

Sustainability Index

2023

Australia, July 2023

Life Is On

Schneider
Electric



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About the research

Schneider Electric commissioned research consultants, Pollinate, to conduct a study of Australian business decision-makers to understand attitudes and adoption around sustainability initiatives. This is the third consecutive year of the study.

We spoke to more than 500 business decision-makers:

- **management position:** C-level and senior or middle management
- **business functions:** operations, finance, technology, and sustainability
- **industry groups:** construction, manufacturing, retail, financial and insurance services, health care and social services, and professional services.

Methodology

10min online survey

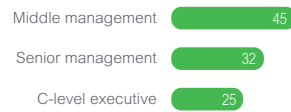
n=539 business decision makers*

Sample recruited via market research panel (n=505) and Schneider networks (n=34)

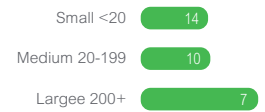
Qualification criteria

- 1) Management position C-level senior management, middle management
- 2) Decision maker across operation / finance / technology / sustainability

Position within business (%)



Company size (%)



Industry (%)



About Schneider Electric

Schneider's purpose is to empower all to make the most of our energy and resources, bridging progress and sustainability for all. We call this Life Is On.

Our mission is to be your digital partner for Sustainability and Efficiency.

We drive digital transformation by integrating world-leading process and energy technologies, end-point to cloud connecting products, controls, software and services, across the entire lifecycle, enabling integrated company management, for homes, buildings, data centres, infrastructure, and industries.

We are the most local of global companies. We are advocates of open standards and partnership ecosystems that are passionate about our shared Meaningful Purpose, Inclusive and Empowered values.

www.se.com/au

Foreword

Today, the world better understands that climate change is not simply about the weather and the natural environment: it is inextricably woven into business conditions, political landscapes, and international relations.

Globally, at COP 27 in November 2022, member countries recognised the outsized effect that climate change is having on developing nations and made a breakthrough agreement on a 'loss and damage' fund for vulnerable countries. While it's yet to be sorted who pays, the agreement itself is an acknowledgement that some countries have benefitted greatly from the burning of fossil fuels, and these are not the same countries that are experiencing the worst impacts from the resulting climate change.

Australian businesses are now operating in an environment where decarbonisation targets have been set in an effort to mitigate the worst future impacts of climate change. Since being elected in May 2022, the government has set an emissions reduction target, announced new measures in the budget and other programs to tackle the effects of climate change.

Against this background, companies in Australia are coming to grips with what a lower-emissions world looks like for the way they do business.

Attitudes continue to evolve towards seeing sustainability as a business issue, not just an environmental one. Around 7 in 10 business leaders recognise the need for Australia to achieve 'net zero' carbon emissions to keep up economically, while almost 8 in 10 believe that sustainable transformation is driving a competitive edge for companies.

Thus, most businesses agree on the 'why' for taking action on climate change. However, they remain less clear on the 'how'.

While many have started discussions about how to better capture data, reduce carbon emissions, and lower their carbon footprint, only a minority have made the leap to implementation. It's a complex task, and one for which they are seeking assistance – from both government and experts.

History reveals powerful, yet underrated mechanics in energy systems: that energy transitions are not driven by energy supply, but by demand evolution. New energy sources cannot alone drive the change; the only realistic pathway to net zero emissions is one that also builds on optimising the demand side of the energy system equation.

Hence, technology becomes a critical part of the solution. Companies are realising the significant roles that digitisation and energy management play in achieving sustainability goals, and this is reflected in their growing investment in digital transformation.

Schneider Electric continues to bring to this national conversation a note of optimism: we believe that the technology and mindset exists to make deep inroads to reducing our collective carbon footprint. However, it requires a multifocal lens on three areas of demand management: reduction, replacing legacy infrastructure, and electrifying (almost) everything.

As a leader in the digital transformation of energy management and automation, we are working with our customers to develop and implement their decarbonisation strategies. This begins with better monitoring and measurement and defining a plan, then goes beyond that to considering all the ways they can use less energy – and make it greener.

Gareth O'Reilly
Pacific Zone President
July 2023



Key takeaways

Overall, companies see **environmental, societal, compliance and competitive benefits** from sustainability and decarbonisation.

76% of corporate leaders believe financial incentives are necessary for the transition to be economically viable.

Only **32% have confidence** in their ability to manage energy price volatility.

Planning, progress, and scope 3 challenges

51% have the ambition to be net zero across scope 1, scope 2, and scope 3 by 2035

22% of companies have already reduced their scope 2 emissions by 20% or more

1 in 3 companies have already reduced scope 1 and scope 2 emissions

~50% companies that are focused on decarbonisation have limited understanding of their scope 3 emissions or are estimating them based on procurement expenditure

On-site renewables and energy efficiency



- **73%** of medium and large companies are considering investing more in on-site renewables in the next 2 years



- **30%** of respondents have a strategy in place to implement renewable energy solutions on site



- **20%** of respondents are investing in on-site renewables vs 17% in 2022

Investment in the next 2 years



- **72%** are likely to invest in monitoring and reporting as the top investment priority, increasing significantly to **84%** for large companies



- On-site renewable energy is second at **67%** overall, **73%** for medium-large companies, and **61%** for small companies



- Real-time data and automation investment is the third priority at **66%** overall



- **65%** of respondents are investing in energy and resource efficiency



- **58%** investing in electric vehicles, increasing to **66%** for medium-large companies



- **52%** investing in demand response and **51%** investing in energy storage

Data is the key enabler, however

- Only **1 in 3** companies is using software to collect energy data
- Only **1 in 3** companies is leveraging energy management systems data (building management systems, IoT devices with sensors, etc.)

Schneider Electric's *Sustainability Index, 2023* research reveals that Australian businesses are indeed aware of the need for sustainable transformation – yet are still coming to grips with exactly what that looks like. The results also show that business leaders want greater support and incentives to be able to transition to a low-emissions world.

1. The sustainability investment dilemma

The survey reveals that most organisations still have their moral compass as the main driver behind the need to become more sustainable. At the same time, 77% of respondents agree that sustainable transformation is giving them a competitive edge as well as a lower carbon footprint and positive social impact. However, investment remains the key barrier, with lack of clarity about how to finance decarbonisation solutions.

2. Energy volatility has been a key concern over the past year

Energy volatility is currently the number one resource concern for business, mainly due to volatility of electricity and fuel prices over the past 18 months. Increasing energy volatility is forcing companies to re-think energy management with more urgency. Only 32% of companies feel equipped to successfully navigate future energy market volatility.

3. Data is a key enabler for moving ahead on the net zero ambition

While there's a widespread desire to decarbonise, it's a complex journey. There's still a big chunk of the business community that hasn't started on the path of decarbonisation, doesn't see this as a priority, or doesn't know where to start. Beyond the investment dilemma, the key to resolving these roadblocks is data and getting on to the digitisation journey through IoT-enabled interventions. The research indicates businesses that are already on this path have a faster net zero conversion.

4. Scope 3 carbon emissions are the critical missing link for achieving net zero

Companies that are committed to decarbonisation report reductions in Scope 2 and Scope 1 emissions, especially through a reduction in electricity usage. However, only a small proportion have a handle on their Scope 3 emissions, and there are varying levels of maturity among respondents when it comes to capturing this data, engaging their value chain, and driving change.

5. The solution: the energy supply-demand equation

While the need for action is urgent, it is also achievable if we focus on the right technologies and think holistically about transforming our energy sources, behaviours, and processes. Frameworks like the Science Based Targets initiative (SBTi) along with relevant investments in energy efficiency enabled through digitisation and automation, renewables, and transport electrification can help businesses achieve their net zero ambitions. On-site renewables and energy efficiency appear as the top priorities for Australian organisations, while storage and electrification seem to be further away.

Defining net zero

The [Climate Council](#) explains 'net zero emissions' as achieving an overall balance between greenhouse gas (GHG) emissions produced and GHG taken out of the atmosphere.

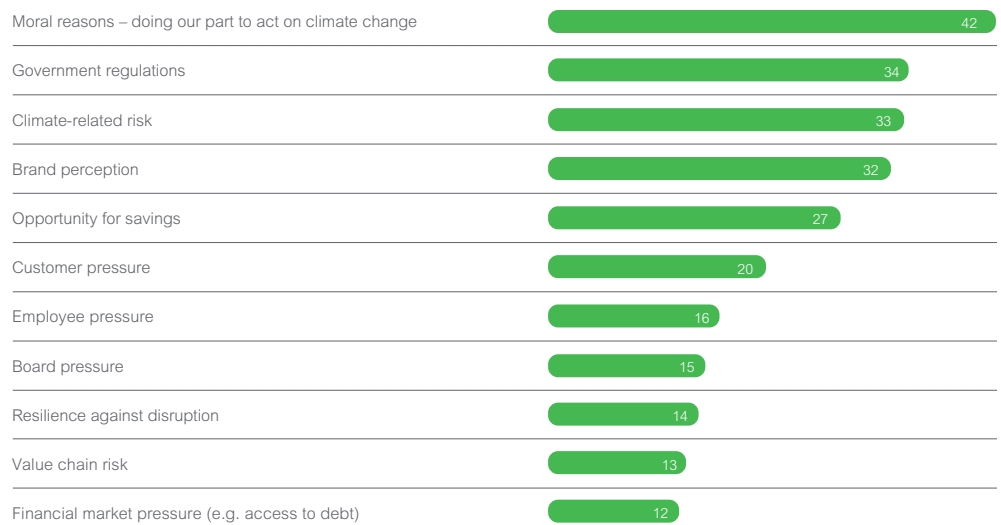
1. The sustainability investment dilemma

“We cannot choose between growth and sustainability. We must have both.”

Paul Polman, former CEO, Unilever

This year's survey findings in Schneider Electric's *Sustainability Index, 2023* (the 'Index') reinforce that organisations still see moral reasons as the main driver to decarbonisation commitments, closely followed by increasing regulatory pressures, and as a management of risk and reputation.

Figure 1: Reason for commitment to decarbonisation (%)



Most respondents are seeing *multiple* benefits in adopting sustainable solutions. A lower carbon footprint and a positive social impact are the top benefits, while others span the financial (profit/revenue), risk (access to debt and client and staff retention), and reputational (aligning with public expectations), as shown below.

Figure 2. Benefits of adopting sustainable solutions (%)



77% Agree sustainable transformation is driving a competitive edge for companies.

It is commonly accepted that positive sustainability impact can result in better prospects for organisations seeking resilience, talent, and growth. We believe this can make companies not just survive, but thrive and maximise their impacts, especially if they deeply re-think and adapt what they stand for, what they do, and how they do it, by pursuing what we call 'Impact Company' principles:

- **First, do well to do good (and vice versa)** for which business performance (financial and extra-financial) is key because it's the foundation for doing good. Creating sustainable value for customers also needs to be part of the mission and so does developing strategy, commitments, and programs covering all ESG dimensions.
- **Second is to bring everyone along.** This requires the business to set up for global and local impact with the right model and culture and ensure that it's including all stakeholders in the ecosystem.

Investment remains the main barrier for companies in Australia

A key barrier to adopting sustainable solutions remains consistent with last year's Index as being a lack of financial resources or government incentives¹. Businesses largely noted the financial challenges the last 12 months presented, which include an increase in cost of doing business, potential revenue reduction, operations impacted by covid, and reduced ability to invest in and finance decarbonisation solutions and renewable energy. There is also a lack of surety on how businesses can fund sustainability initiatives. The research indicates that almost 1 in 3 companies don't know how they can finance energy and sustainability initiatives with no clear way forward.

¹ Survey completed in March 2023, before the release of recent Federal Budget in May 2023

76% Business leaders believe financial incentives are necessary for sustainable transformation to be viable.

Figure 3: Barriers to adopting sustainable solutions

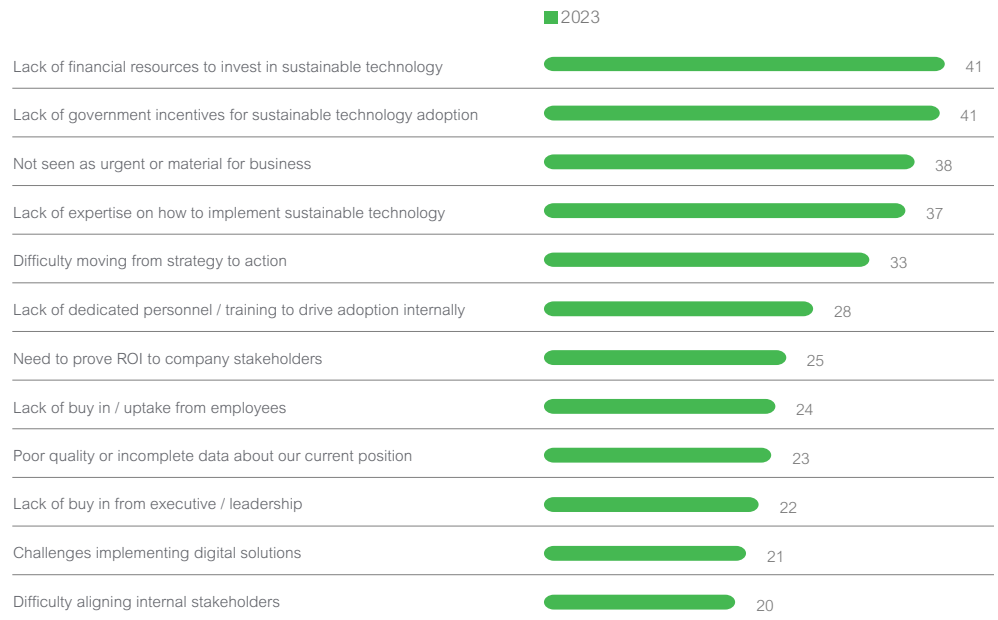
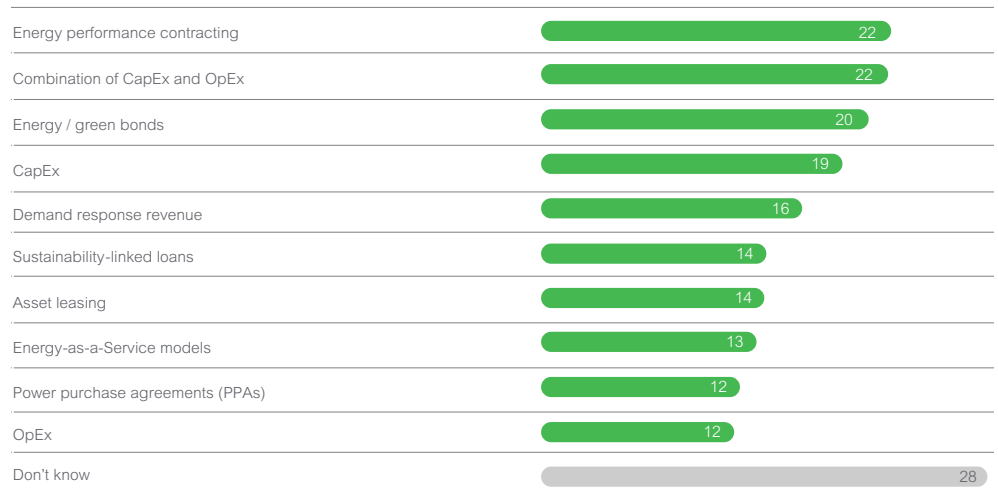


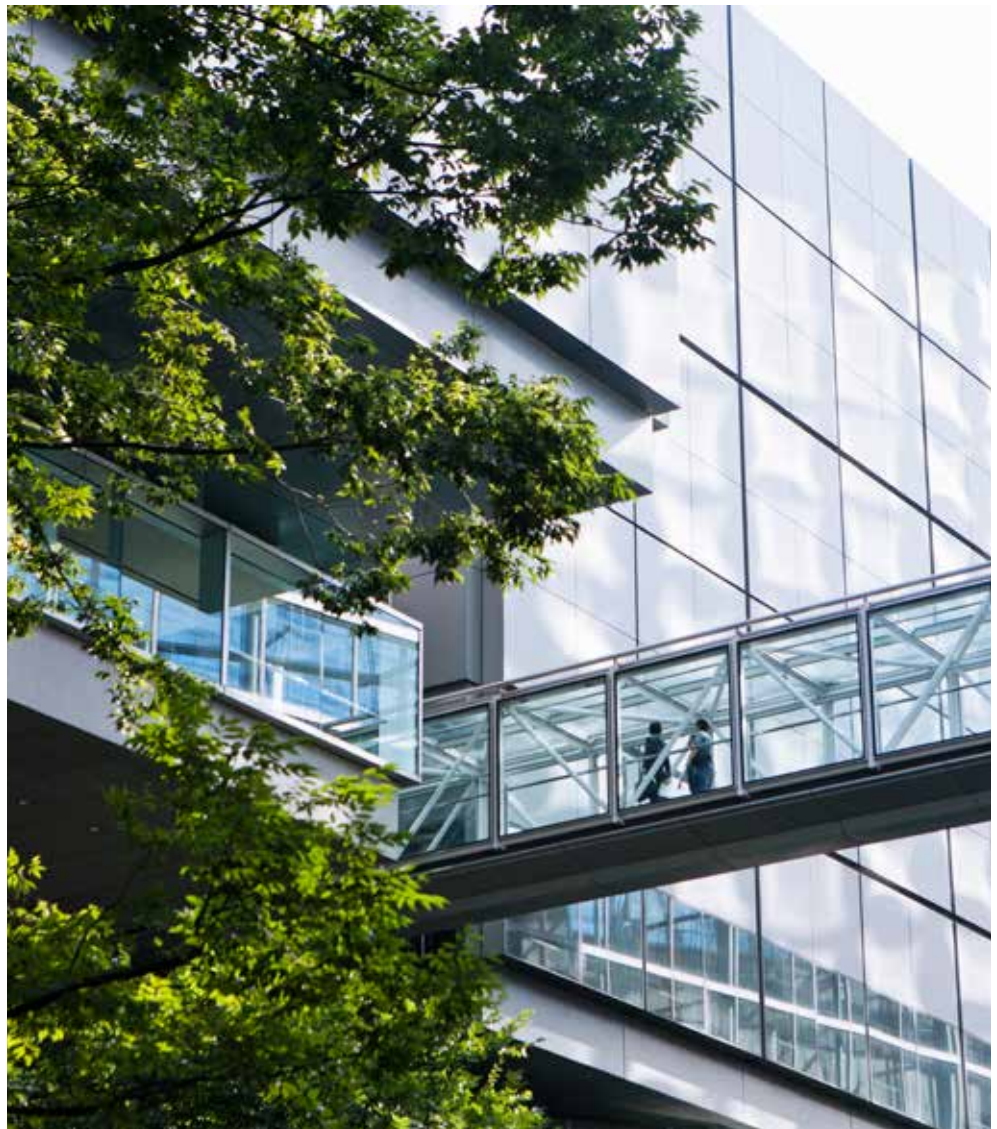
Figure 4: Future funding plans for energy and sustainability initiatives (%)



The financial limitation identified by organisations may change with the recently announced Federal Budget for 2023-24, in which the Government directs ~AUD4 Billion towards energy transition plans with an emphasis on reducing energy use, improving supply reliability, renewable generation, and electric vehicle (EV) and storage support. This recent budget allocation complements existing state and federal government schemes, from a [scheme to boost EV adoption](#), through to [co-investment in clean energy](#) and energy efficiency technology.

Organisations will also see a shift in how sustainability is increasingly valued when it comes to access to finance. For example, the industry-led, UN-convened Net-Zero Banking Alliance brings together a global group of banks, currently representing over 40% of global banking assets, which are committed to aligning their lending and investment portfolios with net zero emissions by 2050. In 2022, the Net-Zero Banking Alliance published a report presenting significant achievement with over 50% setting intermediate decarbonisation targets².

Companies are also turning to sustainability linked loans, which enable them to secure ongoing debt finance with servicing costs linked to achieving sustainability KPIs, including metrics around decarbonisation. In most cases a portion of the capital raised through these debt instruments is directed to investment in the underlying solutions that will enable, for example, decarbonisation.

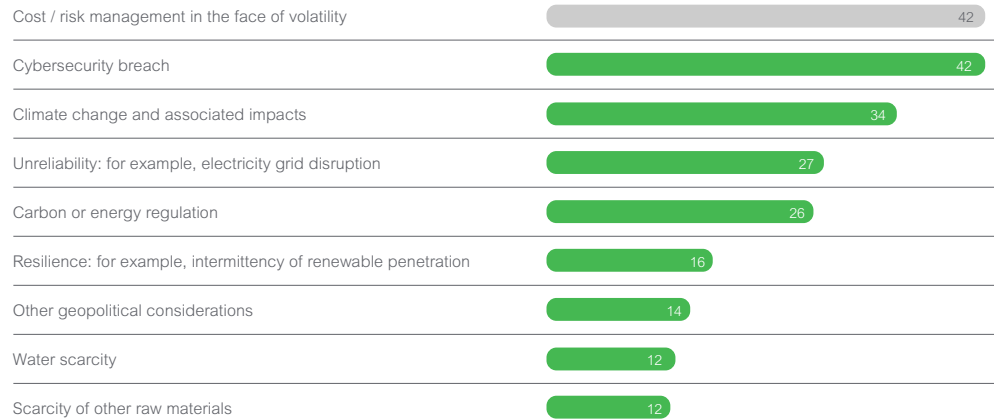


² [Net-Zero Banking Alliance first progress report, Nov 2022](#)

2. The challenge of energy volatility

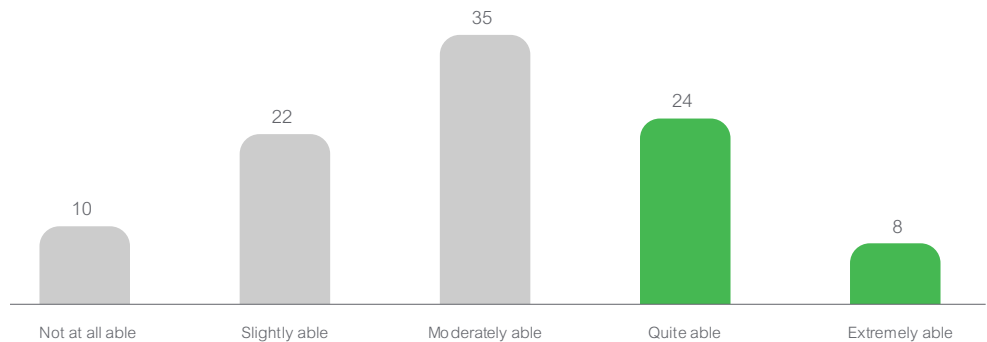
In the context of a global energy crisis, energy volatility has been identified as the number one energy and resource concern for the Australian companies we surveyed, alongside cybersecurity. This data point comes as no surprise given the dramatic rise in energy prices and the extreme price volatility in Australia due to the global energy supply crisis coupled with domestic coal-fired generation capacity outages. As companies deal with the doubling or more of electricity prices, managing both consumption and price becomes critical to financial viability amidst a backdrop of fears regarding supply.

Figure 5: Top energy and resource supply concerns



However, globally we have seen the organisation's confidence in managing energy pricing and supply volatility drastically drop between 2022 and 2023. Unfortunately, when it comes to managing energy supply-related price volatility challenges, only 32% of companies have confidence in their ability to manage energy supply and price volatility³.

Figure 6: Ability to manage energy supply and price volatility (%)



³ [2023 Energy Management Databook, Schneider Electric](#)

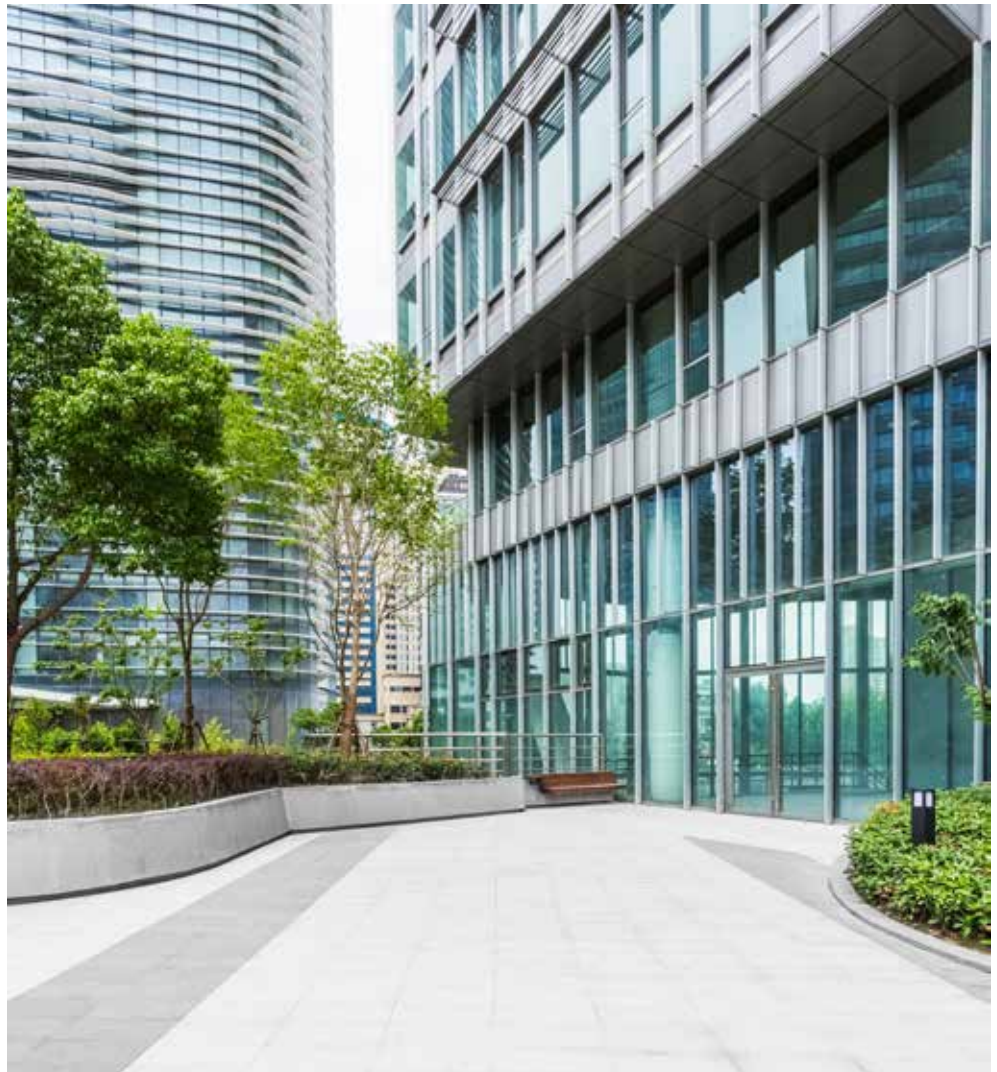
‘The biggest challenge was to keep energy use as low as possible in response to the increase in energy prices while also meeting the environmental target.’

Survey respondent

Electricity and fuel cost increases together with volatility, in a context where all operating costs have increased, have been identified as a challenge by most respondents.

There are physical actions that can be taken to manage energy supply and price volatility, and these actions aligned well with sustainability objectives. Reducing energy consumption through energy efficiency, digitisation, or optimisation can reduce exposure to prices while also contributing to achieving emissions reduction aims. Similarly, demand management in the form of load shifting or demand response can reduce exposure to prices, reduce exposure to the impact of short-term supply availability constraints, and lower the emissions intensity of consumption.

Companies can also take actions that reduce energy price volatility from a contracting perspective, either through traditional supply contracts or renewable supply contracts. However, even with these contracting approaches, many companies will face a significant increase in energy prices when current supply contracts expire.



3. Data as the key enabler

Most businesses know they need to decarbonise. The vagaries of the energy market have made it an economic necessity, and investors and customers expect this. However, there is notable divergence between the most and the least progressive attitudes on the issue.

The Investor Group on Climate Change (IGCC) found that most investors (70%) in 2022 had set a 2050 net zero emissions target over all (57%) or part (13%) of their portfolio. This sends a clear signal to investee companies that they need to both report their emissions and set targets to remain an attractive investment⁴.

Concurrently, consumer research by Finder concluded that 69% of Australians are concerned about their carbon footprint, and 1 in 2 actively look for greener products or services⁵.

However, only around half of companies are on the journey towards decarbonisation, and around one-quarter don't see it as a priority. Those that have a strategy tend to be bigger companies, while those that do not see it as a priority tend to be human services industries.

Around 1 in 4 companies have it on their radar, but don't know where to start – suggesting that more support from the partner ecosystem is needed in terms of consultation to put together a concrete roadmap.

Figure 7: Companies developing a decarbonisation roadmap (%)

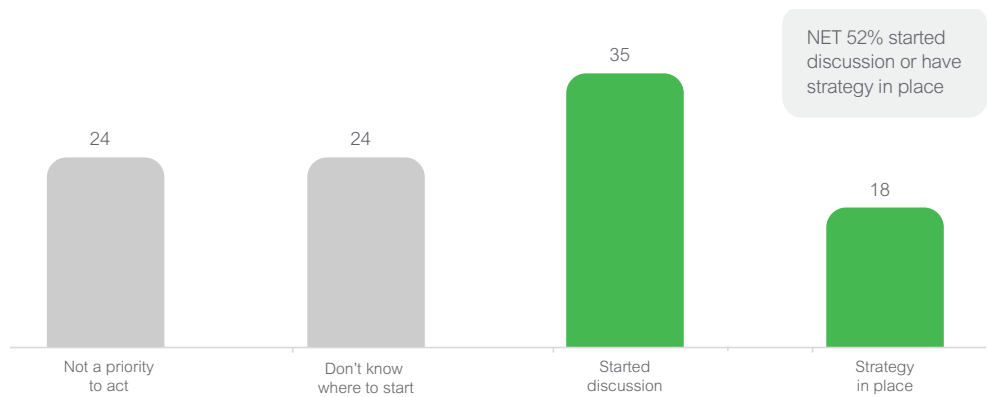


Figure 8: Half of companies are aiming for 2030 or 2035 as the milestone dates for reaching net zero emissions

	Already achieved this	2025	2030	2035	2040	2050	N/A – No intention to achieve this	NET By 2035
Achieve Net Zero (Scope 1, 2 & 3 emissions)	2	9	23	17	12	10	27	51

While there are multiple challenges facing business on the drive to decarbonise, one tool stands out as the most important in the toolbox: data.

Around 4 in 5 respondents (78%) agreed that digital is playing a key role in achieving sustainability goals; however, at the same time, many businesses continue to rely on rudimentary data collection methods for their energy data, with the likely outcome of making innovation and management more difficult.

⁴ [The state of net zero investment, IGCC](#)

⁵ [Green Consumer Report, Finder, June 2022](#)

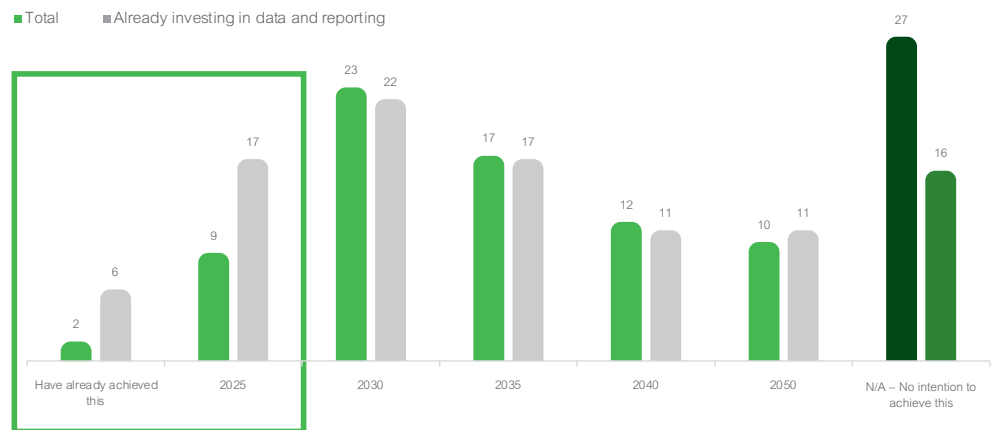
Net zero ambitions and transition plans are particularly embraced by companies that have implemented business digitisation. By replacing manual processes with software, digitisation allows businesses to automatically collect data that can be mined to better understand process performance, cost drivers, and causes of risk. These digitisation efforts have enabled sustainability and decarbonisation programs to have a more robust impact on corporations and to do so at a substantially lower implementation cost.

1 in 3

companies is using software to collect energy data and only 1 in 3 companies is leveraging energy management systems data (BMS, IoT devices with sensors, etc.).

The research indicates that businesses already investing in digitisation and data automation plan to achieve their net zero ambition in scope 1, 2, & 3 emissions much faster.

Figure 9: Achieve net zero (Scope 1, 2, 3 emissions) (%)

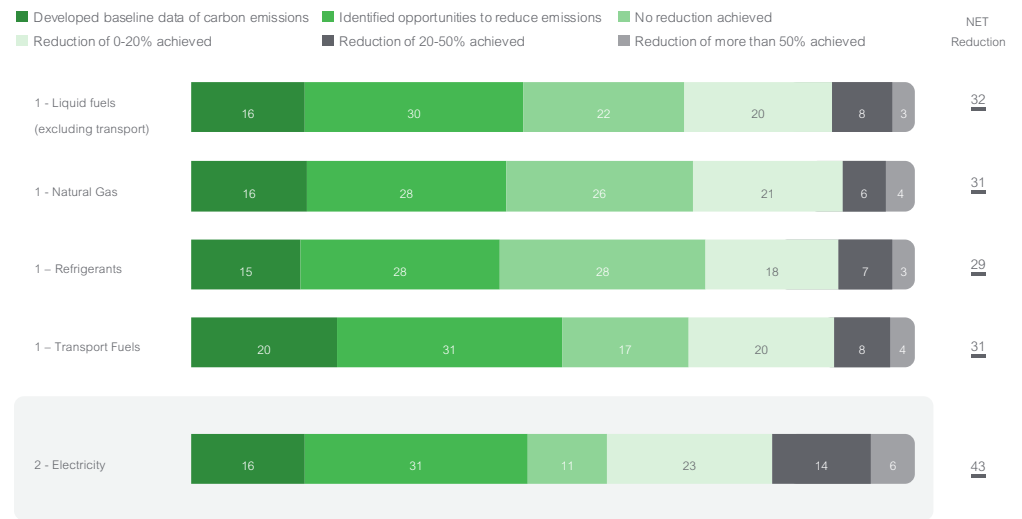


Companies are making progress in the reduction of operational GHG emissions; otherwise known as Scope 1 and 2 emissions with **more than 1 out of 3 companies having already reduced their Scope 1 and 2 emissions.**

They are prioritising Scope 2 emissions reduction as the first steps in their operational decarbonisation journey: **43% of companies have already reduced the scope 2 emissions** and 22% have already reduced their scope 2 emissions by 20% or more.

Companies are also decarbonising their Scope 1 emissions, with just under 1 in 3 companies having already reduced Scope 1 emissions and 12% of those companies achieved a reduction of 20% or more already. Furthermore, 1 in 3 companies have identified opportunity to reduce Scope 1 emissions haven't yet achieved reductions, and 15% to 20% have initiated the process with a baseline on Scope 1.

Figure 10: Reduction of Scope 1 and 2 emissions (%)



Tracking Scope 1,2, and 3 emissions

Greenhouse gas emissions are categorised into three groups or 'Scopes' by the most widely used international accounting tool, the GHG Protocol.

Scope 1 – all direct emissions from the activities of an organisation or under their control. Including fuel combustion on site such as gas boilers, fleet vehicles and air-conditioning leaks.

Scope 2 – indirect emissions from electricity purchased and used by the organisation. Emissions are created during the production of the energy and eventually used by the organisation.

Scope 3 – all other indirect emissions from activities of the organisation, occurring from sources that they do not own or control. These are usually the greatest share of the carbon footprint, covering emissions associated with both upstream and downstream activities and the associated impacts.

Upstream Scope 3 emissions are generally emissions that are generated when production of a business's products or services, and include purchased goods and services, capital goods, transportation, leased assets, employee commuting and business travel, and waste management.

Downstream Scope 3 emissions come from the use of the goods or services a business generates and can include the emissions brought about by the transport or processing of products, the use of the product or the way a product is managed at end of life, business investments and franchises, and leased assets.

4. Scope 3 emissions: the unsolved puzzle of decarbonisation strategy

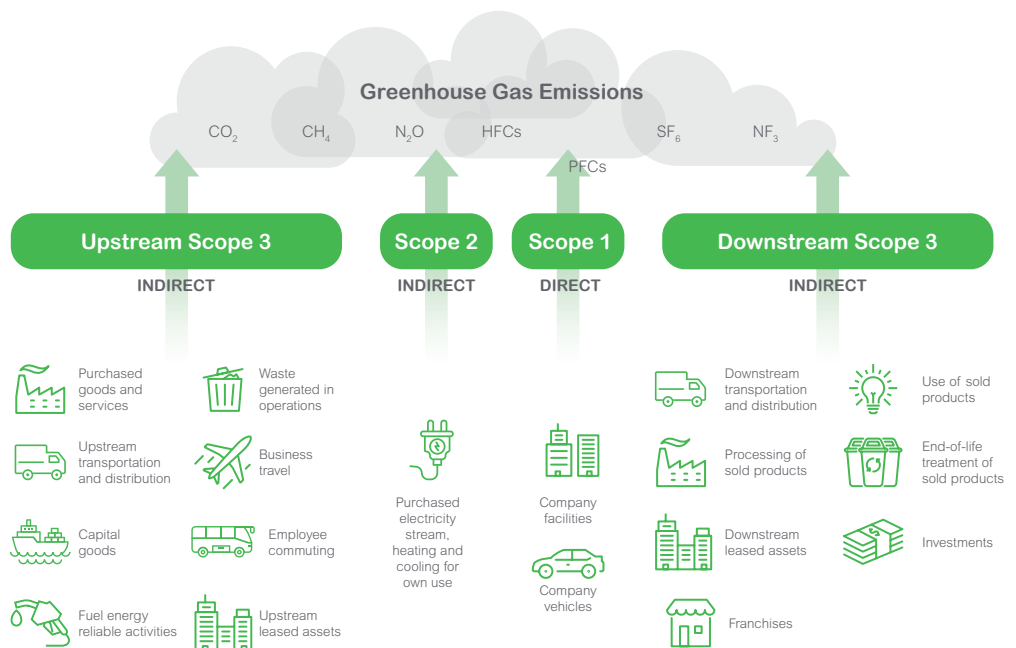
Decarbonising a company's value chain including its upstream supply chain is proving to be more challenging than operational emissions for a range of reasons. Depending on the type of activity, approximately 40-50% have engaged with their supply chain to quantify the amount, while a small proportion have achieved material reductions.

Currently, the task of accurately measuring Scope 3 emissions is more difficult than for operational emissions and half of companies have either a limited understanding of their Scope 3 emissions or have estimated Scope 3 based on their procurement spend.

The penetration of digitisation solutions that drive transparency of the movement of embedded emissions down through the value chain will be critical to enable accurate, trustworthy reporting that is suitable for emerging global reporting standards and underpins capacity for a strategic, measurable response to abate emissions.

The clear message is that less than 10% of companies have made material reductions in Scope 3 emissions. Around 50% of the companies that are focused on decarbonisation have a limited understanding of these emissions or are estimating them based on procurement expenditure.

Business travel seems the 'quick win' for Scope 3 emissions, with 9% of respondents already achieving material reduction, while employee commuting seems harder to address.



Recent research undertaken by the SBTi, Catalysing Value Chain Decarbonisation, highlights that “Emissions in a company’s supply chain are on average 11 times higher than direct (Scope 1) emissions and reflect >70% of total emissions. As such, value chain decarbonisation represents one of the most significant opportunities for companies to play their part in reaching net-zero globally before 2050.”

Upstream transport and upstream leased assets seem harder to grasp. Upstream transport will likely be the hardest one for companies to reduce owing largely to the indirect nature of their control and the logistics industry's reliance on the transition to transport technologies that can use renewable sources at scale. These technologies are expected to penetrate the industry over the later part of this decade and into the early 2030s as the electric vehicles transition matures and alternative fuels such as hydrogen are explored.

In relation to downstream Scope 3, and similar to the results for upstream, companies are split roughly in half between those with limited understanding and those in the process of engaging on the issue.

Figure 11: Activity level upstream for Scope 3 carbon emissions (%)

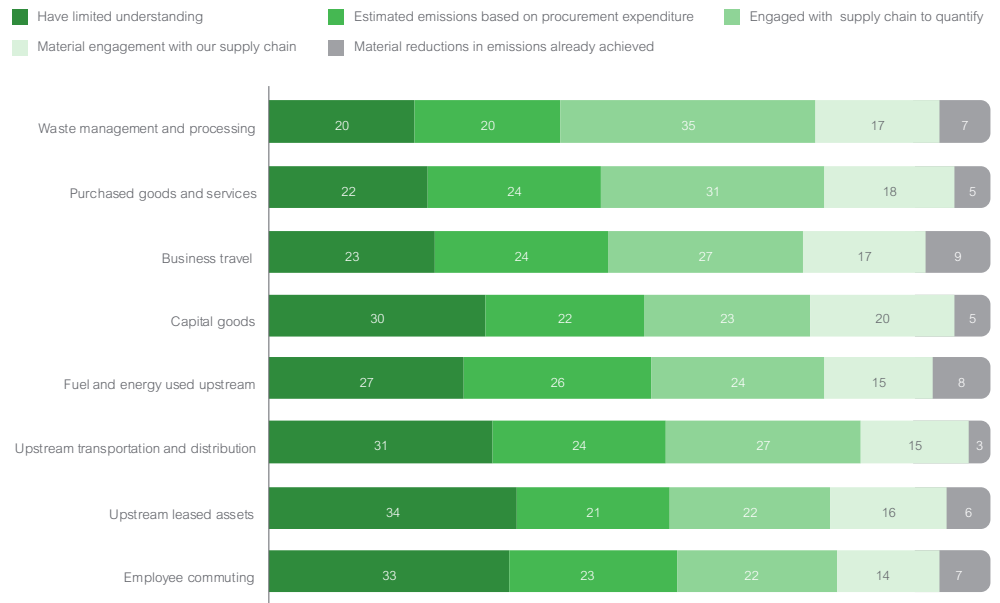
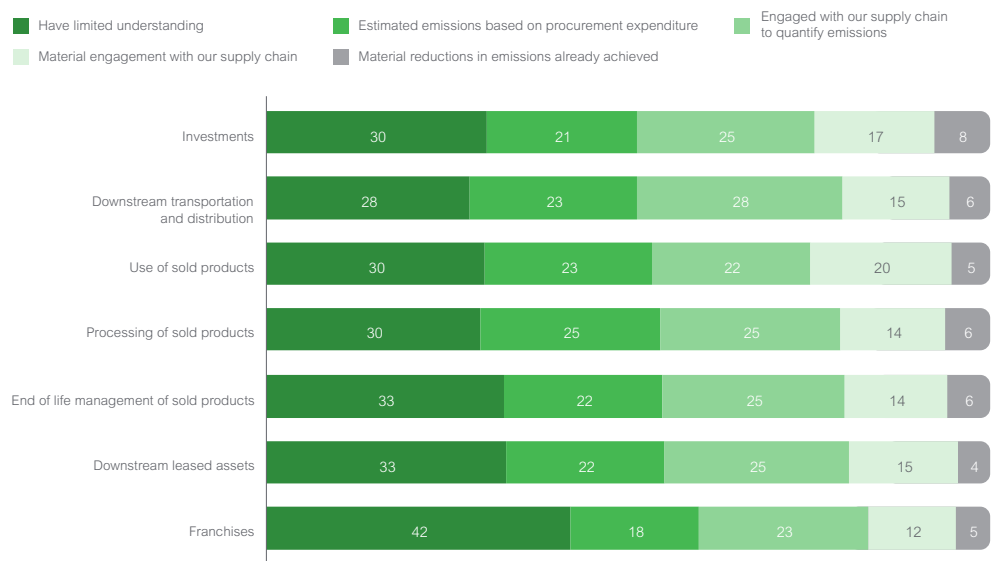


Figure 12: Activity level downstream for Scope 3 carbon emissions (%)



Beyond measuring and reporting Scope 3 performance, the challenge of decarbonising the value chain is driving the development of organisational transition plans, with 2 in 3 companies expecting to have a strategy and roadmap to address Scope 1 and 2 emission by 2035.

This finding appears inconsistent with the leading cohort of organisations that publicly commit to the achievement of zero emissions from Scope 1 and 2 by 2030. Perhaps unsurprisingly when small businesses are excluded, 2 in 3 companies will have a strategy and roadmap to address Scope 1 and 2 by 2030. This is consistent with the intent to align to the Paris Agreement and take action to support decarbonisation at a rate that will minimise global warming to 1.5°C.

Further, excluding small businesses, around half of companies also seek to have a strategy and roadmap to address Scope 3 emission by 2035 and 1 in 3 companies aim to achieve net zero (Scope 1,2,3) by 2030. This intent appears to be more ambitious than the previously stated position of the SBTi in support of 1.5°C, which highlighted the need to achieve net zero by 2050. However, this ambition is reassuring in light of the recent AR6 report released by the Intergovernmental Panel on Climate Change (IPCC) highlighting that net zero by 2050 may be too late to avoid the worst effects of global warming⁶.

Figure 13: Organisation sustainability transformation roadmap

Companies are expecting to achieve zero scope 1, 2, and 3 emissions by 2035

	Already achieved this	2025	2030	2035	2040	2050	N/A– No intention to achieve this	NET By 2035
Strategy / roadmap to address Scope 1 and 2 emissions	7	22	22	12	9	5	23	63
Strategy / roadmap to address Scope 3 emissions	4	15	23	14	12	7	25	56
Achieve zero Scope 1 emissions	4	14	24	15	10	7	25	58
Achieve zero Scope 1 and 2 emissions	3	13	21	18	11	8	25	55
Achieve zero Scope 3 emissions	2	10	22	16	13	9	28	50
Achieve 100% renewable electricity	3	10	22	16	12	12	25	51
Achieve Net Zero (Scope 1, 2 & 3 emissions)	2	9	23	17	12	10	27	51

Case study: Zero Carbon Project

Schneider Electric's Zero Carbon Project supports global transition for a low carbon future by partnering with its top 1,000 suppliers, responsible for 70% of its upstream carbon emissions. After an onboarding process, suppliers access educational content on Schneider Electric's Zeigo Network platform to build their internal capacity in quantifying their carbon emissions, adopting ambitious decarbonisation goals, and deploying an action plan to achieve the goals and track progress.

Key numbers:

- >1,000 companies have joined the Zero Carbon Project
- >1,300 supplier participants are trained in 8 technical trainings on decarbonisation
- 50% reduction of supplier operations emissions (scope 1 and 2) expected by 2025

6 Source: [AR6 Synthesis Report: Climate Change 2023](#)

5. The supply-demand equation: prioritising energy efficiency and on-site renewables

82% agreed “the benefits of adopting sustainable tech outweigh the costs”

A 7 percentage point increase since 2022.

As per the IPCC AR6 Synthesis Report, we already have much of the capital and technology we need to make a difference – and if “technology, know-how, and suitable policy measures are shared, and adequate finance is made available now, every community can reduce or avoid carbon-intensive consumption”⁷.

For instance, SBTi can help businesses set targets and provide clearly defined pathways to reduce GHG emissions through a step-by-step process of: commit, develop, submit, communicate, disclose. Public engagement with frameworks like SBTi provide a science-based framework for decarbonisation, future-proof business growth, provide resilience against regulation, boost investor confidence, spur innovation and competitiveness – while also demonstrating concrete sustainability commitments to increasingly-conscious consumers.

Supply: powering with renewables

To date, there has been a heavy focus on the decarbonisation of the supply side – moving to renewables and reducing fossil fuel energy generation

Last year’s Index⁸ highlighted how “Australia has seen the emergence and growth of Corporate Renewable Power Purchase Agreements (corporate PPAs) in recent years, with corporate PPAs hitting record years in 2020 and 2021 with more than 2GW of capacity signed through corporate PPAs. Companies are now exploring more and more investment on renewable generation behind the meter”.

Investment in renewable on-site is the area that sees the 2023 survey with the highest growth vs last year. Survey respondents noted the strong demand for renewable electricity supply; adding on-site generation can be a cost-effective way to procure renewable electricity. With many companies having 2025 targets for renewable electricity, on-site options can help achieve these targets, particularly in the face of tight availability of renewable contracts due to renewable project development timelines relative to the common 2025 target.

20%

of respondents already investing in on-site renewables vs 17% investing in 2022

30%

of respondents have a strategy in place to implement renewable energy solutions on site e.g., solar

73%

of companies (excl. small companies) consider investing more in on-site renewables in the next 2 years (67% of all companies)

While the investment of solar on-site is clearly continuing to grow as a priority for companies, the implementation is still representing challenges to businesses:

- Relatively high cost of investment is still required, noting the “reduction of financial incentives from government in the past”.
- Companies that had the intention to progress to implementation have noted how “global shortages have impacted the supply of solar”.
- Companies that have invested in solar have noted their “unexpected increased reliability to the grid due to clouded weather and reduce generation”.

⁷ [AR6 Synthesis Report Media Release, IPCC](#)

⁸ [Schneider Electric Sustainability Index, 2022](#)

The supply-demand equation

Schneider Electric’s research report, *Back to 2050*, also outlines the importance of demand-side decarbonisation, coming from energy efficiency and electrification, with options for demand optimisation based on both behaviour transformations and process changes.

While behaviour change examples include digitisation in homes and changing mobility trends in an EV-based world. Process changes include electrification, digitisation, and automation of building and industrial operations, as well as the switch to other fuels, along with the deployment of carbon capture, utilisation, and storage⁹. The report notes, “as industries renovate to become more efficient, they are also more likely to see their processes evolve. In fact, the global push for decarbonisation has led to renewed innovation in industrial processes.”

The Energy Efficiency Council’s report on *Clean Energy Clean Demand 2023*¹⁰ highlights four key findings,

1. Managing demand – as well as supply – is critical for a fast, reliable, and affordable energy transition.
2. Electrifying efficiently will support rapid, affordable decarbonisation of electricity.
3. Driving down the total cost of our energy systems will reduce bills for consumers.
4. Transforming energy demand requires urgent focus.

The above observations span across all sectors and processes as demand management and electrification are critical to eliminate emissions from gas, petrol, and diesel.

Energy efficiency is the first step in effective demand management.

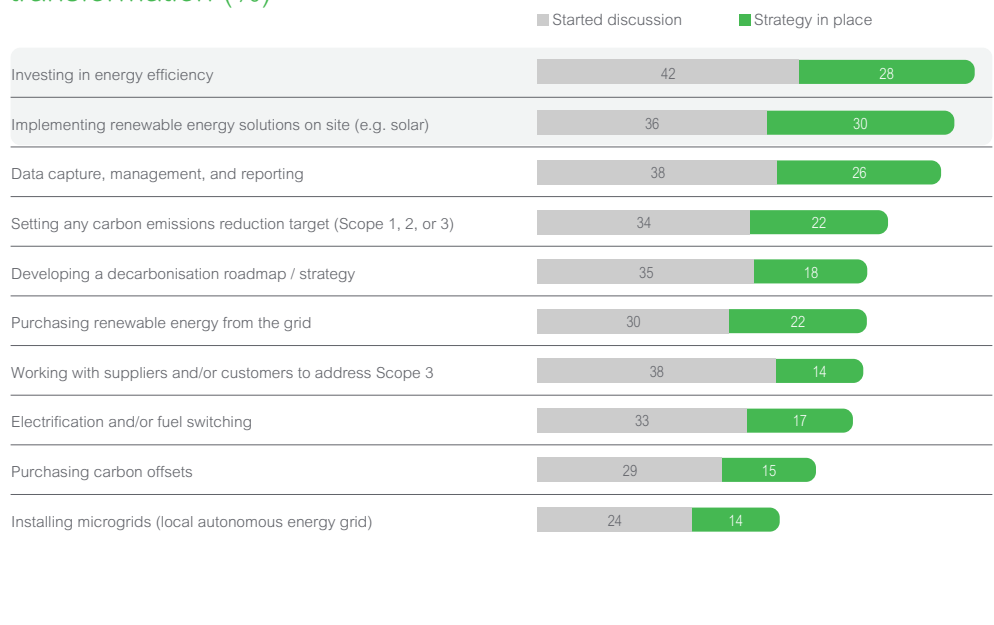
70%

70% of respondents have a strategy in place or started discussion to implement energy efficiency

76%

76% of respondents would consider implementing energy efficiency measures to mitigate exposure to energy volatility if not already

Figure 14: Progress for each aspect of decarbonisation transformation (%)



⁹ [Back to 2050, Schneider Electric, Nov 2021](#)

¹⁰ [Clean Energy Clean Demand, EEC, April 2023](#)

Digital and monitoring

Of note is that 55% of respondents are investing more in digital transformation today than they did only 3 years ago. Similar to last year, monitoring and reporting remain the most likely areas for investment, with 72% businesses likely to invest (84% for large companies).

Overall, priority investment is in digital technologies, monitoring and reporting (72%), renewables on-site (62%) and energy efficiency (65%), while other opportunities for decarbonisation are driven by storage, and advanced demand-side management seems further away.

Transport electrification is accelerating

Buildings and smaller vehicles are well-placed to electrify; while manufacturing, mining, and larger vehicles will likely switch to a mix of electricity, biofuels, hydrogen, and other renewable fuels. Electrification of the economy will be associated with a significant improvement in energy efficiency, as electric heat pumps and motors are far more energy efficient than their fossil-fuel counterparts. Improving the energy management capabilities of businesses won't only reduce their energy bills, it will also improve overall business productivity, boost labour productivity, and reduce material waste.

The Australian National Electric Vehicle Strategy notes that transport makes up 19% of Australia's emissions. Passenger cars and light commercial vehicles alone contribute 60% of our transport emissions and over 10% of Australia's total emissions. Transport is projected to be Australia's largest source of emissions by 2030. EVs powered by Australia's abundant renewable energy resources will contribute to achieving our economy-wide emissions reduction target of 43% below 2005 levels by 2030 – and net zero emissions by 2050.¹¹

Electrification of vehicles is accelerating too, with 2 out of 3 large companies looking at investing in EVs in the next 2 years. Smart charging is also expected to rise, presenting financial benefits for customers. It is likely to also play a role in the co-ordination of energy demand for multi-charger sites.

Case study: EV smart charging owners are willing to augment their charging behaviour for incentives

Between 2020 and 2022, Origin's smart charging trial has collected charging and usage data from 150 smart chargers to provide insights into EV charging behaviours and examine responses to smart charging. The report published in 2022 finds that "Participants were willing to augment their charging behaviour for incentives at peak times by 20%."¹²

Storage and more advanced energy management are still further away with their benefits yet to be fully understood and qualified

Storage, microgrids, and demand response are gaining traction and around half of respondents are looking at exploring these solutions in the short term. Demand response, hedging, and storage are tools that are not yet widely leveraged by Australian companies to manage energy volatility. This finding reveals an opportunity and an area where investment should be focused; demand response and hedging are tools accessible to most businesses.

Demand response programs, whereby a consumer earns revenue from reducing (or increasing) consumption when called upon to do so (or at their own volition), are available to most consumers. Programs through electricity retailers, wholesale demand response service providers, and the market operator itself under its 'Reliability and Emergency Reserve Trader' scheme enable monetisation from the ability to manage consumption.

¹¹ [Australia National Electric Vehicle Strategy, 2023](#)

¹² [Origin EV Smart Charging Trial, May 2023](#)

While demand response is valuable in today's market because it helps manage real-time supply-demand balance, as renewables penetration increases and fossil fuel generation retires, this flexibility will increase in value. Australia's consumers should be planning to improve their ability to decrease or increase demand and capture this value.

Demand response can also reduce emissions intensity through adjusting consumption to times when renewables output is plentiful, which is an important consideration for companies aiming to decarbonise.

Hedging is also highly accessible to commercial and industrial consumers of Australia and is a commonly used tool for price risk management around the world. Similar to companies hedging foreign exchange rates, interest rates, or commodities, energy consumers can smooth volatility by engaging with retailers in supply contracts which allow hedging prices through time.

This approach can provide greater certainty in costs, cashflows, and margins, particularly when both short- and long-term hedges are used. While hedging can address the energy price volatility issue identified by Australian companies as a major risk or concern, hedging has little impact on emissions unless renewable energy contracts are the hedging instrument.

These PPA contracts can address Scope 2 emissions, but careful consideration should be given to how these instruments affect overall electricity portfolios and their suitability based on a company's risk tolerance.

Microgrids and storage are tools or approaches for managing energy volatility that can be slightly more complex, but also more rewarding. On-site storage is often best leveraged inside a microgrid, where on-site generation is stored and consumed at times of higher prices or reduced generation. By managing both supply and demand on site, microgrids can protect consumers from spot market volatility, while also reducing Scope 2 emissions. Although microgrids with storage are relatively common in the United States, for example, they are less common to date here in Australia – revealing another opportunity for Australia's commercial and industrial customers to manage risks while reducing emissions.

Case study

A leading Australian financial institution has been saving \$4M of energy annually by managing its electricity risk exposure.

Figure 15: Investment in energy management in the next 2 years (%)

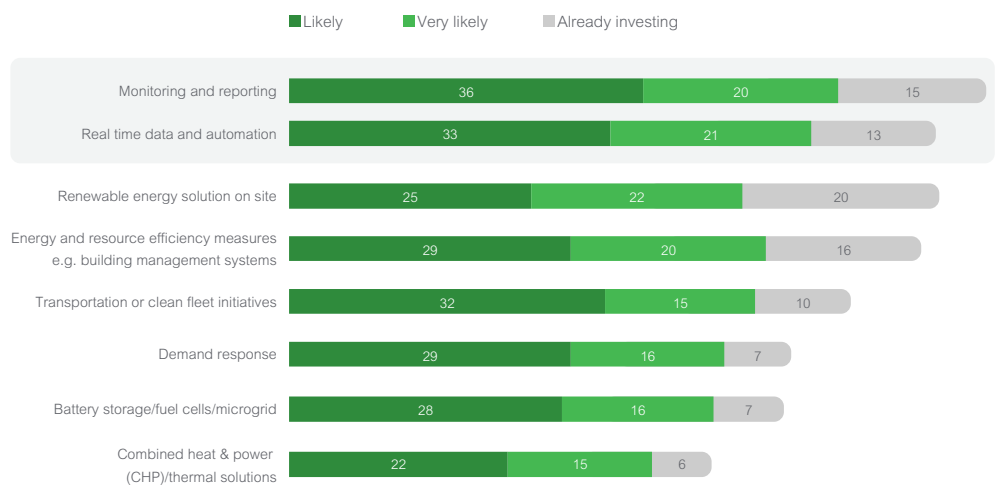
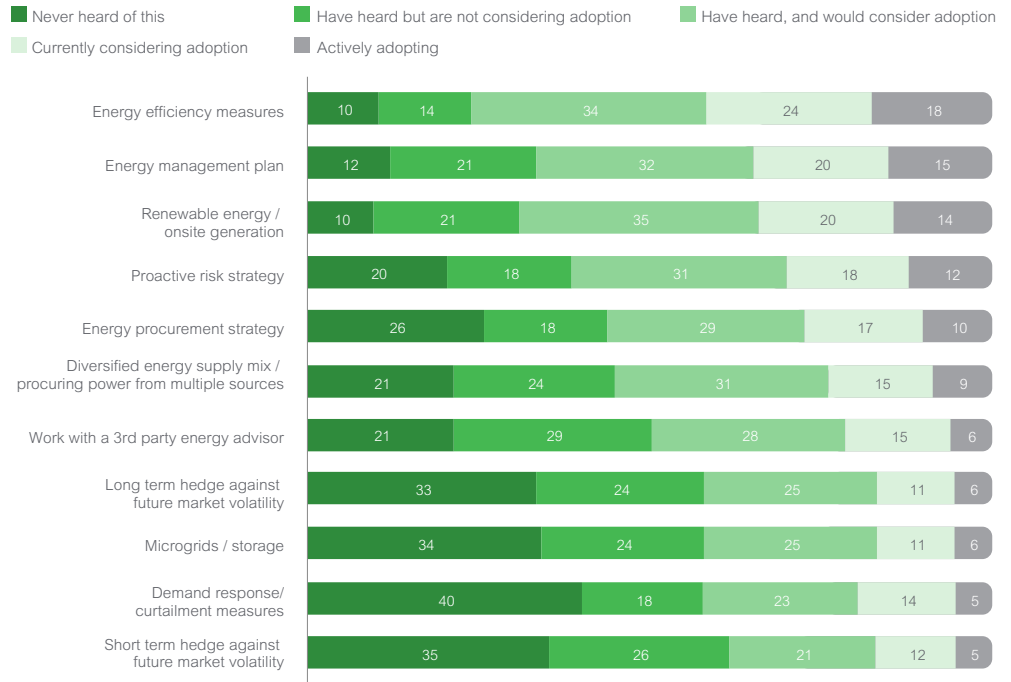


Figure 16: Initiatives to manage energy volatility (%)



The Back to 2050 report modelling suggests that technology and data are making decarbonisation more achievable than many people realise. Changing consumption patterns, driven by an appetite for the progress that new technologies like digitisation herald, can help bring about a less carbon-intensive economy. In other words, keeping global warming to 1.5°C may be more feasible than we think, because as the economy modernises and provides increased benefits to people, it also decarbonises.

Other trends worth noting include an increased focus on 'Diversity & Inclusion' (47% of respondents are investing more than 3 years ago) and circular economy additional efforts with 22% of respondents investing more than 3 years ago.



Conclusion

This year's *Sustainability Index* shows that the majority of businesses in Australia are working towards a lower-carbon future, and one where they have more control over their energy use and supply. However, they need more clarity about exactly how to achieve it and more support from the partner ecosystem.

Challenges

- Sustainability is still seen as a “good-to-do” thing.
- A considerable chunk of businesses lack clarity on financing for sustainability projects.

Opportunities

- More and more organisations are realising the value of the competitive edge that sustainability offers, including reduced carbon footprint and a positive social impact.
- Increasing energy volatility, while concerning, also offers tremendous opportunity for energy management.

The gap lies with data capturing and Scope 3 emissions

- Most businesses agree on the importance of data but follow rudimentary methods to collect it.
- Only a small proportion of businesses have visibility of Scope 3 emissions and can manage and reduce this.

Digitisation and technology paves the path towards a net zero outcome

- Businesses have identified investment in digitisation (monitoring and reporting) as their number one priority to achieving their net zero ambition.
- Energy efficiency and on-site renewable energy projects are other major decarbonisation interventions with transport electrification also picking up pace.

Strategise: define a strategy to meet ambitions aligned with science-based targets

- Measure and set baseline through data collection tools and data management systems and programs, while determining current and past GHG emissions along with future projections, including any anticipated changes in the business.
- Use frameworks like SBTi to set targets and establish clear decarbonization pathways, aligned with the 1.50C trajectory.
- Structure the whole program with governance aspects defined and investments planned, along with internal engagements, external communications, and ESG disclosure and reporting activities.

Digitise: create an accurate and reliable single source of truth for energy and sustainability data

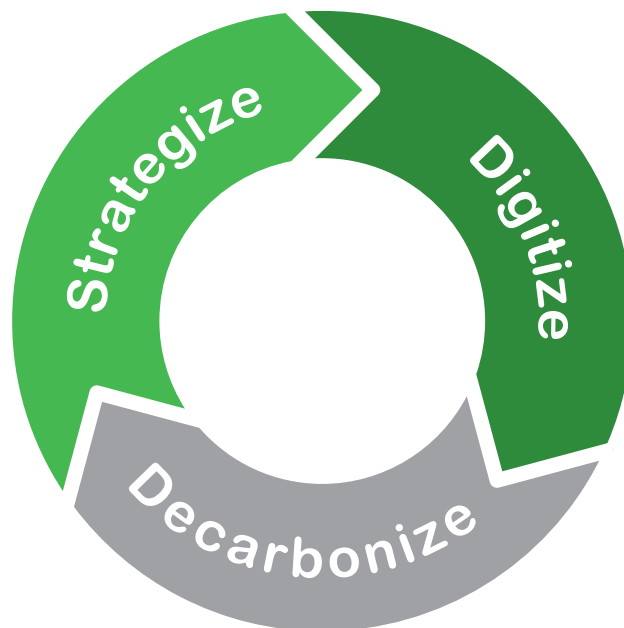
- Monitor use of energy and resources, and track emissions.
- Identify energy and resource efficiency opportunities with monitoring, analysis, and carrying out opportunity assessment and audits.
- Report and benchmark progress with performance monitoring, target tracking, streamlined ESG reporting, and peer benchmarking.

Decarbonise: execute decarbonisation strategy with 4 key levers

- **Reduce** energy use through digitisation, automation, and energy efficiency projects.
- **Replace** energy sources with renewables, along with integrated sourcing and carbon credits.
- **Electrify** operations like mobility and processes, while also using microgrid solutions.
- **Engage** the value chain with a focus to reduce Scope 3 emissions through implementing a supplier decarbonisation program and integrating circularity concepts across the project lifecycle (design-build-operate-maintain).

This framework won't just help businesses reduce emissions, it also makes them more resilient to the various climate change risks and challenges that they face today – from financing and energy volatility to an increasing gap between demand and supply of green energy.

This approach also embraces the full spectrum of available improvements, helping organisations advance towards sustainable transformation in a cost-effective and realistic way. Ultimately, reaching a net zero future is not just achievable – it's crucial to the long-term sustainability of business.





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