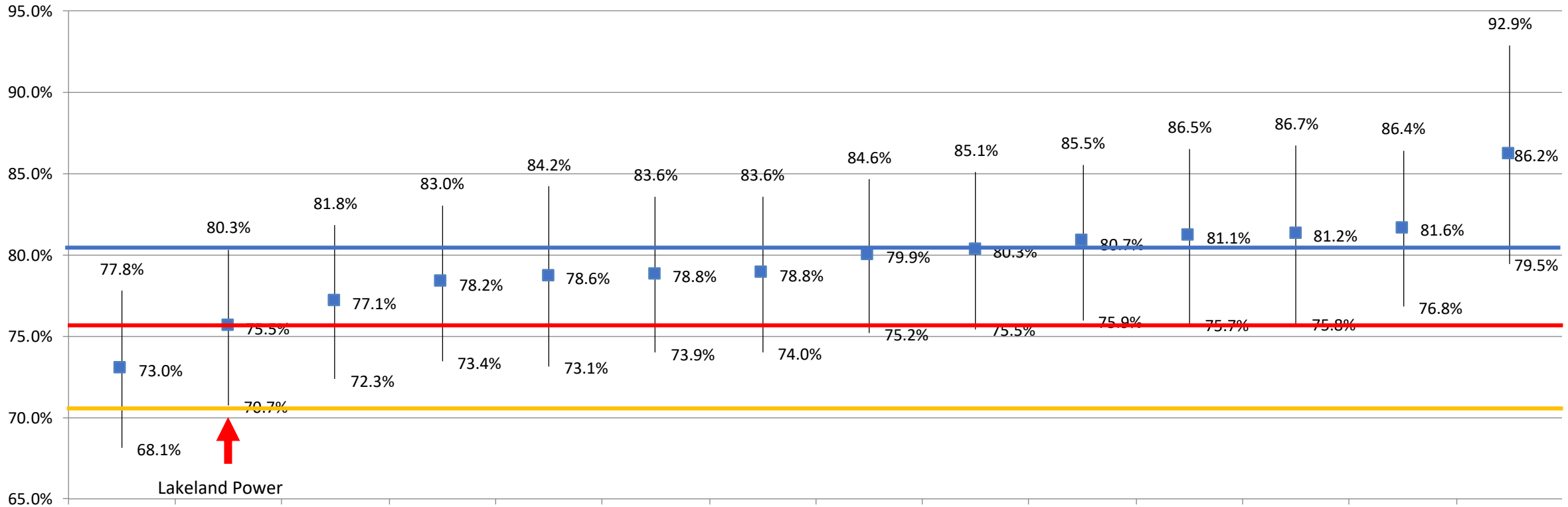
Customer Satisfaction Index Score Comparison
Upper and Lower Bound



- The lines denote Lakeland Power's upper and lower bound based on the CSI Score.
- Almost all LDCs confidence intervals overlap, similar to 2017.
- Lakeland Power overlaps with all LDCs, which indicates a statistical similarity.

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 7-Febuary 13, 2019, n=400, accurate 4.8 percentage points plus or minus, 19 times out of 20.

REDHEAD MEDIA SOLUTIONS INC

Methodology Summary

Commissioned by	Lakeland Power
Sample size	400 randomly selected customers
Margin of error	±4.8 percentage points, 19 times out of 20
Survey mode	Random telephone survey of customer base, CATI data collection
Survey sample	Residential and GS <50kWh customer lists provided by Lakeland Power
Time of calling	4PM-9PM Weekdays, 10AM-5PM Saturdays, scheduled callbacks
In-field dates	Jan 7-Feb 13, 2019
Language	English only
Survey author	Innovative Research/Electricity Distributors Association
Question Order	Report shown in order
Question Wording	Questions shown in report as asked
Survey Company	Redhead Media Solutions Inc/Advanis

Methodology Details

Target Respondents

The respondents of the survey were Ontario residents who are the primary bill payer or share the responsibility if residential or the person in-charge of managing the electricity bill at the organization if general service, and who resided within one of Lakeland Power's service territory(ies). Service territories were determined based on customer lists provided by Lakeland Power.

Sample Size and Statistical Reliability

The final total completed surveys by LDC, and the associated margin of error for each, are shown below.

All margins of error are shown at a 95% confidence level.

- E.g., the margin of error associated with a sample size of 400 for a large (infinite) population is ±4.9 percentage points, 19 times out of 20.

Since Lakeland Power has a finite population, we used the specific population sizes (i.e., the number of samples records received from Lakeland Power) in the calculation of margin of error. Doing so is more accurate, and results in a narrower margin of error than if we simply assumed large (infinite) population for each.

Sample sizes were set according to the *LDC Customer Satisfaction Survey: Methodology & Survey Implementation Guide*, prepared for the Electrical Distributors Association (April 19, 2016 revision):

Where possible, sample size of n=400.
Distributors with 3000 to 4999 customers (residential + GS<50), n=300
Distributors with <3000 customers (residential + GS<50), n=200

Methodology Details

Sampling Methodology

Redhead was provided sample lists from Lakeland Power. Customer lists included all basic information required such as name, telephone number, region (where applicable), customer type (residential or GS<50), LDC fee, Annual or Monthly consumption values. Redhead then calculated which quartile group each resident belonged to by evenly dividing them into four groups within each region and customer type. These quartiles were calculated based on annual consumption value.

To minimize low response:

- Sample was loaded in batches to ensure the sample was fully utilized before moving onto fresh sample records;
- Calls were made between the hours of 4pm and 9pm ET; and
- Call backs were scheduled and honored between the hours of 9am and 9pm ET.

Sample Cleaning

Redhead cleaned the customer lists individually once received from each LDC to ensure the customer list counts reflected actual individual records that could be called. The following steps were taken during sample cleaning.

- All records with no phone numbers were removed.
- All phone numbers were checked to see if they were valid numbers (i.e. 10 digits, all numerical, etc.) and any bad cases were removed.
- When duplicates were detected based on phone number, the average of the consumption value was calculated and kept for one consolidated record. All others were removed.
- Residential and GS<50KW were separated into their own lists to be loaded and managed separately in the calling system.

Regions within each customer list were given a numerical value to be used for calling quotas.

Methodology Details

Questionnaire

The survey instrument was provided by the Electricity Distributors Association (EDA) developed in conjunction with Innovative Research. The survey consisted of an introduction, overall satisfaction, power quality and reliability, billing and payment, customer service experience, communications, price, optional deeper dive questions, and final personal finance / sector mood measures. Additional questions were provided individually by Lakeland Power. These questions are not required as part of the survey and, as outlined in the methodology guideline, were asked after all the standard and required questions.

Data Collection

Computer aided telephone interviews (CATI) were conducted from January 7-February 13, 2019.

Quality Control

- Advanis, on behalf of Redhead, trained the interviewers to understand the study's objectives;
- Detailed call records are kept by the automated CATI system, and are supplemented by output files to SPSS for productivity analysis (i.e., not subject to human error);
- The survey was soft launched in LDCs that had the most available sample, and the data was then checked before calling began in full for Lakeland Power;
- 100% of all surveys are digitally recorded for potential review (see next bullet);
- Advanis' Quality Assurance team listened to the actual recordings of five percent of completed surveys and compared the responses to those entered by the interviewer to ensure that responses from respondents are properly recorded;
- Team Supervisors conduct regular more formal evaluations with each interviewer, in addition to nightly monitoring of each interviewer on their team;
- Project Managers closely monitored the progress of data collection, including call record dispositions;
- All SPSS code is reviewed by a more senior researcher;
- All Report Builder output is reviewed by a more senior researcher; and
- All values in the report are reviewed by another team member to ensure accuracy.

Methodology Details

Analysis of Findings & Data Weighting

Results were weighted to match the proportion of low volume rate class records as provided to Redhead after cleaning of the sample file. Where a region flag was also provided, results were weighted to the low volume rate class within each region and regions were weighted proportionately to one another based on the customer base as provided in the cleaned sample file.

The Customer Satisfaction index scores have been highlighted and were calculated as described below, based on instructions in the Survey Methodology Guidelines. The "response values" referenced in the description below were also determined and provided by the survey authors.

Data analysis and cross-tabulation have been conducted using SPSS and Report Builder software.

This **index score** is calculated using the following process:

Step 1: Weight data to n=400 with each low volume rate class proportionate to its share of LDC customer base.

Step 2: Rescale the index score variables onto the 0 to 1 scale as indicated by the response values detailed below.

Step 3: The average result of the questions asked for each OEB topic and the overall satisfaction score will be added together[3].

	B5
+	**[C6+C7+C8]** divided by 3
+	**[D9+D10]** divided by 2
+	**E11**
+	**F12**
+	**G14**
=	**Total cumulative scores**

Step 4: The total cumulative score from Step 2 will be divided by 6 to generate the **Customer Satisfaction Index Score** (bound between 0-1).

The chart on the following page illustrates how the **Customer Satisfaction Index Score** will be calculated.

As noted above, LDCs without a region flag were weighted to their low volume rate class proportion based on the cleaned sample file. LDCs with a region flag were weighted to their low volume rate class proportion within each region based on the cleaned sample file, and then regions were weighted proportionately to one another based on the customer base as provided in the cleaned sample file.

Specific values of the number of sample records, estimated population proportions, and final weighted sample counts within Lakeland Power are provided below. The sum of the regional population proportions within an LDC may not equal 100% due to rounding.

Methodology Tables

Margin of error

LDC	Customer Records from LDC	Completed Surveys	Sample Size as % of Customer list	Margin of Error @ 95% confidence level
Lakeland Power	11074	400	3.61%	+/- 4.8%

Sample Weighting

Lakeland Power Distribution						
Regions Flagged in Sample	Low Volume Rate Class	Sample Received	Rate Class Proportion	Estimated Population Proportion	Weighted Sample Count	Unweighted Sample Count
Bracebridge	Residential	5,204	91%	35%	188	148
	General Service < 50 kW	490	9%		18	12
Huntsville	Residential	1,276	86%	43%	46	128
	General Service < 50 kW	204	14%		7	22
Parry Sound	Residential	2516	90%	14%	91	51
	General Service < 50 kW	285	10%		10	6
Burk's Falls	Residential	386	89%	2%	14	8
	General Service < 50 kW	49	11%		2	2
Sundridge	Residential	431	86%	2%	16	8
	General Service < 50 kW	71	14%		3	1
Magnetawan	Residential	142	88%	4%	5	12
	General Service < 50 kW	20	12%		1	2
TOTAL	Residential	9,955	90%	100%	360	355
	General Service < 50 kW	1119	10%		41	45
					401	400

Thank You

We greatly appreciate working on this important project for Lakeland Power and hope we have met or exceeded your expectations.

We are happy to present this data to your staff or Board members upon request. If you wish to do so, please contact us for an appointment.

We look forward to working with you on future projects, including the Electricity Safety Awareness Survey later in 2019. Please note if you have any other projects that we may be able to help you with, don't hesitate to be in touch.

Graydon Smith - President
Redhead Media Solution Inc.
505 Hwy 118 W.
Suite 416
Bracebridge, ON
P1L 2G7

LakelandPower

REDHEAD MEDIA SOLUTIONS INC

Appendix D

Customer Electrical Safety Awareness Survey Results (2020, 2022, 2024)

ADVANIS for lakeland POWER

2024 Electrical Safety Awareness Survey

March 2024

Contents

Lead Consultant: Gary.Offenberger@advanis.net // 780.229.1140

Introduction and Summary

Advanis has been retained by Cornerstone Hydro Electric Concepts Inc. (CHEC) to conduct a 2024 Electrical Safety Awareness Survey for Lakeland Power. This survey is a required part of an LDC's Balanced Scorecard and other reporting and regulatory requirements for the Ontario Energy Board (OEB).

The complete group of participating CHEC LDCs is as follows:

1. Centre Wellington Hydro
2. ERTH Power
3. Grimsby Power
4. Lakefront Utilities
5. Lakeland Power Distribution
6. Niagara-on-the-Lake Hydro
7. Orangeville Hydro
8. Ottawa River Power
9. Renfrew Hydro
10. Rideau St. Lawrence Distribution
11. Tillsonburg Hydro
12. Wasaga Distribution
13. Wellington North Power

This report contains data specifically for Lakeland Power.

Advanis is consulting on behalf of Lakeland Power to conduct the Electrical Safety Authority's Public Awareness survey for 2024. This survey is a required part of the LDC Balanced Scorecard for reporting to the Ontario Energy Board (OEB).

This survey is comprised of 400 randomly sampled telephone interviews with Ontario residents who are 18 years or older and reside in the Lakeland Power service territory. The sample frame is stratified by age group and gender within each the territory, and the data is weighted to be representative of the adult population within the territory.

The objective of the survey is to provide an Electrical Safety Awareness (ESA) index score. This is a calculated aggregate value based on the responses of individuals to six core measures in the survey instrument.

Lakeland Power's 2024 Electrical Safety Awareness Score is 84.0%, which is not statistically different than the 2022 score of 82.6%. Lakeland's 2024 score is statistically the same as that of 10 other LDCs, higher than that of 1 other LDC, and lower than 1.

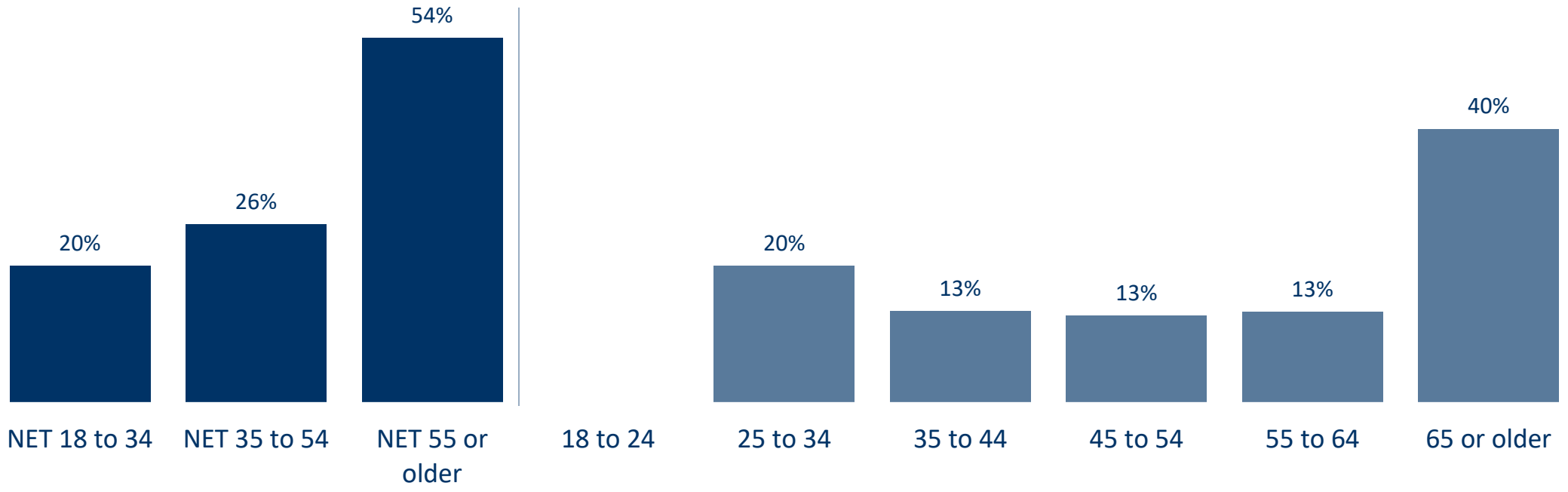
The following report shows detailed results for all core OEB questions for 2024 and compared to previous years. It also includes results based on the additional questions supplied by Lakeland.

Question scoring and index methodologies were prescribed by the ESA/Innovative. As such, there has been limited additional analysis provided beyond the direction provided to meet the reporting guidelines. Should you wish further analysis of the data, we would be pleased to discuss.

Customer (i.e., Survey Respondent) Profile

Age of respondent (based on A2, A2a)

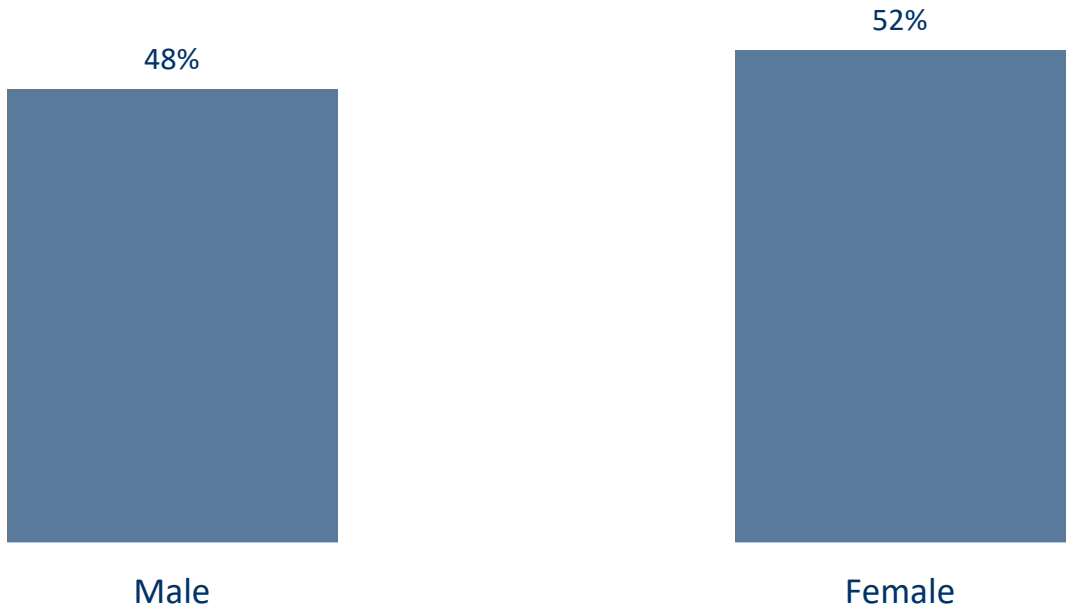
- Data is weighted to population proportions for the “NET” groups below; that is, the NET percentages below match the census data for the LDC.



Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power, Survey year: 2024

Gender

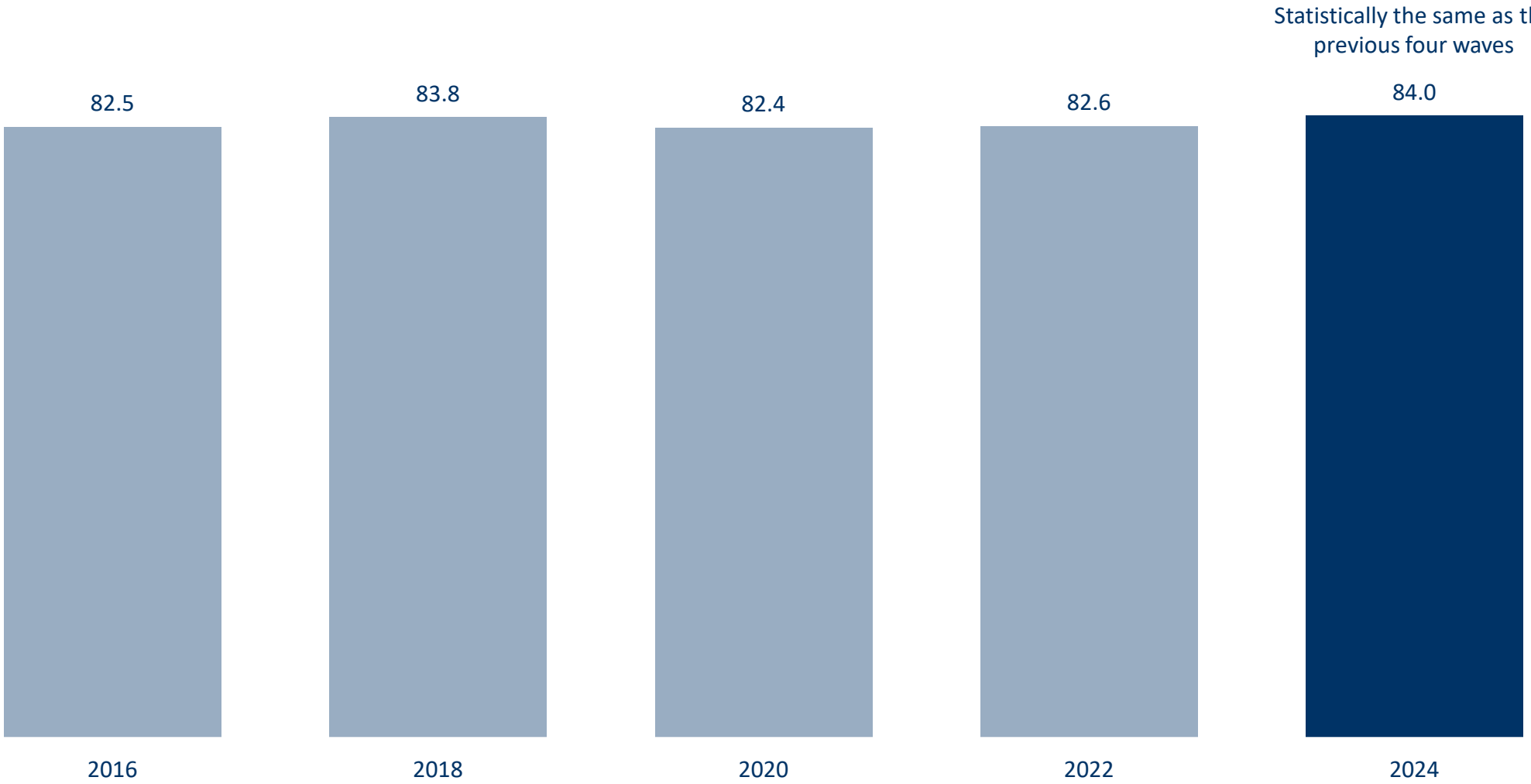
- Data is weighted to population proportions for gender; that is, the percentages below match the census data for the LDC.



Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power, Survey year: 2024

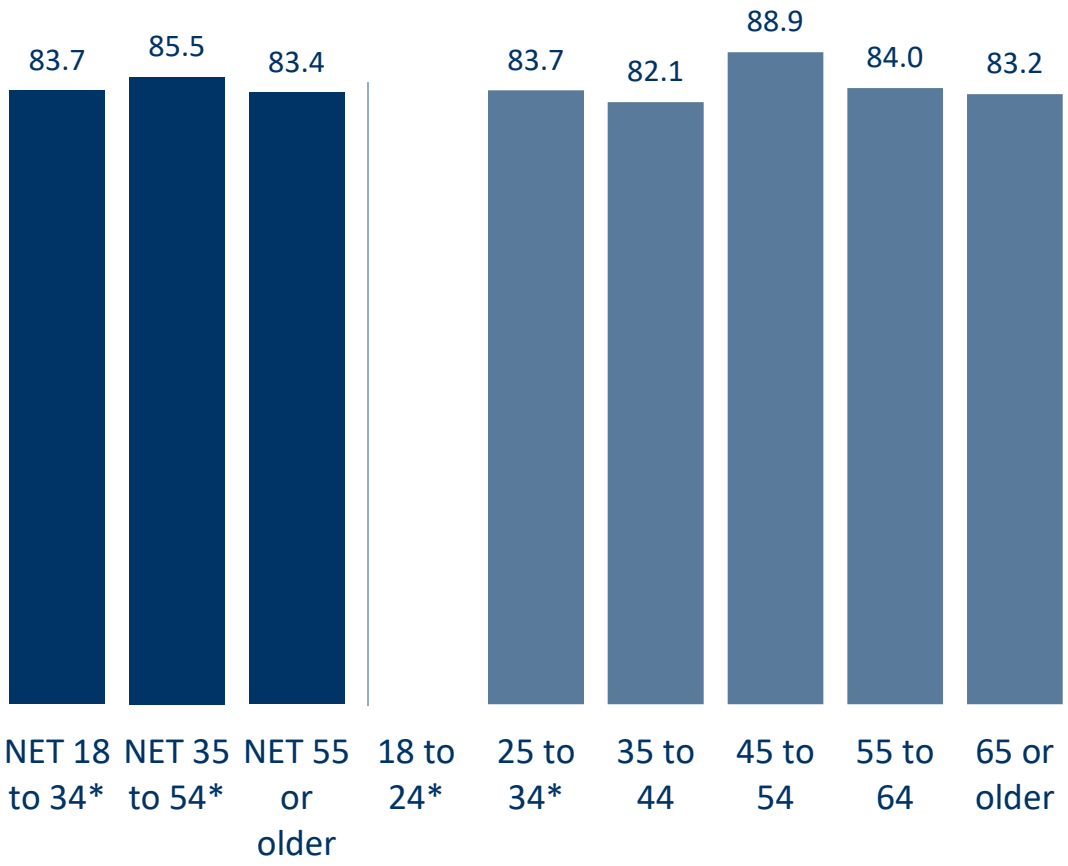
Electrical Safety Awareness Index Score – 2024 Results & Trend

Lakeland Power's Safety Awareness Index by Year

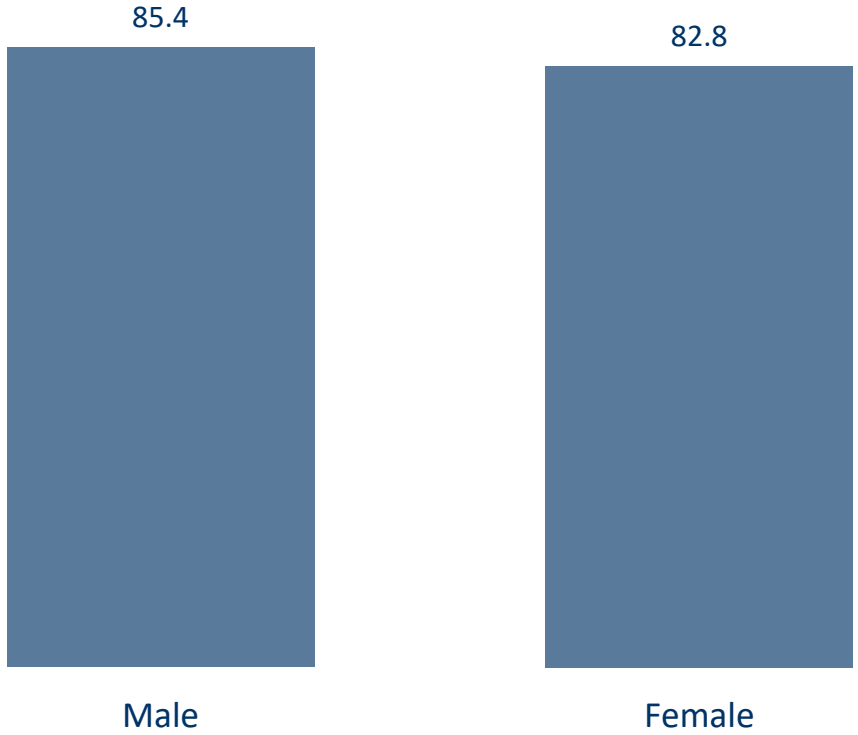


Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power, Survey year: 2024

ESA Index Scores by Age Category



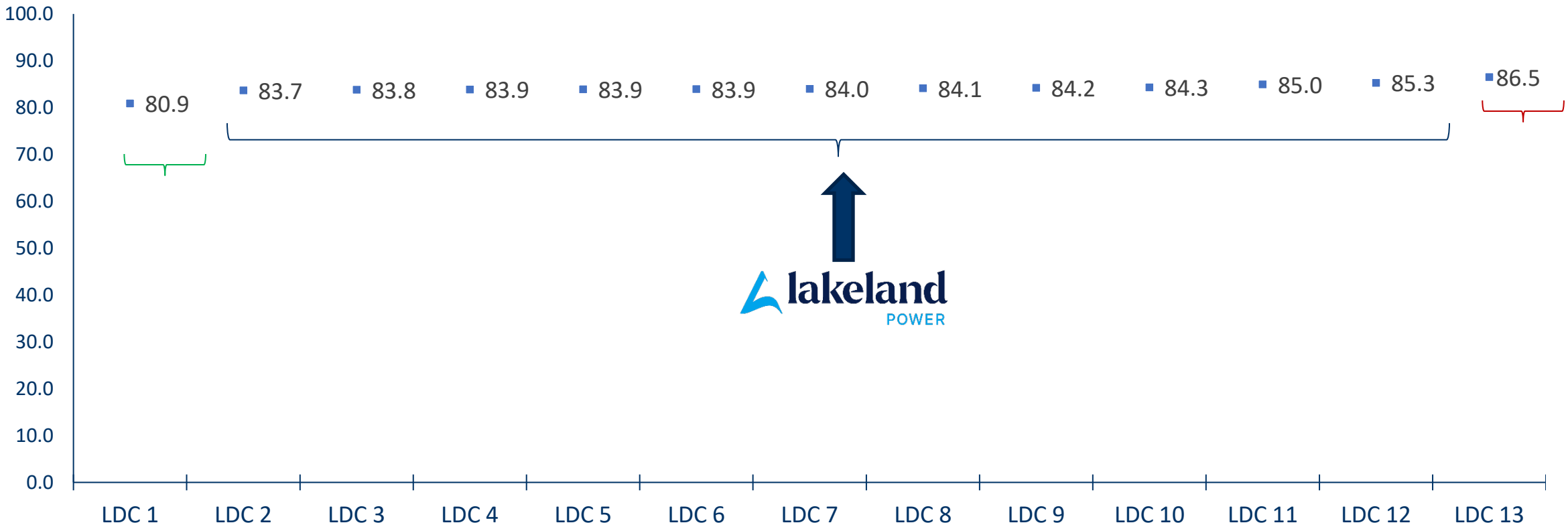
ESA Index Scores by Gender



Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power, Survey year: 2024
**Caution, small base (<=50).*

Safety Awareness Index: Compared to Other CHEC Members

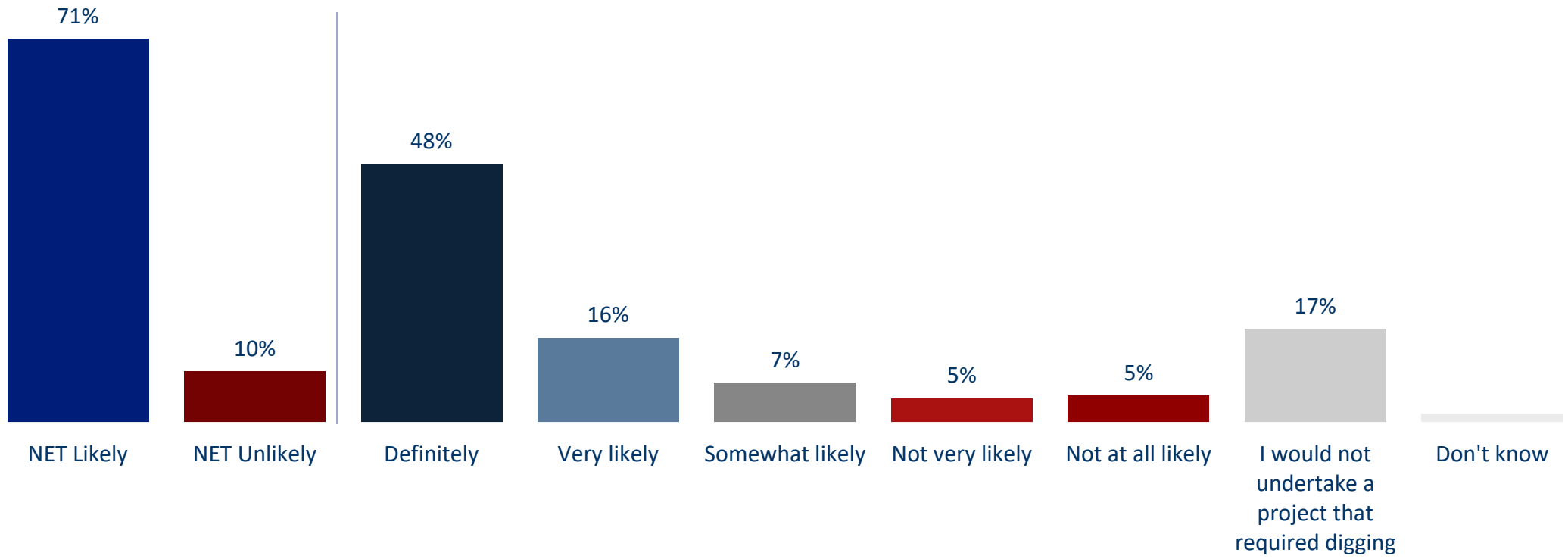
- In 2024, Lakeland's score of 84.0 is statistically the **same** as that of 10 other LDCs.
- Its score is statistically **higher** than that of 1 other LDC and **lower** than 1 other LDC.



Weight: Weighting individually by LDC based on gender and age
Filters: Survey year: 2024

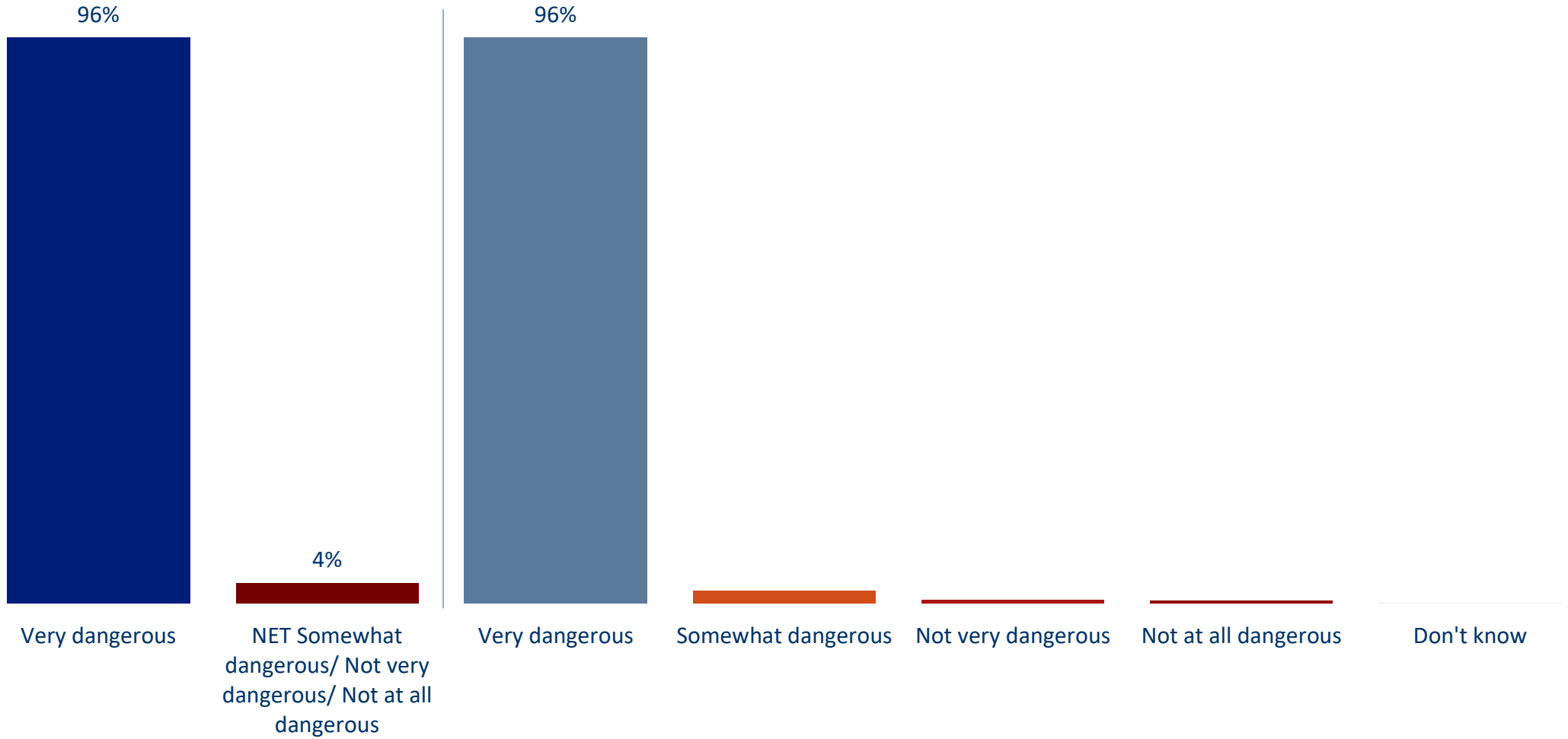
Core (OEB) Survey Questions – 2024 Results

If you were to undertake a household project that required digging – such as planting a tree or building a deck – how likely are you to call to locate electrical or other underground lines?



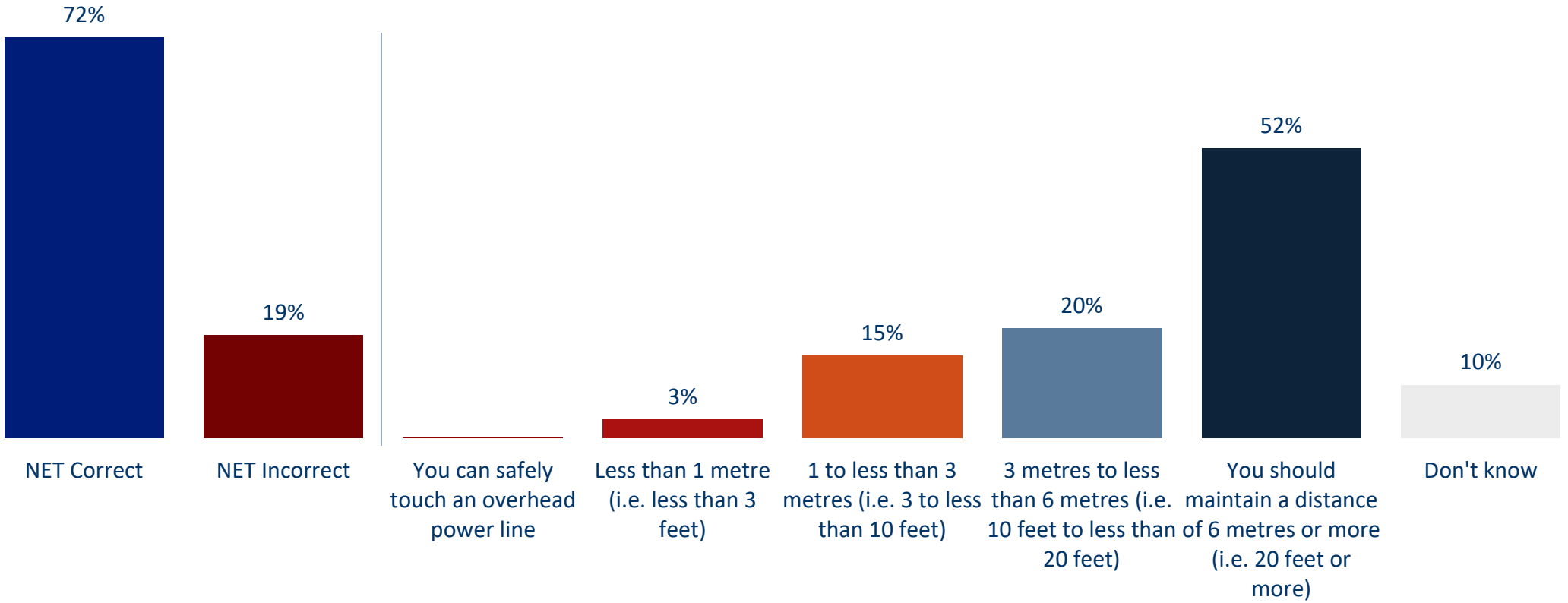
If you were to undertake a household project that required digging – such as planting a tree or building a deck – how likely are you to call to locate electrical or other underground lines?
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power, Survey year: 2024
Base Size: 400

How dangerous do you believe it is to touch - with your body or any object - an overhead power line?



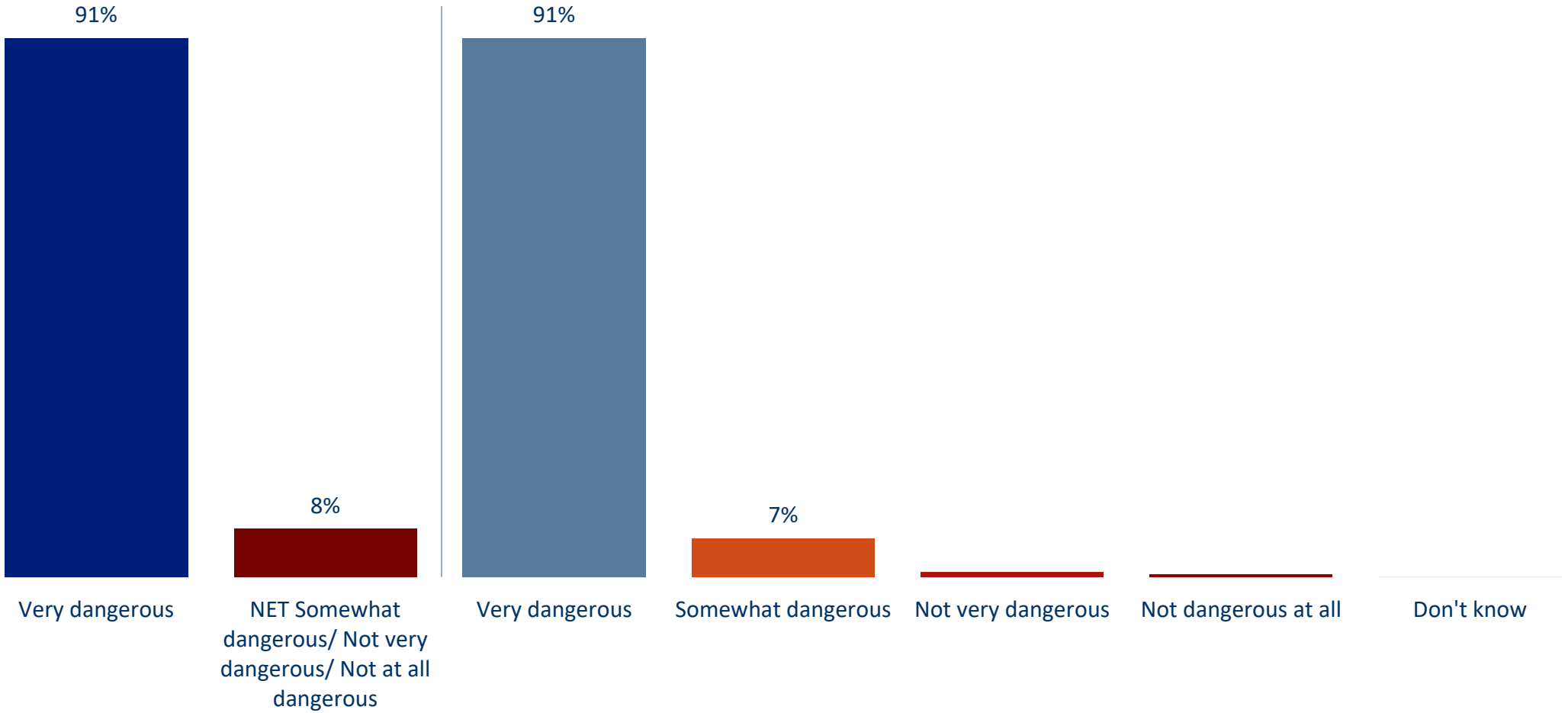
How dangerous do you believe it is to touch - with your body or any object - an overhead power line?
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power, Survey year: 2024
Base Size: 400

When undertaking outdoor activities, how closely do you believe you can safely come to an overhead power line with your body or an object?



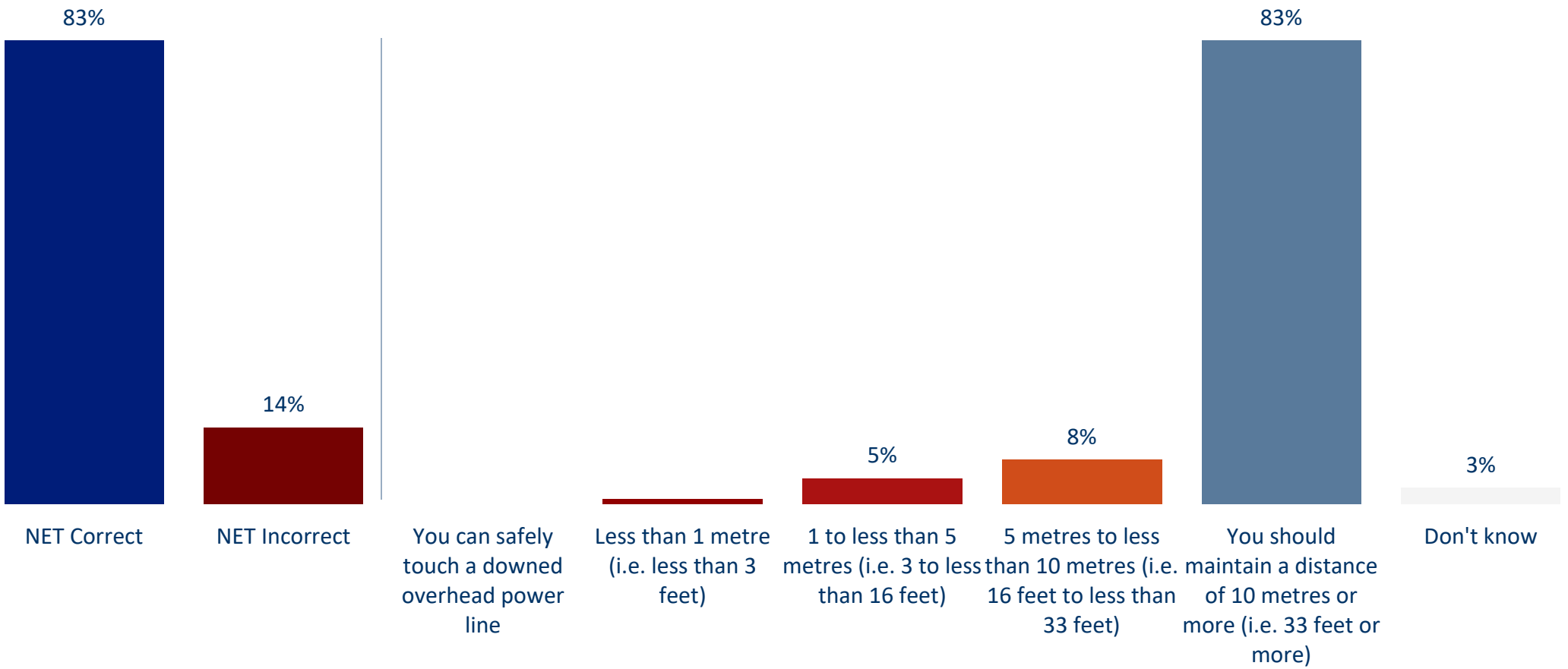
When undertaking outdoor activities, how closely do you believe you can safely come to an overhead power line with your body or an object?
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power, Survey year: 2024
Base Size: 400

How dangerous do you believe it is to try to open, remove contents, or touch the equipment inside locked electrical utility equipment?



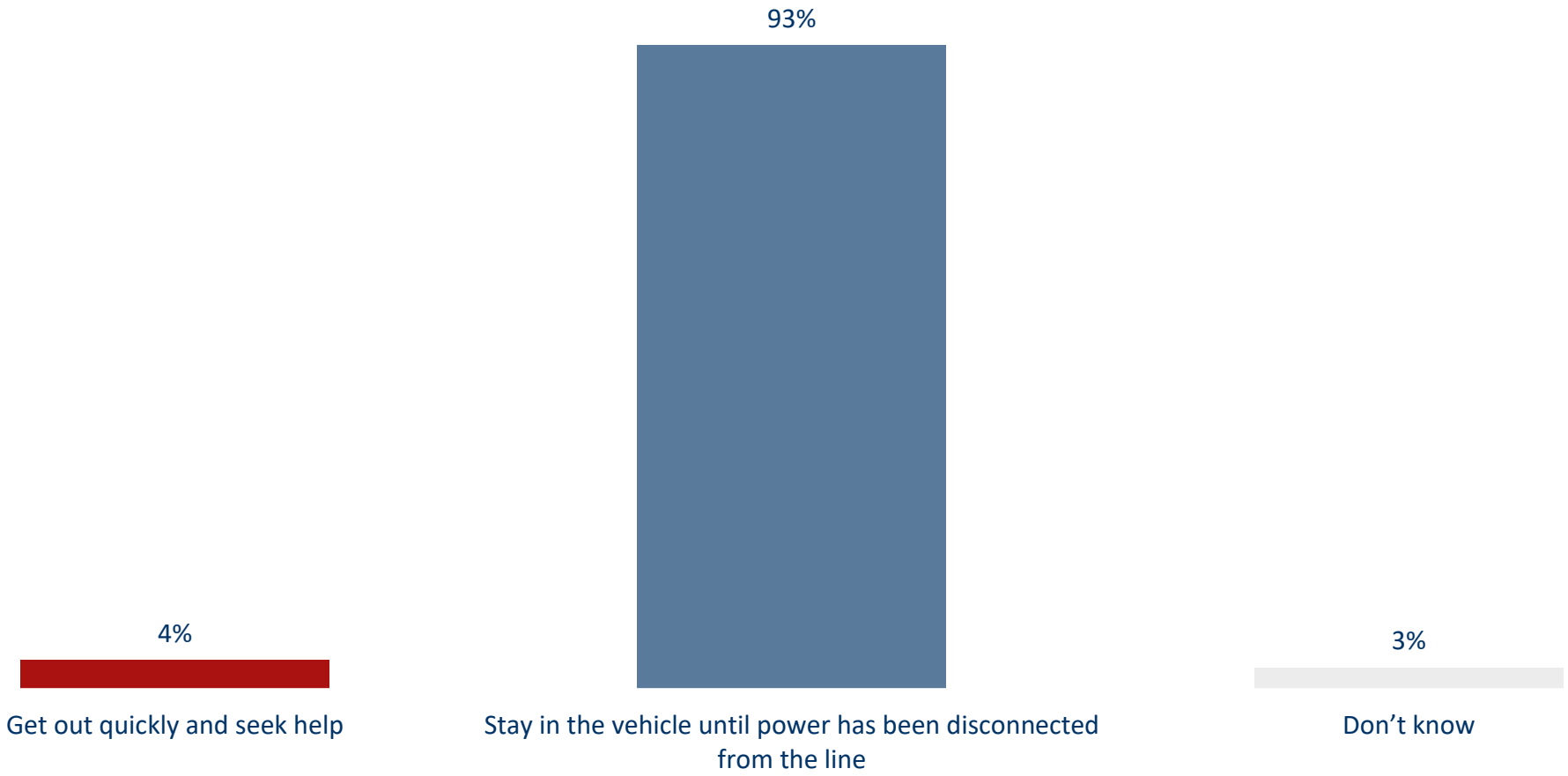
How dangerous do you believe it is to try to open, remove contents, or touch the equipment inside locked electrical utility equipment?
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power, Survey year: 2024
Base Size: 400

How closely do you believe you can safely come to a downed overhead power line, such as a downed line caused by a storm or accident?



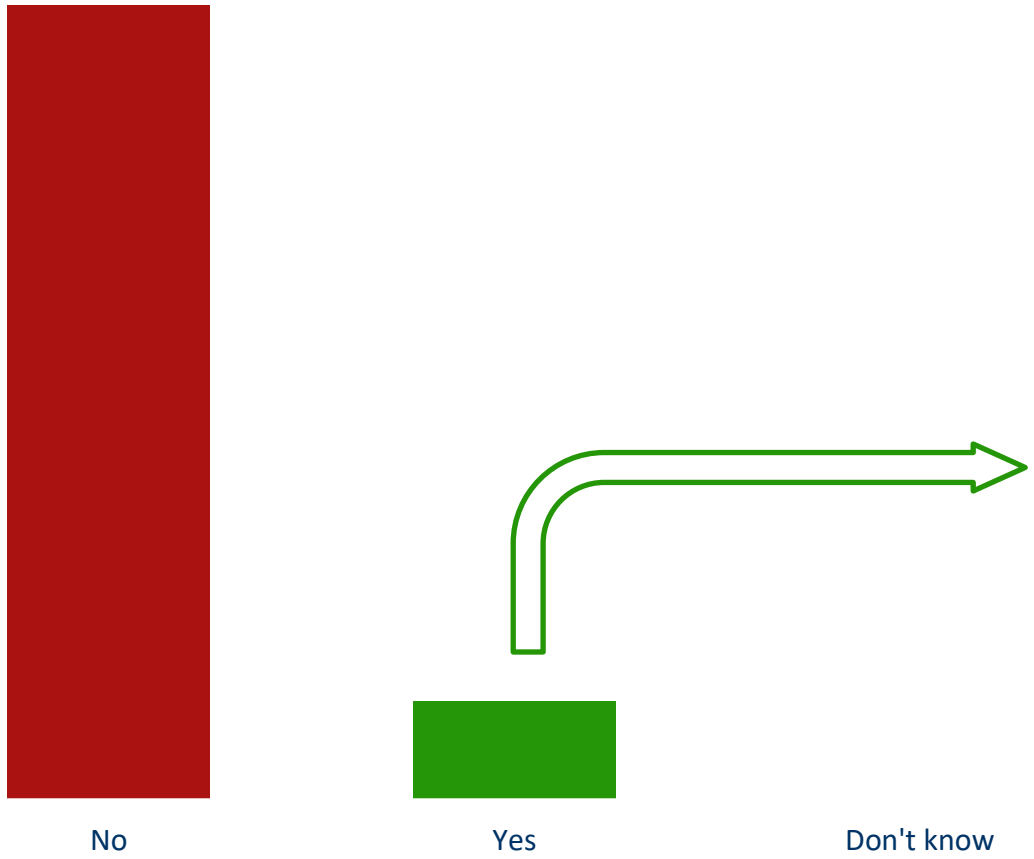
How closely do you believe you can safely come to a downed overhead power line, such as a downed line caused by a storm or accident?
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power, Survey year: 2024
Base Size: 400

If you were in a vehicle – such as a car, bus, or truck – and an overhead power line came down on top of it, which of the following options do you believe is generally safer?



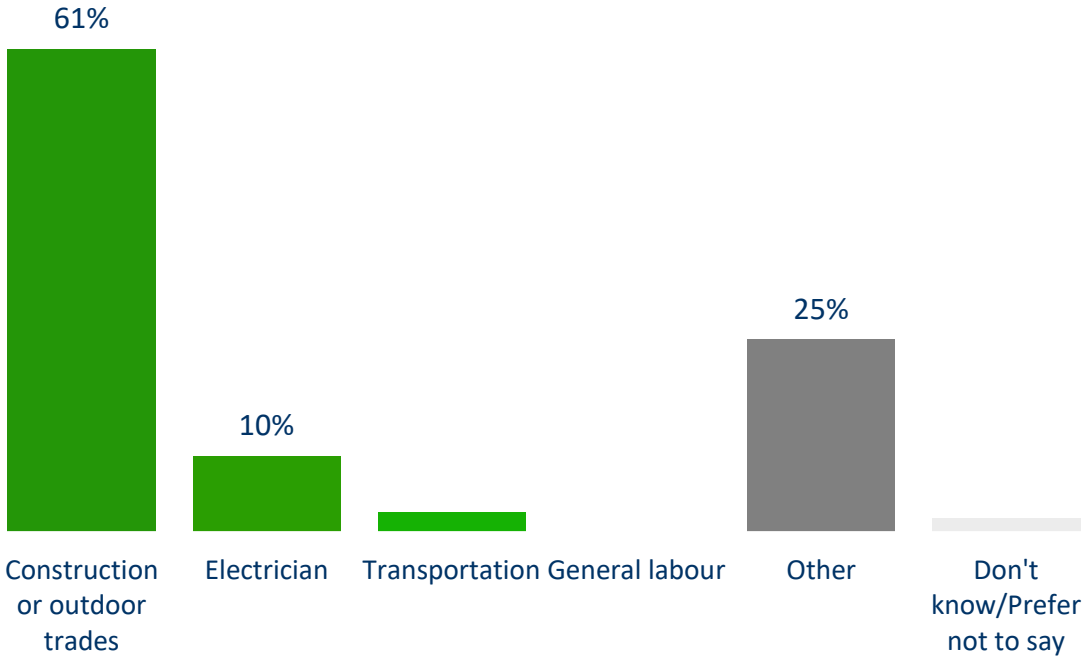
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power, Survey year: 2024
Base Size: 400

Does your job regularly cause you to come close to energized power lines?



Do you work in any of the following fields?

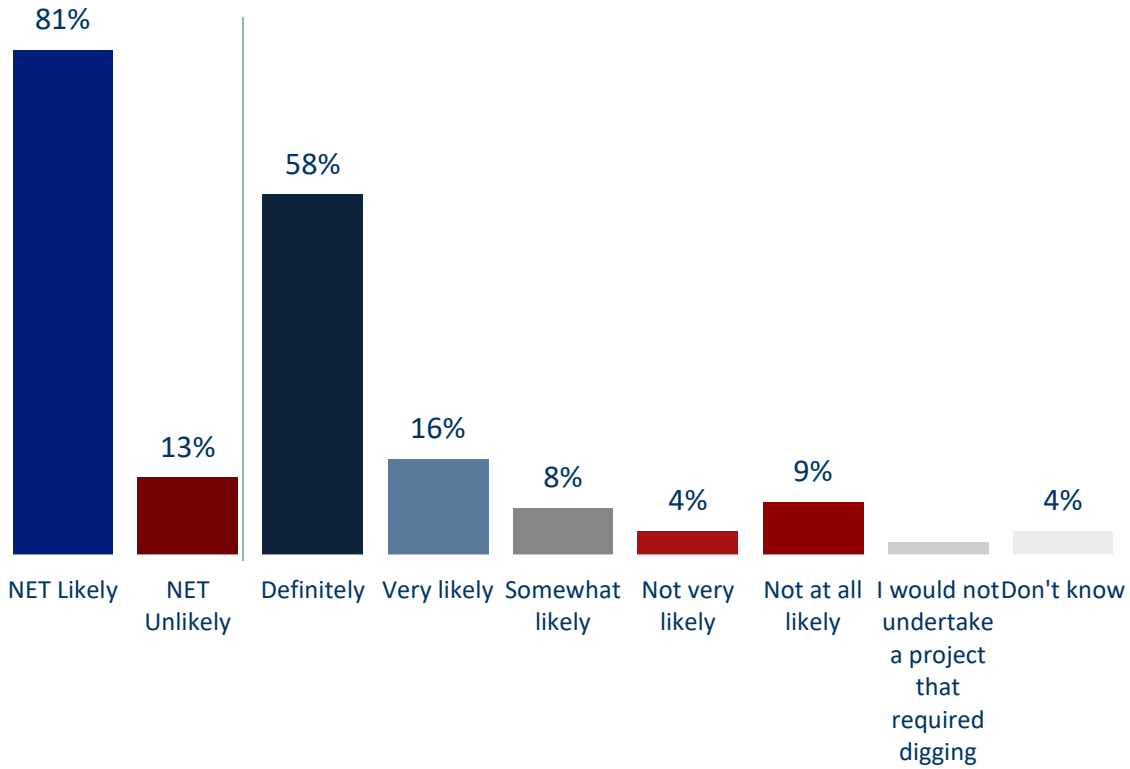
[Among those with a job featuring close contact to energized power lines]



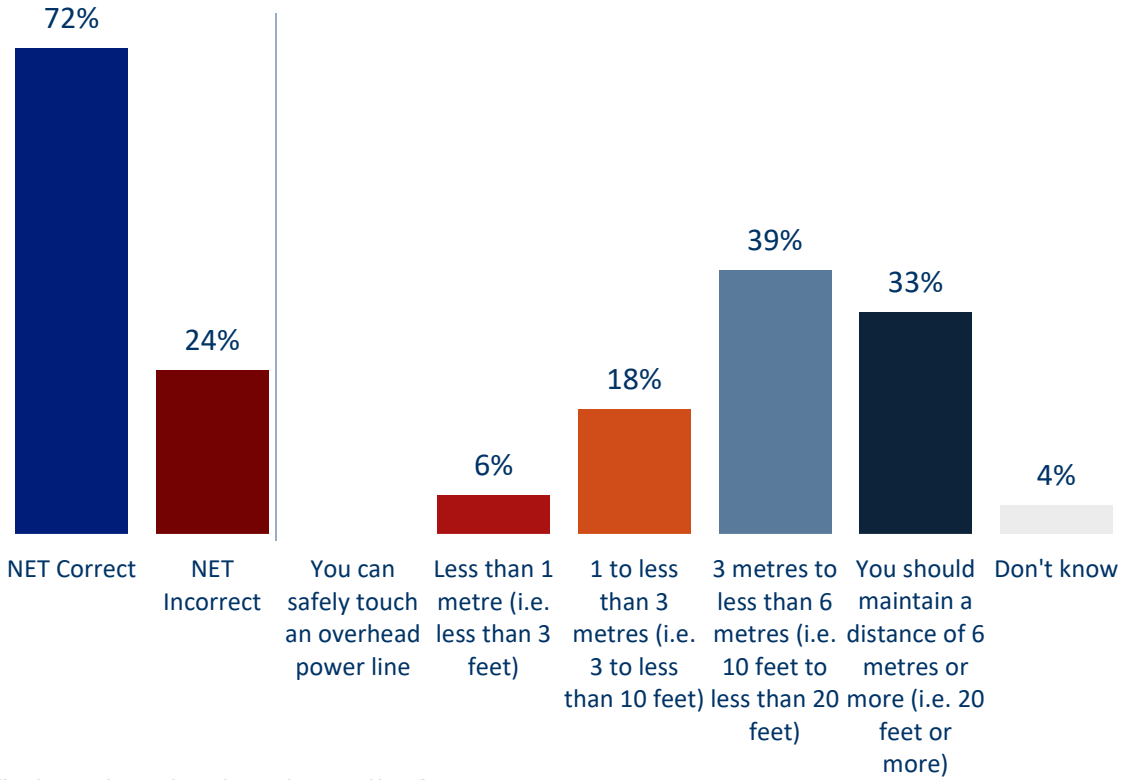
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power, Survey year: 2024
Base Size: 400

All of these charts focus on those whose job regularly causes them to come close to energized power lines (i.e., 11% of people surveyed, as shown on previous slide)

If you were to undertake a household project that required digging – such as planting a tree or building a deck – how likely are you to call to locate electrical or other underground lines?

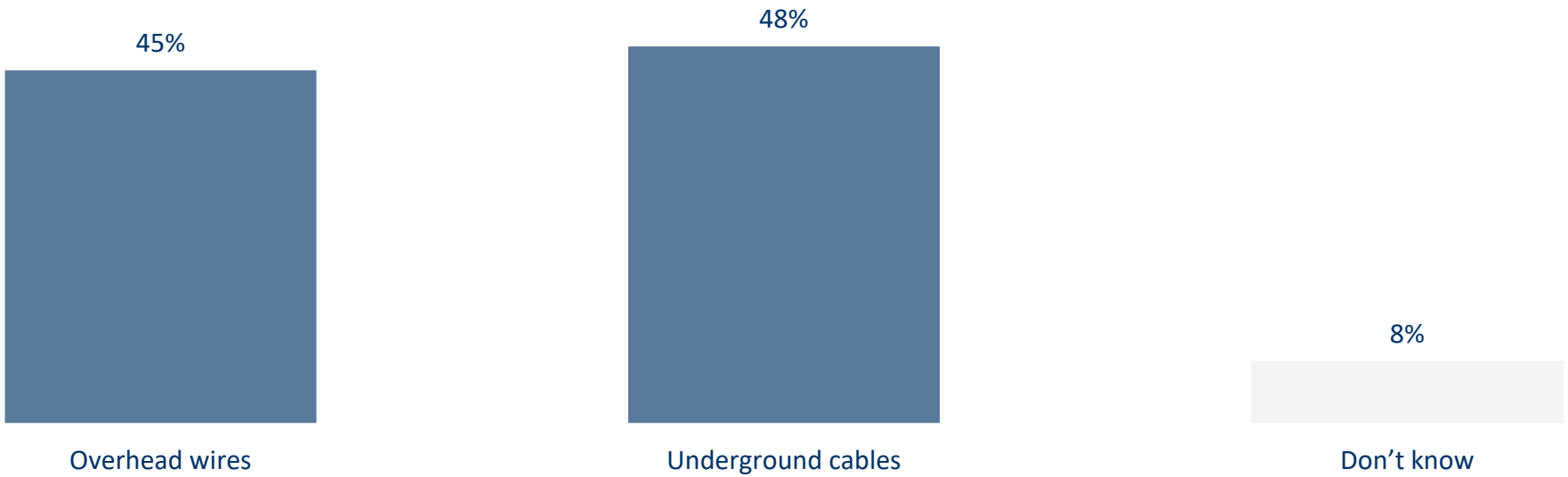


When undertaking outdoor activities, how closely do you believe you can safely come to an overhead power line with your body or an object?



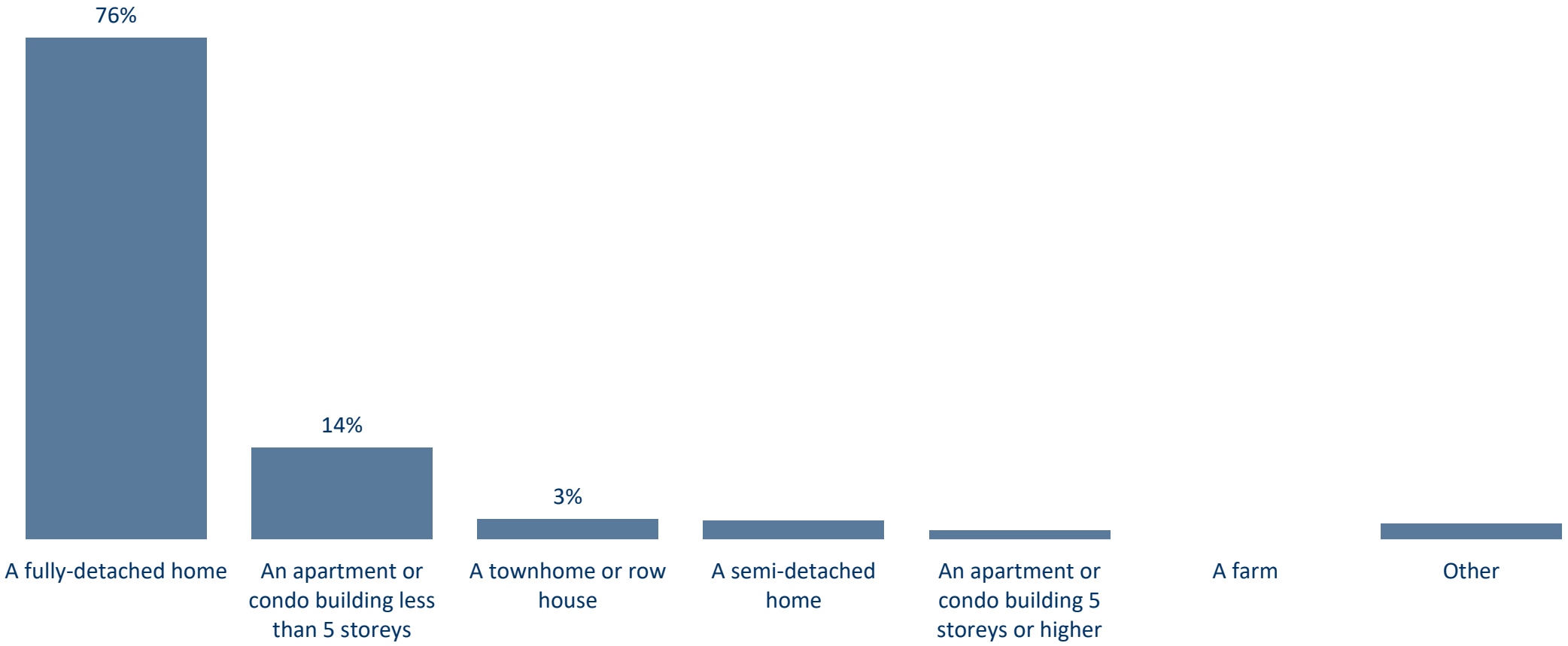
If you were to undertake a household project that required digging – such as planting a tree or building a deck – how likely are you to call to locate electrical or other underground lines?
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power, Survey year: 2024, Does your job regularly cause you to come close to energized power lines?: Yes
Base Size: 35
**Caution, small base (<=50).*

Does your primary residence receive electricity through overhead wires or underground cables?



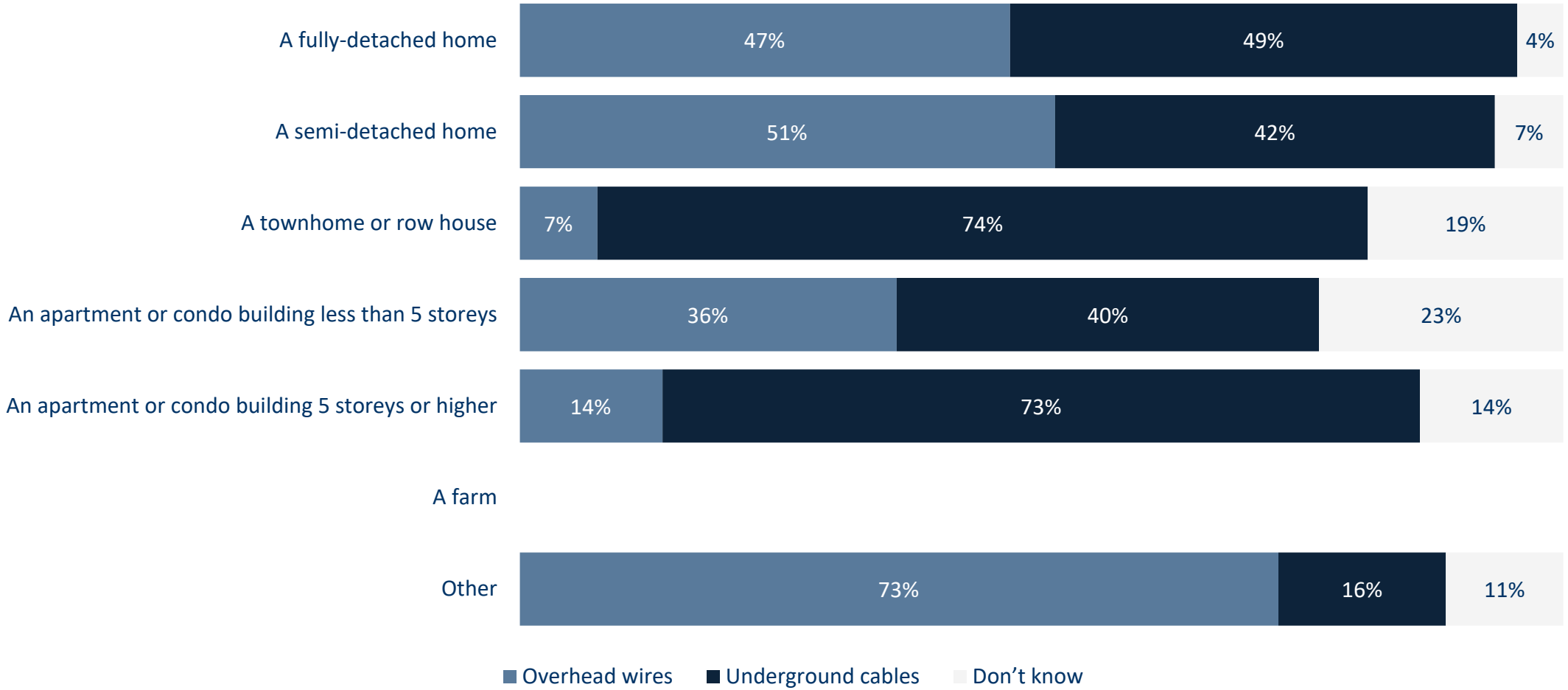
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power, Survey year: 2024
Base Size: 400

How would you describe your primary residence?



Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power, Survey year: 2024
Base Size: 400

Does your primary residence receive electricity through overhead wires or underground cables?

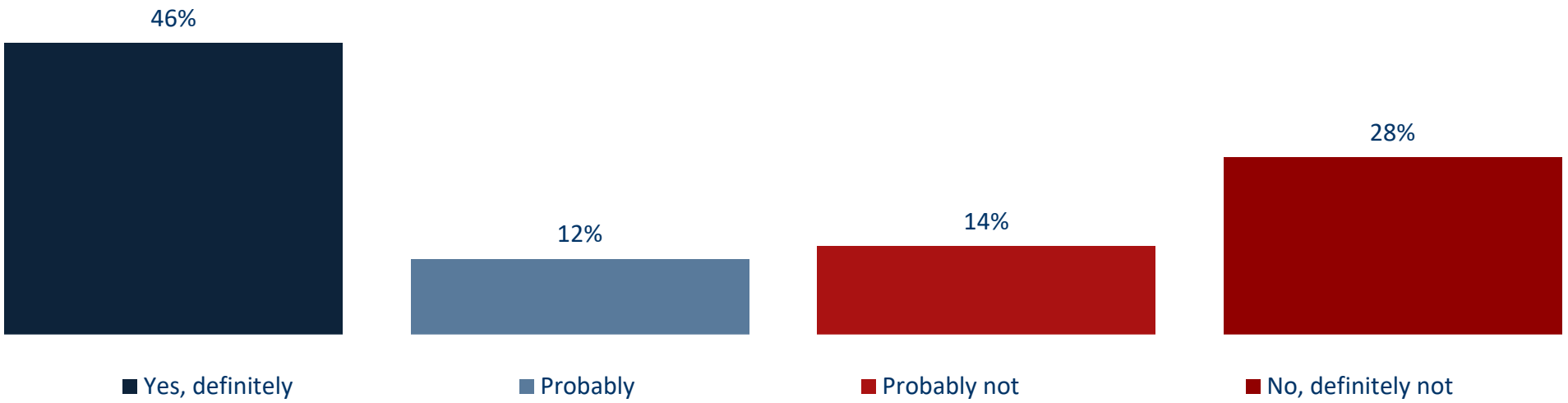


Does your primary residence receive electricity through overhead wires or underground cables?
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power, Survey year: 2024
**Caution, small base (<=50).*

Lakeland Power's Custom Survey Questions – 2024 Results

*Just by looking at the two different cables, could you tell the difference between a **communication** cable and a **high voltage electricity** cable?*

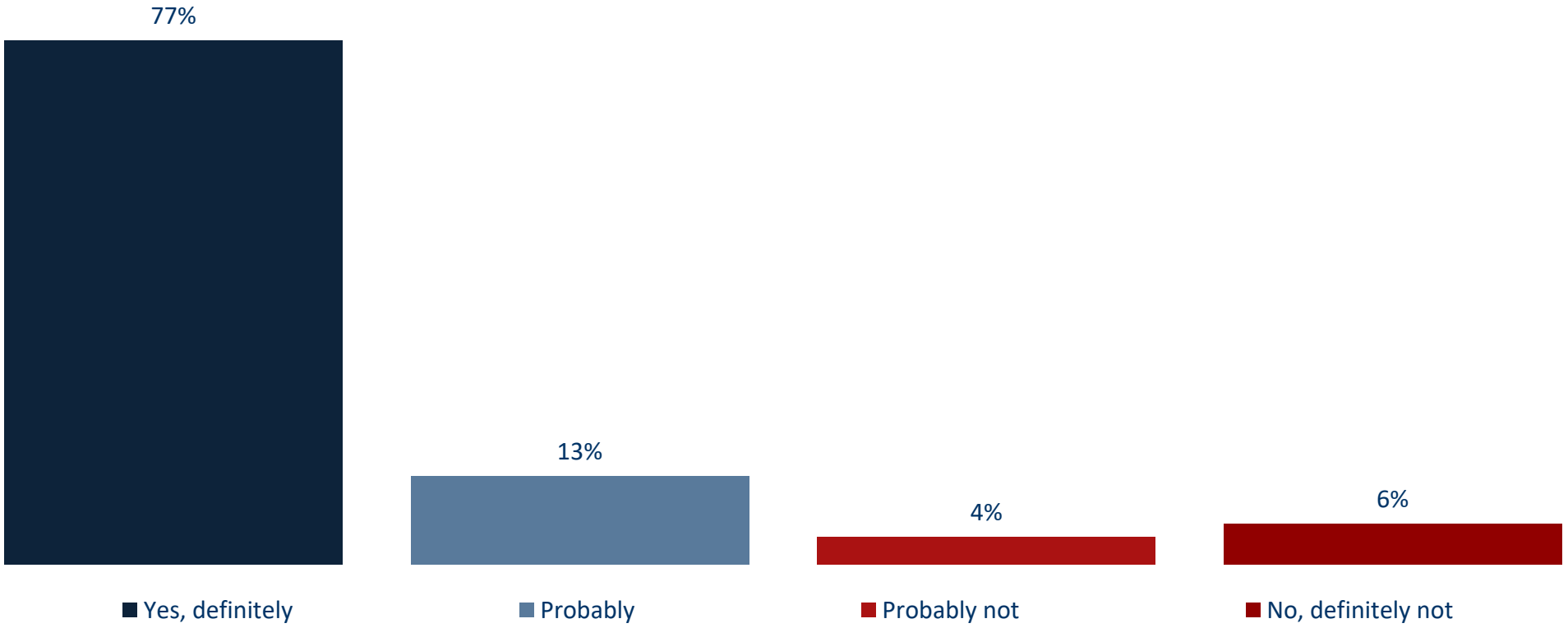
Communication cables carry telephone, internet, and cable TV signals.
Electricity cables to your house provide your lights and plugs with power.



Just by looking at the two different cables, could you tell the difference between a communication cable and a high voltage electricity cable?
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power
**Caution, small base (<=50).*

*Do you think there are potential worker hazards created when access is blocked to these **transformers** by things like trees, shrubs, and sheds?*

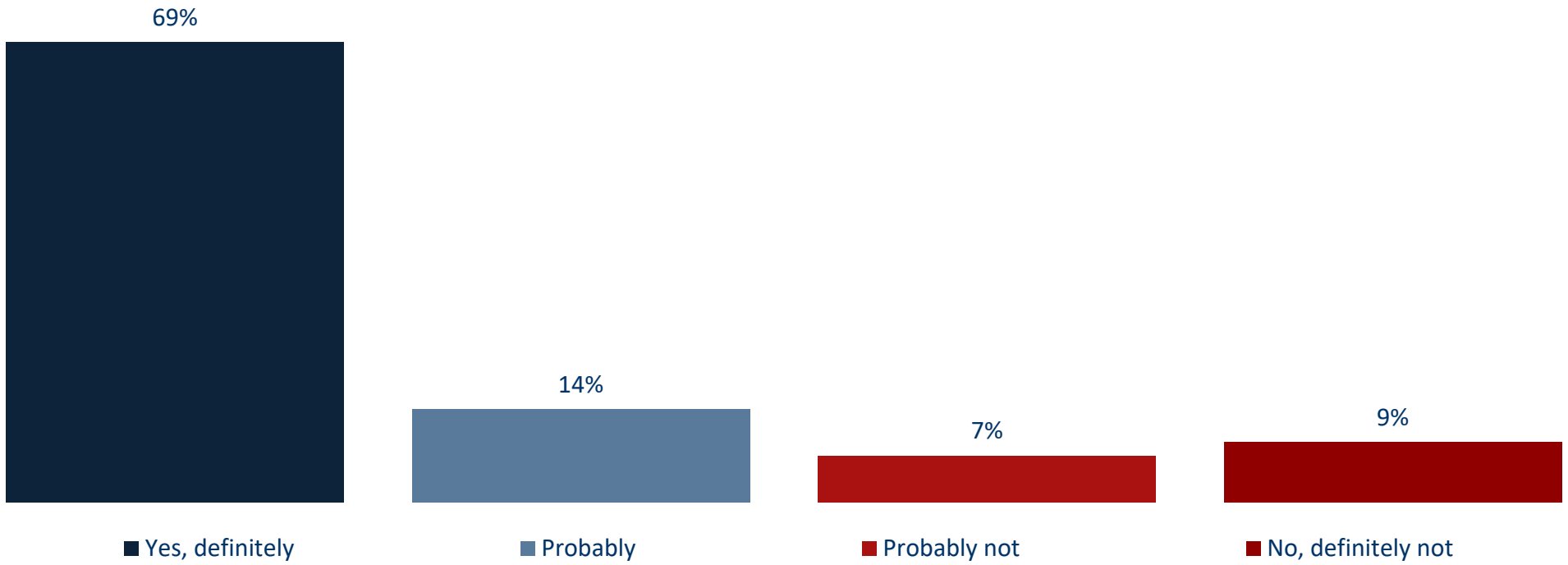
These are the big green or gray metal boxes you see on some property. Not every house or business has a transformer; one is needed for only every six or so houses or buildings.



Do you think there are potential worker hazards created when access is blocked to these transformers by things like trees, shrubs, and sheds?
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power
**Caution, small base (<=50).*

*Do you think there are potential worker hazards created when access is blocked to the **meter base** by things like trees, shrubs, and sheds?*

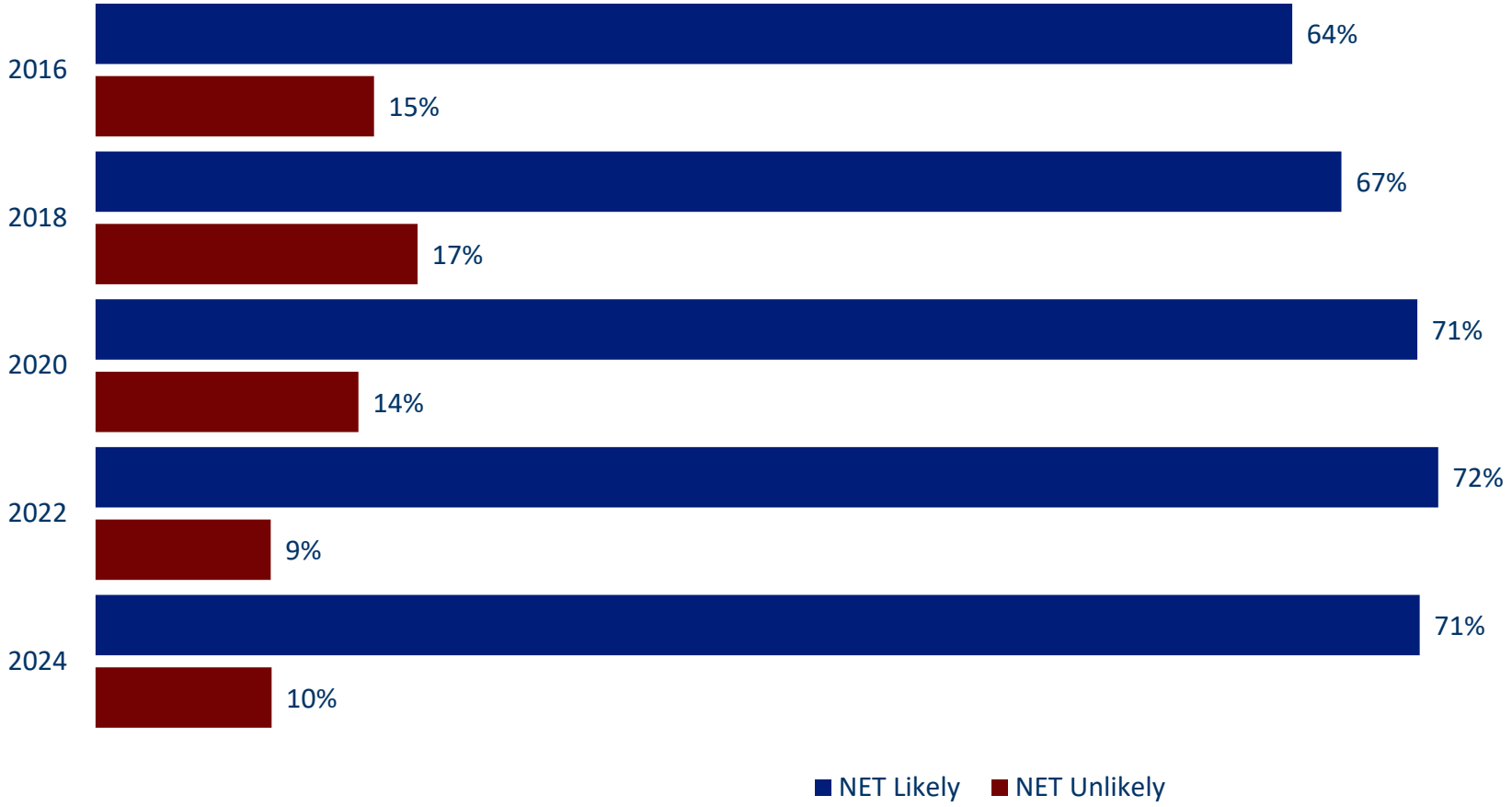
The meter base is the main point of entry to buildings for the electricity cables, and it's where the utility company measures the amount of electricity used by the customer. The meter base is usually mounted on the outside of the building and is made of metal or plastic.



Do you think there are potential worker hazards created when access is blocked to the meter base by things like trees, shrubs, and sheds?
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power
**Caution, small base (<=50).*

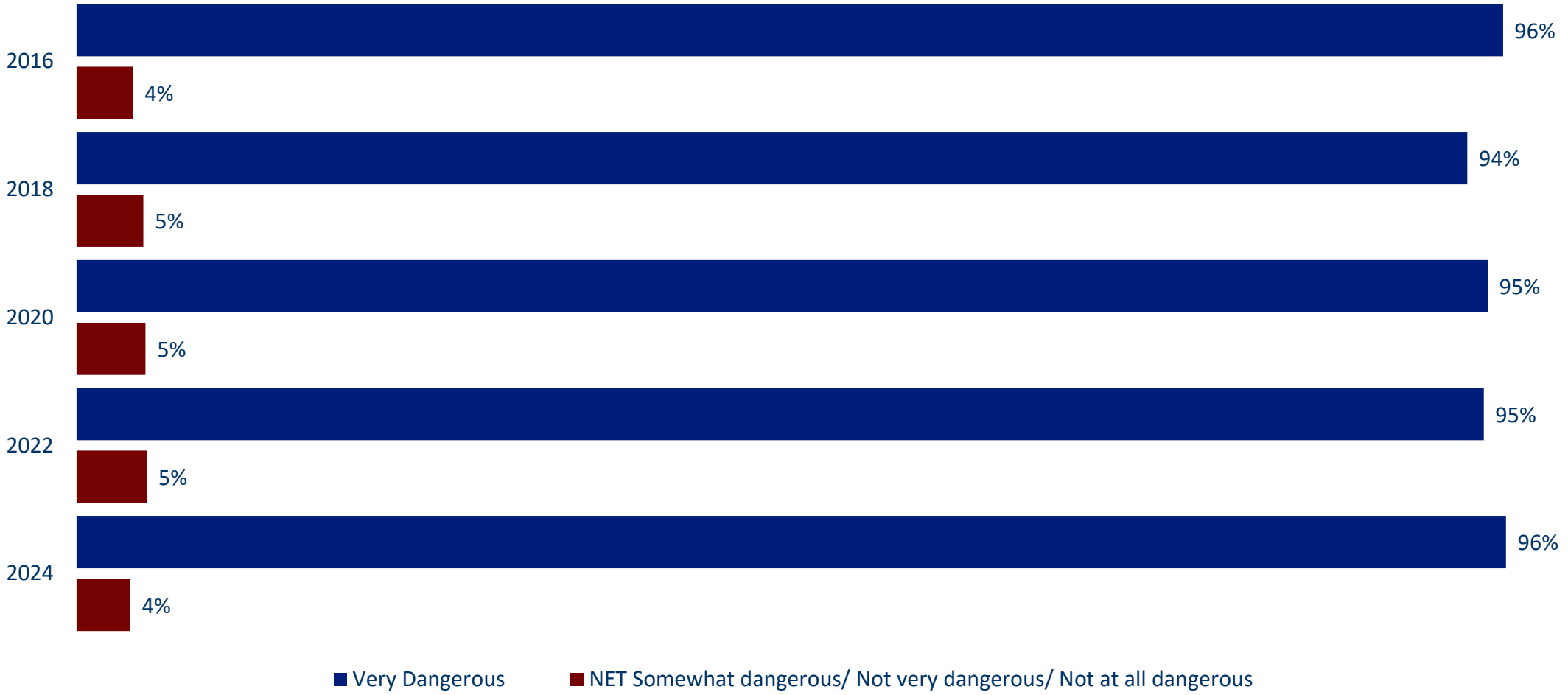
Core (OEB) Survey Questions – Trend over Time

If you were to undertake a household project that required digging – such as planting a tree or building a deck – how likely are you to call to locate electrical or other underground lines?



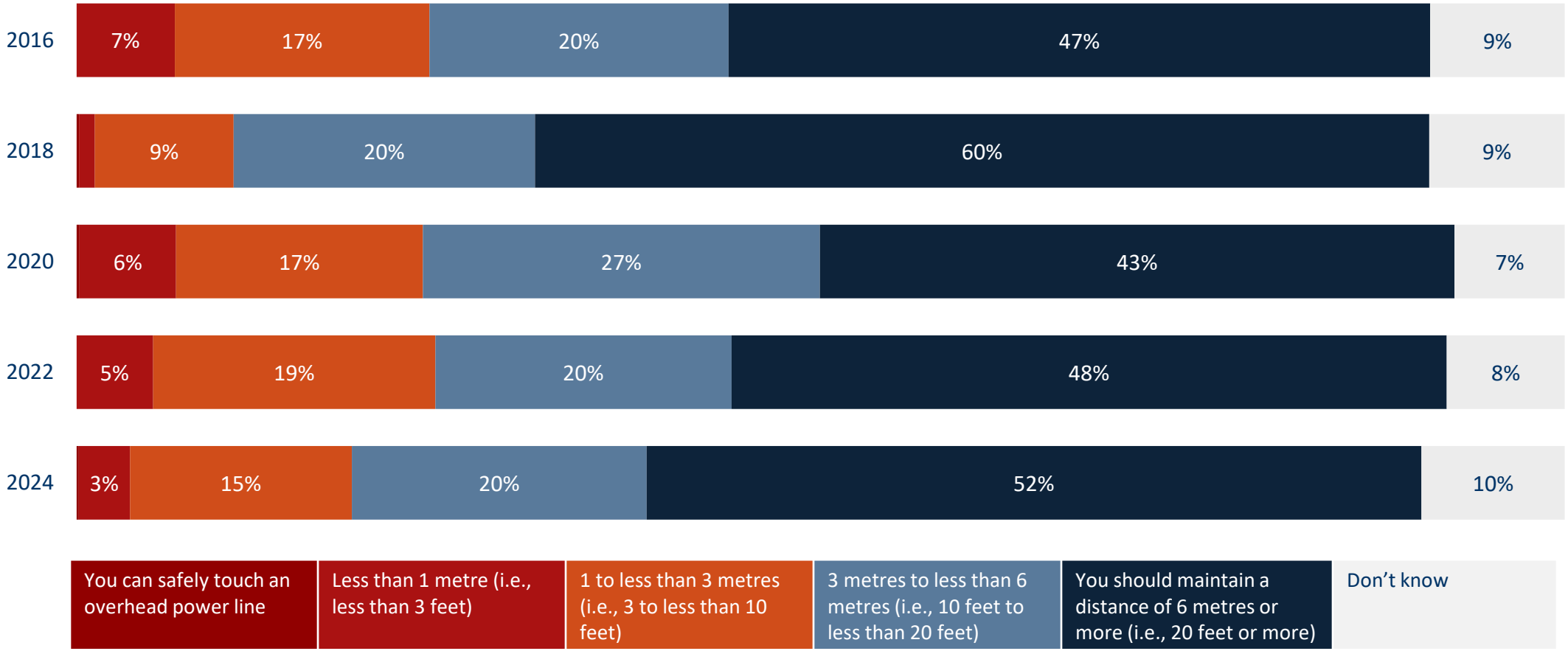
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power

How dangerous do you believe it is to touch - with your body or any object - an overhead power line?



Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power

When undertaking outdoor activities, how closely do you believe you can safely come to an overhead power line with your body or an object?

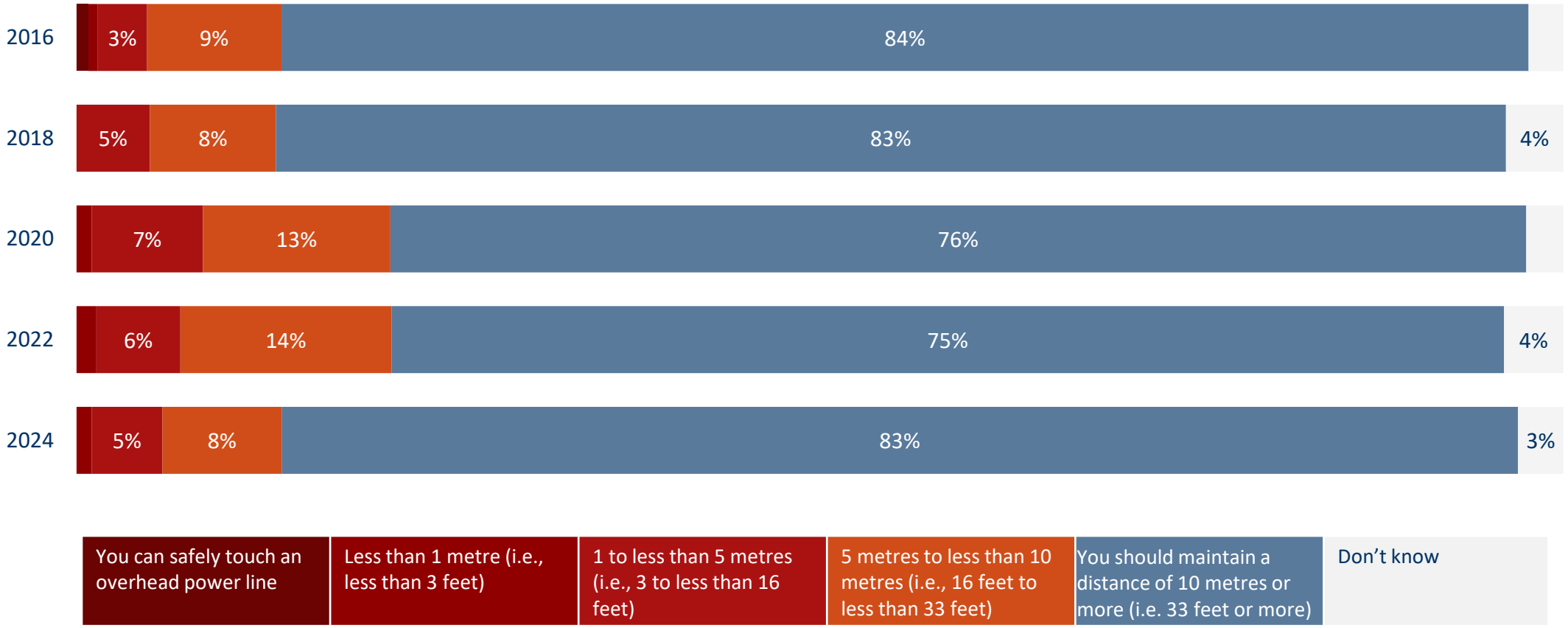


Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power

How dangerous do you believe it is to try to open, remove contents, or touch the equipment inside locked electrical utility equipment?

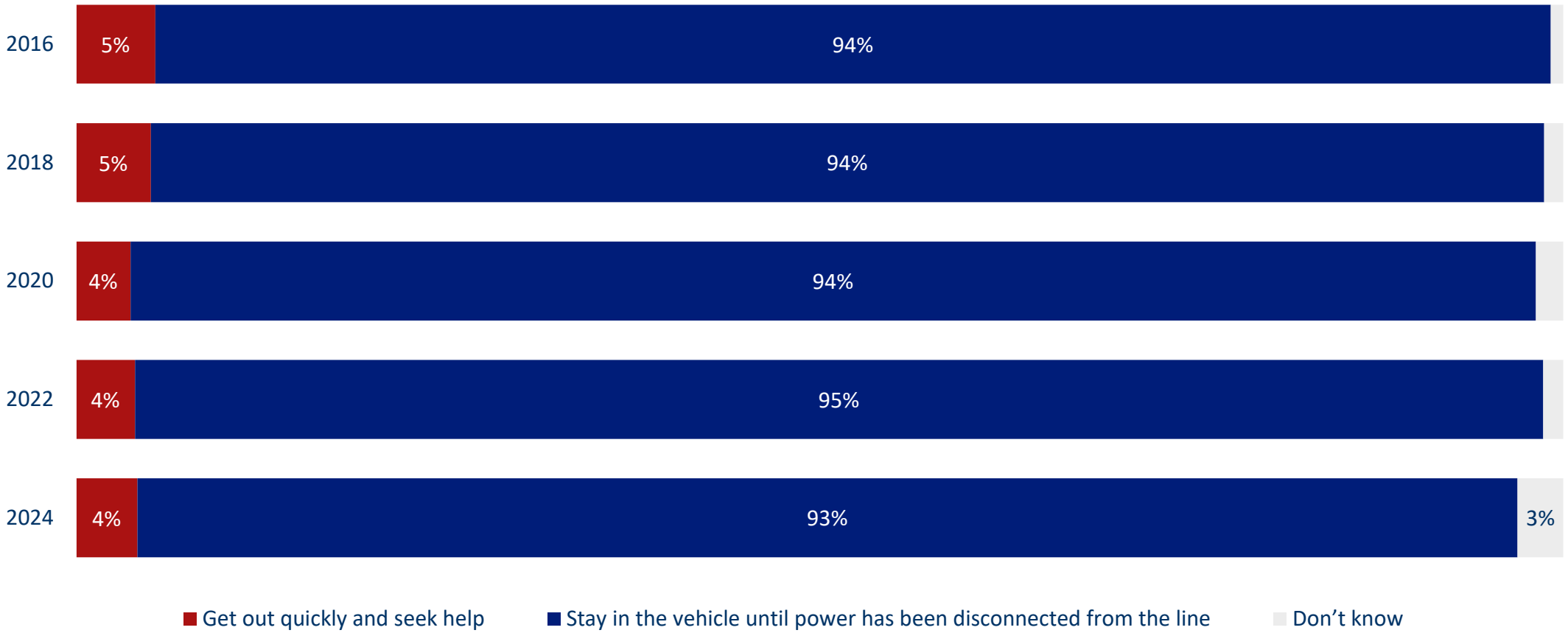
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power

How closely do you believe you can safely come to a downed overhead power line, such as a downed line caused by a storm or accident?



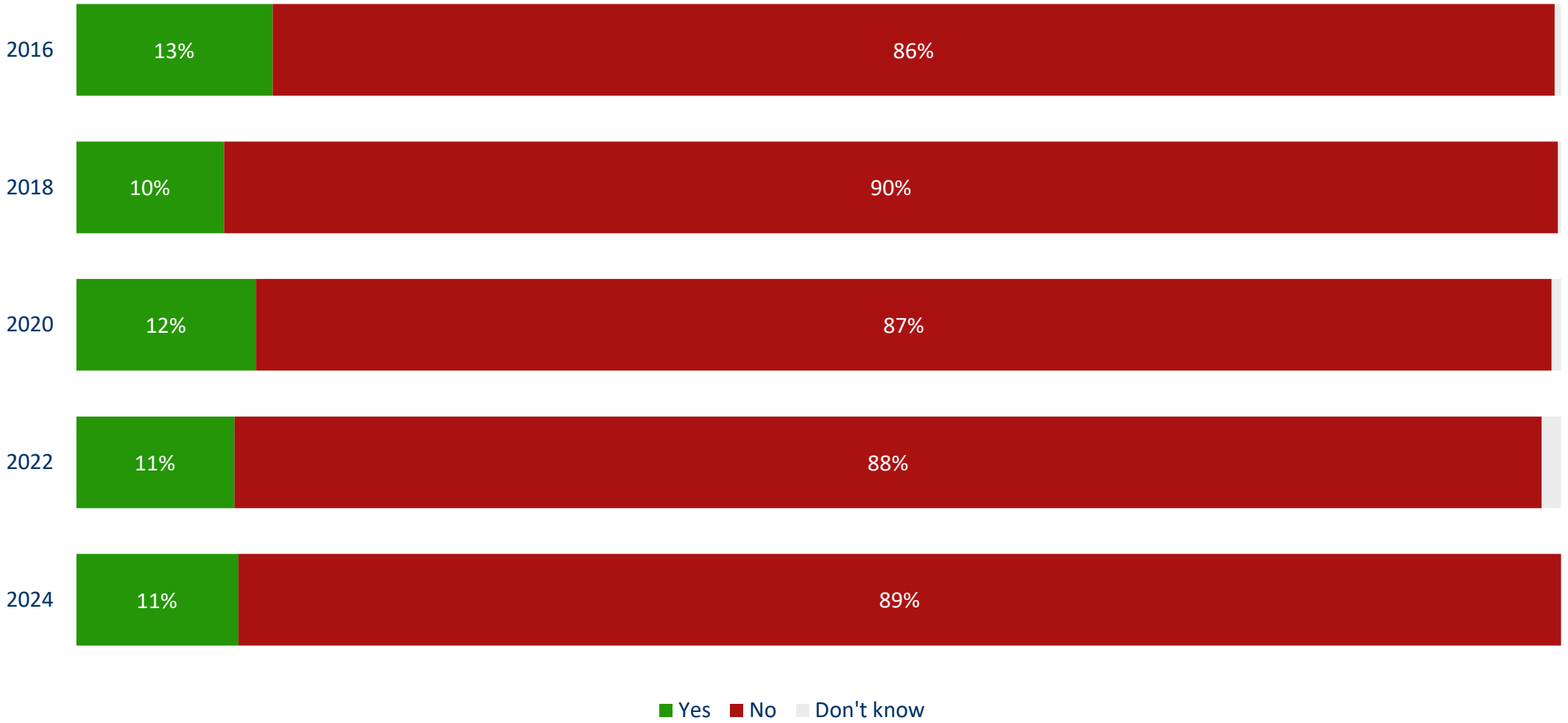
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power

If you were in a vehicle – such as a car, bus, or truck – and an overhead power line came down on top of it, which of the following options do you believe is generally safer?



Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power

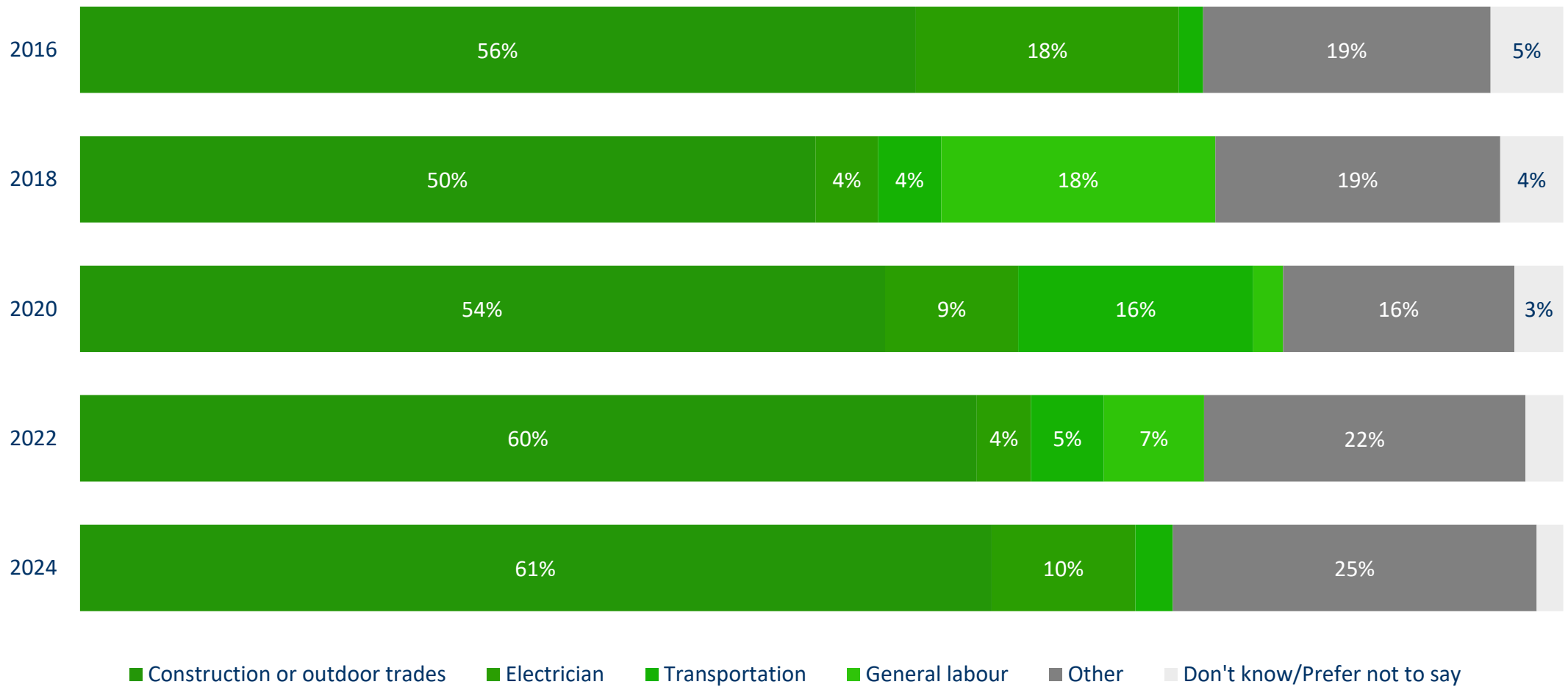
Does your job regularly cause you to come close to energized power lines?



Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power

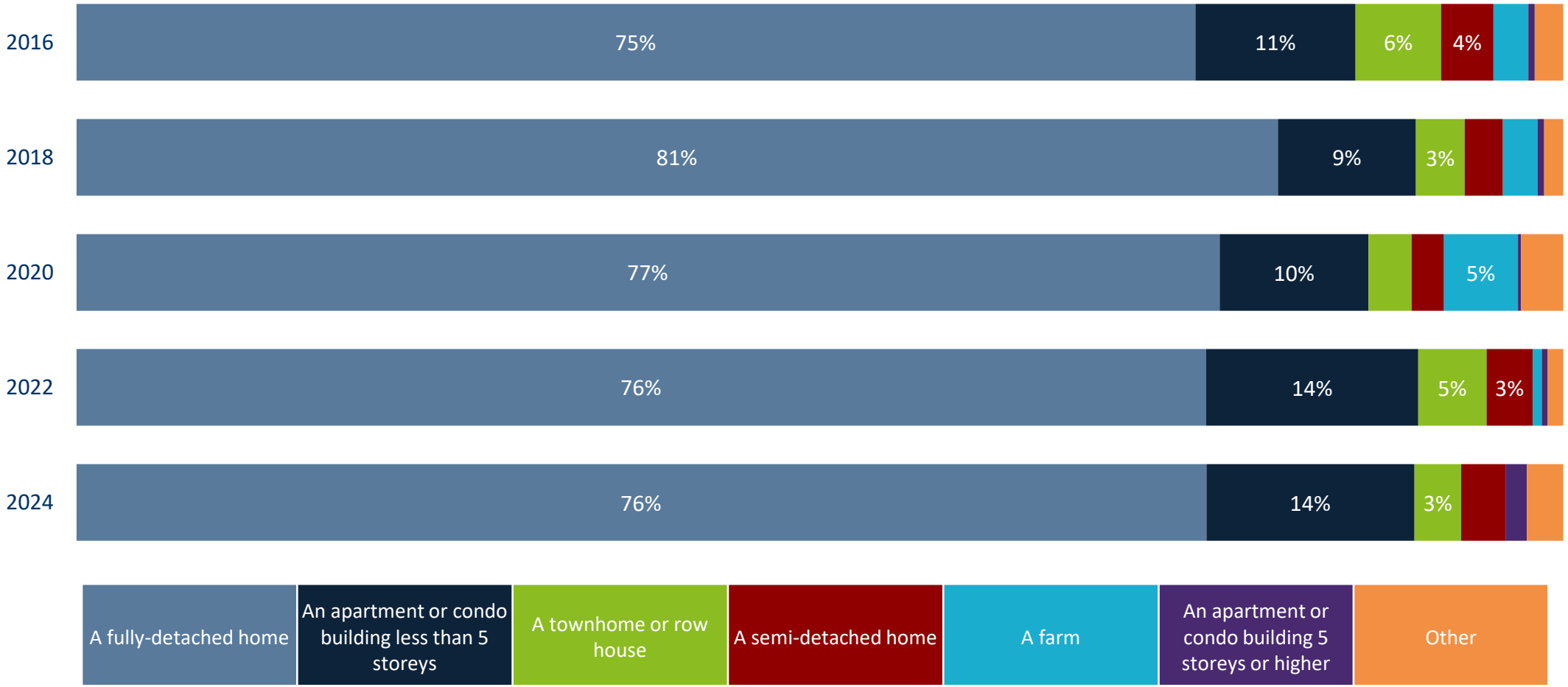
Do you work in any of the following fields?

[Among those with a job featuring close contact to energized power lines]



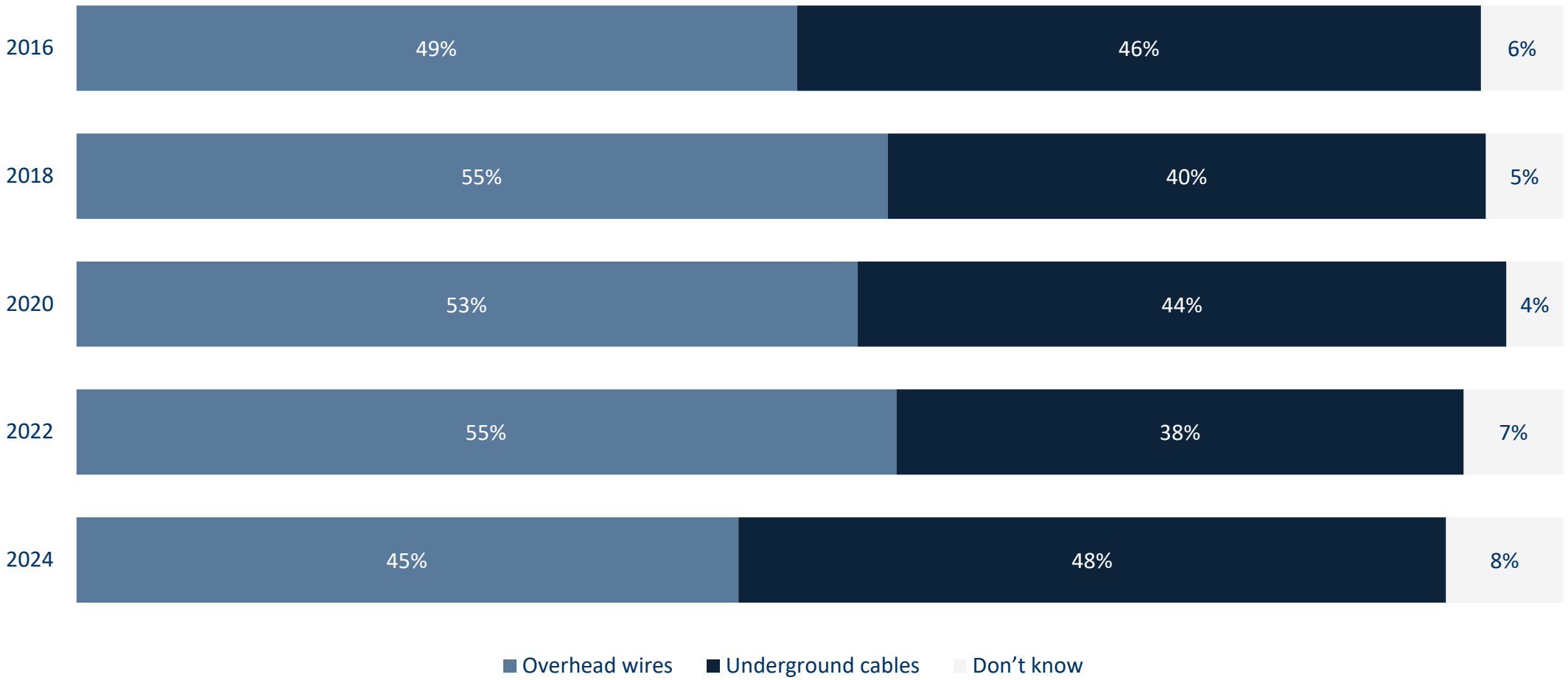
Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power
**Caution, small base (<=50).*

How would you describe your primary residence?



Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power

Does your primary residence receive electricity through overhead wires or underground cables?



Weight: Weighting individually by LDC based on gender and age
Filters: LDC: Lakeland Power

Methodology

Methodology Summary

Commissioned by	Lakeland Power
Sample size	400 randomly selected customers
Margin of error	±4.9 percentage points, 19 times out of 20
Survey mode	Random telephone survey of customer base, CATI data collection
Survey sample	Residential customer list provided by Lakeland Power
Time of calling	5PM-8PM Weekdays, 10AM-5PM Saturdays, plus callbacks scheduled per respondent
In-field dates	January 8-February 20, 2024
Language	English only
Survey author	Innovative Research/Ontario Energy Board
Question Order	Core (OEB) questions then LDC-specific questions
Question Wording	Questions shown in report largely as asked; exact questionnaire available upon request
Survey Company	Advanis Gary.Offenberger@advanis.net

Methodology Details (1/3)

Target Respondents

The respondents of the survey were Ontario residents who reside within LDC's service territory(ies). Target areas were determined based on a list of postal codes provided by LDC. Service territories were determined based on customer lists provided by the LDC.

Sampling Methodology

This survey is comprised of randomly selected interviews with Ontario residents who are 18 years or older and reside in the required service territory.
The sample frame is stratified by age group and gender within each the territory, and the data is weighted to be representative of the adult population within the territory.

To minimize low response:

- Sample was loaded in batches to ensure the sample was fully utilized before moving onto fresh sample records;
- Calls were made between the hours of 5pm and 8pm ET; and
- Call backs were scheduled and honored between the hours of 9am and 8pm ET.

Sample Size and Statistical Reliability

Sample sizes were set according to the *Component A Public Awareness of Electrical Safety Measure for Licensed Electricity Distributors*, prepared by the Ontario Energy Board (OEB) on November 25, 2015:

A minimum sample size of n=400.
Distributors with 3000 to 4999 customers, n=300.
Distributors with <3000 customers, n=200.

Since each LDC has a finite population, we used the specific population sizes (i.e., the number of sample records received from each LDC) in the calculation of margin of error. Doing so is more accurate, and results in a narrower margin of error than if we simply assumed large (infinite) population for each.

Methodology Details (2/3)

Questionnaire

The survey instrument was provided by the Ontario Energy Board (OEB) developed in conjunction with Innovative Research. The survey consisted of an introduction, electrical safety, and demographic questions. Electrical safety questions include likelihood to "call before you dig", impact of touching a power line, proximity to overhead power line, danger of tampering with electrical equipment, proximity to downed power line, and actions taken in vehicle in contact with wires. Additional questions were provided individually by some LDCs. These questions are not required as part of the survey and, as outlined in the methodology guideline, were asked after all the standard and required questions.

Quality Control

- Advanis trained its interviewers to understand the study's objectives;
- Detailed call records are kept by the automated CATI system, and are supplemented by output files to SPSS for productivity analysis (i.e., not subject to human error);
- The survey was soft launched in LDCs that had the most available sample, and the data was then checked before calling began in full for each;
- 100% of all surveys are digitally recorded for potential review (see next bullet);
- Advanis' Quality Assurance team listened to the actual recordings of five-ten percent of completed surveys and compared the responses to those entered by the interviewer to ensure that responses from respondents are properly recorded;
- Team Supervisors conduct regular more formal evaluations with each interviewer, in addition to nightly monitoring of each interviewer on their team;
- Project Managers closely monitored the progress of data collection, including call record dispositions;
- All data code is reviewed by a more senior researcher;
- All report output is reviewed by a more senior researcher; and
- All values in the report are reviewed by another team member to ensure accuracy.

Methodology Details (3/3)

Analysis of Findings & Data Weighting

Results were weighted to match the proportion of the general population residing in LDC's service territory based on StatsCan's 2021 census data.

The Public Awareness of Electrical Safety Index Scores have been highlighted and were calculated as described below, based on instructions in the Scorecard Methodology and Implementation Guide. The "response values" referenced in the description below were also determined and provided by the survey authors.

Data analysis and cross-tabulation have been conducted using Advanis' proprietary Online Reporting Environment software.

Specific values of the number of sample records, estimated population proportions, and final weighted sample counts within LDC are provided on the next slide.

The sum of the regional population proportions within an LDC may not equal 100% due to rounding.

All section points bound between 0 and 1

Likelihood to *"call before you dig"*	0 to 1pts
Impact of touching a power line	0 to 1pts
Proximity to overhead power line	0 to 1pts
Danger of tampering with electrical equipment	0 to 1pts
Proximity to downed power line	0 to 1pts
Actions taken in vehicle in contact with wires	0 to 1pts

Step 1

Add all section values for individual survey respondents = **Individual Respondent's Cumulative Score**

Step 2

Divide **Individual Respondent's Cumulative Score** / 6 "core" sections = **Respondent Standardized Score**

Step 3

Summation of all **Respondent Standardized Scores** / n-size = **Raw Index Score**

Step 4

Raw Index Score x 100 = **Public Safety Awareness Index Score** (Bound between 0-100%)

www.advanis.net

hussam.bakhsh@advanis.net
Project analyst
780.229.1148

gary.offenberger@advanis.net
Lead Project Consultant
780.229.1140

2022 Lakeland Power Electrical Safety Awareness Survey Final Report

Introduction and Summary

Thank you for selecting Redhead Media Solutions for this important project for Lakeland Power. We appreciate your confidence in us to provide you with data on Electrical Safety Awareness (ESA) in your region which provides both a current snapshot and can be used to compare with previous surveys and among other LDCs in Ontario that we work with.

It is always our goal to improving our deliverables and provide value to our clients. This report contains data for 2022 as well as historical data for 2016, 2018 and 2020 as well as comparative data where appropriate.

Should there be any specific data or breakouts that you require we would be happy to provide them. Please contact us to discuss how we can assist you and ensure you are getting the most from this project.

Sincerely,

Graydon Smith
President
Redhead Media Solutions Inc.

LakelandPower

REDHEAD MEDIA SOLUTIONS INC

Introduction and Summary

Redhead Media Solutions Inc. (Redhead), partnering with ADVANIS for data collection and reporting, has been retained by Cornerstone Hydro Electric Concepts Inc. (CHEC) to conduct a 2022 Electrical Safety Awareness Survey for Lakeland Power. This survey is a required part of an LDC's Balanced Scorecard and other reporting and regulatory requirements for the Ontario Energy Board (OEB).

The complete group of participating CHEC LDCs are as follows:

- Centre Wellington Hydro
- EPCOR
- ERTH Power
- Grimsby Power
- Lakefront Utilities
- Lakeland Power Distribution
- Niagara-on-the-Lake Hydro
- Orangeville Hydro
- Ottawa River Power
- Renfrew Hydro
- Rideau St. Lawrence Distribution
- Tillsonburg Hydro
- Wasaga Distribution
- Wellington North Power

Introduction and Summary

This final report contains data specifically for Lakeland Power.

Redhead Media Solutions, partnering with Advanis for data collection, is consulting on behalf of Lakeland Power to conduct the Electrical Safety Authority's Public Awareness survey for 2022. This survey is a required part of the LDC Balanced Scorecard for reporting to the Ontario Energy Board (OEB).

This survey is comprised of 401 randomly selected interviews with Ontario residents who are 18 years or older and reside in the required Lakeland Power service territory. The sample frame is stratified by age group and gender within each the territory, and the data is weighted to be representative of the adult population within the territory.

The objective of the survey is to provide an Electrical Safety Awareness (ESA) index score for Lakeland Power. This is a calculated aggregate value based on the responses of individuals to six core measures in the survey instrument.

Lakeland Power's 2022 Electrical Safety Awareness Score is 82.6%, This is a 0.2% increase over the 2020 score (82.4%) and 1.2% less than the average of all LDCs (83.8%). This is not a statistically significant difference from previous surveys or other LDCs.

This falls within a very tight spectrum of index scores we processed for all LDCs that participated in the 2022 survey via Redhead. When the confidence interval and margin of error is applied to all index scores, there is significant overlap between LDCs which underlines the similarity of electrical safety awareness among participants.

The following report contains data and for all core questions as well as any additional questions supplied by the LDC (optional), asked after the core questions.

Question scoring and index methodologies were prescribed by the ESA/Innovative. As such, there has been limited additional analysis provided beyond the direction provided to meet the reporting guidelines. Should you wish further analysis of the data please contact our office to discuss.

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DEMOGRAPHICS

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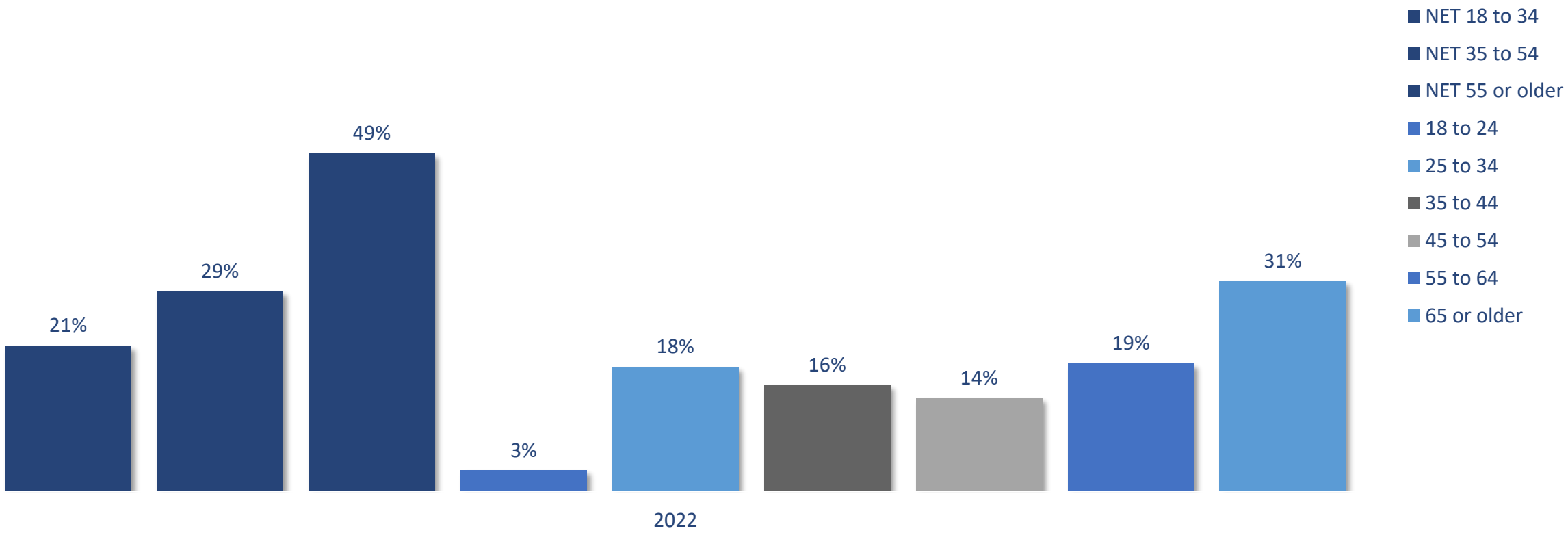
age_r - Age of respondent (based on A2, A2a)



Source: Redhead Media Solutions/Advanis telephone survey of 18-year-old + individuals residing in the service territory, January 4-February 24, 2022, n=401, accurate 4.9 percentage points plus or minus, 19 times out of 20.

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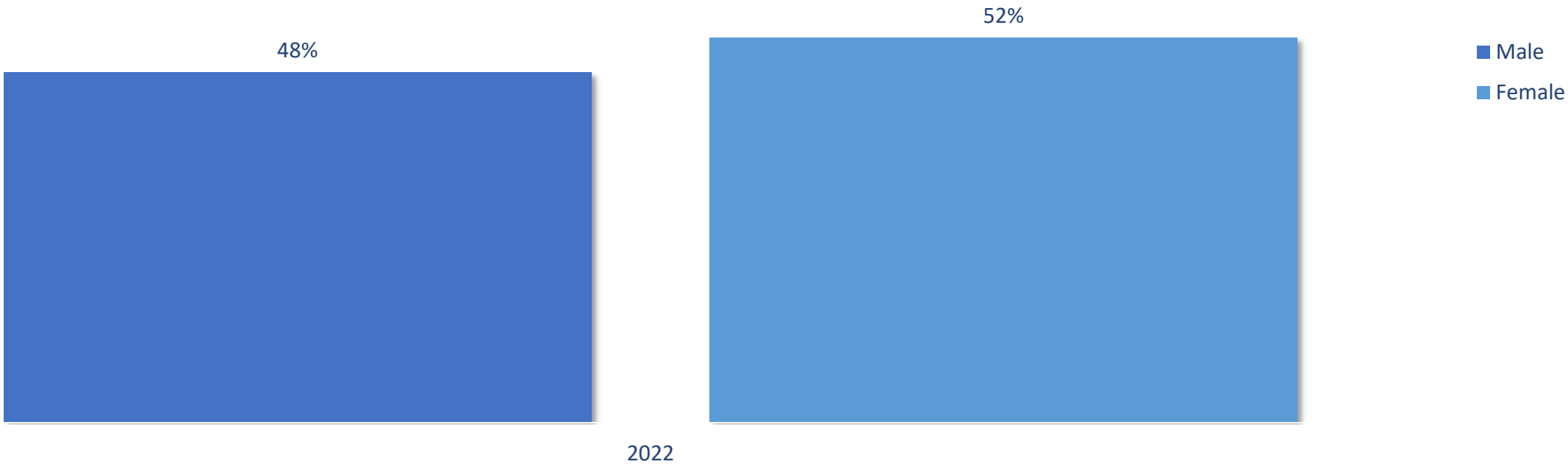
a4 - Gender



Source: Redhead Media Solutions/Advanis telephone survey of 18-year-old + individuals residing in the service territory, January 4-February 24, 2022, n=401, accurate 4.9 percentage points plus or minus, 19 times out of 20.

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QUESTIONS/DATA

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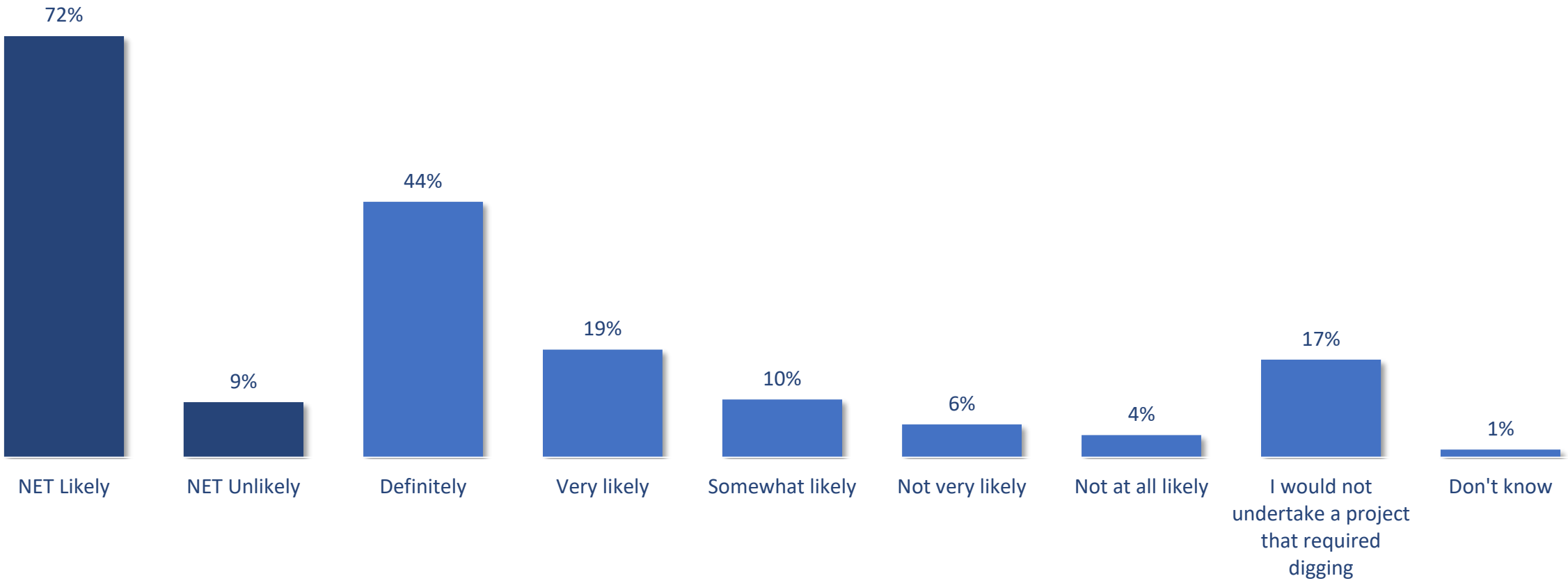
MEDIA SOLUTIONS

b5 - If you were to undertake a household project that required digging, such as planting a tree or building a deck, how likely are you to call to locate electrical or other underground lines?



Source: Redhead Media Solutions/Advanis telephone survey of 18-year-old + individuals residing in the service territory, January 4-February 24, 2022, n=401, accurate 4.9 percentage points plus or minus, 19 times out of 20.

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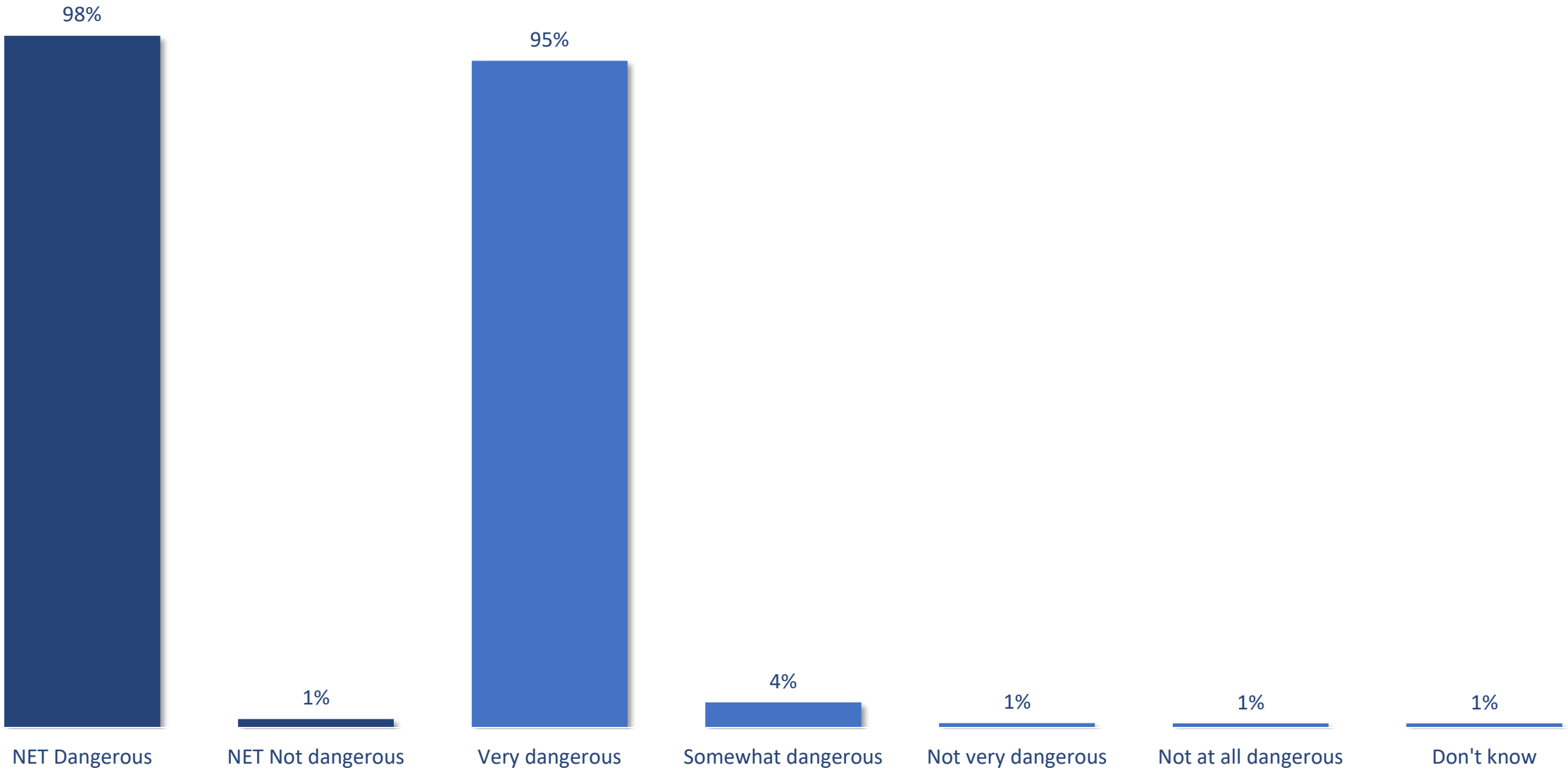
b6 - How dangerous do you believe it is to touch - with your body or any object - an overhead power line?



Source: Redhead Media Solutions/Advanis telephone survey of 18-year-old + individuals residing in the service territory, January 4-February 24, 2022, n=401, accurate 4.9 percentage points plus or minus, 19 times out of 20.

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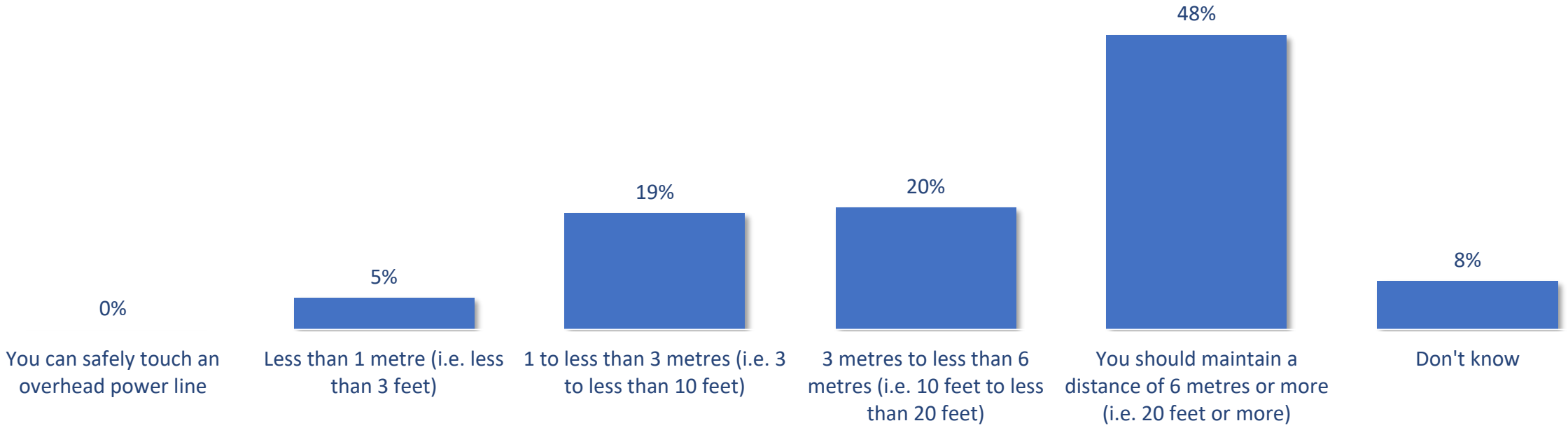
b7 - When undertaking outdoor activities, how closely do you believe you can safely come to an overhead power line with your body or an object?



Source: Redhead Media Solutions/Advanis telephone survey of 18-year-old + individuals residing in the service territory, January 4-February 24, 2022, n=401, accurate 4.9 percentage points plus or minus, 19 times out of 20.

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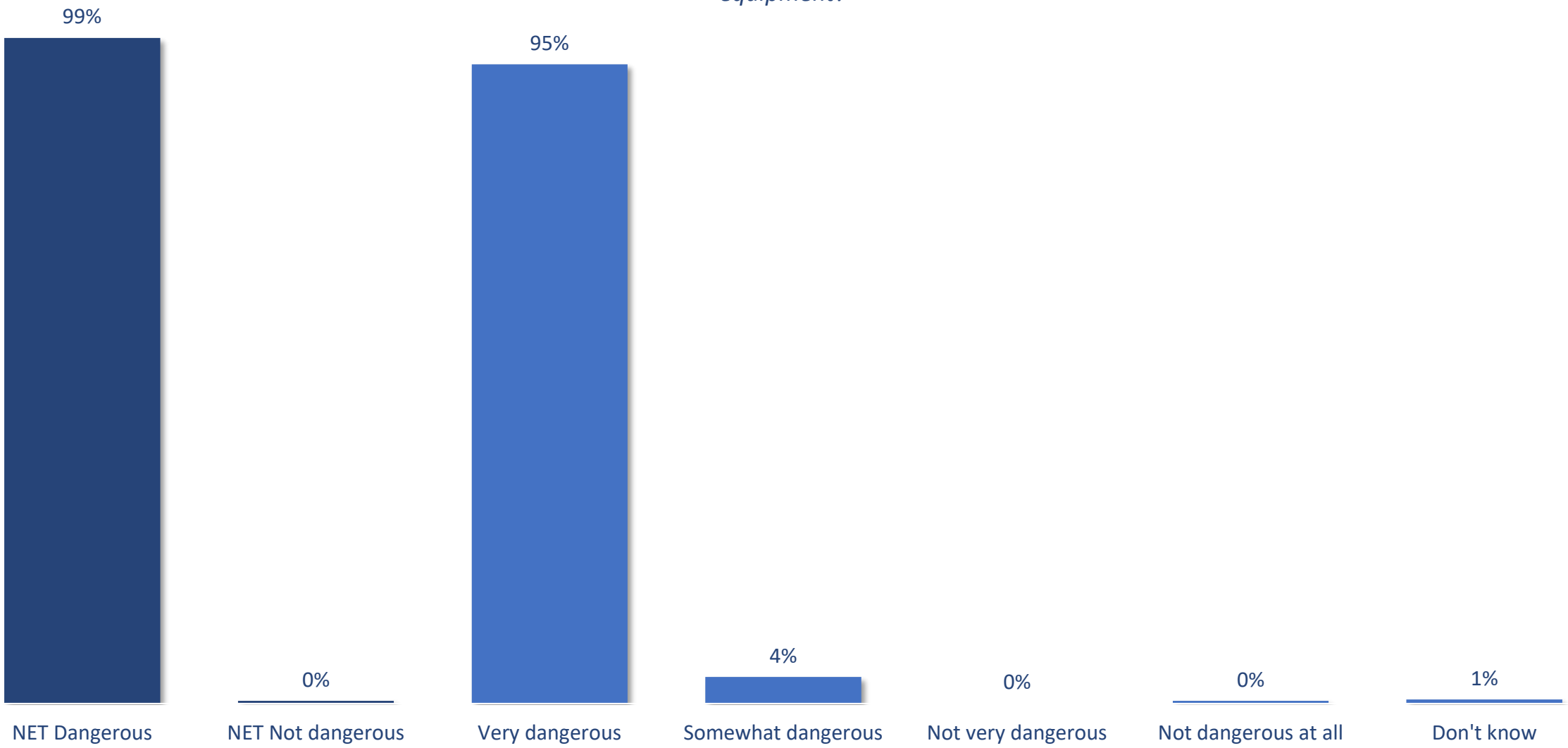
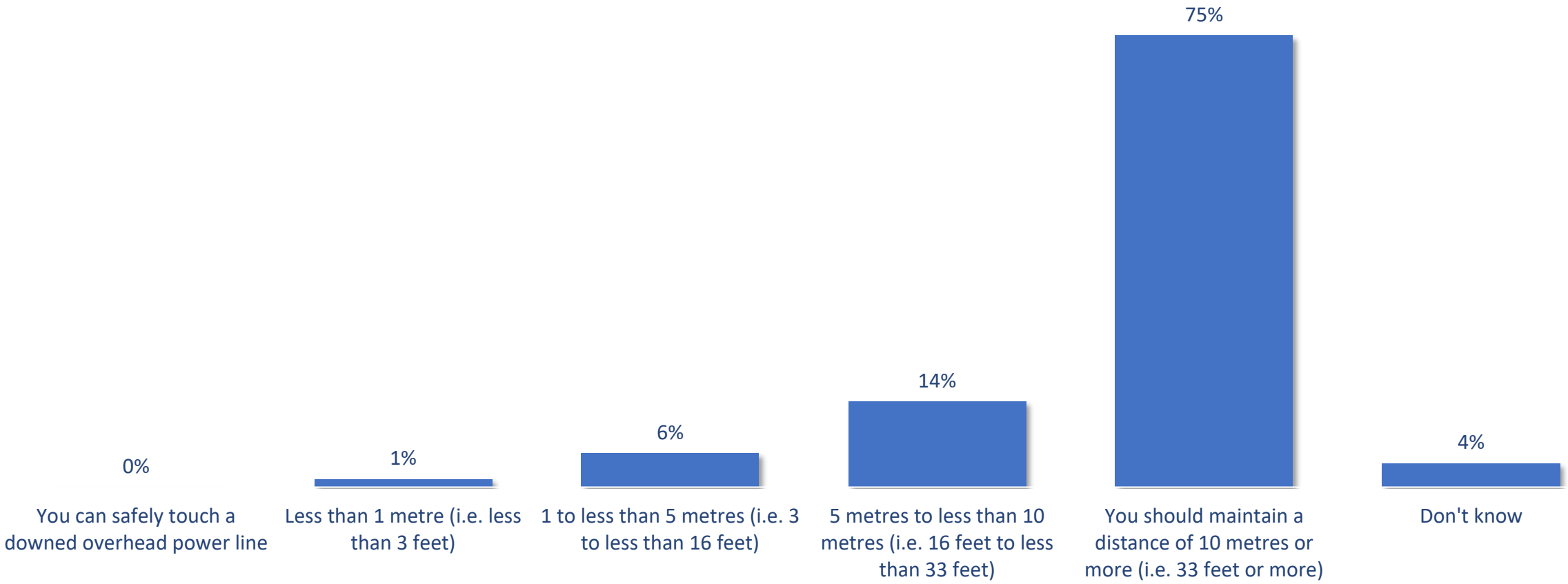
b8 - How dangerous do you believe it is to try to open, remove contents, or touch the equipment inside locked electrical utility equipment?



Source: Redhead Media Solutions/Advanis telephone survey of 18-year-old + individuals residing in the service territory, January 4-February 24, 2022, n=401, accurate 4.9 percentage points plus or minus, 19 times out of 20.

REDHEAD INC MEDIA SOLUTIONS

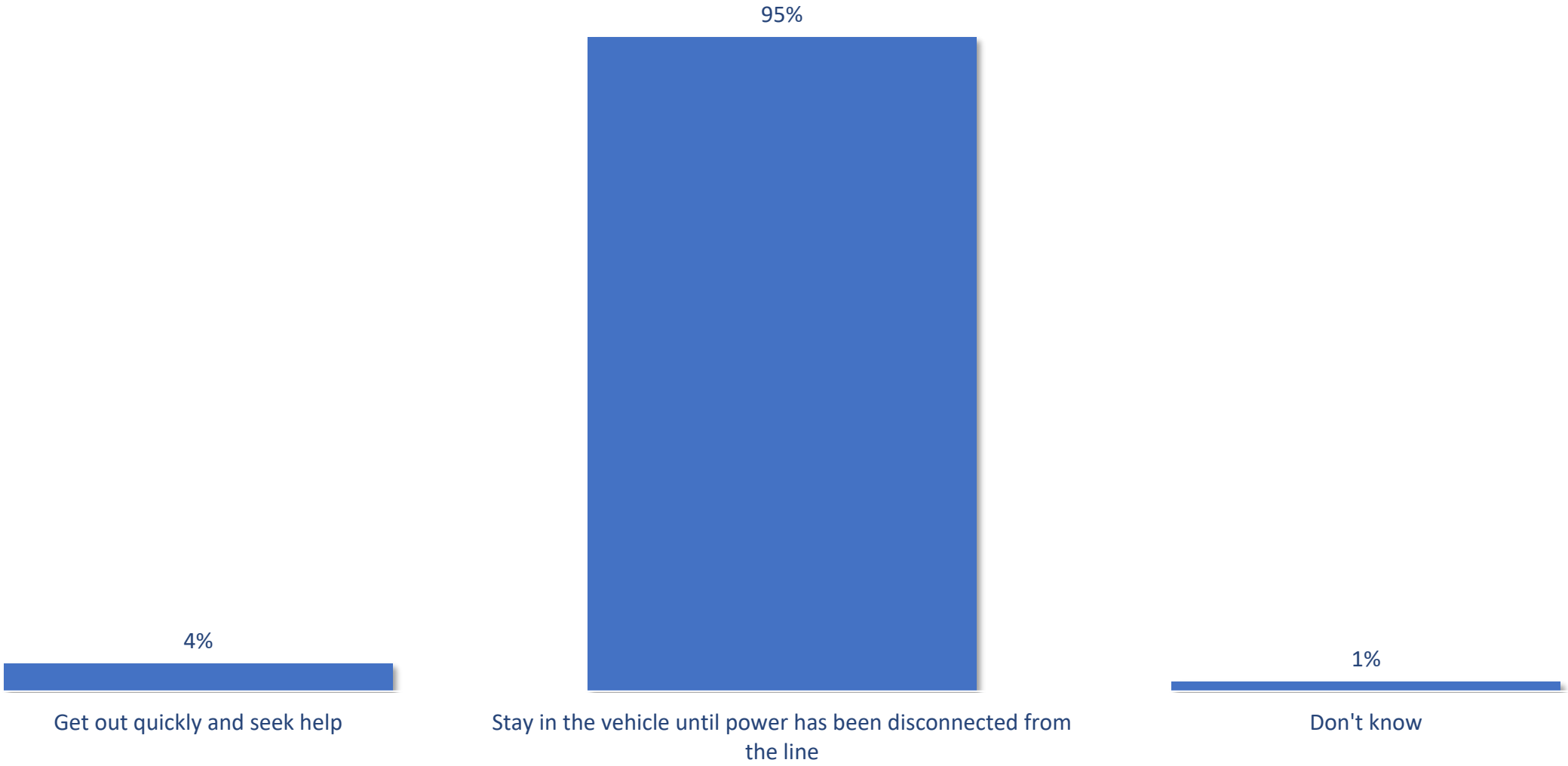
b9 - How closely do you believe you can safely come to a downed overhead power line, such as a downed line caused by a storm or accident?



Source: Redhead Media Solutions/Advanis telephone survey of 18-year-old + individuals residing in the service territory, January 4-February 24, 2022, n=401, accurate 4.9 percentage points plus or minus, 19 times out of 20.

REDHEAD MEDIA SOLUTIONS INC

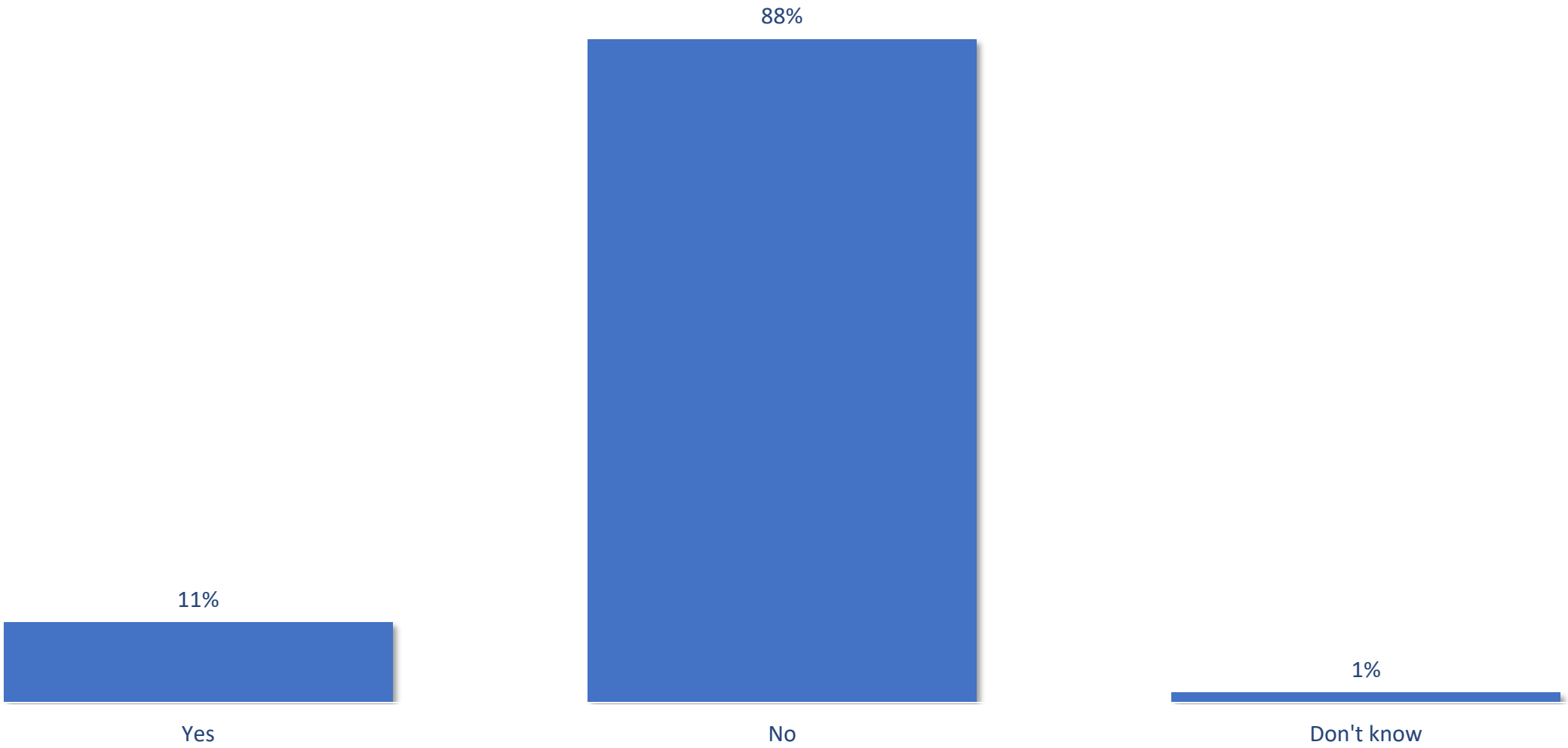
b10 - If you were in a vehicle, such as a car, bus, or truck, and an overhead power line came down on top of it, which of the following options do you believe is generally safer?



Source: Redhead Media Solutions/Advanis telephone survey of 18-year-old + individuals residing in the service territory, January 4-February 24, 2022, n=401, accurate 4.9 percentage points plus or minus, 19 times out of 20.

REDHEAD INC MEDIA SOLUTIONS

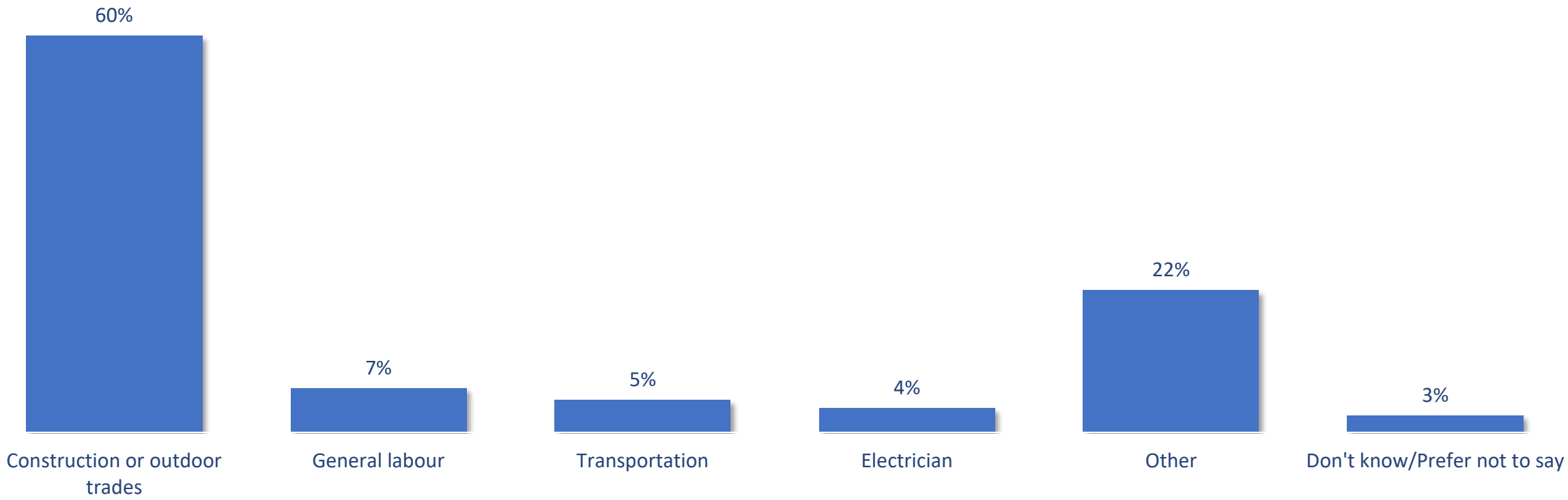
b11 - Does your job regularly cause you to come close to energized power lines?



Source: Redhead Media Solutions/Advanis telephone survey of 18-year-old + individuals residing in the service territory, January 4-February 24, 2022, n=401, accurate 4.9 percentage points plus or minus, 19 times out of 20.

REDHEAD INC MEDIA SOLUTIONS

b12 - [Among those with a job featuring close contact to energized power lines] Do you work in any of the following fields?



Source: Redhead Media Solutions/Advanis telephone survey of 18-year-old + individuals residing in the service territory, January 4-February 24, 2022, n=37.

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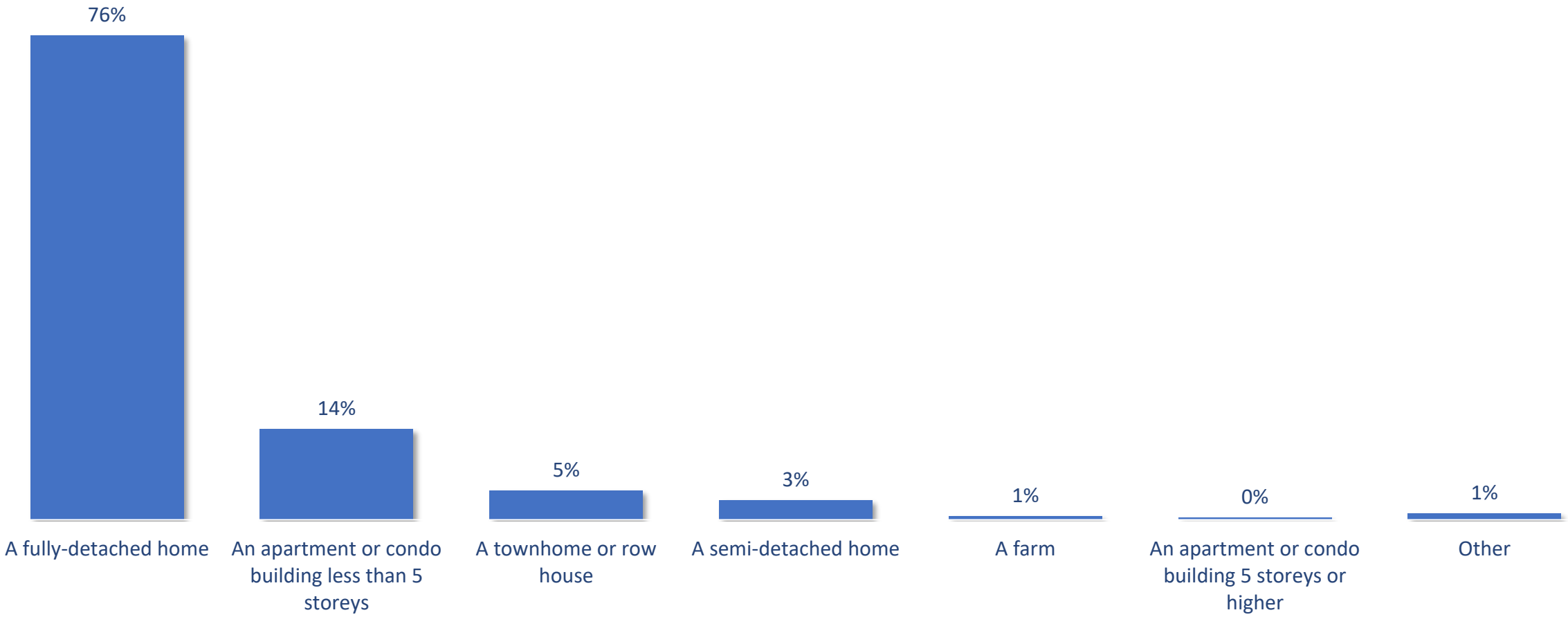
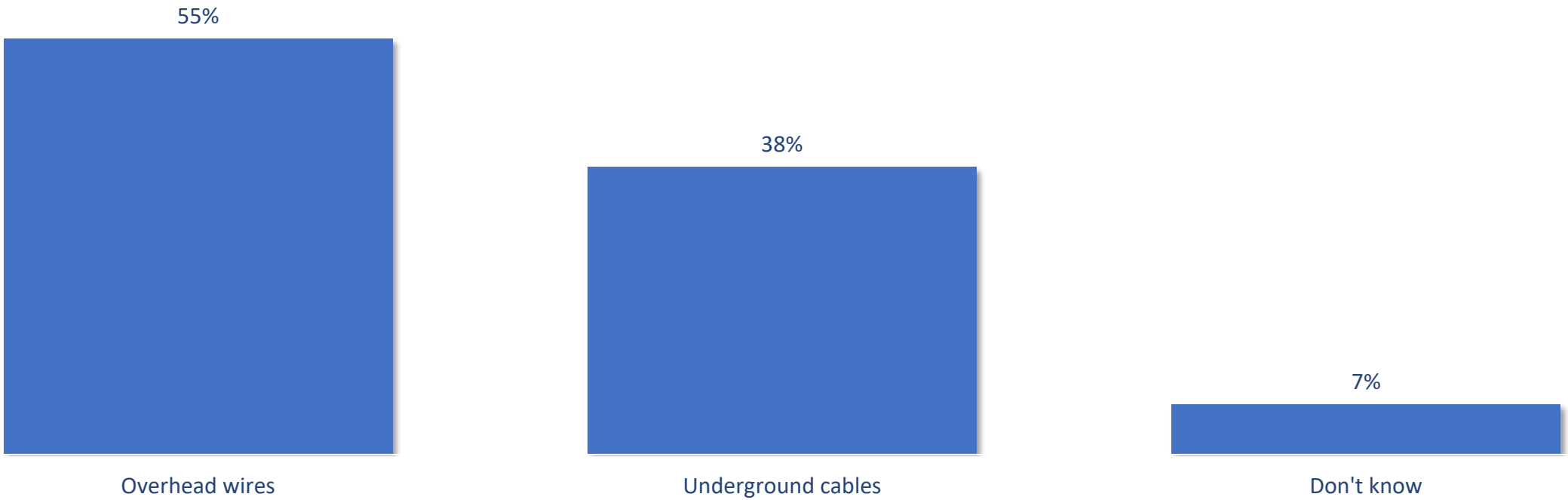
b13 - How would you describe your primary residence?



Source: Redhead Media Solutions/Advanis telephone survey of 18-year-old + individuals residing in the service territory, January 4-February 24, 2022, n=401, accurate 4.9 percentage points plus or minus, 19 times out of 20.

REDHEAD MEDIA SOLUTIONS INC

b14 - Does your primary residence receive electricity through overhead wires or underground cables?



Source: Redhead Media Solutions/Advanis telephone survey of 18-year-old + individuals residing in the service territory, January 4-February 24, 2022, n=401, accurate 4.9 percentage points plus or minus, 19 times out of 20.

REDHEAD INC MEDIA SOLUTIONS

CUSTOMER SATISFACTION INDEX

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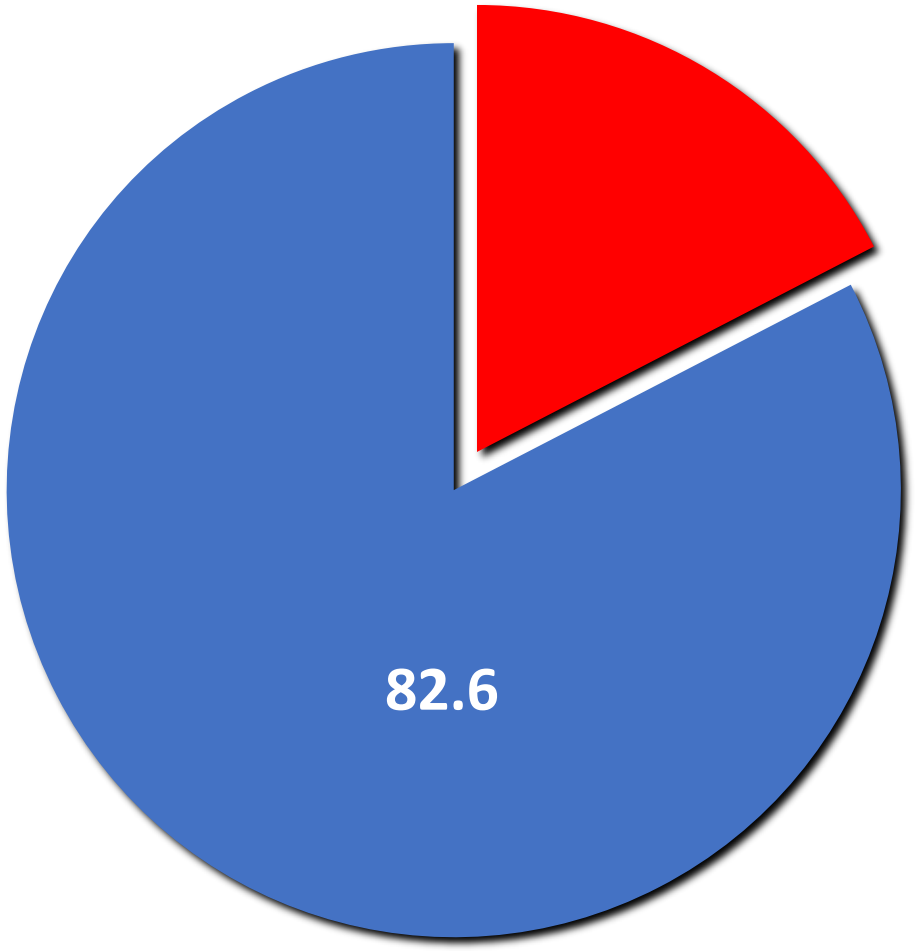
MEDIA SOLUTIONS

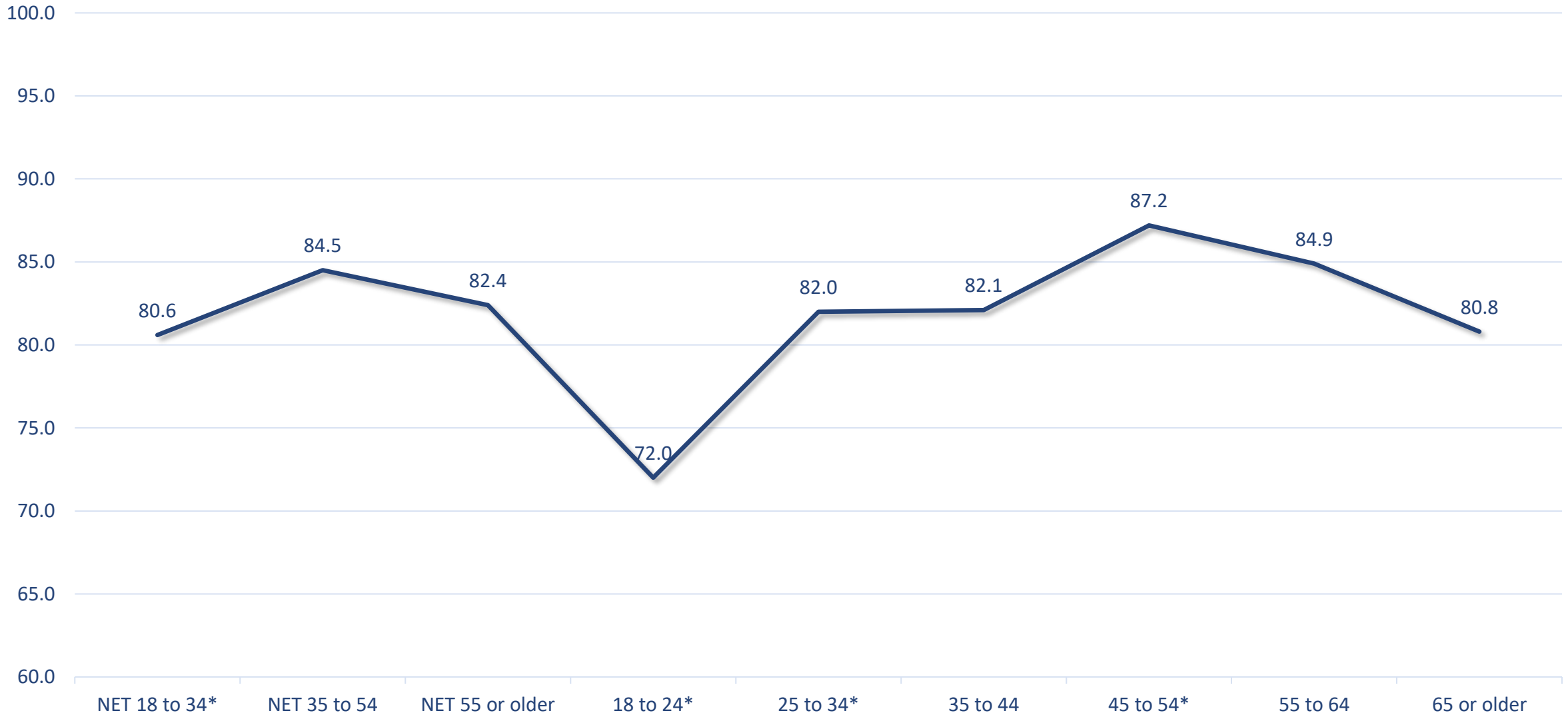
ESA Index Score



Source: Redhead Media Solutions/Advanis telephone survey of 18-year-old + individuals residing in the service territory, January 4-February 24, 2022, n=401, accurate 4.9 percentage points plus or minus, 19 times out of 20.

REDHEAD INC MEDIA SOLUTIONS

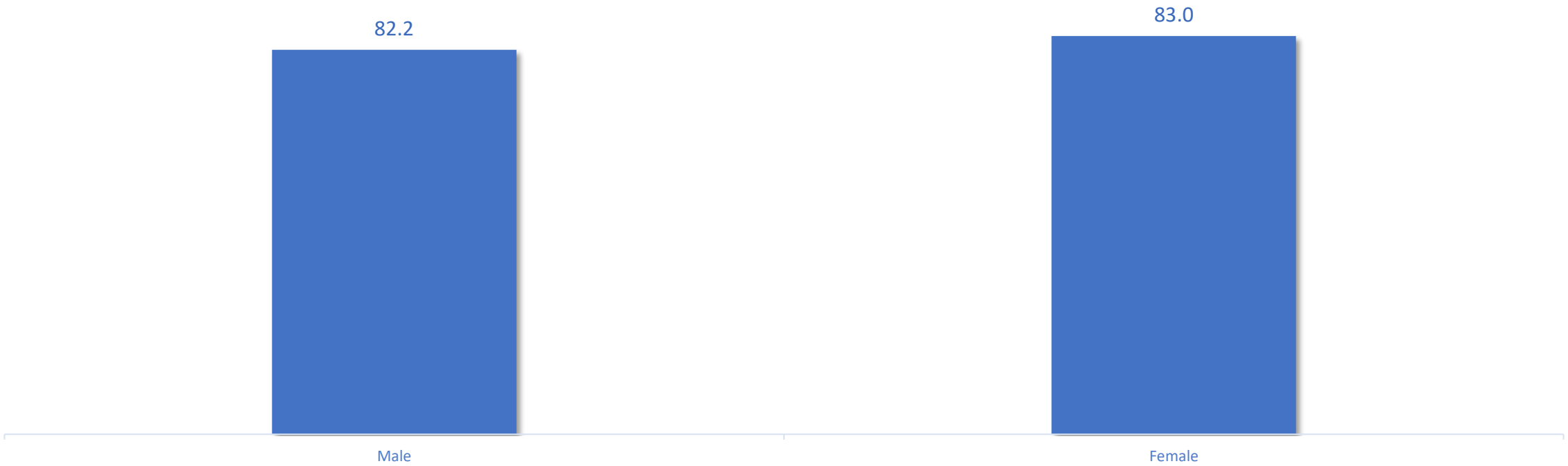
ESA Index Score by Age Category



Source: Redhead Media Solutions/Advanis telephone survey of 18-year-old + individuals residing in the service territory, January 4-February 24, 2022, n=401, accurate 4.9 percentage points plus or minus, 19 times out of 20. *Caution base size <50.

REDHEAD INC MEDIA SOLUTIONS

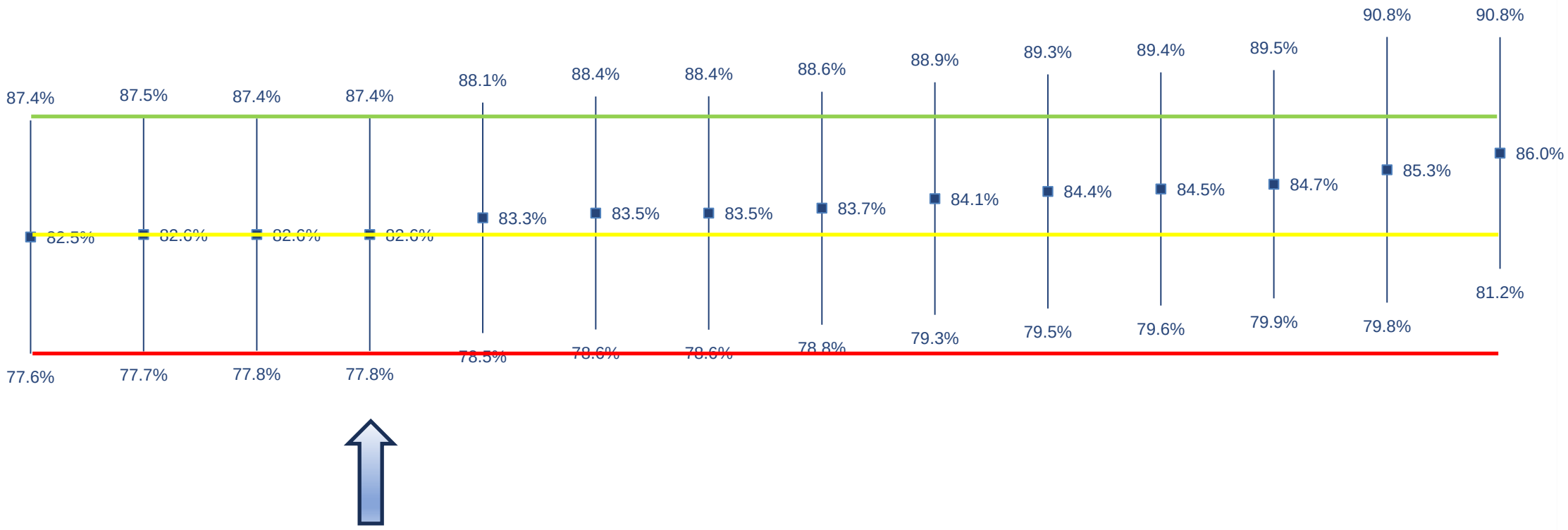
ESA Index Score by Gender



Source: Redhead Media Solutions/Advanis telephone survey of 18-year-old + individuals residing in the service territory, January 4-February 24, 2022, n=401, accurate 4.9 percentage points plus or minus, 19 times out of 20.

REDHEAD INC MEDIA SOLUTIONS

ESA Index Score Comparison to External LDCs
Upper and Lower Bound



- The lines denote Lakeland Power's upper and lower bound based on the Public Safety Awareness Score.
- All LDCs confidence intervals overlap, similar to 2020.
- CWH overlaps with all other LDCs, indicating statistical uniformity.

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CORE COMPARATIVE DATA 2016-2022

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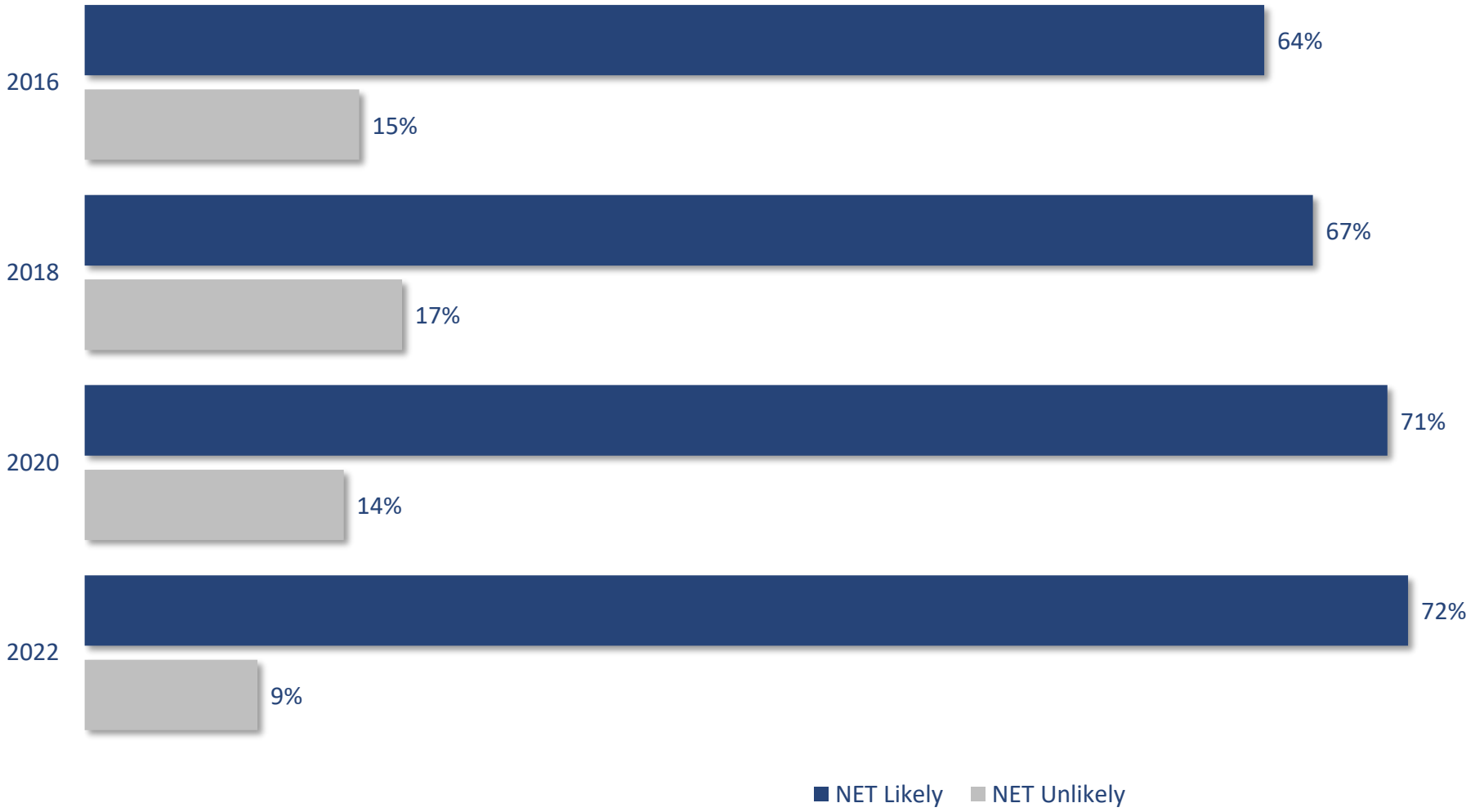
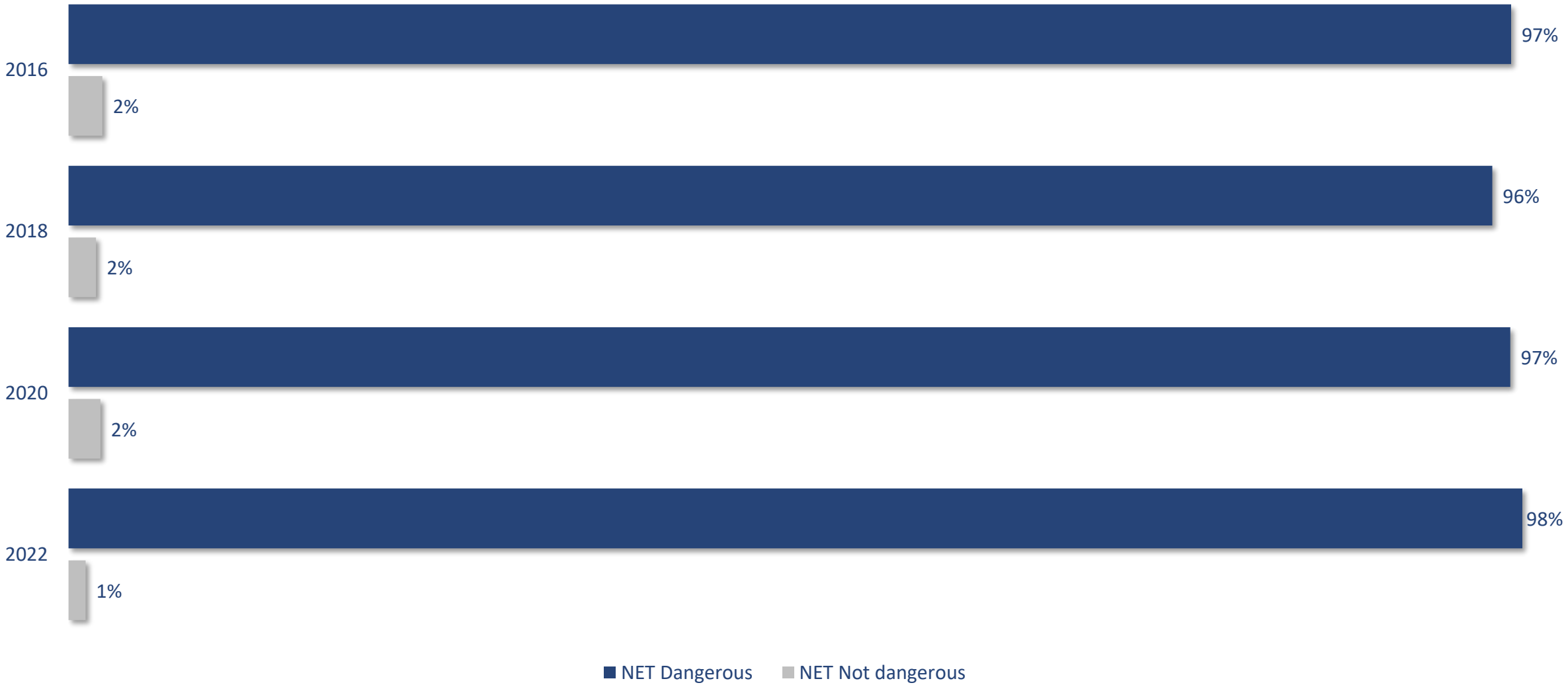
b5 - If you were to undertake a household project that required digging, such as planting a tree or building a deck, how likely are you to call to locate electrical or other underground lines?



b6 - How dangerous do you believe it is to touch - with your body or any object - an overhead power line?



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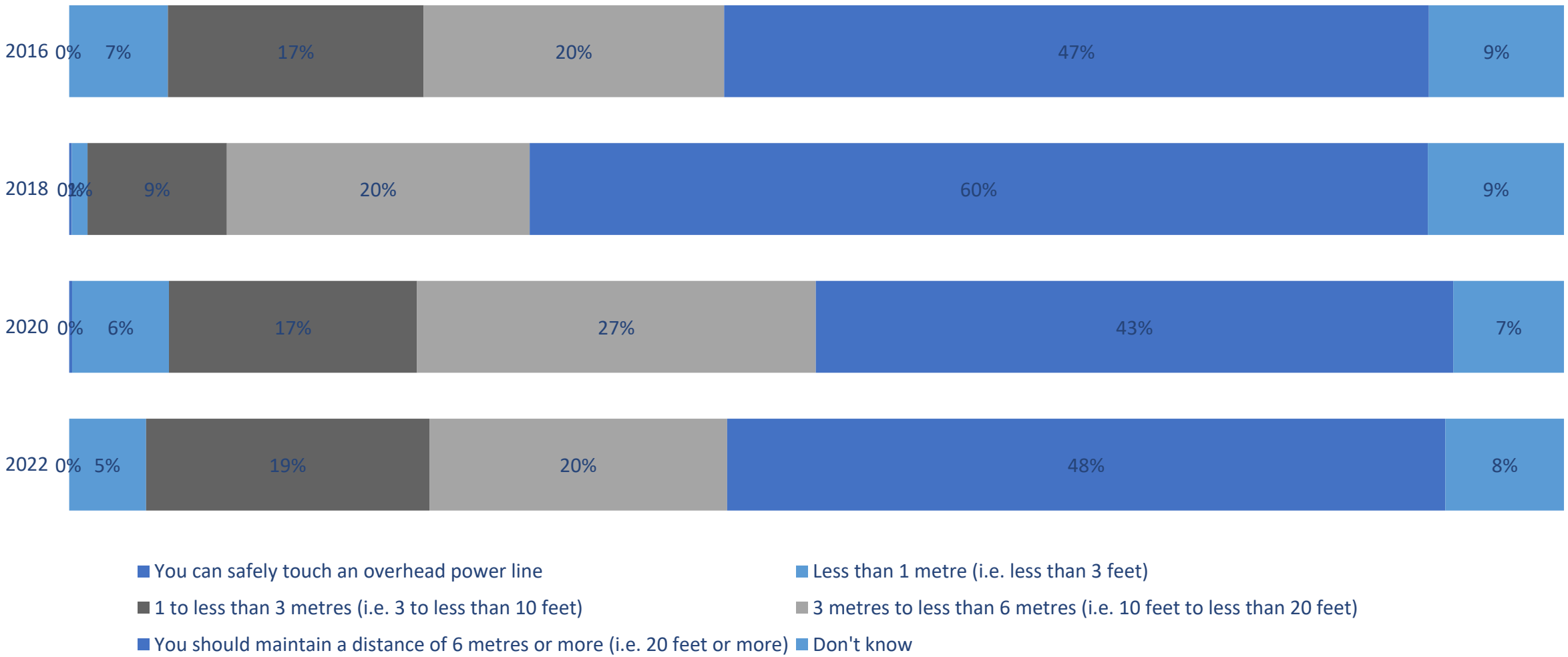
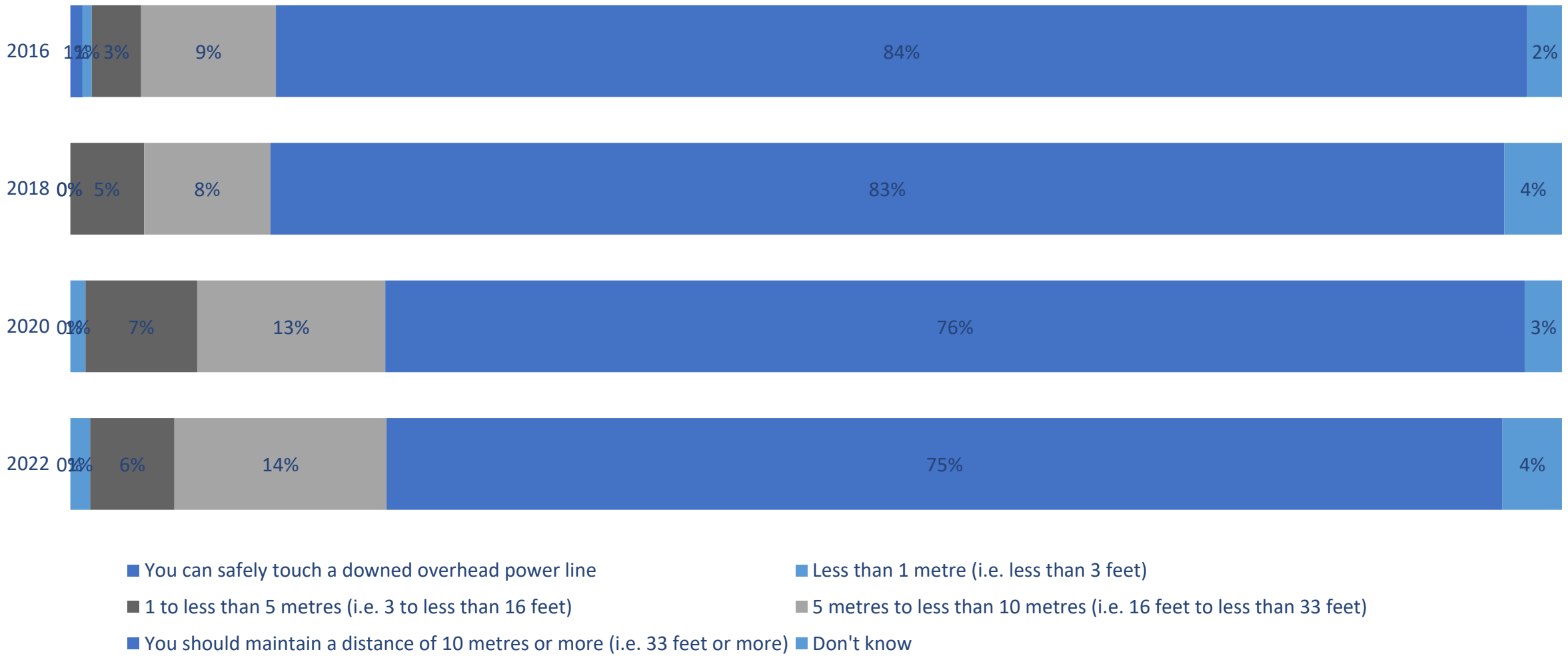
b7 - When undertaking outdoor activities, how closely do you believe you can safely come to an overhead power line with your body or an object?



b8 - How dangerous do you believe it is to try to open, remove contents, or touch the equipment inside locked electrical utility equipment?

b9 - How closely do you believe you can safely come to a downed overhead power line, such as a downed line caused by a storm or accident?



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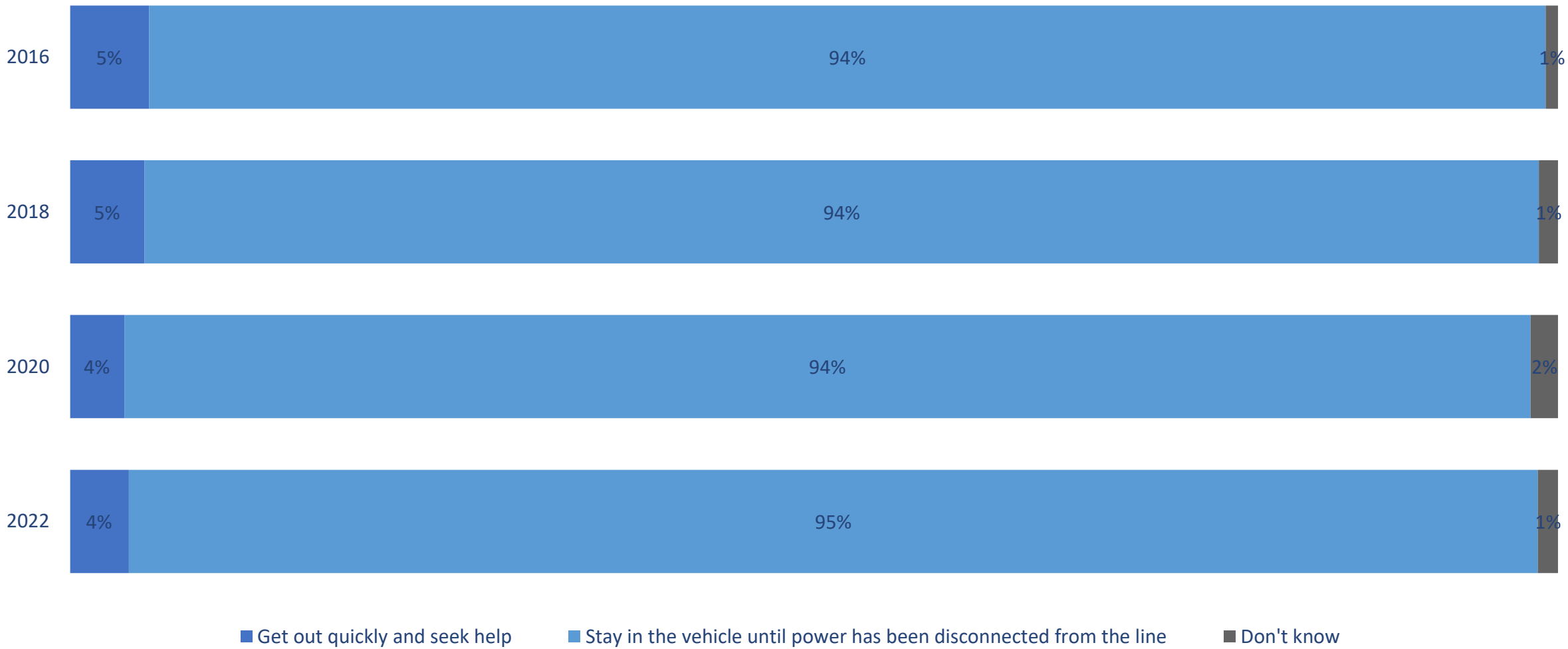
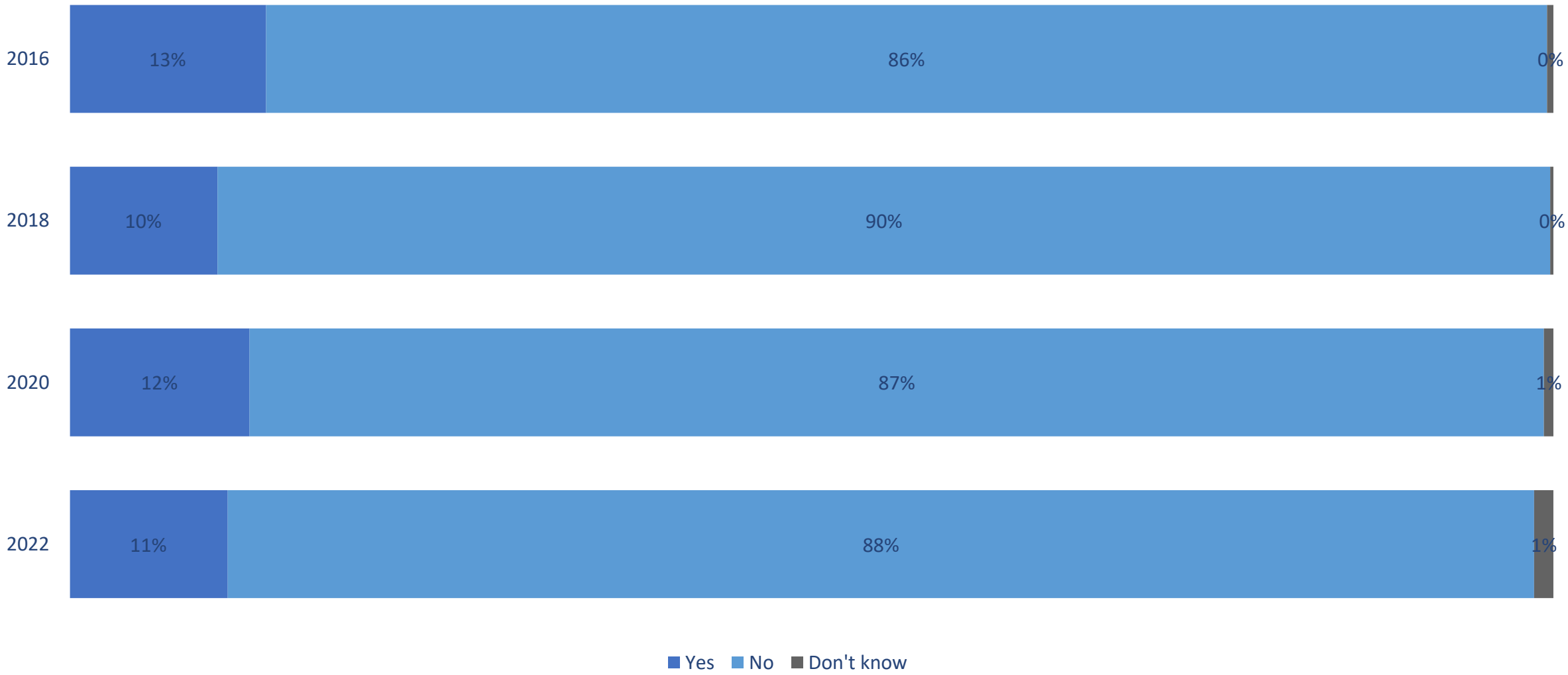


b11 - Does your job regularly cause you to come close to energized power lines?



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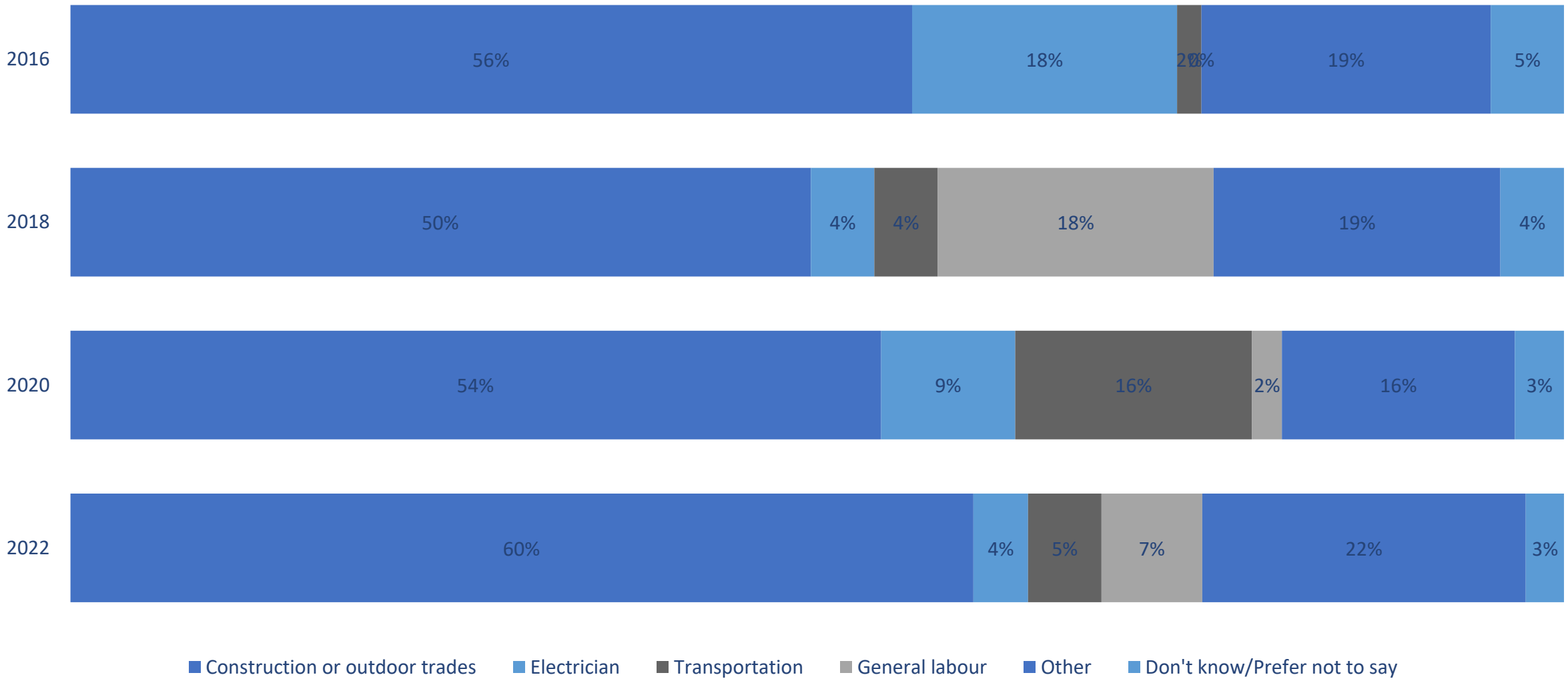

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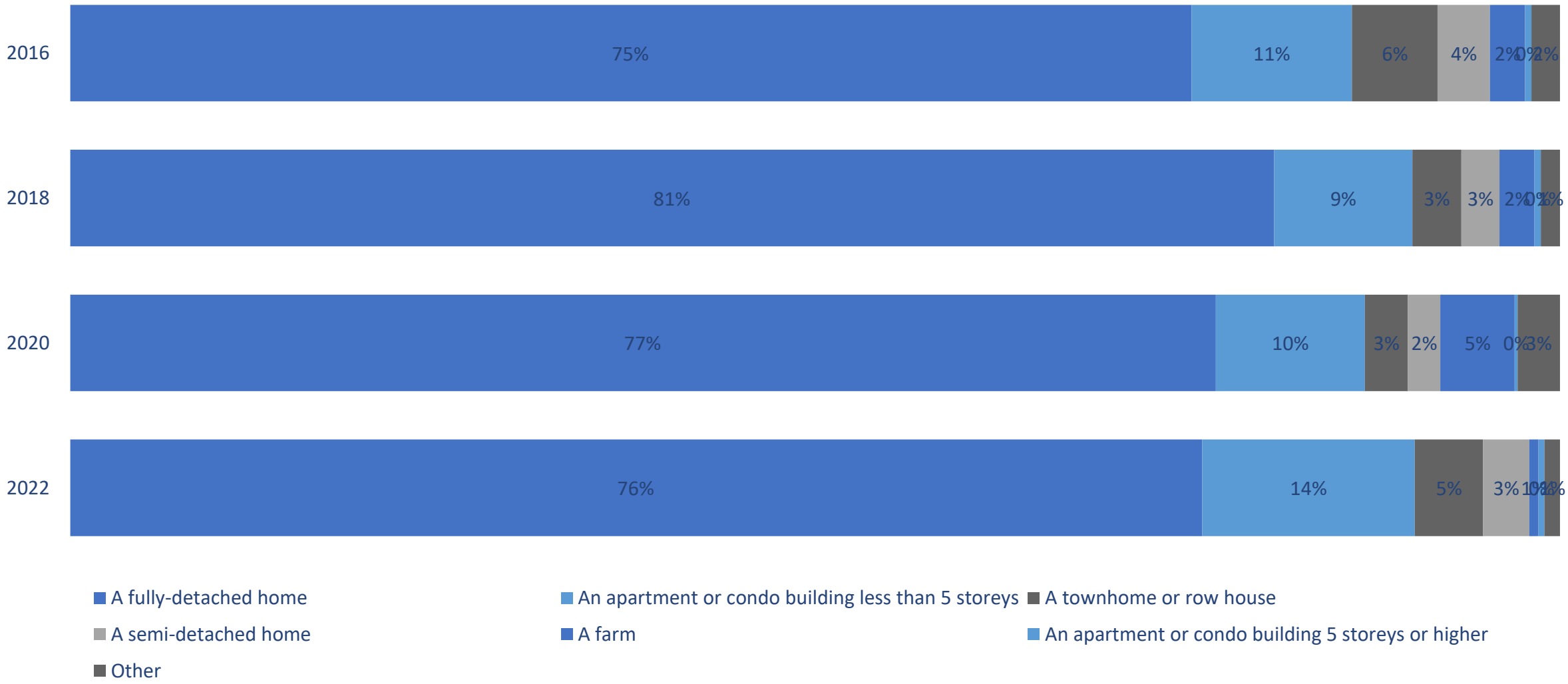

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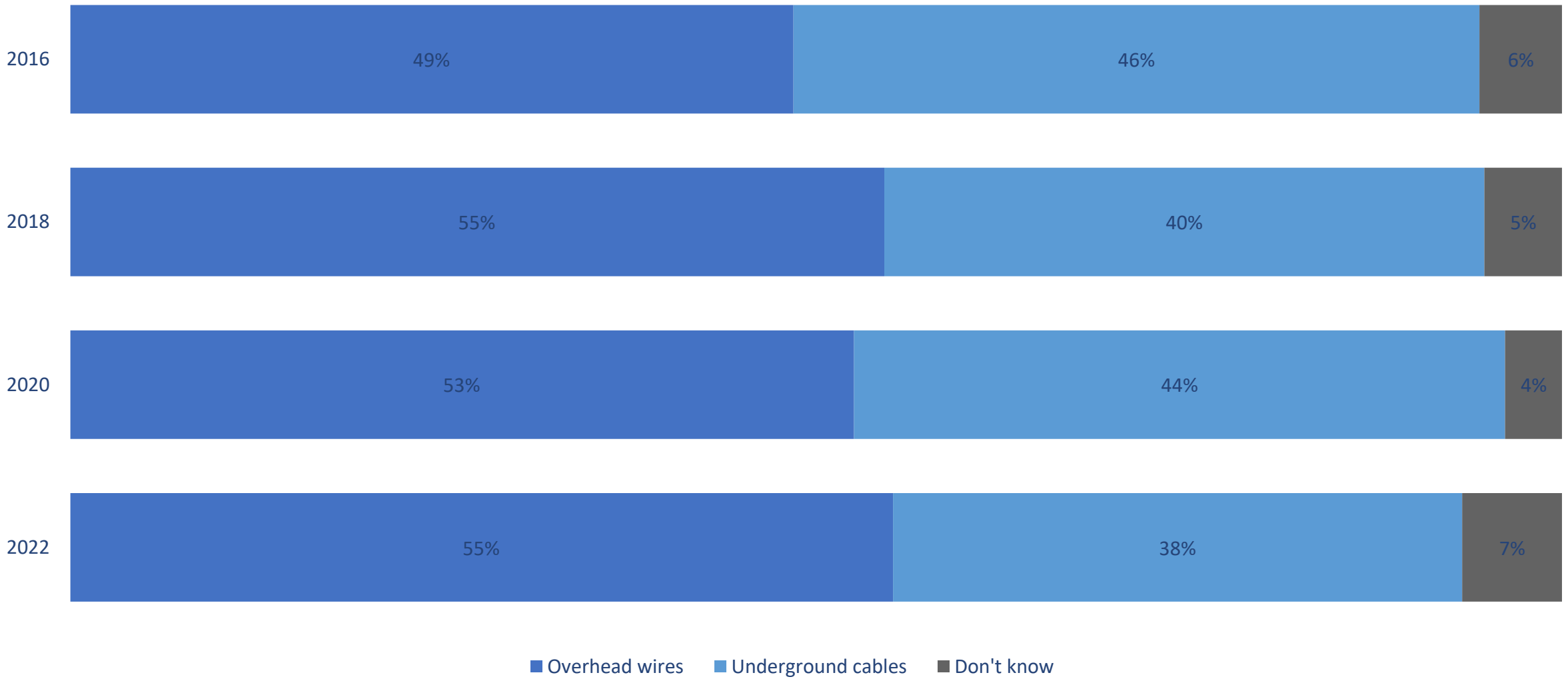
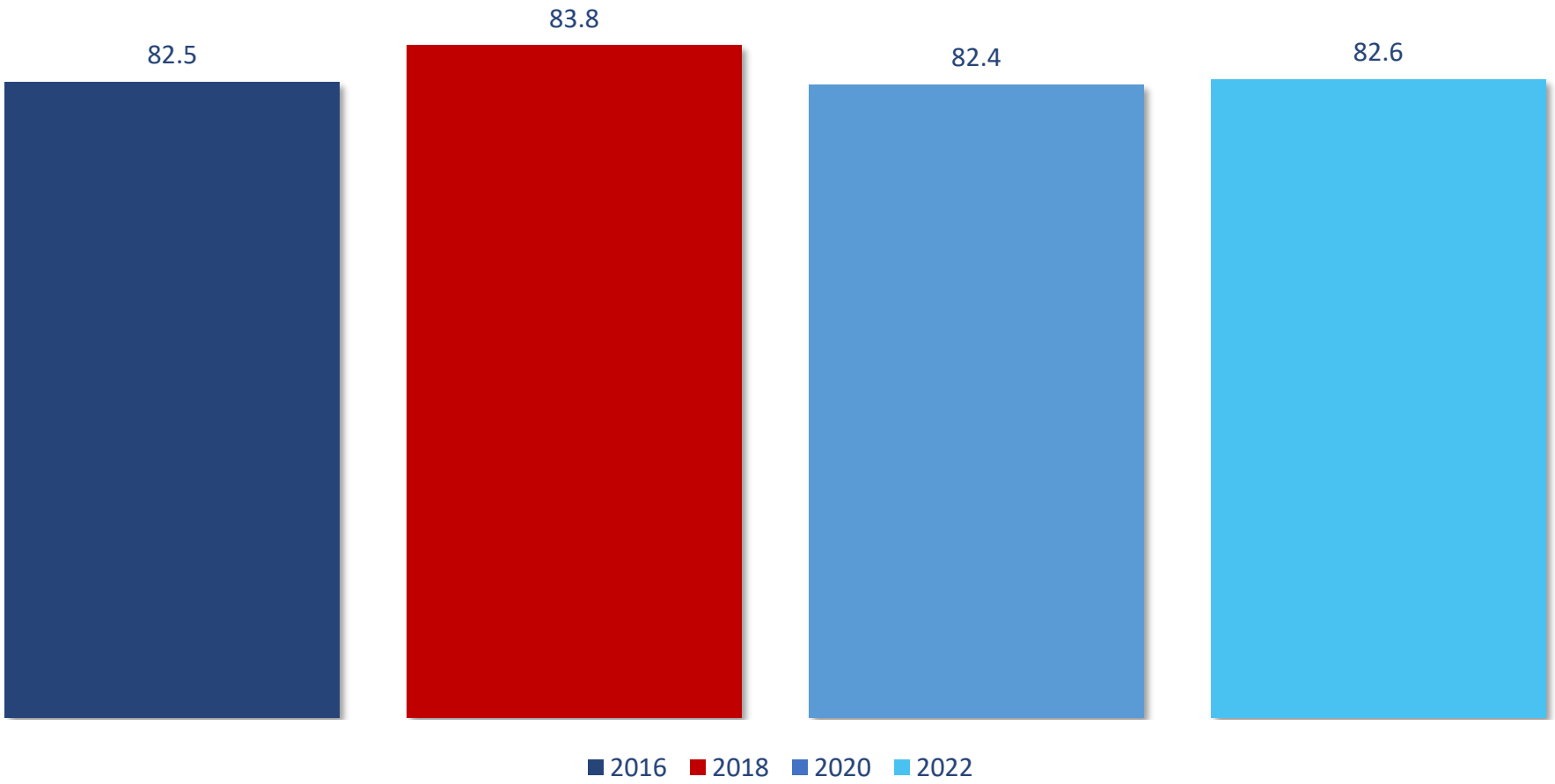


ESA Index Score by Year



METHODOLOGY

REDHEAD INC
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Methodology Summary

Commissioned by	Lakeland Power
Sample size	401 18-year-old + individuals residing in the service territory
Margin of error	±4.9 percentage points, 19 times out of 20
Survey mode	Random telephone survey of customer base, CATI data collection
Survey sample	Residents 18 years of age + who reside in the service territory of the Lakeland Power
Time of calling	4PM-9PM ET Weekdays, callbacks scheduled 9AM-9PM ET
In-field dates	January 4-February 24, 2022
Language	English only
Survey author	Innovative Research/Electrical Safety Authority
Question Order	Report shown in order
Question Wording	Questions shown in report as asked
Survey Company	Redhead Media Solutions Inc/Advanis

Methodology Details

Target Respondents

The respondents of the survey were Ontario residents 18 years of age or older who reside within Lakeland Power's service territory. Target areas were determined based on a list of postal codes provided by Lakeland Power.

Sample Size and Statistical Reliability

All margins of error (MoE) are shown at a 95% confidence level.

- E.g., the margin of error associated with a sample size of 400 for a large (infinite) population is ±4.9 percentage points, 19 times out of 20.
- Because Lakeland Power's service area has a smaller adult (18+) population, and MoE is a function of the relationship between sample size and population, it is appropriate to apply a finite population correction factor when calculating MoE. When sample size is a higher percentage of the population, the MoE may narrow.

Sample sizes were set according to the *Public Awareness of Electrical Safety: Methodology & Survey Implementation Guide*, prepared for the Electrical Safety Authority by Innovative Research (November 2015):

- Where possible, sample size of n=400.
- For LDCs with a service territory population of less than 5,000, a minimum sample size of n=300 is appropriate.
- For LDCs with a service territory population of less than 3,000, a minimum sample size of n=200 is appropriate.

Methodology Details

Sampling Methodology

Redhead was provided service territory postal codes from Lakeland Power. Both landline and wireless sample were used. The landline sample used listed numbers only, the wireless sample was drawn randomly from the most recent working cell phone lists in rate centers in or around the specified area(s). We then sampled from these lists randomly using Advanis' proprietary sample server.

To minimize low response:

- Sample was loaded in batches to ensure the sample was fully utilized before moving onto fresh sample records;
- Calls were made between the hours of 4pm and 9pm ET on weekdays; and
- Call backs were scheduled and honored between the hours of 9am and 9pm ET.

Questionnaire

The survey instrument was provided by the Electrical Safety Authority (ESA) developed in conjunction with Innovative Research. The survey consisted of an introduction, electrical safety core questions and demographic information.

Data Collection

Computer aided telephone interviews (CATI) were conducted from January 4-February 24, 2022.

Methodology Details

Quality Control

The accuracy and integrity of results is of the highest importance for Redhead/Advanis. As such, several controls are implemented to ensure the highest quality output is achieved:

- Advanis, on behalf of Redhead, trained the interviewers to understand the study's objectives;
- Detailed call records are kept by the automated CATI system, and are supplemented by output files to SPSS for productivity analysis (i.e., not subject to human error);
- The survey was soft launched in select markets. The data was then checked before calling began in full for Lakeland Power;
- 100% of all surveys are digitally recorded for potential review;
- Advanis' Quality Assurance team listened to the actual recordings of five percent of completed surveys and compared the responses to those entered by the interviewer to ensure that responses from respondents are properly recorded;
- Team Supervisors conduct regular more formal evaluations with each interviewer, in addition to nightly monitoring of each interviewer on their team;
- Project Managers closely monitored the progress of data collection, including call record dispositions;
- All SPSS code is reviewed by a more senior researcher;
- All Report Builder output is reviewed by a more senior researcher; and
- All values in the report are reviewed by another team member to ensure accuracy.

Methodology Details

Analysis of Findings & Data Weighting

Within each LDC, results were weighted to match corresponding population proportions from the most recent Statistics Canada census data for these six combinations of gender and age:

- Males 18-34
- Females 18-34
- Males 35-54
- Females 35-54
- Males 55 and older
- Females 55 and older

As noted above, the service territory was specified by postal code. Since census data is not available by postal code, Redhead provided Advanis with the municipalities covered by the LDC, and the population numbers for the Census Subdivisions that most closely matched those municipalities were totaled to arrive at the LDC population proportions for each of the six gender/age combinations.

This **index score** is calculated using the following formulas:

Step 1: Add each individual respondent's key measurement questions using the provided response values.

B5
\+ B6
\+ B7
\+ B8
\+ B9
\+ B10
= **Individual respondent's cumulative score**

Step 2:
Individual respondent's cumulative score / # of sections
= Respondent Standardized Score

Step 3:
Summation of all **"Respondent Standardized Scores" /** n-size (i.e. total sample size)
= Raw Index Score

Step 4:
Raw Index Score × 100 = **Index Score** (bound between 0-100%)

The Public Safety Awareness index scores have been highlighted and were calculated as described below, based on instructions from the Electrical Safety Authority (ESA). The "provided response values" referenced in the description below were also determined and provided by the ESA. Data analysis and cross-tabulation have been conducted using SPSS and Report Builder software.

Methodology Tables

Margin of error

LDC	Completed Surveys	Sample Size as % of population	Assuming Large Population	Using Actual 18+ Population
Lakeland Power	401	1.1%	+/- 4.9%	+/- 4.9%

Sample weighting

LDC	Total Postal Codes in Service Territory	Forward Sortation Areas Covered	Number of Local Delivery Units in Each FSA
Lakeland Power	741	P0A	3
		P1H	110
		P1L	253
		P2A	375

Thank You

We greatly appreciate working on this important project for Lakeland Power and hope we have met or exceeded your expectations.

We are happy to present this data to your staff or Board members upon request. If you wish to do so, please contact us for an appointment.

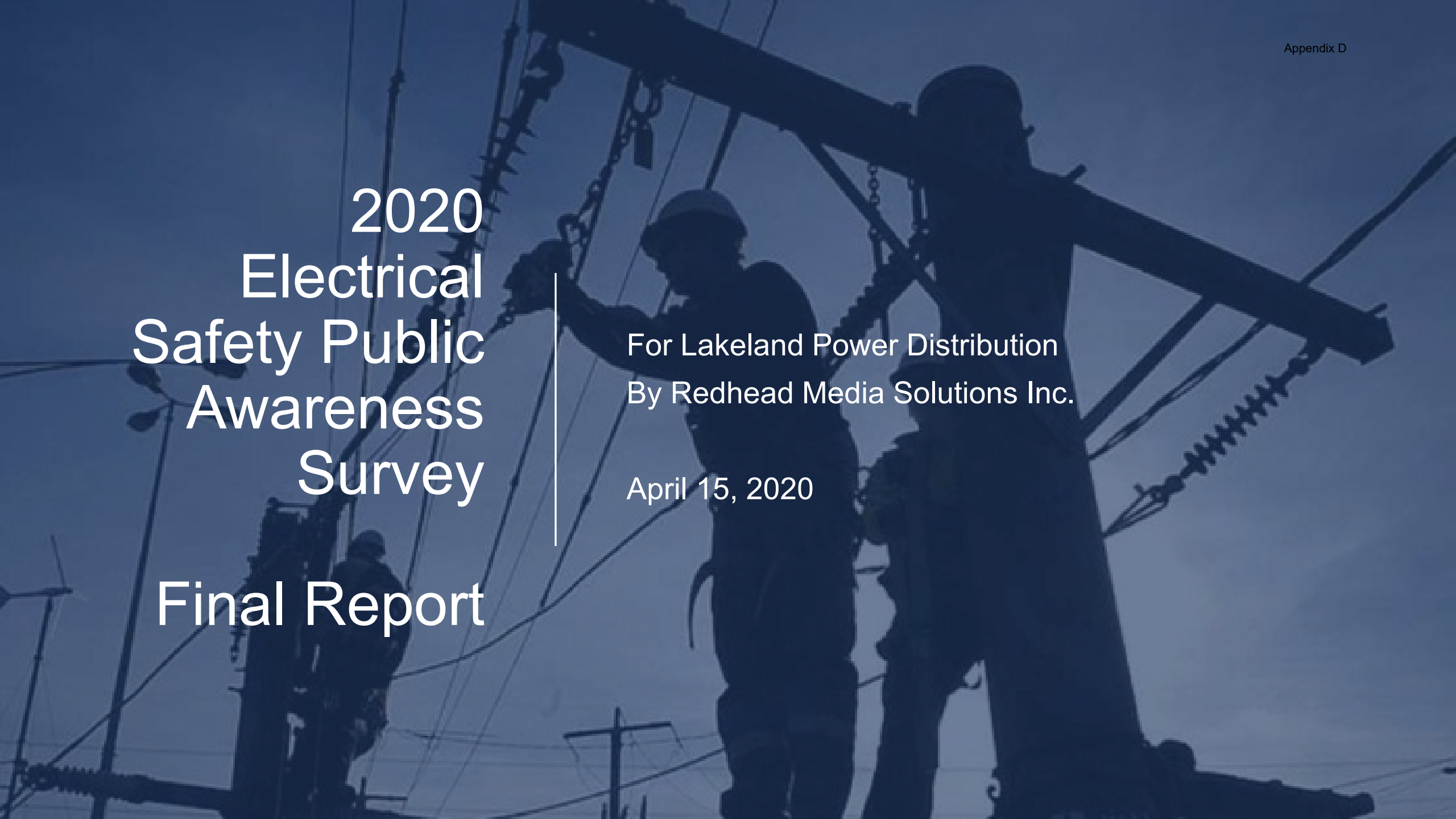
We look forward to working with you on future projects, including the Customer Satisfaction Survey later in 2022. Please note if you have any other projects that we may be able to help you with, don't hesitate to be in touch.

Graydon Smith - President
Redhead Media Solution Inc.
3-200 Manitoba St.
Suite 416
Bracebridge, ON
P1L 2E2

LakelandPower

REDHEAD INC MEDIA SOLUTIONS

REDHEAD INC
MEDIA SOLUTIONS



2020 Electrical Safety Public Awareness Survey

Final Report

For Lakeland Power Distribution

By Redhead Media Solutions Inc.

April 15, 2020

Introduction and Summary

Thank you for selecting Redhead Media Solutions Inc. for this important project for Lakeland Power Distribution. We appreciate your confidence in us to provide you with data on Electrical Safety Awareness that can now be used to compare with previous surveys and among other LDCs.

We have restructured our reporting to you this year, replacing the traditional single report with tables and transitioning to a more robust and informative graphics-based style that gives you the ability to see responses and information “at a glance” as opposed to simply comparing numbers.

To supplement this report, we have also included the full set of 2020 tables and comparative 2016/2018/2020 tables in spreadsheet format, allowing you easy access to the data we have generated. You can find this in “Appendix A”. The methodology guide and questionnaire are also included as appendices B, C for your reference.

Should there be any specific data or breakouts that you require, please contact us to discuss.

Graydon Smith
President

LakelandPower

REDHEAD MEDIA SOLUTIONS INC

Introduction and Summary

Redhead Media Solutions Inc. (Redhead), partnering with ADVANIS for data collection and statistics, has been retained (via a 2017 RFP process by Cornerstone Hydro Electric Concepts Inc. - CHEC) to conduct the 2020 Electrical Safety Public Awareness Survey for Lakeland Power. This survey is a required part of an LDC's Balanced Scorecard and other reporting and regulatory requirements for the Ontario Energy Board (OEB).

The complete group of participating CHEC LDCs are as follows:

- Centre Wellington Hydro
- EPCOR
- Grimsby Power
- Lakefront Utilities
- Lakeland Power Distribution
- Niagara-on-the-Lake Hydro
- Orangeville Hydro
- Ottawa River Power
- Renfrew Hydro
- Rideau St. Lawrence Distribution
- Tillsonburg Hydro
- Wasaga Distribution
- Wellington North Power

Additionally, Redhead also provided services for this project outside the CHEC group of LDCs.

Introduction and Summary

This final report contains data specifically for Lakeland Power.

This survey is comprised of approximately 400 randomly selected interviews of with Ontario residents who are 18 years or older and reside in the Lakeland Power service territory. The sample frame is stratified by age group and gender within each territory and the data is also weighted to be representative of the adult population within each territory.

The objective of the survey is to provide a Public Safety Awareness (PSA) index score for Lakeland Power. This is a calculated aggregate value based on the responses of individuals to six core measures in the survey instrument.

The 2020 PSA Index Score is 82.4%.
The median score for participating LDCs is 83.3%.
The 2016-2020 delta = -1.4 % which is within the margins of error.
The 2018-2020 delta = -0.1% which is within the margins of error.

The 2020 score sits within a very tight spectrum of scores we calculated for all participating LDCs. When the confidence interval and margin of error is applied to all index scores, there is significant overlap between LDCs which underlines the statistical similarity of performance and electrical safety awareness among participants. Statistically, Lakeland Power is similar to all other LDCs surveyed.

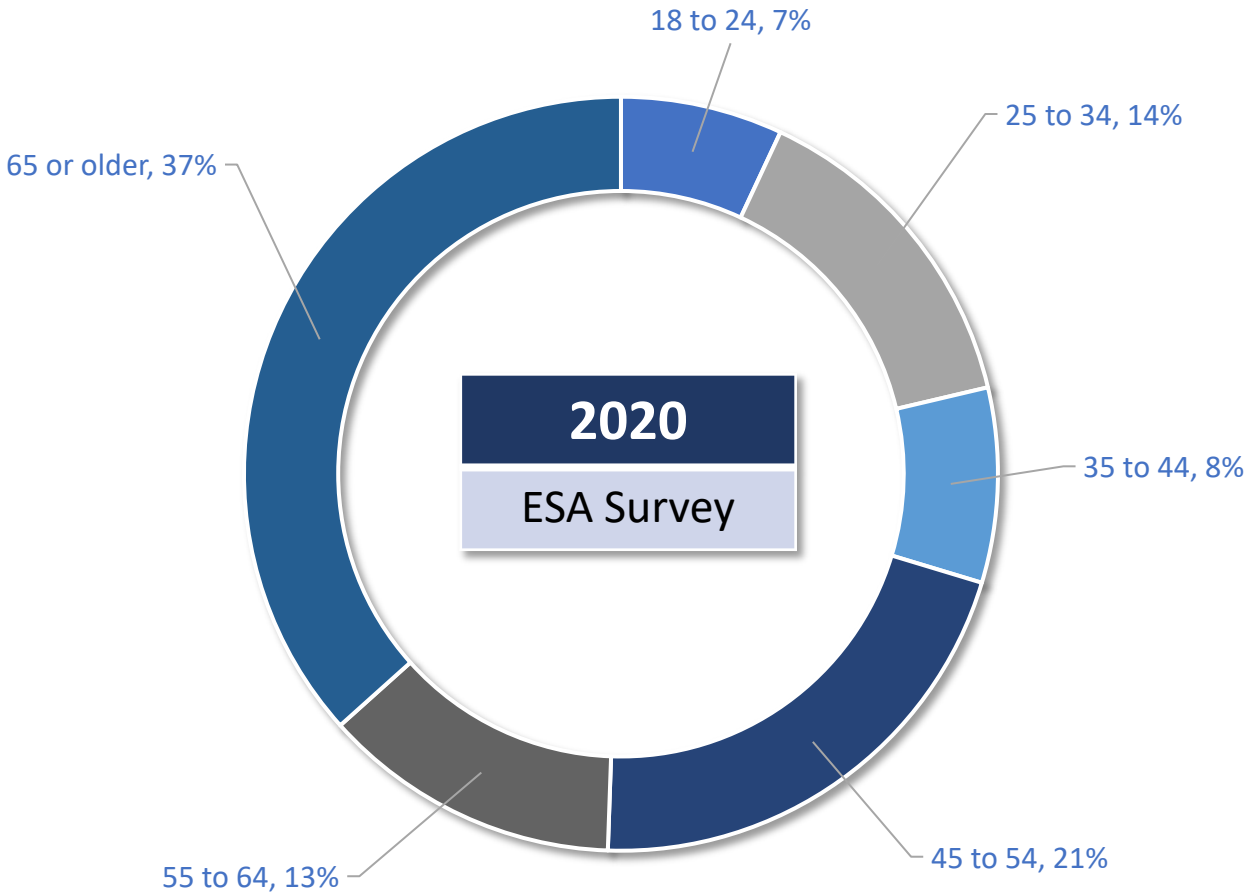
The following report contains graphic data and tables for all core questions as well as year-over-year comparative data (internal) and comparative scoring data (external). Additional data is available in the attached spreadsheet sheets and tables. (Appendix A)

Questions and scoring methodology was prescribed by the survey authors, Electrical Safety Authority/Innovative Research. As such, there has been limited additional analysis provided beyond the direction provided to meet the reporting guidelines. Should you wish further analysis of the data please contact our office to discuss.

DEMOGRAPHICS

REDHEAD INC
MEDIA SOLUTIONS

Age of Respondent



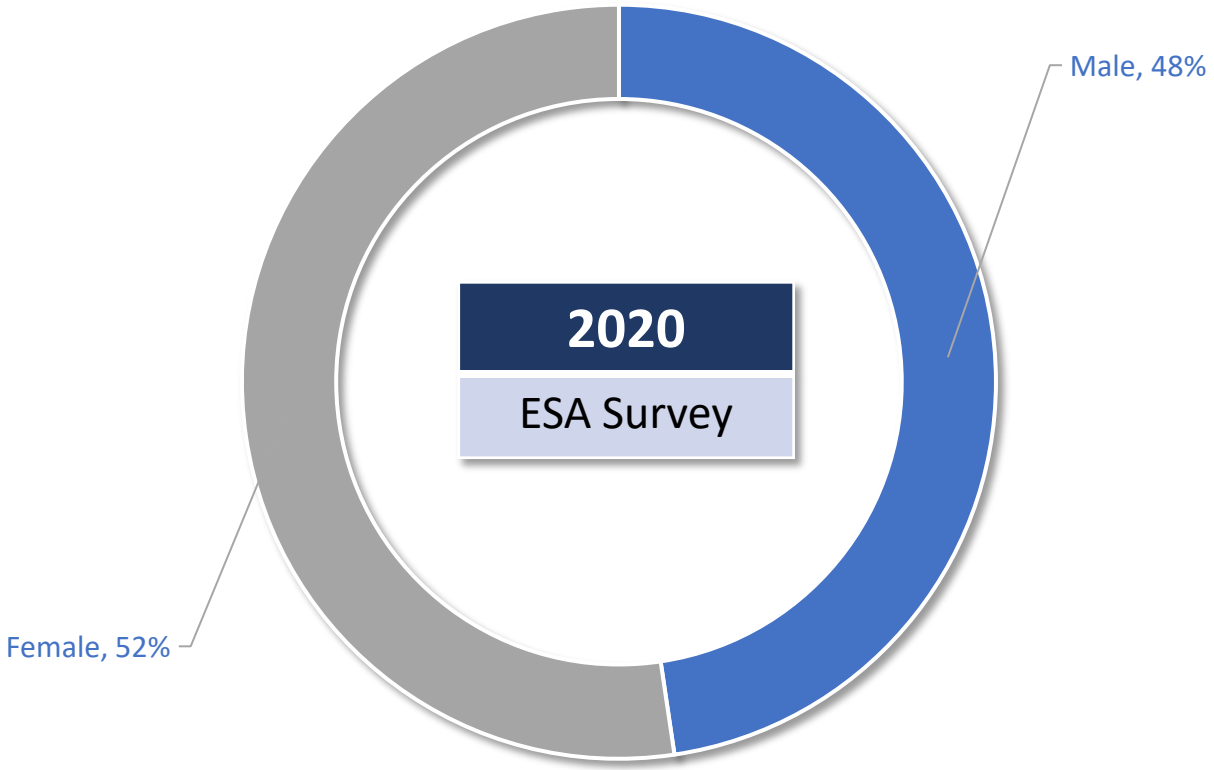
	Total
Base: Total Answering	400
18 to 24	7%
25 to 34	14%
35 to 44	8%
45 to 54	21%
55 to 64	13%
65 or older	37%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 6-March 10, 2020, n=400.

REDHEAD INC MEDIA SOLUTIONS

Gender of Respondent



	Total
Base: Total Answering	400
Male	48%
Female	52%

*Note: Charts and tables may not add up to 100% due to rounding

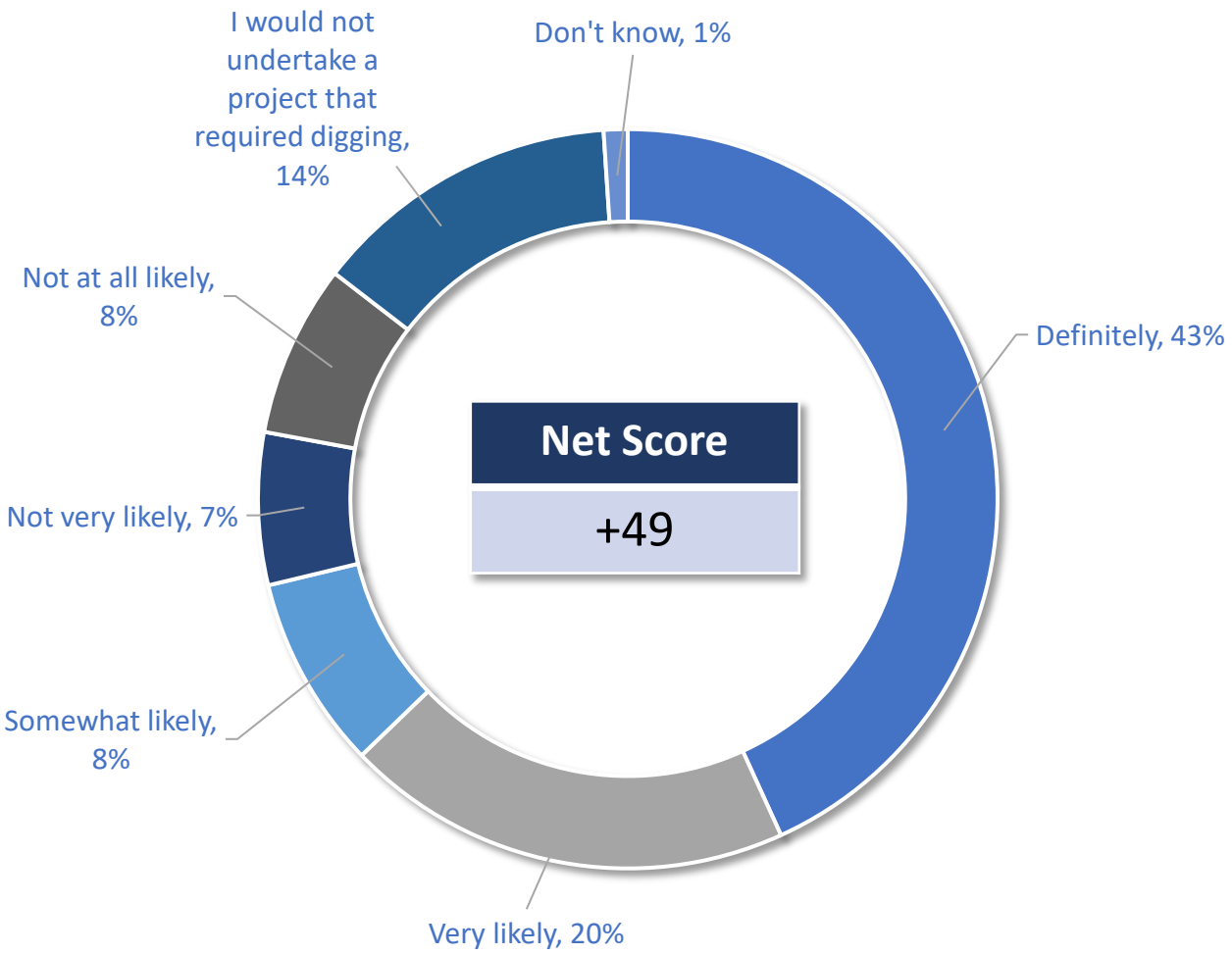
Source: Redhead Media Solutions/Advanis telephone random customer survey, January 6-March 10, 2020, n=400.

REDHEAD INC MEDIA SOLUTIONS

QUESTIONS

REDHEAD INC
MEDIA SOLUTIONS

B5: If you were to undertake a household project that required digging, such as planting a tree or building a deck, how likely are you to call to locate electrical or other underground lines?



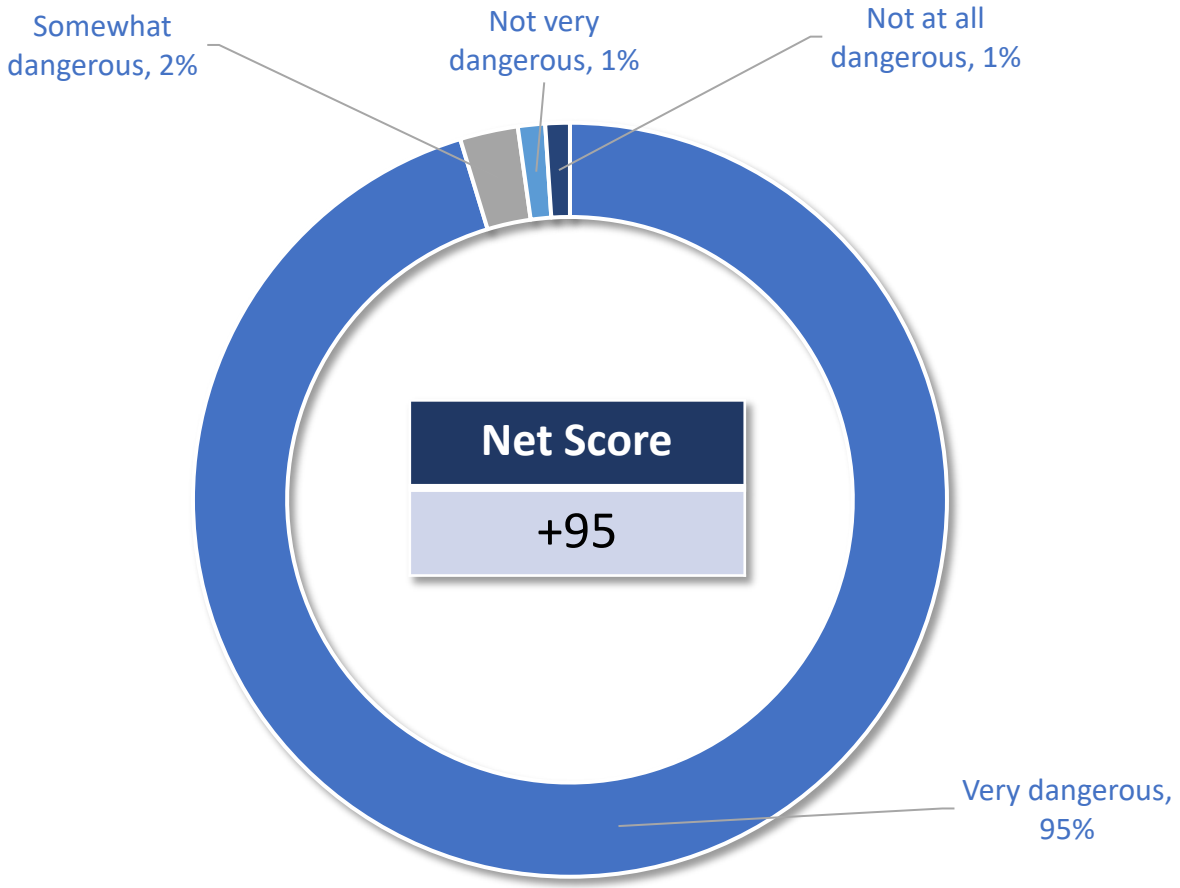
	Total
Base: Total Answering	400
Definitely	43%
Very likely	20%
Somewhat likely	8%
Not very likely	7%
Not at all likely	8%
I would not undertake a project that required digging	14%
Don't know	1%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 6-March 10, 2020, n=400, accurate 4.9 percentage points plus or minus, 19 times out of 20.

REDHEAD INC MEDIA SOLUTIONS

B6: How dangerous do you believe it is to touch – with your body or any object – an overhead power line?



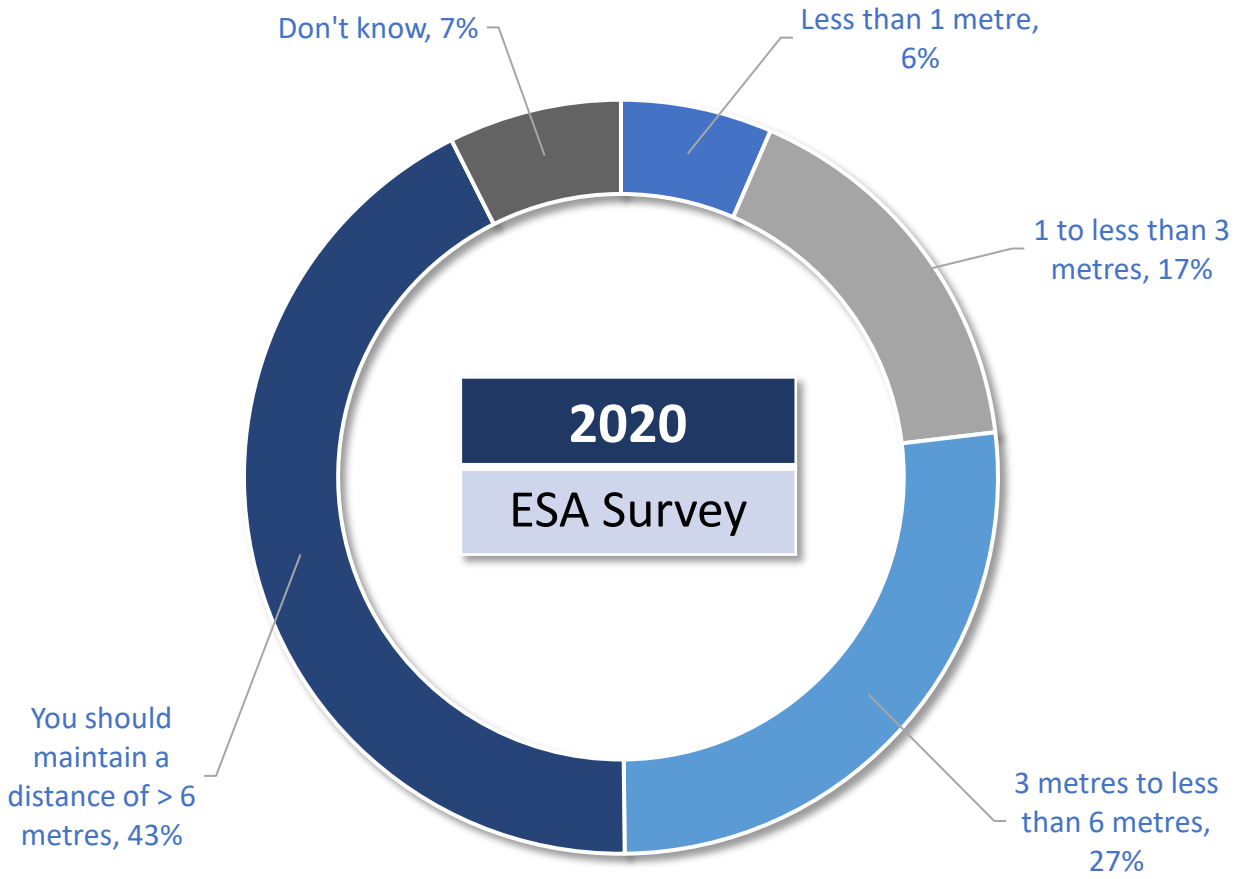
	Total
Base: Total Answering	400
Very dangerous	95%
Somewhat dangerous	2%
Not very dangerous	1%
Not at all dangerous	1%
Don't know	0%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 6-March 10, 2020, n=400, accurate 4.9 percentage points plus or minus, 19 times out of 20.

REDHEAD INC MEDIA SOLUTIONS

B7: When undertaking outdoor activities, such as standing on a ladder, cleaning windows or eaves, climbing or trimming trees, how closely do you believe you can safely come to an overhead power line with your body or an object?

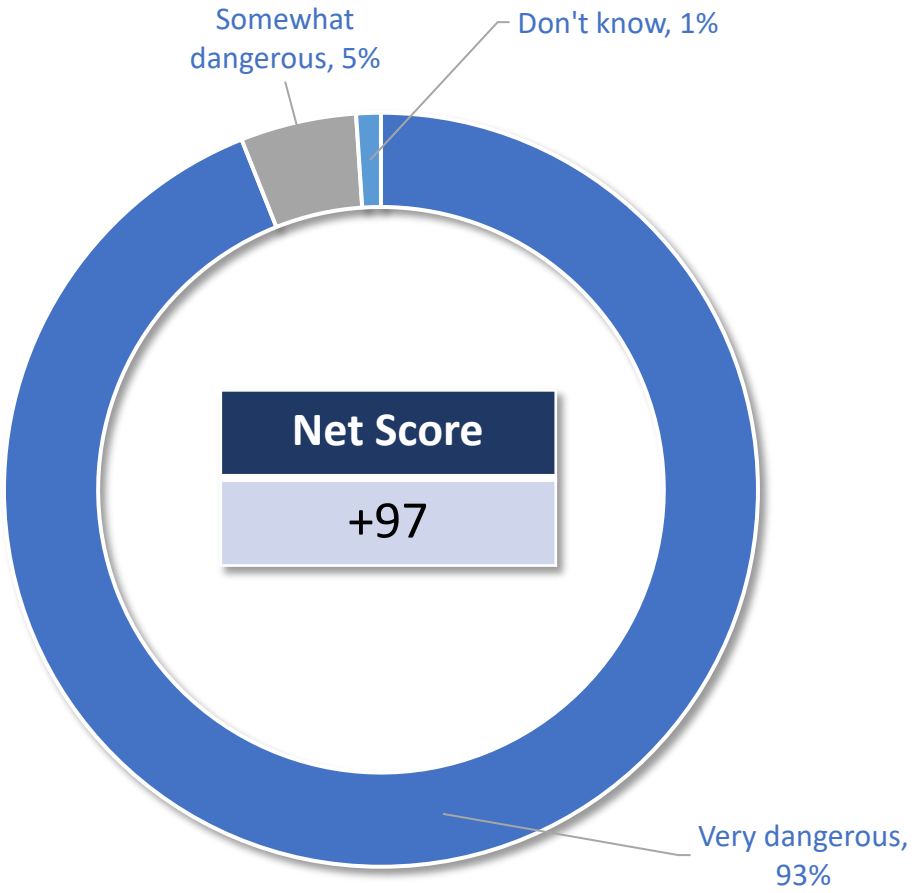


	Total
Base: Total Answering	400
You can safely touch an overhead power line	0%
Less than 1 metre	6%
1 to less than 3 metres	17%
3 metres to less than 6 metres	27%
You should maintain a distance of > 6 metres	43%
Don't know	7%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 6-March 10, 2020, n=400, accurate 4.9 percentage points plus or minus, 19 times out of 20.

B8: Some electrical utility equipment is located on the ground, such as locked steel cabinets that contain transformers. How dangerous do you believe it is to try to open, remove contents, or touch the equipment inside?



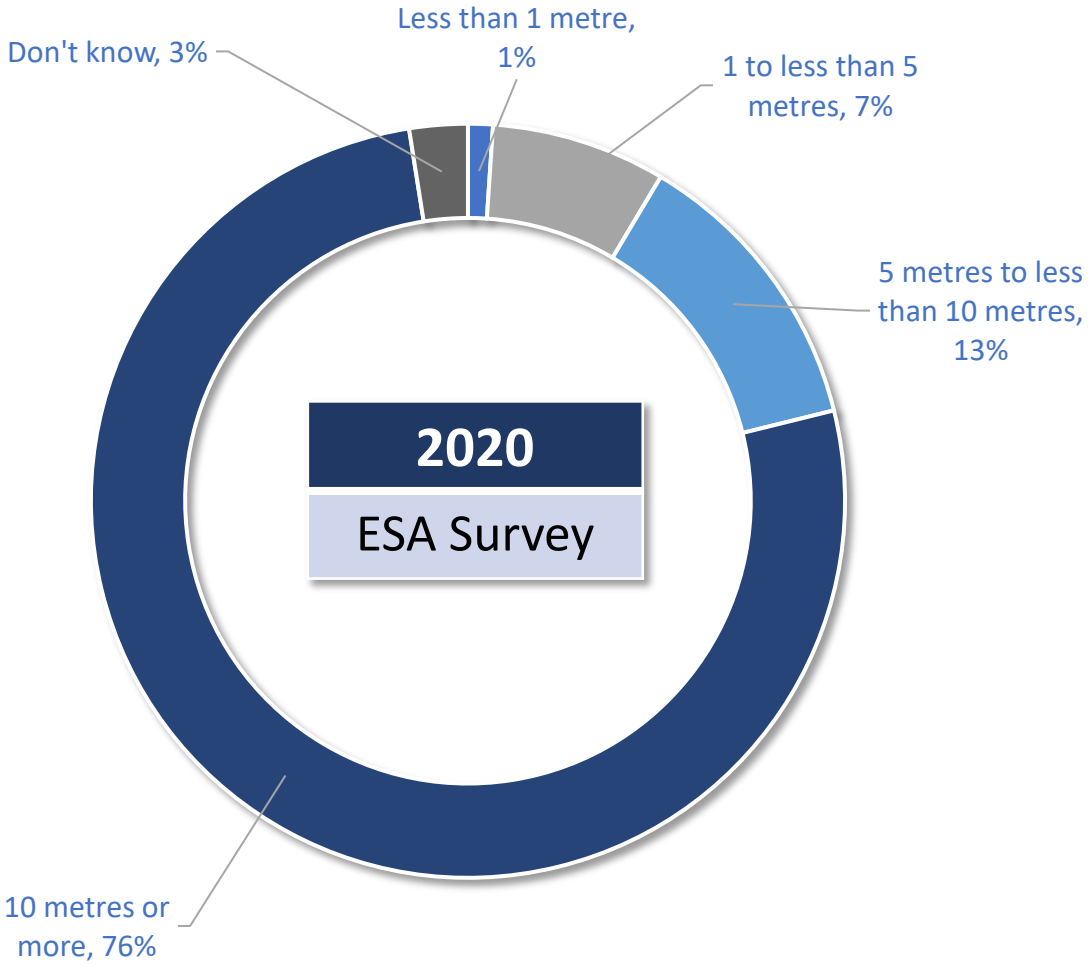
	Total
Base: Total Answering	400
Very dangerous	93%
Somewhat dangerous	5%
Not very dangerous	0%
Not dangerous at all	0%
Don't know	1%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 6-March 10, 2020, n=400, accurate 4.9 percentage points plus or minus, 19 times out of 20.

REDHEAD INC MEDIA SOLUTIONS

B9: How closely do you believe you can safely come to a downed overhead power line, such as a downed line caused by a storm or accident?



	Total
Base: Total Answering	400
You can safely touch a downed overhead power line	0%
Less than 1 metre	1%
1 to less than 5 metres	7%
5 metres to less than 10 metres	13%
10 metres or more	76%
Don't know	3%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 6-March 10, 2020, n=400, accurate 4.9 percentage points plus or minus, 19 times out of 20.

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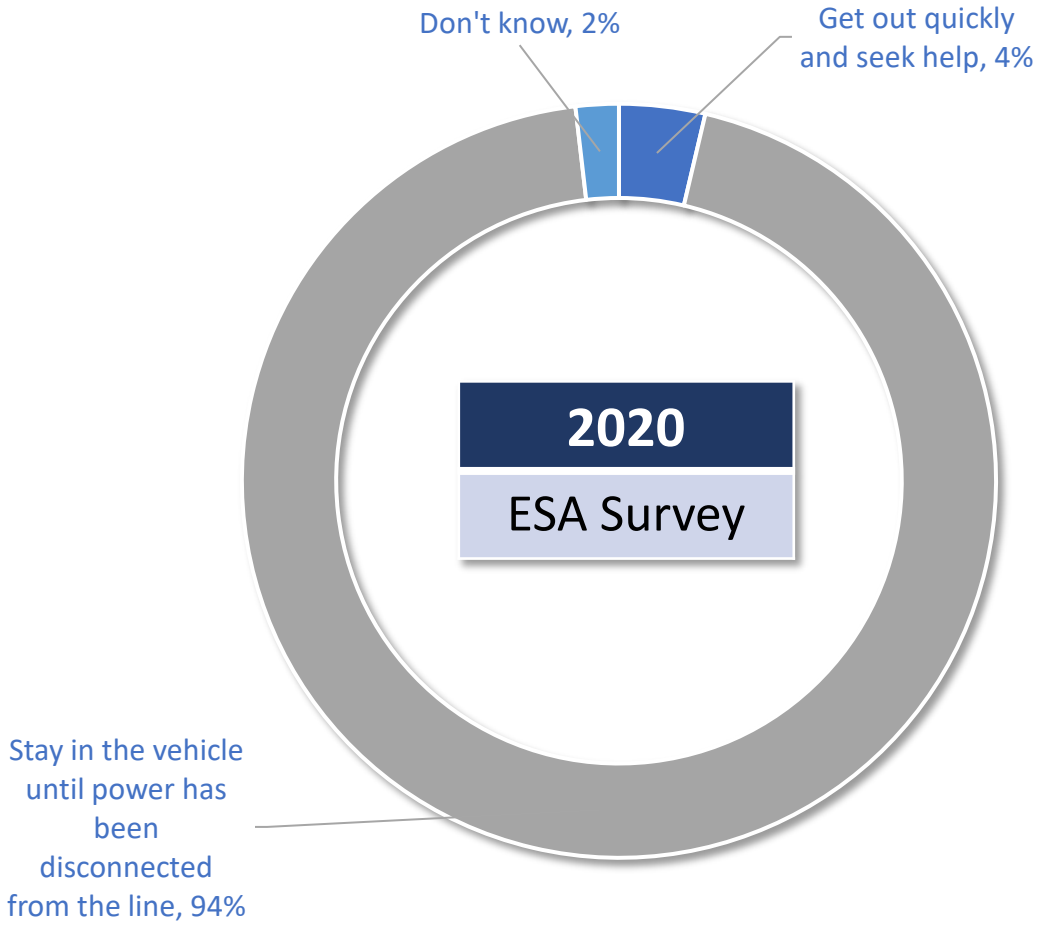
B10: If you were in a vehicle, such as a car, bus or truck and an overhead power line came down on top of it, which of the following options do you believe is generally safer?



	Total
Base: Total Answering	400
Get out quickly and seek help	4%
Stay in the vehicle until power has been disconnected from the line	94%
Don't know	2%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 6-March 10, 2020, n=400, accurate 4.9 percentage points plus or minus, 19 times out of 20.

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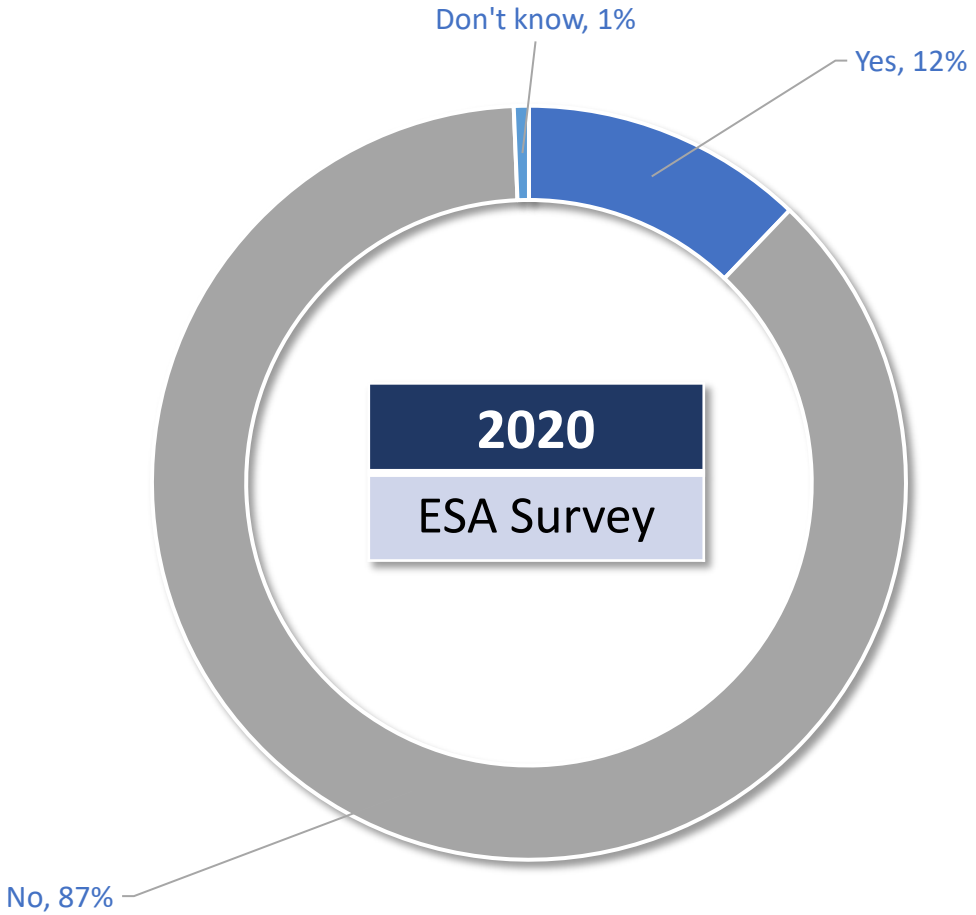
B11: Does your job regularly cause you to come close to energized power lines?



	Total
Base: Total Answering	400
Yes	12%
No	87%
Don't know	1%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 6-March 10, 2020, n=400, accurate 4.9 percentage points plus or minus, 19 times out of 20.

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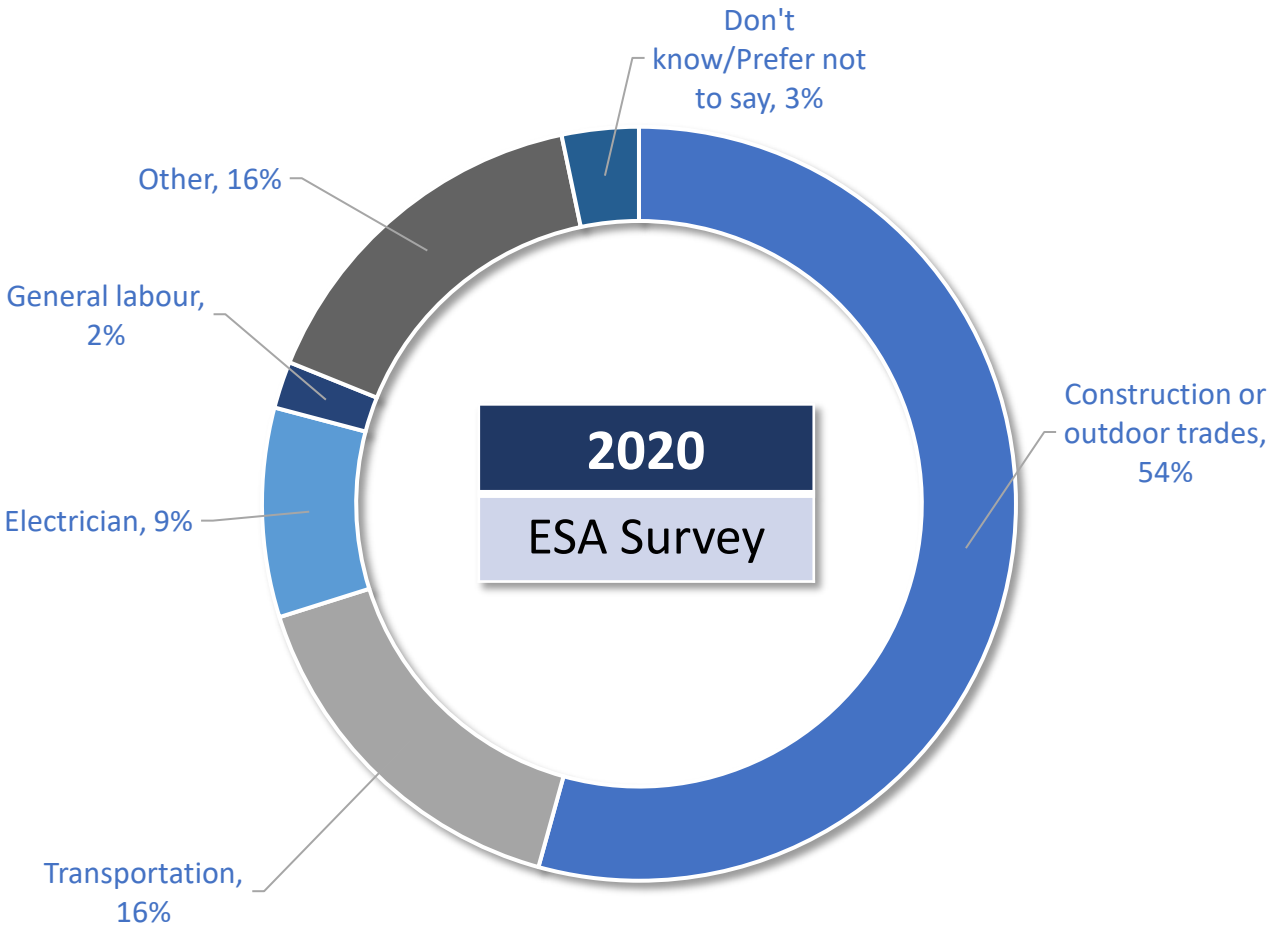
B12: Do you work in any of the following fields?



	Total
Base: Job requires regular proximity to power lines	37
Construction or outdoor trades	54%
Transportation	16%
Electrician	9%
General labour	2%
Other	16%
Don't know/Prefer not to say	3%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 6-March 10, 2020, n=37.

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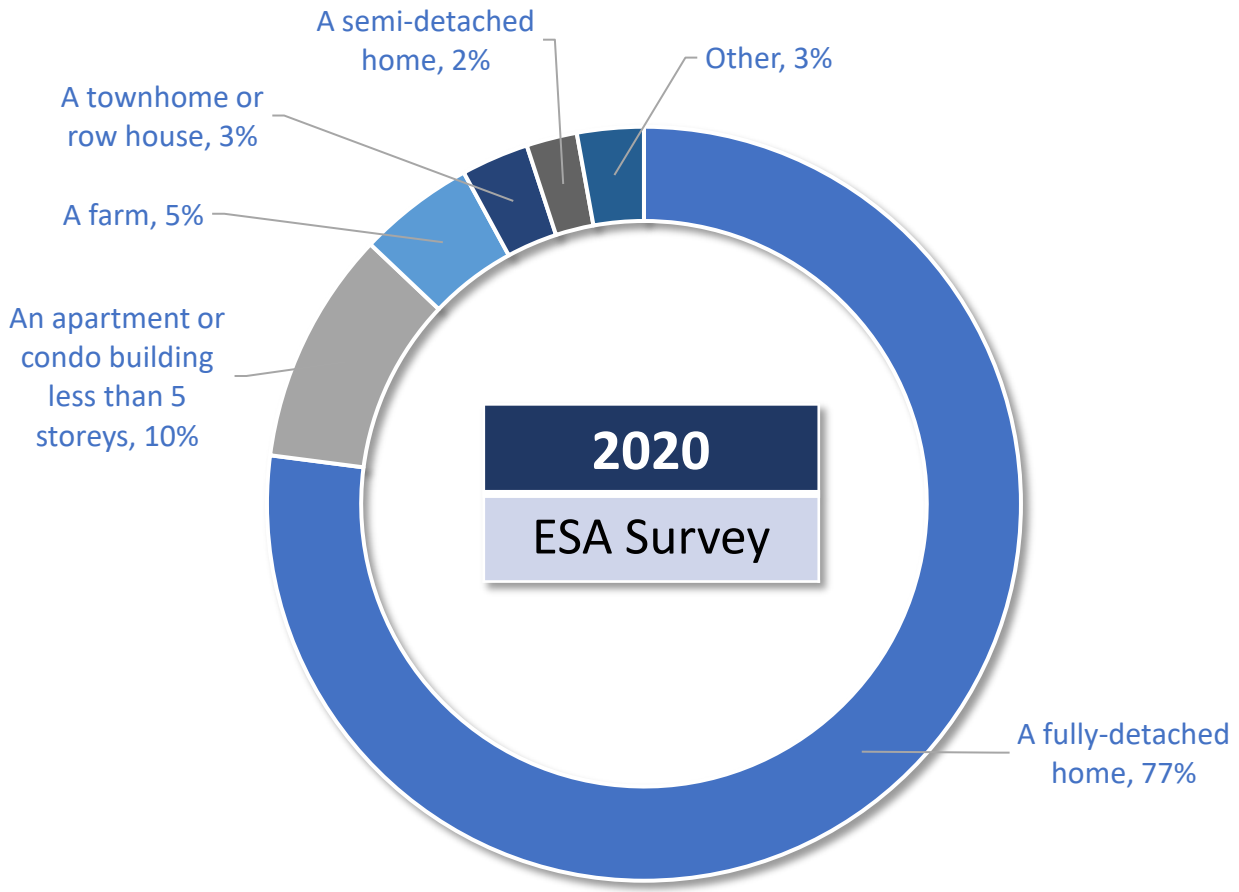
B13: How would you describe your primary residence?



	Total
Base: Total Answering	400
A fully-detached home	77%
An apartment or condo building less than 5 storeys	10%
A farm	5%
A townhome or row house	3%
A semi-detached home	2%
An apartment or condo building 5 storeys or higher	0%
Other	3%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 6-March 10, 2020, n=400, accurate 4.9 percentage points plus or minus, 19 times out of 20.

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B14: Does your primary residence receive electricity through overhead wires or underground cables?

	Total
Base: Total Answering	400
Overhead wires	53%
Underground cables	44%
Don't know	4%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 6-March 10, 2020, n=400, accurate 4.9 percentage points plus or minus, 19 times out of 20.

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RESULTS

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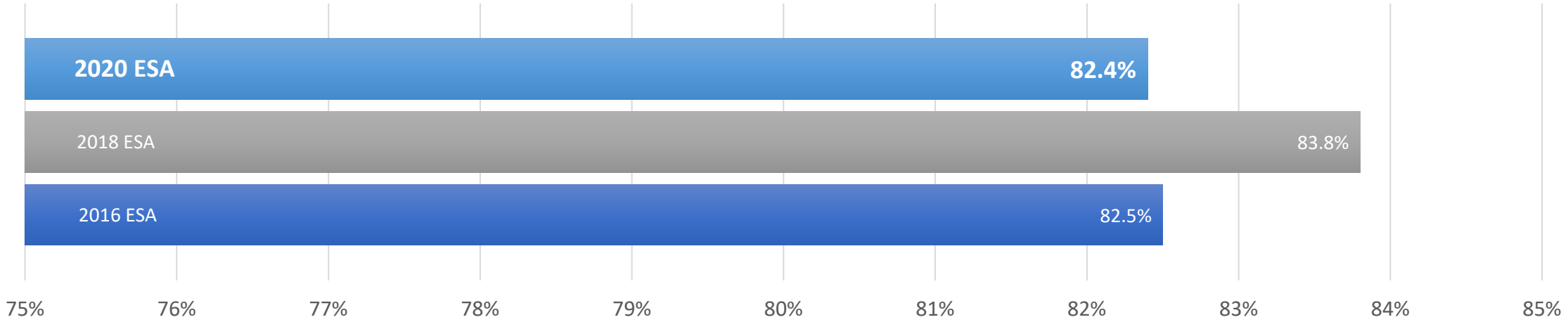
2020 Public Safety Awareness Index Score



	2016	2018	2020
Base: Total Answering	401	400	400
Public Safety Awareness Index Score	82.5%	83.8%	82.4%

*Note: Charts and tables may not add up to 100% due to rounding

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 6-March 10, 2020, n=400, accurate 4.9 percentage points plus or minus, 19 times out of 20.

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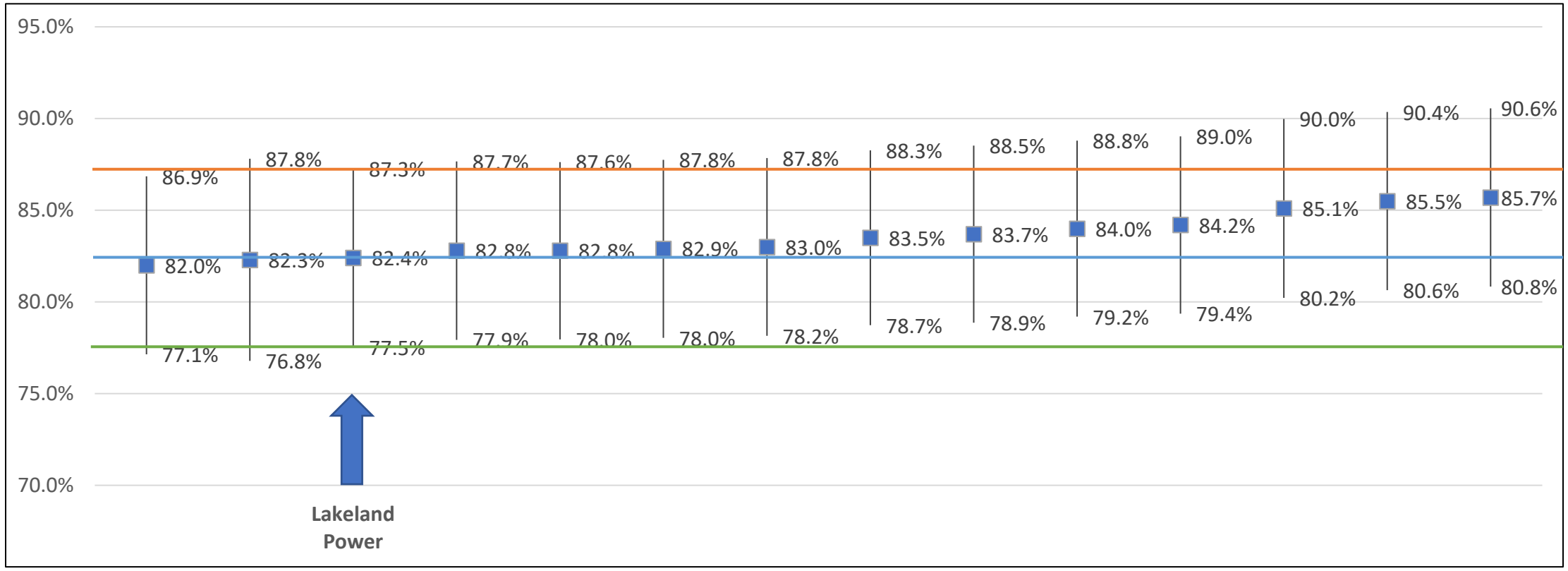
2020 Public Safety Awareness Index Score External Comparison Upper and Lower Bound



- The lines denote Lakeland Power's upper bound (orange), lower bound (green) and 2020 PSA Index score (blue). This is calculated by adding (upper) and subtracting (lower) the margin of error from the 2020 ESA Score.
- Lakeland Power overlaps with all survey LDCs, which indicates a statistical similarity, as also occurred in the 2018 ESA Survey.

Source: Redhead Media Solutions/Advanis telephone random customer survey, January 6-March 10, 2020, n=400, accurate 4.9 percentage points plus or minus, 19 times out of 20.

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METHODOLOGY

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Methodology Summary

Commissioned by	Lakeland Power
Sample size	400 randomly selected customers
Margin of error	±4.9 percentage points, 19 times out of 20
Survey mode	Random telephone survey of customer base, CATI data collection
Survey sample	Residents 18 years of age + who reside in the service territory of Lakeland Power
Time of calling	4PM-9PM ET Weekdays, callbacks scheduled 9AM-9PM ET
In-field dates	January 6-March 10, 2020
Language	English only
Survey author	Innovative Research/Electrical Safety Authority
Question Order	Report shown in order
Question Wording	Questions shown in report as asked
Survey Company	Redhead Media Solutions Inc/Advanis

Methodology Details

Target Respondents

The respondents of the survey were Ontario residents 18 years of age or older who reside within Lakeland Power's service territory. Target areas were determined based on a list of postal codes provided by Lakeland Power.

Sample Size and Statistical Reliability

All margins of error (MoE) are shown at a 95% confidence level.

- E.g., the margin of error associated with a sample size of 400 for a large (infinite) population is ±4.9 percentage points, 19 times out of 20.
- Because Lakeland Power's service area has a smaller adult (18+) population, and MoE is a function of the relationship between sample size and population, it is appropriate to apply a finite population correction factor when calculating MoE. When sample size is a higher percentage of the population, the MoE may narrow.

Sample sizes were set according to the *Public Awareness of Electrical Safety: Methodology & Survey Implementation Guide*, prepared for the Electrical Safety Authority by Innovative Research (November 2015):

- Where possible, sample size of n=400.
- For LDCs with a service territory population of less than 5,000, a minimum sample size of n=300 is appropriate.
- For LDCs with a service territory population of less than 3,000, a minimum sample size of n=200 is appropriate.

Methodology Details

Sampling Methodology

Redhead was provided service territory postal codes from Lakeland Power. Both landline and wireless sample were used. The landline sample used listed numbers only, the wireless sample was drawn randomly from the most recent working cell phone lists in rate centers in or around the specified area(s). We then sampled from these lists randomly using Advanis' proprietary sample server.

To minimize low response:

- Sample was loaded in batches to ensure the sample was fully utilized before moving onto fresh sample records;
- Calls were made between the hours of 4pm and 9pm ET on weekdays; and
- Call backs were scheduled and honored between the hours of 9am and 9pm ET.

Questionnaire

The survey instrument was provided by the Electrical Safety Authority (ESA) developed in conjunction with Innovative Research. The survey consisted of an introduction, electrical safety core questions and demographic information.

Data Collection

Computer aided telephone interviews (CATI) were conducted from January 6-March 10, 2020.

Methodology Details

Quality Control

The accuracy and integrity of results is of the highest importance for Redhead/Advanis. As such, several controls are implemented to ensure the highest quality output is achieved:

- Advanis, on behalf of Redhead, trained the interviewers to understand the study's objectives;
- Detailed call records are kept by the automated CATI system, and are supplemented by output files to SPSS for productivity analysis (i.e., not subject to human error);
- The survey was soft launched in select markets. The data was then checked before calling began in full for Lakeland Power;
- 100% of all surveys are digitally recorded for potential review;
- Advanis' Quality Assurance team listened to the actual recordings of five percent of completed surveys and compared the responses to those entered by the interviewer to ensure that responses from respondents are properly recorded;
- Team Supervisors conduct regular more formal evaluations with each interviewer, in addition to nightly monitoring of each interviewer on their team;
- Project Managers closely monitored the progress of data collection, including call record dispositions;
- All SPSS code is reviewed by a more senior researcher;
- All Report Builder output is reviewed by a more senior researcher; and
- All values in the report are reviewed by another team member to ensure accuracy.

Methodology Details

Analysis of Findings & Data Weighting

Within each LDC, results were weighted to match corresponding population proportions from the most recent Statistics Canada census data for these six combinations of gender and age:

- Males 18-34
- Females 18-34
- Males 35-54
- Females 35-54
- Males 55 and older
- Females 55 and older

This **index score** is calculated using the following formulas:

Step 1: Add each individual respondent's key measurement questions using the provided response values.

B5
\+ B6
\+ B7
\+ B8
\+ B9
\+ B10
= **Individual respondent's cumulative score**

Step 2:
Individual respondent's cumulative score / # of sections
= Respondent Standardized Score

Step 3:
Summation of all **"Respondent Standardized Scores"** / n-size (i.e. total sample size)
= Raw Index Score

Step 4:
Raw Index Score × 100 = **Index Score** (bound between 0-100%)

As noted above, the service territory was specified by postal code. Since census data is not available by postal code, RMS provided Advanis with the municipalities covered by the LDC, and the population numbers for the Census Subdivisions that most closely matched those municipalities were totaled to arrive at the LDC population proportions for each of the six gender/age combinations.

The Public Safety Awareness index scores have been highlighted and were calculated as described below, based on instructions from the Electrical Safety Authority (ESA). The "provided response values" referenced in the description below were also determined and provided by the ESA. Data analysis and cross-tabulation have been conducted using SPSS and Report Builder software.

Methodology Tables

Margin of error

LDC	Completed Surveys	Sample Size as % of population	Assuming Large Population	Using Actual 18+ Population
Lakeland Power	400	1.1%	+/- 4.9%	+/- 4.9%

Service Territory Defined by Postal Code

LDC	Total Postal Codes in Service Territory	Forward Sortation Areas (FSA) Covered	Number of Local Delivery Units in Each FSA
Lakeland Power	741	P0A	3
		P1H	110
		P1L	253
		P2A	375

Thank You

We greatly appreciate working on this important project for Lakeland Power and hope we have met or exceeded your expectations.

We are happy to present this data to your staff or Board members upon request. If you wish to do so, please contact us for an appointment.

We look forward to working with you on future projects. Please note if you have any other projects that we may be able to help you with, don't hesitate to be in touch.

Graydon Smith - President
Redhead Media Solution Inc.
505 Hwy 118 W.
Suite 416
Bracebridge, ON
P1L 2G7

LakelandPower

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