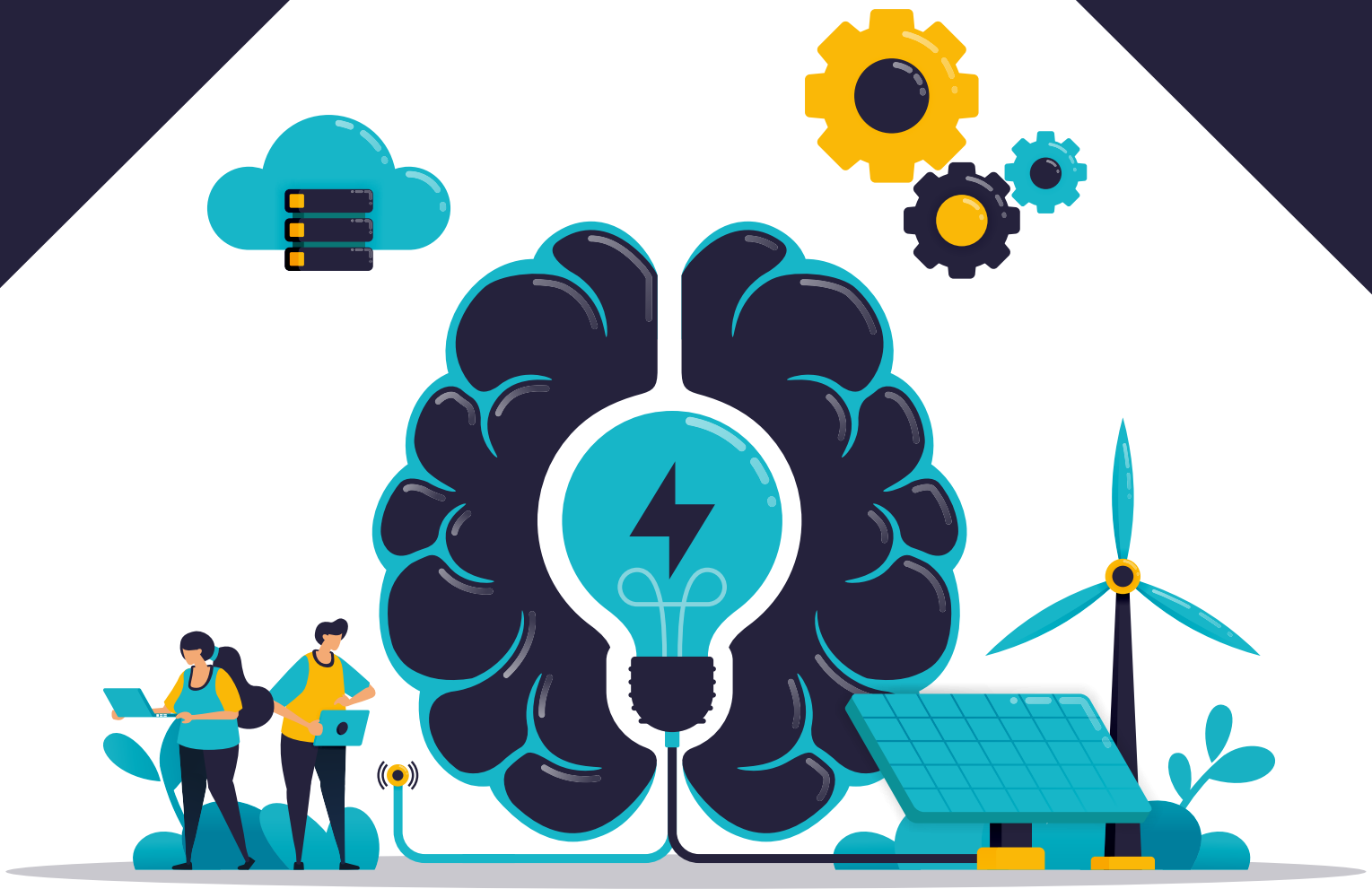
VisNet®
From EA Technology

VisAbility of Consumer Energy Trends for **Smarter, Sustainable, Resilient Networks**

VISNET CONSUMER ENERGY REPORT



INTRODUCTION

Challenges and opportunities for owners and operators of low voltage (LV) distribution networks; and **key insights into the development of resilient, accessible, low-cost energy networks which accelerate the transition to Net Zero.**

The VisAbility of Consumer Energy Trends for Smarter, Sustainable, Resilient Networks report is the industry leading guide for owners and operators of electrical networks.

This report investigates consumer electricity usage, habits and forecasts in the UK, Australia and New Zealand. Offering forward-thinking DNOs and DNSPs clear advice, insights and guidance on consumers' electricity habits, usage of energy intensive appliances, future consumption forecasts, and differing generational behaviour patterns.

It follows UK energy regulator Ofgem's 2025 ED3 Framework Decision Report. This, alongside comparable frameworks in Australia and New Zealand, will govern the operation and investment strategies of DNOs and DNSPs.

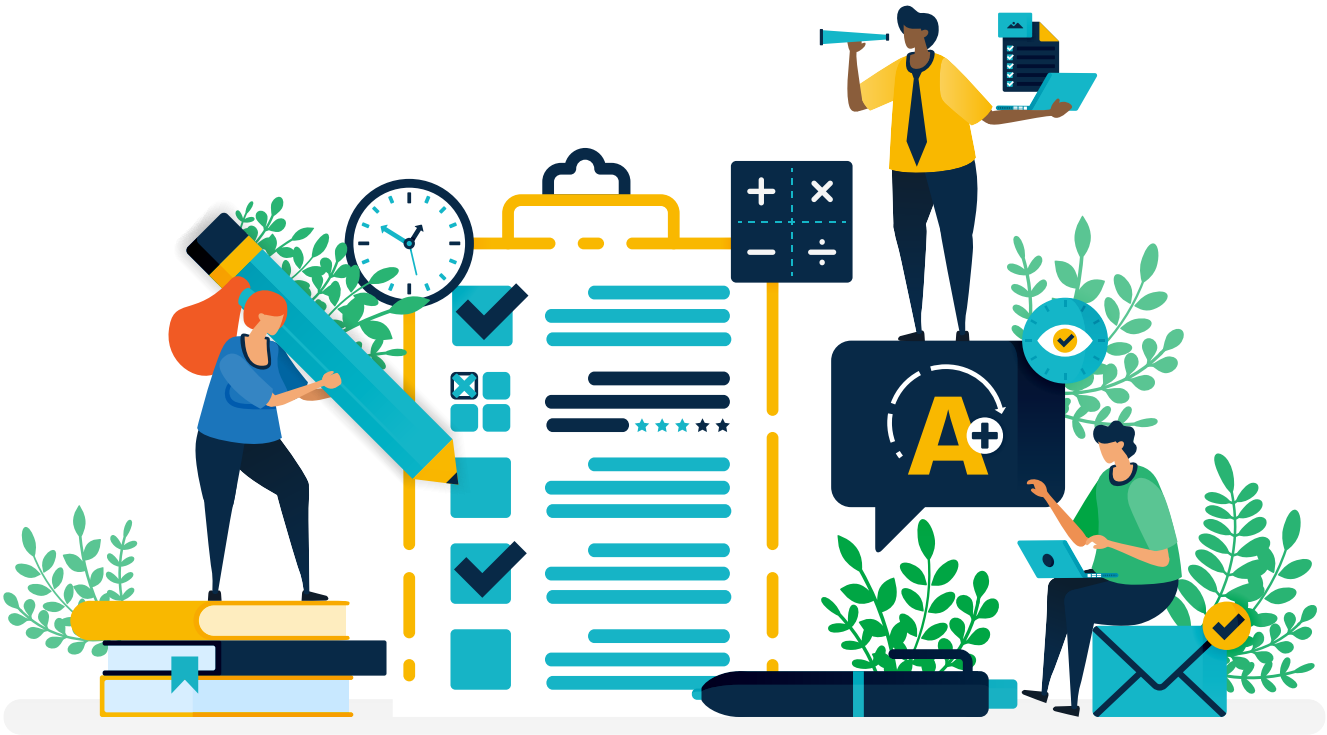
Our research offers decision-makers actionable insights and visibility into low voltage network modelling, forecasting, and management based on the latest consumer energy trends.

BACKGROUND ON RESEARCH

This research comes at a pivotal time, with DNOs in the UK and DNSPs in Australia and New Zealand progressing towards net zero and responding to calls for more sustainable business models and smarter, more resilient networks. With 8,002 respondents, it offers a comprehensive snapshot of consumer attitudes towards electricity usage, habits, and forecasts in the UK, Australia and New Zealand, giving an analysis of how this will impact providers.

The research was conducted by Censuswide with 8,002 general respondents across Australia, New Zealand and the UK (aged 16+) between 04.03.2025 – 13.03.2025.

Censuswide abides by and employs members of the Market Research Society. It follows the MRS code of conduct and ESOMAR principles. Censuswide is also a member of the British Polling Council.



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CCO FOREWORD

From Mark Sprawson, **Chief Commercial Officer, EA Technology**

EA Technology's mission is to be the global leader in sustainable grid-edge solutions - promoting the development of resilient, accessible, low-cost energy networks, which accelerates the transition to energy decarbonisation.

Smarter Networks

Through real-time data and automation

Resilient Networks

Resilient against climate, and load risks

Sustainable Networks

Aligned with net-zero goal

Proactive Networks

Capable of dealing with fast-paced change

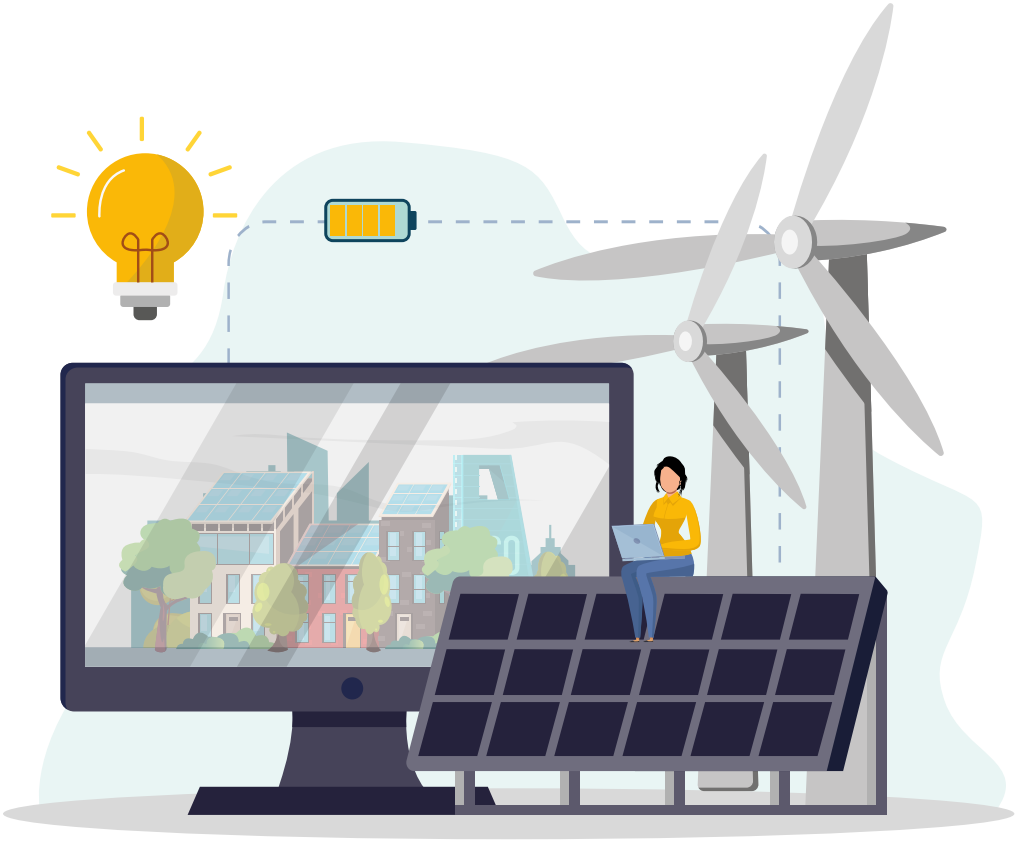
This timely report is a strategic tool for decision makers within owners and operators of electricity networks, offering a new foundation for modelling, forecasting and managing LV networks. It provides a comprehensive view of how consumer electricity usage is evolving across the UK, Australia and New Zealand. It reveals the changing shape of the peak demand curve, the significance of new energy-intensive EVs and appliances, generational differences in energy consciousness, and consumer appetite for renewable energy.

Regulators are setting out clear guidance for more resilient, sustainable, and digitally intelligent energy networks, which require operators to make smarter decisions faster, with certainty and insight.

Electricity distribution has now expanded beyond cables and substations. It is about intelligence, adaptability, and responsiveness. Owners and operators of electricity networks need actionable insights in real time: to respond to shifting consumer patterns; to manage peak load intelligently and cost-effectively; to prioritise vulnerable customers in network resilience planning; and to enable granular forecasting through behavioural, not just historical, data.

At VisNet from EA Technology, we believe the key to meeting both the regulatory and net zero challenges ahead lie in enhanced network visibility, actionable grid-edge insights, and real-time data detailing how consumer behaviour is impacting networks.

Key findings for owners and operators of electrical networks in the **VisAbility of Low Voltage Network Management & Consumer Energy Trends report.**



The industry needs to shift from a more reactive approach to a more proactive investment strategy. Primarily, to support network owners and operators in managing peak loads more effectively as we transition to a net zero energy system. Also, to ensure they remain compliant with Ofgem's forthcoming RII0-ED3 electricity price control framework and other similar regulatory regimes elsewhere.

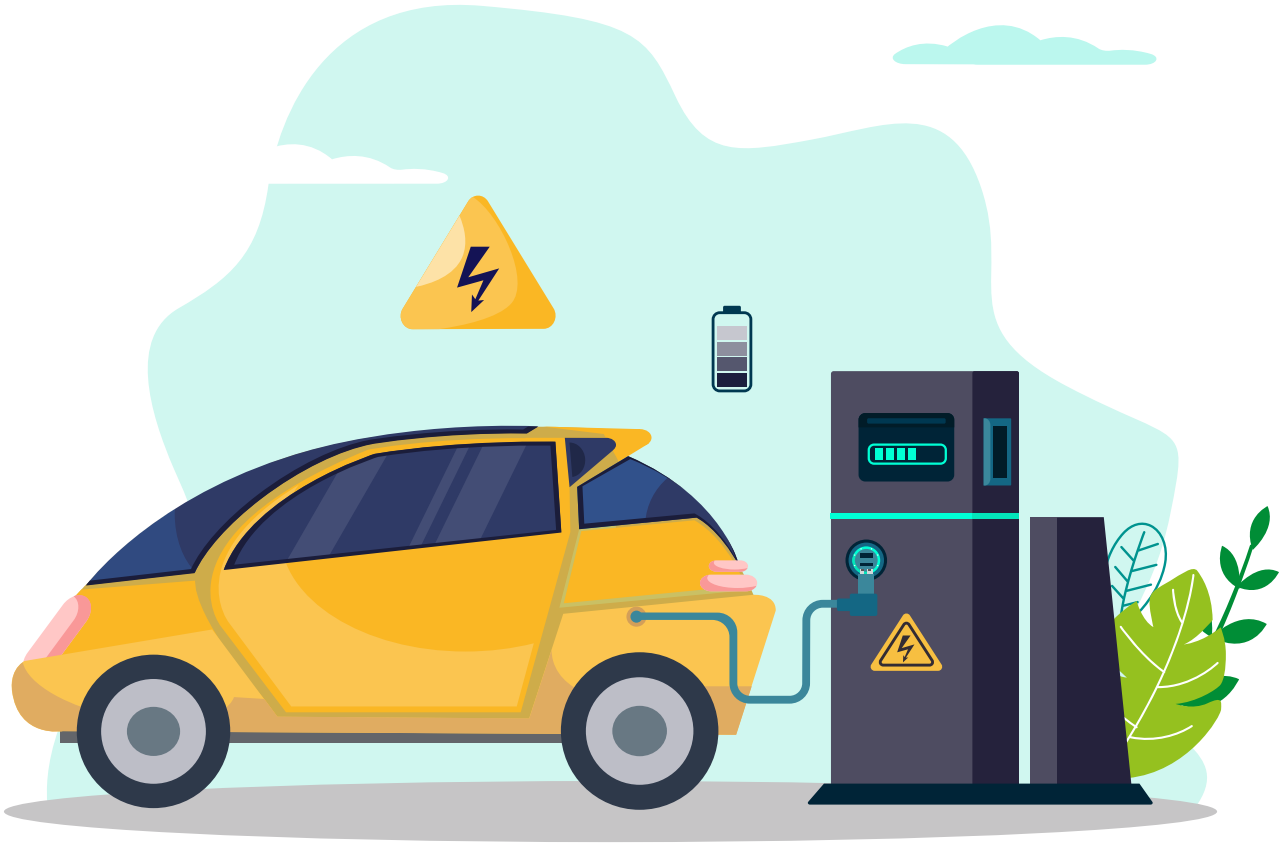
For example, the use of advanced load and behavioural modelling to simulate how consumer flexibility can alleviate peak demand; by integrating real-time data with predictive models, owners and operators can identify where and when to invest in flexibility services or network reinforcement—shifting from reactive responses to data-driven, proactive management aligned with RIIO-ED3 and net zero goals.

Networks for Net Zero

70%

70% of all consumers already have a high or medium level of electricity usage, and two-thirds (66%) think they could shift some usage to off-peak times.

EXECUTIVE SUMMARY



It is increasingly important for owners and operators to monitor the presence and impact on the network of these appliances, as well as time-of-day usage patterns. High-resolution, feeder-level visibility of Electric Vehicles (EV) charging patterns avoids unnecessary and costly blanket infrastructure upgrades. The rapid growth in EVs and new demand from renewable energy generation customers is set to increase the number of connections to the grid. More in-depth, localised data and analytics will deliver these new connections efficiently.

In addition, predictive and scenario-based analysis provides valuable foresight into how increasing EV ownership and high-intensity appliance uptake will affect local network capacity. Combining demographic, asset, and connection data enables a clearer understanding of where constraints are most likely to emerge and how targeted measures - such as smart charging or flexibility incentives - can be prioritised ahead of large-scale infrastructure investment.

Responsible and sustainable business

60%

Over 60% of households own at least one technology appliance, and nearly half (45%) plan to buy an EV or electric bike in the next five years.

EXECUTIVE SUMMARY

The increase in more accurate forecasts will better inform demand response strategies. The use of grid-edge intelligence will allow owners and operators of the electrical networks to manage capacity and proactively address faults so that the challenge posed by this increased usage can be met.

Advanced forecasting and network simulation can help translate grid-edge intelligence into actionable insights. By modelling future load growth scenarios, particularly the combined impact of EVs, heat pumps, and shifting consumption patterns, owners and operators can evaluate system resilience, anticipate emerging constraints, and design demand response strategies that balance reliability, flexibility, and efficiency across the network.

Smarter Networks

40%

By 2030 the average household load is set to increase by 40% in the UK, and evening peak usage is expected to spike by 60% in homes with EVs and heat pumps.

EXECUTIVE SUMMARY

The research shows how different age groups exhibit quite distinct patterns of behaviour when it comes to electricity consumption. Behavioural segmentation data such as this is crucial for owners and operators to move away from generic incentive schemes, and to design and implement more targeted demand-side programmes that work. Owners and operators will benefit from actionable insights on the network assets impacted by changing consumer behaviours.

Incorporating behavioural segmentation data into network models enables a more nuanced understanding of how different consumer groups respond to cost and usage signals. This allows owners and operators to simulate the impact of targeted demand-side measures, assess risks to specific assets, and strengthen network resilience by aligning operational strategies with real-world behavioural dynamics at the grid-edge.

Resilient Networks

68%

68% of consumers are concerned about rising electricity costs in the future.

Consumer electricity habits in the **UK, Australia and New Zealand**

As we move towards a future guided by net zero goals for 2050, and as consumer electricity demand increases, DNOs and DNSPs are responsible for ensuring that low voltage distribution network capacity stays ahead of the curve. And that it can deliver against longer-term network needs. Importantly, it also needs to deliver against longer-term network needs.

To support the transition to a net-zero energy system, owners and operators of LV networks are undergoing significant transformations, making changes that are essential to accommodate the increasing demand from EVs, heat pumps, and other energy intensive products such as home batteries, air conditioning units and dehumidifiers.

Firstly, it is instructive to look at current consumer electricity habits; daily patterns of usage and peak electricity times; and to consider the kinds of incentives that work best for consumers for reducing peak time energy usage.

Electricity usage and consumer behaviour

Each respondent surveyed across the UK, Australia and New Zealand was scored and grouped into 'high', 'medium' and 'low' energy usage groups based on the number of appliances used in a typical day. These include household appliances, personal electronics, heating systems, cooling systems, home entertainment devices, kitchen appliances, smart home devices, outdoor equipment, pool or hot-tubs or heat pumps, or other appliances.

70%

70% of all consumers have a high or medium level of electricity usage.

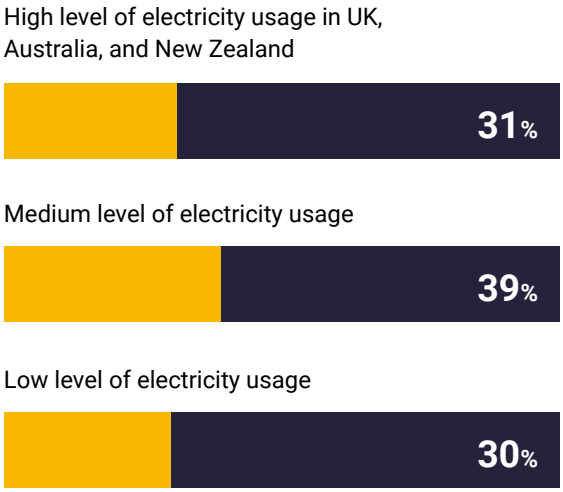
34%

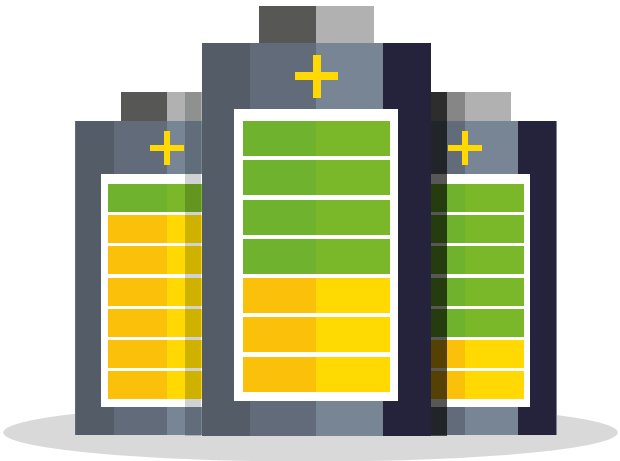
Over a third (34%) of British consumers have a high level of electricity usage.

NETWORKS FOR NET ZERO

Electricity usage amongst all 8,002 consumers surveyed across the UK, Australia and New Zealand is medium to high. Nearly a third (31%) of all consumers have a high level of electricity usage, almost two in five (39%) medium and 30% low usage. High levels of electricity usage are most common in the UK (34%), followed by Australia (29%) and then New Zealand (27%).

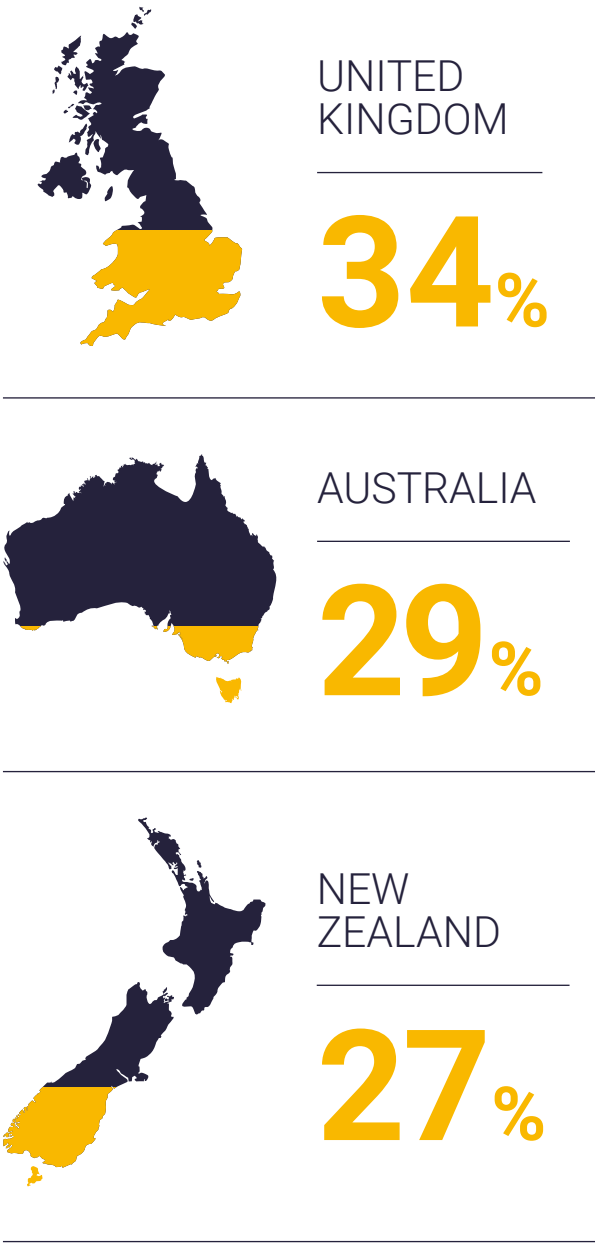
Figure 1





High levels of electricity usage per country

Figure 2



Daily patterns and **peak electricity times**

Most consumers have an average of four household appliances, four personal electronics, four kitchen appliances, and three home entertainment devices plugged in and switched on in a typical day. Plus, over half of all consumers surveyed (54%) have an average of two smart home devices plugged in and switched on, as you can see from Figure 3, below.

Figure 3

97%

Have household appliances plugged in and switched on, with an average of four items switched on.

94%

Have personal electronics plugged in and switched on, with an average of four switched on.

93%

Have kitchen appliances plugged in and switched on, with an average of four switched on.

90%

Have home entertainment devices plugged in and switched on, with an average of three switched on.

54%

Have smart home devices plugged in and switched on, with an average of two switched on.

NETWORKS FOR NET ZERO

Nearly half (48%) of all consumers have heating systems and 46% have cooling systems plugged in, with an average of two of each switched on in a typical day. Unsurprisingly, more Brits (52%) have heating systems switched on through the day, compared with Australians (40%). And more Australians (76%) have air-conditioning systems switched on throughout the day, compared to Brits (28%). Additionally, a high proportion of those who have a heat pump, pool or hot tub (84%) have these plugged in and switched on in a typical day.

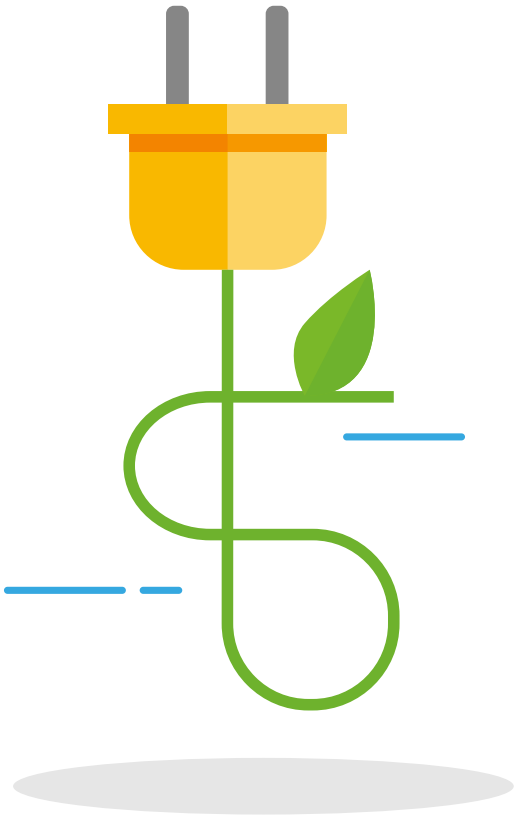


Figure 4

48%

Have heating systems plugged in and switched on, with an average or two electrical appliances switched on at the same time.

46%

Have cooling systems plugged in and switched on, with an average or two electrical appliances switched on at the same time.

40%

Have outdoor equipment plugged in and switched on, with an average or two electrical appliances switched on at the same time.

47% of all respondents use their electricity most heavily between 5.01pm-8pm. Consumers' perceived times of highest electricity use are 4.31pm in the UK, 4.52pm in Australia and 5.12pm in New Zealand. However, based on VisNet's LEP data across Cheshire's Energy Innovation District in the UK, the most common time of peak loading is between 6–6.30pm, suggesting a slight gap between consumer-perceived peak times and actual peak times.

Consumers' perceived times of highest electricity use

Figure 5

United Kingdom
4:31pm

Australia
4:52pm

New Zealand
5:12pm

Incentives for **reducing peak time energy usage**

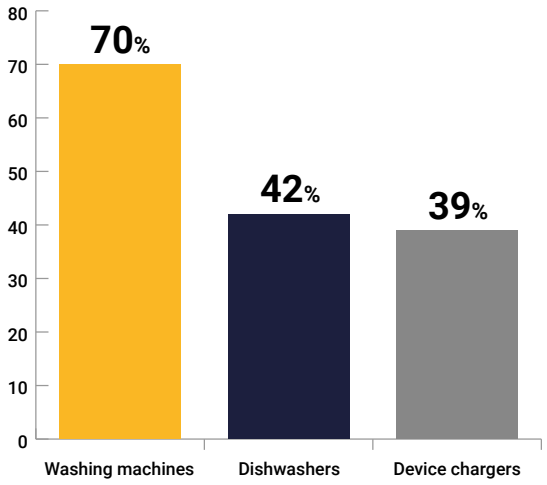
Despite the high levels of electricity usage during peak times, two thirds (66%) of all consumers do think they could shift some of their electricity use to off-peak times.

This sentiment is highest in the UK (71%), followed by New Zealand (64%) and Australia (57%). Those with high electricity usage are more likely to think they could move some consumption to off-peak hours (76%), compared to those with medium (66%) or low usage (55%).

In terms of those appliances which consumers think it would be easiest to switch to use in off-peak times, washing machines (70%), dishwashers (42%) and device chargers (39%) came out on top.

Easiest appliances to switch to off-peak times

Figure 6



Three in five (60%) of all consumers think they could cut down the amount of electricity they use. Consumers who have a high electricity use are even more inclined to make a change, with three quarters (75%) claiming they could cut down their usage. Brits are the most likely to feel they could cut down the amount of electricity they use (64%) followed by Australians (56%) and New Zealanders (54%).

66%

66% of consumers think they could shift some electricity use to off-peak times.

High levels of electricity usage per country

Figure 7

UNITED KINGDOM

64%

AUSTRALIA

56%

NEW ZEALAND

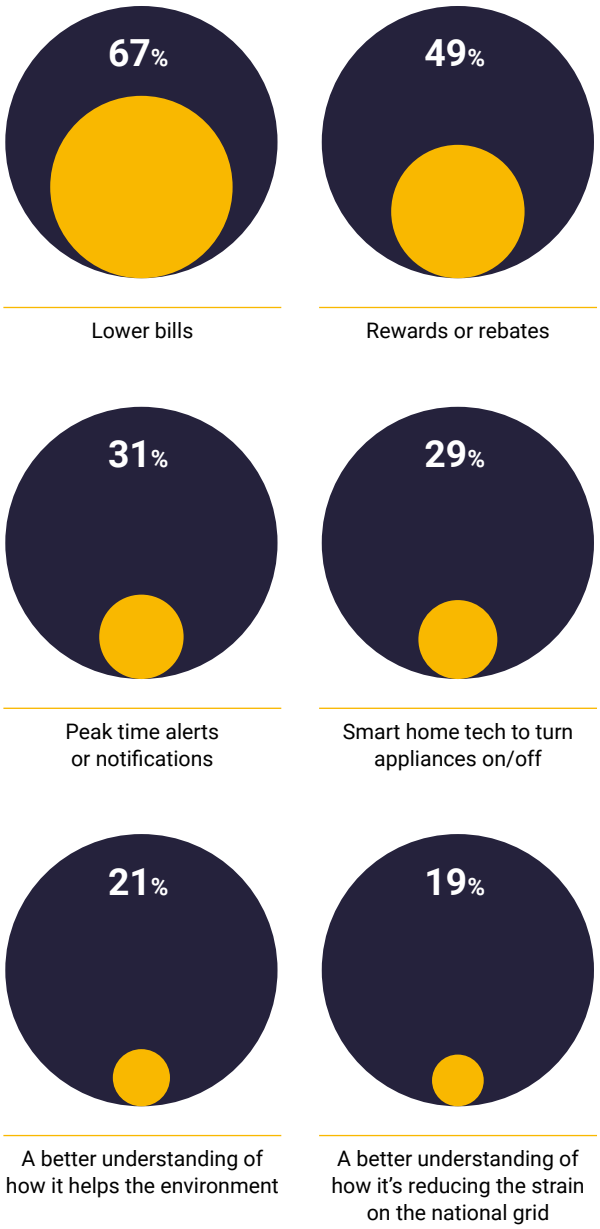
54%

NETWORKS FOR NET ZERO

Lower electricity bills, or rewards or rebates from energy providers are the two top tactics that could incentivise consumers to reduce their energy use during peak times (at 67% and 49%, respectively). Followed by simply having alerts or notifications about peak times (31%) and smart home tech to make it easier to switch appliances on and off (29%). Meanwhile, to over one in 5 (21%) would be incentivised through an understanding of how it can help the environment, or knowing how it's helping their country or community by reducing the strain on the national grid (19%).

Popular incentives for reducing electricity during peak times

Figure 8



Expert View

"Ofgem's forthcoming RIIO-ED3 electricity price control framework, which starts in April 2028, and other comparable regulatory frameworks in Australia and New Zealand, places increased emphasis on efficient network operation, decarbonisation, and consumer benefits.

To remain compliant, and to stay ahead of the curve, owners and operators will need to respond rapidly and efficiently to changing consumer patterns in real time. And this is why monitoring is so important, helping to bridge perception and reality, to ensure effective capacity management. RIIO-ED3 and other similar regulatory regimes elsewhere are changing the operational mindset from reactive to proactive. Up until recently, the typical business model of an electricity distribution company was primarily about flexibility: how to make the most of the assets they have in place.

As we shift to a more proactive mindset, the focus is less on flexibility and more towards smart investments: how to make the best investments to reinforce the networks so that they can cope with increases in demand and manage peak loads more intelligently. Managing peak load without over investing in infrastructure is the key challenge ahead."

Mark McManus
Head of VisNet Monitoring

Ownership of **energy-intensive household appliances**

DNOs and DNSPs are aligning their operations with environmental, social, and governance (ESG) principles while delivering reliable energy infrastructure.

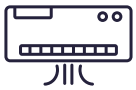
‘High growth from new demand and renewable energy generation customers are set to increase the number of connections to the grid. DNOs and DNSPs need to plan to be able to deliver new connections efficiently, and in line with consumer expectations and concerns around the rising costs of energy bills.

In this section, we will look at trends in the ownership of energy-intensive household technology appliances - specifically, current and forecasted usage and adoption of heat pumps, solar systems and renewable energy. We also consider the usage of energy-intensive EVs and battery powered transport.

Air conditioning units and dehumidifiers

Naturally, some household appliances consume more energy and place a greater strain on the grid. Over a third of consumers surveyed own an air conditioning unit, with ownership highest in Australia (78%), followed by New Zealand (33%) and the UK (16%).

Almost a quarter of all consumers (24%) own a dehumidifier, with ownership highest in New Zealand (28%) and the UK (28%), but significantly lower in Australia (11%). These appliances are also used frequently, with both air conditioning units and dehumidifiers being used an average of 13 times per month.



78%

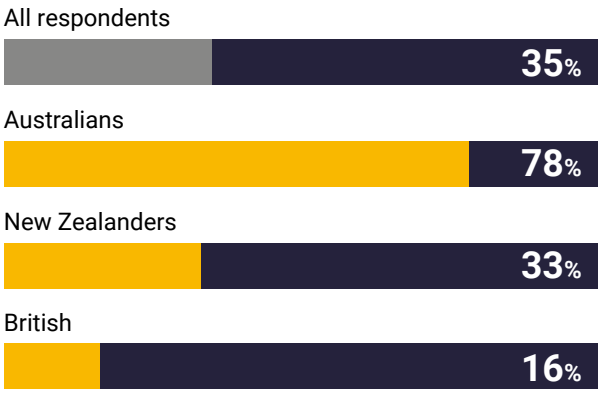
78% of Australians use an air conditioning unit.

24%

24% of all consumers use a dehumidifier.

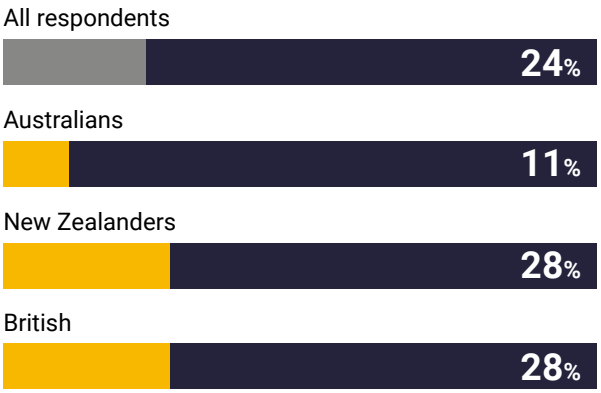
Proportion of consumers who use an air conditioning unit

Figure 9



Proportion of consumers who use a dehumidifier

Figure 10



Heat pumps, solar systems and **renewable energy**

Almost a quarter (23%) of consumers already have a heat pump, with this being much more common in New Zealand (68%) than in the UK (14%) and Australia (12%).

Meanwhile, almost a fifth (18%) of consumers have a rooftop solar system, with this being much more common in Australia (37%) than the UK (13%) or New Zealand (13%).

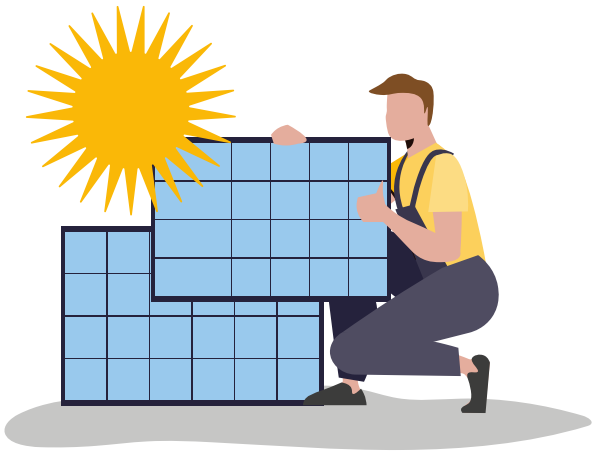
In terms of usage, 73% of solar owners use energy from their systems daily, creating persistent reverse flows and new operational complexities.

Proportion of consumers with a heat pump

Figure 11

Proportion of consumers with a rooftop solar system

Figure 12



23%

23% of all respondents already have a heat pump.

73%

73% of consumers with rooftop solar systems use them daily.

Electric vehicles (EVs) and **battery-powered transport**

Electric vehicles (EVs), bikes and scooters also use a lot of electricity for charging.

One in eight consumers surveyed own an EV (12%) or an electric bike (12%), whilst one in nine (11%) own an electric scooter. Ownership of all three is more common in the UK than in Australia and New Zealand.

For those who own them, on average, respondents charge their EVs 19 times per month, and their electric bike or electric scooter batteries 15 times per month. Plus, as you can see from the table on page 19, respondents are more likely to be charging their EVs, bikes and scooter batteries not using solar energy.

1 in 8

One in eight consumers own an electric vehicle or bike.

60%

Over 60% of households already own at least one technology appliance considered high intensity in energy usage.

Expert View

"Over 60% of households already own at least one appliance considered high intensity in energy usage. And from a network load management perspective, it's essential to monitor both the presence of these devices as well as the time-of-day usage patterns.

EVs and battery-powered transport pose unique challenges.18% of consumers currently own an EV, and nearly half (45%) plan to purchase one in the next five years. Owners and operators require high-resolution, feeder-level visibility of EV charging patterns to avoid unnecessary and costly blanket infrastructure upgrades, for example.

Added to this is the fact that renewable and distributed energy resources (DERs) such as solar, are creating two-way flow challenges in low voltage networks. The days of unidirectional electricity flow are over, and operators must prepare for 'prosumers' who generate and consume unpredictably – requiring deeper, localised data and analytics."

Ana Duran

Product Manager, VisNet

Charging habits for EVs and electric bikes and scooter

Figure 13

Product type	Times charged without solar per month	Times charged with solar per month
EV itself	13	9
EV batteries in the home	10	9
Electric bike itself	10	8
Electric bike batteries in the home	10	8
Electric scooter itself	11	8
Electric scooter batteries in the home	10	8

More encouragingly, respondents tend to charge their electric vehicles and battery-powered transport during off-peak hours. EVs are most often charged between approximately (rounded to nearest hour) 11pm and 8am (22%), electric bikes are most often charged between 12pm and 5pm (23%), and electric scooters are most often charged between 12pm and 5pm (23%).

These findings suggest that while high-energy appliances and electric transport place a demand on the grid, consumers are using off-peak periods, helping to reduce strain on electricity networks. More could be done, however, and high percentages of EV (97%), electric bike (95%), electric scooter (96%) and pool or hot tub owners (95%) could all be incentivised to reduce their energy consumption during peak times.

Expert View

"Proactive investment is a strategic theme this research is surfacing. Predictive and scenario-based analysis provides valuable foresight into how increasing EV ownership and other high-intensive technology appliance uptake will affect local network capacity. Combining observable trends with data-led predictive models is a smart way to design a more stable energy network for the future.

Combining demographic, asset, and connection data enables a clearer understanding of where constraints are most likely to emerge and how targeted measures - such as smart charging or flexibility incentives - can be prioritised ahead of large-scale infrastructure investment."

Stefanos Anagnostopoulos
Head of VisNet Modelling

Projected increase in EVs and **energy-intensive appliance use**

DNOs and DNSPs are modernising their infrastructure and operations using digital technologies, data analytics, and customer-centric approaches.

Digitalisation and innovation in smarter networks are crucial to deliver wider network benefits, such as optimising low voltage networks, and ensuring the reliability and consistency of service that consumers demand.

Smarter, more efficient networks will be needed to cope with the increasing demand for electricity, from the projected increase in EVs and energy-intensive appliance use, and from the forecasted increase in the adoption of renewable energy.

62%

62% of consumers said built-in air conditioning or heating units make a property more attractive.

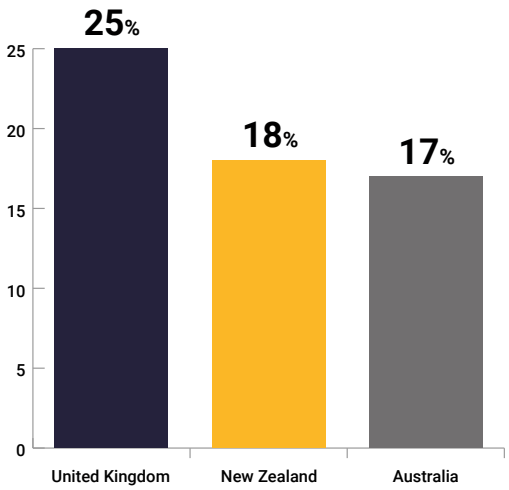
As noted previously, one in eight consumers surveyed own an EV (12%) or an electric bike, whilst one in nine own an electric scooter (11%). It looks like EV ownership will increase in the coming years with over a fifth (22%) of respondents stating that they are likely to adopt an EV in the next five years. The highest expected adoption rates are in the UK (25%), followed by New Zealand (18%) and Australia (17%).

Other energy-intensive products consumers are likely to adopt or increase usage of in the future are home batteries (16%), air conditioning units (15%) and dehumidifiers (13%).

The demand for energy-intensive products is further reinforced by consumer preferences in home buying. Many respondents indicated that properties with these features would be more attractive to buy – almost half (49%) describing home batteries and over three in five (62%) describing built-in air conditioning or heating units, as features that would make a property more attractive to buy.

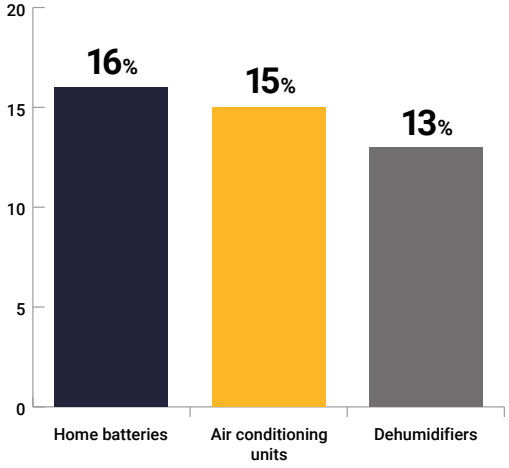
Number of respondents likely to adopt an EV in next five years

Figure 14



Energy-intensive products respondents likely to adopt in next five years

Figure 15



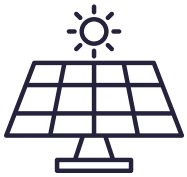
Forecasted increase in **adoption of renewable energy**

While electricity consumption is expected to increase, so is the adoption of renewable energy.

Indeed, a quarter (25%) of consumers are likely to adopt solar panels in the next five years: 27% in Australia, 26% in New Zealand and 24% in the UK.

And just over one in eight (13%) are likely to adopt heat pumps in the same timeframe: 20% in New Zealand, 14% in the UK and 7% in Australia.

The findings indicate that the future will see both an increase in electricity consumption and a greater shift toward renewable energy adoption. As a result, the pressure on the grid will continue to rise. However, renewable energy solutions – such as solar panels and heat pumps – are also gaining traction, which might help to offset some of the strain.

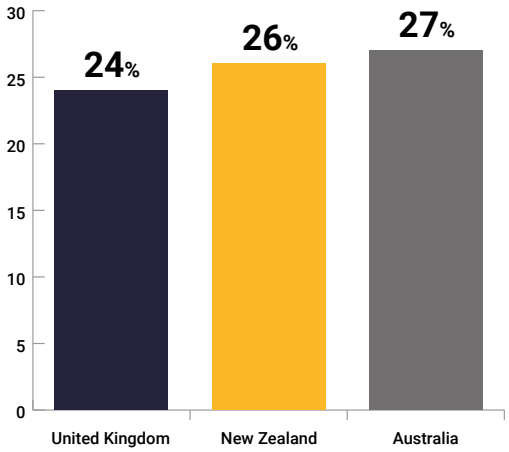


1/4

A quarter of consumers are likely to adopt solar panels in next five years.

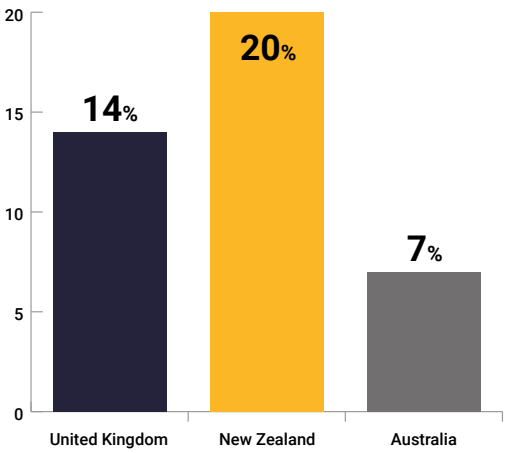
Consumers likely to adopt solar panels in next five years

Figure 16



Consumers likely to adopt heat pumps in next five years

Figure 17



SMARTER NETWORKS

Expert View

"By 2030 the average household load is set to increase by 40% in the UK, and evening peak usage is expected to spike by 60% in homes with EVs and heat pumps. Plus, at least one in four homes in the UK and Australia will be equipped with either solar and/or storage systems.

Forecasts must inform dynamic demand response strategies. Grid operators need far more advanced real-time visibility and prediction tools.

Ownership data is useful. But without detailed behavioural intelligence – and a clear understanding of when and how appliances are used – investment or resilience planning becomes guesswork. One of the most important things we offer operators is detailed, easy-to-understand visuals of real-time data – on capacity, on fault events, on prediction tools, and more – as well as actionable insights that need to be considered. After all, the data on its own is of little value unless you know what actions you need to take because of it."

Ana Duran
Product Manager, VisNet

Shifting habits and **consumer concerns**

DNOs and DNSPs are already designing and operating systems that can withstand, adapt to, and recover from physical, and environmental disruptions while maintaining reliable service.

This is a crucial exercise to address and assuage consumer concerns around the impact of climate change, network reliability and power outages from extreme weather events.

In this section, we consider the increasing importance that consumers place on network resilience, looking in more detail at shifting habits and consumer concerns; and we consider generational differences in energy usage, and consumers' energy efficiency habits.

Despite the high usage at peak times, when asked about how their electricity needs have changed over the last five years, over half (54%) of consumers surveyed say they try to be as energy efficient as possible.

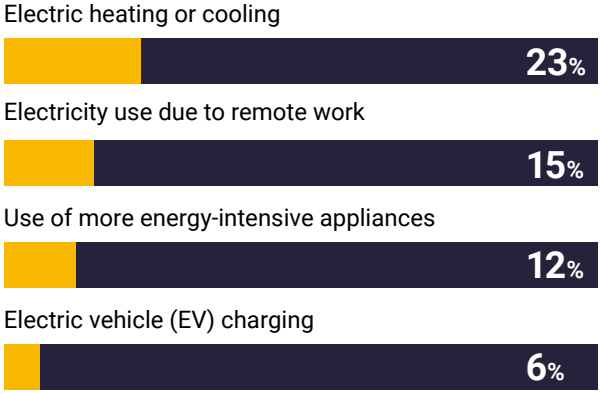
However, electricity consumption has still increased in several key areas: 23% rely more on electric heating or cooling rather than gas, 15% use more electricity due to remote work, 12% now use more energy-intensive appliances, and 6% have increased their electricity use to due electric vehicle (EV) charging.

54%

54% of consumers try to be as energy efficient as possible.

Electricity consumption has increased in these areas

Figure 18



RESILIENT NETWORKS

15% of all consumers use renewable energy sources, such as solar panels or green energy plans. With the adoption of these being most common in Australia (23%), followed by the UK (15%) and New Zealand (7%).

Consumer adoption of renewable energy

Figure 19

AUSTRALIA

23%

UNITED KINGDOM

15%

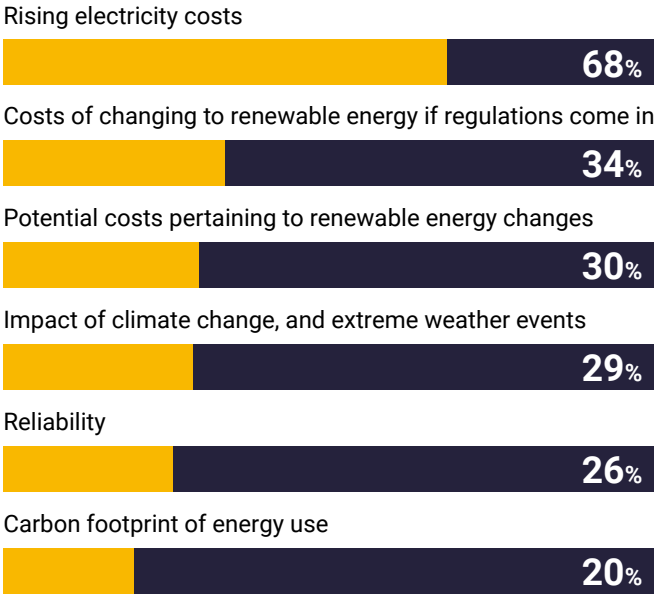
NEW ZEALAND

7%

When it comes to consumers' concerns around personal energy usage, the top three concerns are rising electricity costs (68%), the costs of changing to renewable energy if regulations come in (34%), and the potential costs pertaining to renewable energy changes (30%). Consumers also cite the impact of climate change, such as outages from extreme weather events (29%), reliability (26%) and the carbon footprint of their energy use (20%) as concerns.

Top consumer concerns around personal energy usage

Figure 20



Energy efficiency and **generational differences in energy usage**

Reassuringly, there is overwhelming support amongst consumers to becoming more energy efficient - driven by both cost-saving incentives and support for reducing their carbon footprint. Over half of respondents (54%) 'try to be as energy efficient as possible', and three in five (60%) think that they could cut down the amount of electricity they use.

Interestingly, far more younger consumers think they could cut down the amount of electricity they use, 83% amongst 16-24 year-olds and 75% of 25-34 year-olds. Additionally, while 21% of all consumers said they would be incentivised to reduce energy use during peak times by understanding how it can help the environment, a notably higher proportion of 16-24 year-olds (27%) and 25-34 year-olds (26%) would respond positively to such environmental incentives.

83%

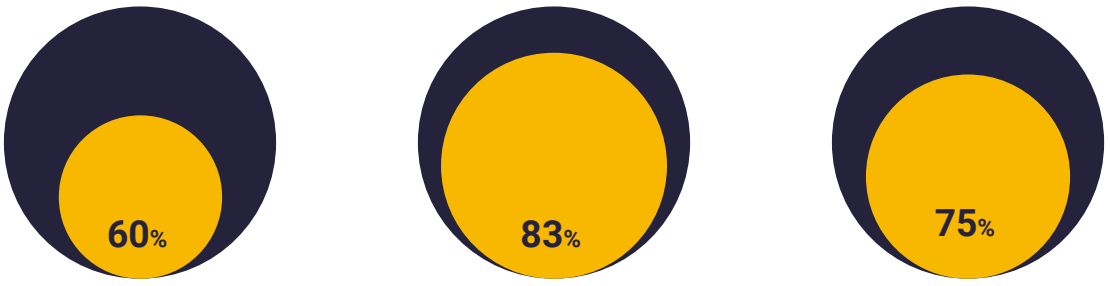
83% of 16-24 year olds think they could cut down on their electricity use.

75%

75% of 16-24 year olds could shift some electricity use to off-peak times.

Consumers who could cut down the amount of electricity they use

Figure 21



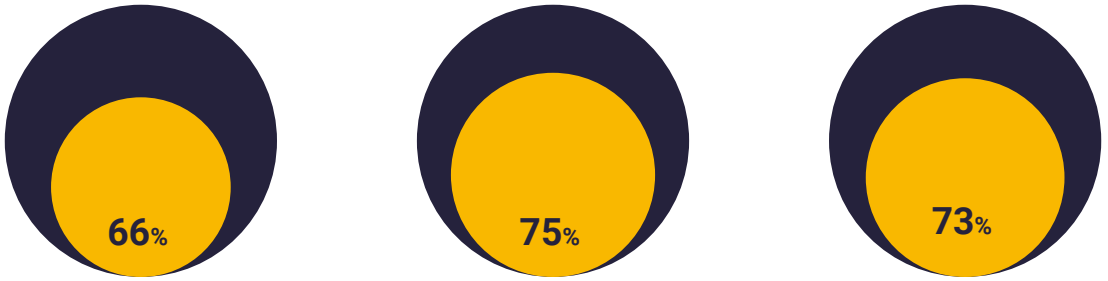
All respondents | 16-24 year olds | 25-34 year olds

In terms of energy usage habits, while 15% of all respondents rely on electricity more due to remote work, a notably higher proportion of 25-34 year-olds (75%) rely on energy usage at home for work purposes. Younger consumers are far more flexible when it comes to shifting their electricity use to off-peak times. While 66% of all consumers think they could move usage to off-peak times, this increases to 75% of 16-24 year-olds and 73% of 25-34 year-olds.

RESILIENT NETWORKS

Consumers who can be flexible shifting electricity use to off peak times

Figure 22



All respondents | 16-24 year olds | 25-34 year olds

Expert View

"Our research shows that different age groups exhibit quite distinct patterns of behaviour when it comes to electricity consumption. At a very top level, 16-24 year olds and 25-34 year olds are more likely to adopt smart home technologies, while 35-44 year olds shows the highest interest in EVs. Meanwhile, older consumers, unlike younger consumers, are quick on shifting demand based on pricing signals, yet have the least flexibility in terms of shifting to different types of energy sources, such as solar.

This type of segmentation enables more targeted demand-side programmes. However, generic incentive schemes won't cut it, which is why behavioural segmentation data, such as this, is crucial.

At VisNet we don't monitor or provide insights on individual domestic consumers, but we do provide insights on the network assets. And, of course, consumer behaviour impacts those network assets, which is where we pick up the grid-edge between the consumer and the network."

Mark McManus
Head of VisNet Monitoring

Six recommendations for **owners and operators of electrical networks**

It is clear from the findings and insights in this research that the future grid will not be built with yesterday's thinking.

It will require bold action, digital agility, and partnerships that are grounded in data and trust.

Let's build it, together.

01 Embed Behavioural Forecasting into Network Planning

Plan your infrastructure based on both historical usage data and future consumer behaviour, to accurately predict what the network loads are going to be over the next five years, and beyond. Our research shows the importance of factors such as forecasted rates of EV adoption, consumers shifting to renewable energy generation, and time-shifting potential.

02 Segment by Consumer Type and Demographics

Use demographic and lifestyle insights to tailor demand side management and engagement strategies.

03 Incentivise Smart Consumption

Deploy peak time alerts, and technology enablement incentives to reduce peak load strain.

04 Modernise Network Monitoring Capabilities

Invest in low voltage visibility and real time analytics to better respond dynamically to local power surges and network faults.

05 Align Network Development with Net Zero

Incorporate regional energy planning and use predictive analytics and modelling solutions to ensure networks are proactively built ahead of electrification.

06 Collaborate Across the Ecosystem

Work with technology partners like VisNet to accelerate the adoption of digital tools and unlock innovation at scale.

VisNet®
From EA Technology

To book your demonstration or get further information and advice please contact us on + (0) 151 347 2313 or email **info@eatechnology.com / www.visnet.tech**

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