Charting Australia's path to 2035 and beyond

Eight keys to unlock lower costs, improve security and deliver net zero emissions

An EY Net Zero Centre report

The better the question. The better the answer.
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Shape the future with confidence

Charting Australia's path to 2035 and beyond

Since launching in 2022, the EY Net Zero Centre has assessed the business case for climate action from multiple perspectives, consistently finding that achieving net zero can create opportunities and competitive advantage, rather than imposing overall costs or harming profits.

This new EY Net Zero Centre report seeks to bring clarity to climate issues and action in the context of sharper attention to climate targets for 2035. The report aims to make sense of why and how business should engage, and distils evidence-based options into eight practical priorities – or "keys" – located in a forward-looking framework.

The report does not seek to prescribe what businesses and governments must do. These decisions should always be informed by the distinctive context, challenges and opportunities faced by each. Instead, it seeks to identify broad options that businesses and governments can choose to unlock lower costs and create new value while charting a path to zero emissions.

The report finds the benefit-cost ratio of climate action has improved in the last decade. The costs of low emissions technologies have fallen rapidly, while lived experience and the latest science show the benefits of avoided climate impacts are larger and more immediate. As a result, the economic case for ambitious action is now stronger than ever.

Shifts in technology costs mean Australian governments and businesses do not need to choose between addressing climate change and managing cost-of-living pressures. In fact, the four most easy-to-reach keys can often begin to reduce costs for consumers and businesses today, while unlocking new value for industries and the broader economy and delivering the lion's share of emissions reductions required by 2035.

Looking longer term, Australia stands to make substantial economic gains as a renewable energy superpower and a leader in sustainable, regenerative industries. We identify four more keys that unlock enormous opportunity, each involving near-term action to prepare the ground for what comes after 2035, with sector-specific strategies that account for risks and capitalise on emerging opportunities.

However, realising these benefits and navigating the net zero and clean energy transitions will be complex and challenging, and success cannot be taken for granted. Success will demand unprecedented coordination, innovation and reform – from scaling up electricity supply and retiring fossil fuel assets to creating future-ready industries and removing barriers that hold back change.

Given the depth and breadth of the challenges ahead, we have structured this report into four sections:

- **Discern:** Understand what is at stake and what it means for Australia's national interest.
- **Deploy:** Take practical steps now to reduce costs and emissions.
- **Develop:** Act now to lay foundations and create future options for hard-to-abate sectors.
- **Deliver:** A clear call to action for government, businesses and communities.

Discern: Understand what is at stake and what it means for Australia's national interest

Supporting fair and effective global climate action is in Australia's interest

Australia is already experiencing the consequences of climate change, with extreme weather events becoming more frequent and severe.

Failing to act on climate change will expose Australia to escalating risks and impacts, including severe food and water shortages, droughts, heatwaves, floods and coastal inundation. These impacts threaten social stability, economic prosperity and regional security.

Scientific and economic studies overwhelmingly find the costs of reducing emissions are relatively modest and manageable, and far lower than the costs and risks of climate change.

It is, therefore, in Australia's national interest to support global action to limit climate change to well below 2°C, and to 1.5°C if possible.

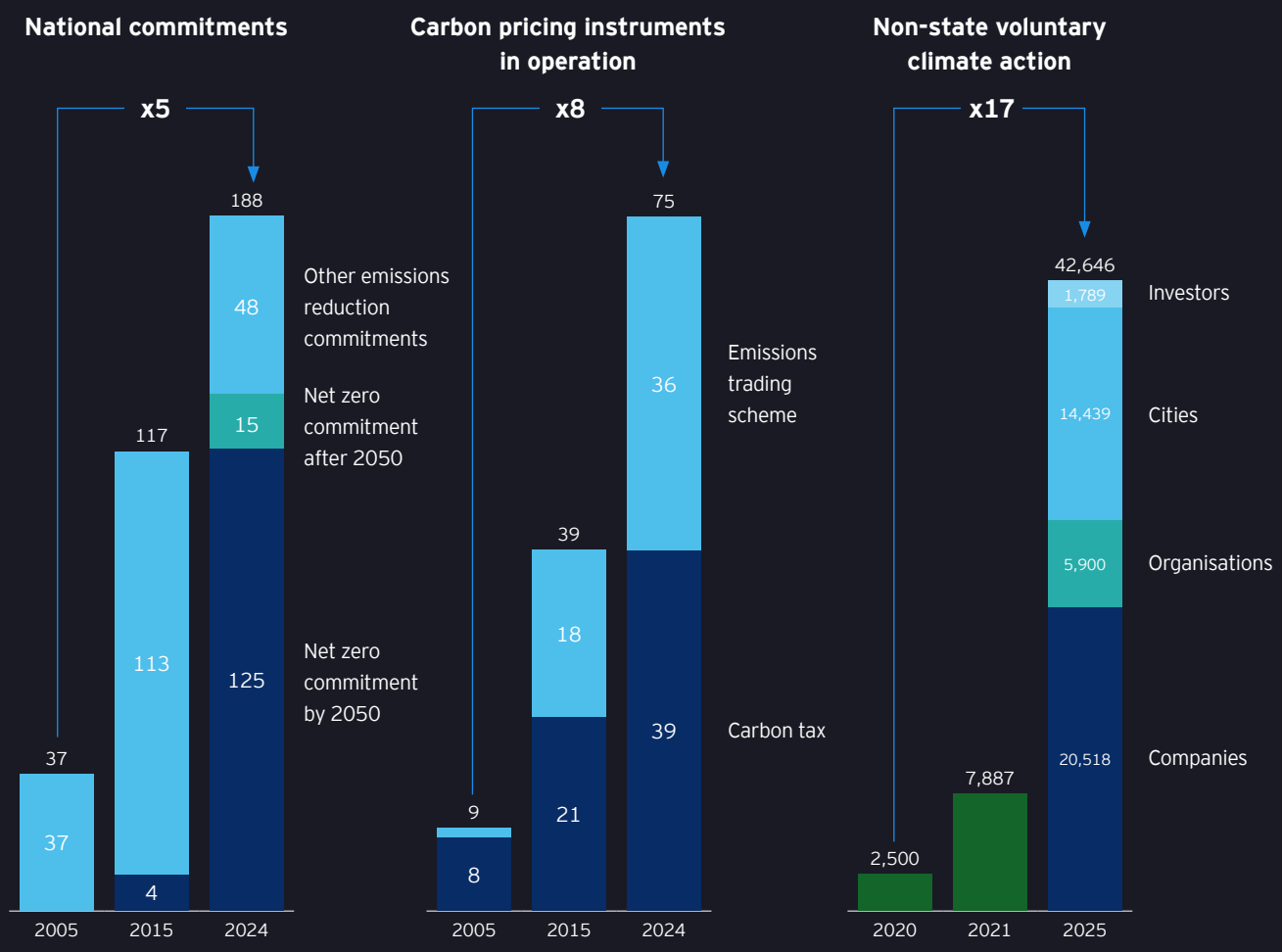
Action, and inaction, speaks louder than words – and the world is acting

Global progress to reduce emissions has been slower than many people hoped, but faster than many expected. While global action is not yet sufficient to limit climate change to 1.5°C, overall momentum is building.

However, powerful special interests continue to seek to obstruct climate action, including by spreading misinformation. While the vast majority of countries are pivoting to a low-carbon future, climate change remains politically contested in the USA, creating opportunities as well as challenges for Australia.

The second half of 2025 will sharpen attention on climate and energy issues nationally and internationally, with a focus on near-term actions to accelerate emission reductions by 2035.

Exhibit ES-01. Momentum and tangible action on climate change are building



Note: National commitments based on Kyoto Protocol Annex B for 2005. Net zero commitment includes net zero, climate neutral and carbon neutral target as reported by Energy and Climate Intelligence Unit.

Sources: Net Zero Centre analysis, as described in Endnote *C.

Committing to a national emissions reduction target of 65-75% by 2035 from 2005 levels would be responsible, and create new opportunities

National emissions targets give businesses clear policy signals, supporting cost-effective action, reducing risk, and ensuring near-term investments in long-lived assets do not lock in emissions that must be offset later. Current approaches will see Australia reduce emissions by around 50% by 2035.

Stepping up to chart a cost-effective path to achieve Australia's bipartisan commitment to net zero emissions will require new policies and actions across all sectors.

Government and business should also urgently accelerate adaptation efforts that help Australian communities cope with hotter summers, more severe storms and other extreme weather events – while also accelerating emissions reductions to limit future risks.

Deploy:

Take practical steps now to reduce costs and emissions, across every sector

Eight keys can unlock lower costs, improve security and set Australia on the path to net zero emissions.

The first four keys deploy available cost-effective technologies across buildings, transport, industry and agriculture. Together, they reduce lifetime costs relative to alternatives through smarter investments when assets are replaced, while delivering around 80% of the emissions reductions needed to 2035.

To realise these benefits, action needs to begin now and continue over the decade.

#1. Electrify (almost) everything to amplify the benefits of low-cost renewables

Electrification – switching from using gas or other fossil fuels to electricity – can deliver significant savings when assets are replaced, with households benefiting by more than $6,000 over 10 years.

However, realising the benefits will require significant investment in electricity generation, transmission and distribution.

Indeed, delivering this over the next 10 years will require more of almost everything, including: doubling distributed solar generation (+94%), tripling zero emissions grid generation (+190%) and increasing capacity (+265%) to meet demand while also replacing retiring coal assets. It will also require a 20-fold increase in coordinated community energy resources (CER) and 5,000 kilometres of new transmission infrastructure.

Exhibit ES-02. Electrification of buildings and transport can provide significant cost savings

Savings over 10 years from switching to electric appliances and battery electric vehicles (NPV)

Source: Wood et al (2023), EY Net Zero Centre analysis as described in Endnote *E.

#2. Shift to electric and more efficient vehicles to reduce transport costs and reliance on imported energy

Improving the efficiency of traditional vehicles and uptake of battery electric vehicles (BEVs) can reduce costs, emissions and reliance on imported energy. Ongoing falls in electric vehicle (EV) costs now see total cost of ownership savings of up to $1,200 per year relative to conventional vehicles.

These savings are contingent on resolving access to charging infrastructure, improving electricity supply, and addressing upfront cost barriers.

#3. Promote safe and attractive climate resilient places to live, work and play

Future-ready buildings and settlements are safer, more comfortable and cheaper to run.

A $2 billion investment in disaster resilience over five years could reduce costs to households, business and governments by $19 billion by 2050. Energy-efficient homes can save occupants over $945 a year.

Unlocking these benefits depends on updated planning codes, better risk mapping, and policies that prevent development in high-risk areas.

#4. Secure and scale up land sector removals required by all sectors

Australian supply and use of high-integrity carbon credits, including for export, could lift national income by $50 billion in 2050.

While current settings provide a sound foundation, policy must evolve to expand credit use beyond the Safeguard Mechanism (SGM), harness synergies between sequestration and nature regeneration goals, and lift investor confidence.

Develop: Act now to lay foundations and create future options for hard-to-abate sectors

The next four keys prepare the ground for a dynamic and prosperous low-carbon economy after 2035.

These actions recognise that some sectors currently lack win-win opportunities to reduce emissions while also reducing costs or creating new value.

#5. Co-develop new globally competitive low-carbon industries and technologies

Australia could build durable competitive advantage in green iron, critical minerals, chemicals and data centres – complementing existing advantages in food, fibre, metals and mining.

For example, a modest shift to export green iron (alongside iron ore) could lift Australian gross domestic product (GDP) by more than $50 billion by 2050. Combined with reliable supply of carbon credits and policy that leverages Australia's status as a trusted and friendly supplier of critical minerals and metal ores, this could lift national income by 3%, or $89 billion in 2050.

To realise these opportunities, governments and businesses will need to co-invest, share innovation risk, and simplify pathways to market for emerging technologies.

#6. Negotiate a low-carbon growth strategy for emissions-intensive agricultural products with major trade partners

Agriculture faces huge challenges and huge opportunities as the world transitions to low-carbon food and fibre.

Limited abatement options mean agricultural emissions could account for almost half of gross Australian emissions and over a third of global emissions by 2050. This suggests livestock exporters will need to rely on offsets, particularly land sector credits, and recover the value of these from overseas consumers.

This will require supportive policies in destination markets that empower citizens to choose the characteristics of the food products they wish to consume.

#7. Maintain incentives for reducing heavy industry and transport emissions

Facilities covered by SGM reforms are already incentivised to achieve deep cuts in emissions over time, while access to carbon credits reduces costs and risks.

EY analysis shows that using Australian Carbon Credit Units (ACCUs) halves costs by 2035 compared to scenarios without credits.

But more needs to be done to motivate cost-effective abatement in sectors and facilities that are not covered by the SGM.

Success here will depend on orderly SGM policies, expanded offset markets, and well-designed complementary new policies such as reform of fuel tax credits.

#8. Provide a coherent long-term framework to ensure Australian fossil fuel exports support the global energy transition

Australian politics has struggled to establish a coherent framework for carbon-intensive energy exports that reconcile Australia's long-term interest in effective global climate action with the short-term interests, and influence, of producers and regions that currently rely on coal and gas exports.

One solution would be a transition framework that incentivises Australian energy exports to only go to countries with strong decarbonisation targets and coherent energy transition plans.

This would strengthen and formalise existing trade patterns, with 99% of Australian energy exports (and 94% of all goods exports) going to countries with net zero commitments in 2024.

Deliver: A call to action for government, businesses and communities

The world is at an inflection point, with no time to waste

The world is not on track to avoid dangerous climate change. This path risks catastrophic consequences, in our lifetime, and for centuries to come. Yet it is not too late to step up action to avoid the worst impacts.

Australia, and Australian businesses, can choose to make a difference

In 2025, Australia will submit its 2035 emissions reduction target and Nationally Determined Contribution (NDC) under the Paris Agreement, creating expectations for businesses to articulate their strategy.

This will involve crucial discussions about the level of ambition we wish to set, and how this will be achieved.

The Climate Change Authority is assessing an emissions reduction target in the range of 65-75% below 2005 levels by 2035, consistent with a 1.5°C pathway.

A 65–75% range keeps 1.5°C within reach while recognising that deeper cuts after 2035 will be harder or rely more on enabling global action.

Governments and businesses both play essential roles

Government can motivate businesses and households to act by pulling a range of levers, including grants, tax incentives, mandatory standards, labelling and disclosure. This encourages action and shapes the operating context for business.

But businesses are in the driver's seat – and the eight keys are in their hands.

... and so everyone needs to get down to business

Every business should develop climate and sustainability strategies that respond to their specific circumstances and opportunities.

As a guide, a science-based approach suggests all companies in advanced economies strive for a 75-100% reduction in fossil fuel emissions by 2035.

The report outlines practical steps businesses can take, from replacing high-emissions assets to preparing for market shifts. Every business will have its own path, shaped by its emissions profile, industry context and strategic opportunities.

The future of climate change, and the role of Australian business in the global transition, is not yet written

Leaders who lean in to engage, explore and imagine the possible will be best placed to create the future.

Exhibit ES-03 (next page) summarises the insights and implications of the eight keys identified to unlock lower costs, improve security and put Australia on a cost-effective path to net zero emissions.

Exhibit ES-03: The path to 2035 will require and reward a wider range of climate actions by government and business, unlocking lower costs, improved security and lower emissions

Insights and implications of the eight key priorities

PRIORITIES	GOVERNMENT		BUSINESS		BENEFITS	
	Firm foundation	Worthwhile stretch	Firm foundation	Worthwhile stretch		
Net Zero Pathway	**Set 65-75% national reduction target by 2035, from 2005 levels, backed by coherent sectoral policies***	**Consider updating net zero target date to 'no later than 2050'**	**Develop and deliver ambitious corporate climate strategy, consistent with a 1.5°C pathway****	**Support orderly national policy consistent with 1.5°C, and push back on special interests****	**Support stronger global action on climate change, in the national interest**	
1. Low carbon energy and electrification	Drive >80% renewable electricity Financial support for electrification and batteries	Consider incentives for low emissions rental properties Support future orchestration of distributed energy resources (DER)	Electrify energy assets as they turn over Offset residual emissions**	Understand and reduce supply chain emissions**	Lower energy costs; new competitive advantages	Reduced costs and improved security
2. Road transport	Stay the course on the New Vehicle Emissions Standard	Accelerate expansion of the charging network Reform fringe benefit tax (FBT) rules	Shift to battery electric vehicles (BEVs) Support distributed charging	Develop options for heavy freight, test new client value propositions	Lower life cycle transport costs; improved air quality	
3. Climate resilient buildings and settlements	Increase adaption funding Prevent developments in flood zones	Ensure future-ready building standards	Showcase sustainable and efficient buildings Deploy and support distributed energy**	Develop more affordable and sustainable offerings (including build to rent)	Safer, more resilient and efficient buildings and settlements	
4. Carbon credit supply and use	Articulate how ACCUs will support non-SGM activities	Evolve ACCUs to lift supply and deliver nature benefits	Articulate offset strategy, including co-benefits*	Lean in to create a best-in-class credit portfolio†	Australian supply of credits supports lower costs and creates value	Creating new value and opportunities
5. New competitive advantages	Evolve and deliver low carbon stream within Future Made in Australia	Do not shy away from creating national champions	Treat governments as co-investors in innovation	Mobilise capital and partner to create new opportunities and value	Develop new competitive industries	
6. Low carbon agricultural exports	Include credits and destination market measures in agriculture strategy	Explore inclusion of emissions-intensive foods in Carbon Border Adjustment Mechanisms (CBAMs)	Support landholders' ability to participate in carbon and environmental markets	Recognise the national reputational risk arising from agricultural land clearing††	Harness support of consumers for offsets and abatement	
7. Heavy industry and transport	Stay the course on Safeguard Mechanism (SGM) reforms	Reform fuel credits Explore emissions reduction options for non-SGM facilities	Deep dive on international developments and options	War game disruption from low emissions technologies†	Improved investment confidence	Supporting an orderly transition
8. Support the global energy transition	Support Australia's distinctive contributions to global decarbonisation efforts	Establish a long term framework to ensure Australian energy exports support the transition	Support emerging low carbon export opportunities, and orderly transition of regional industries	Recognise the costs and risks of dangerous climate change*	Support confidence in global transition, and avoid potential disruption	

Notes: More details are provided in later pages on key actions 1-8. * See section on Discern: Understand what is at stake, and Australia's national interest.
** See section on Deliver: A call to action. † See Exhibit 06 in Box, page 28-29. †† See EY NZC 2023c. Source: EY Net Zero Centre analysis

Contents

Introduction: Charting Australia's path to 2035 and beyond

Australia and the world are at an inflection point. We have arrived at 1.5°C and need to urgently accelerate action to avoid dangerous climate change. Countries, communities and companies are all in this together, and both governments and businesses have crucial roles to play.

This report outlines key priorities for Australian governments and businesses to set and achieve prudent climate goals by 2035. Several key messages emerge from the work of the EY Net Zero Centre and the research and analysis undertaken for this report.

Action on climate change remains crucial and urgent

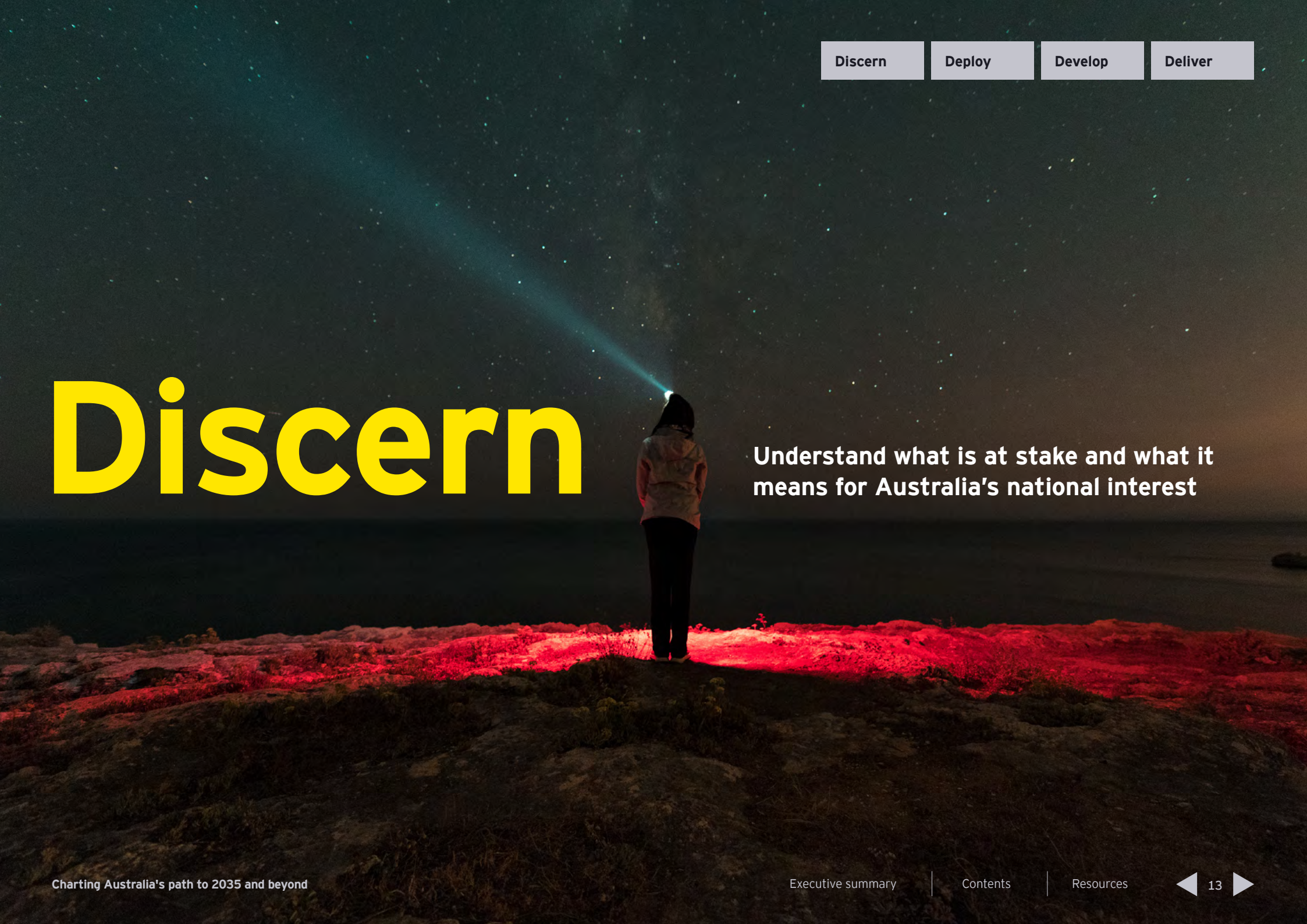
- Ambitious climate action is worthwhile and essential to address climate risks, for Australia and Australian businesses.
- Attention to climate commitments and strategies to 2035 will sharpen this year, with a wider range of actions required across all sectors.
- Changes in approach by the Trump Administration reinforce volatility in the global climate response, presenting both challenges and opportunities for Australian businesses. But this is unlikely to halt growing global momentum.

Businesses can save money and create new value while reducing emissions

- Switching from fossil fuels to renewable energy in buildings and road transport can dramatically reduce business and living costs while also cutting emissions – achieving up to 80% of the abatement required to 2035.
- Near-term action is also required to create options and new competitive advantages beyond 2035 for heavy industry, emissions-intensive agriculture and energy exports.
- Government and businesses both have essential roles in achieving a successful transition to a prosperous, resilient, net-zero world – leaders who engage early will be best positioned to navigate disruptive change.

Realising the benefits of climate action will be complex and challenging, and success cannot be taken for granted

- Navigating the clean energy transition requires an unprecedented 50% increase in electricity supply and distribution over the next decade, while retiring current coal-fired generation.
- Laying the foundations for hard-to-abate sectors after 2035 involves developing competitive new-to-world technologies, and building willingness to pay for carbon neutral products (such as beef) in destination markets.
- Businesses and government will often need to challenge themselves, such as businesses engaging more deeply and openly with customers and communities (on distributed energy and infrastructure projects), and government moving to de-risk necessary investments and simplify regulations that are no longer fit for purpose.



Discern

Understand what is at stake and what it means for Australia's national interest

Effective strategy is always grounded in purpose and context

Every effective strategy requires an understanding of potential goals, the options available, and a practical path to achieve them.

Australia is already committed to net zero emissions by 2050 because it is in the national interest to support effective global action to avoid dangerous climate change. Multiple lines of evidence find that the benefits of national and global action outweigh the costs, and developments since 2005 have seen expected costs of action fall while benefits have risen.

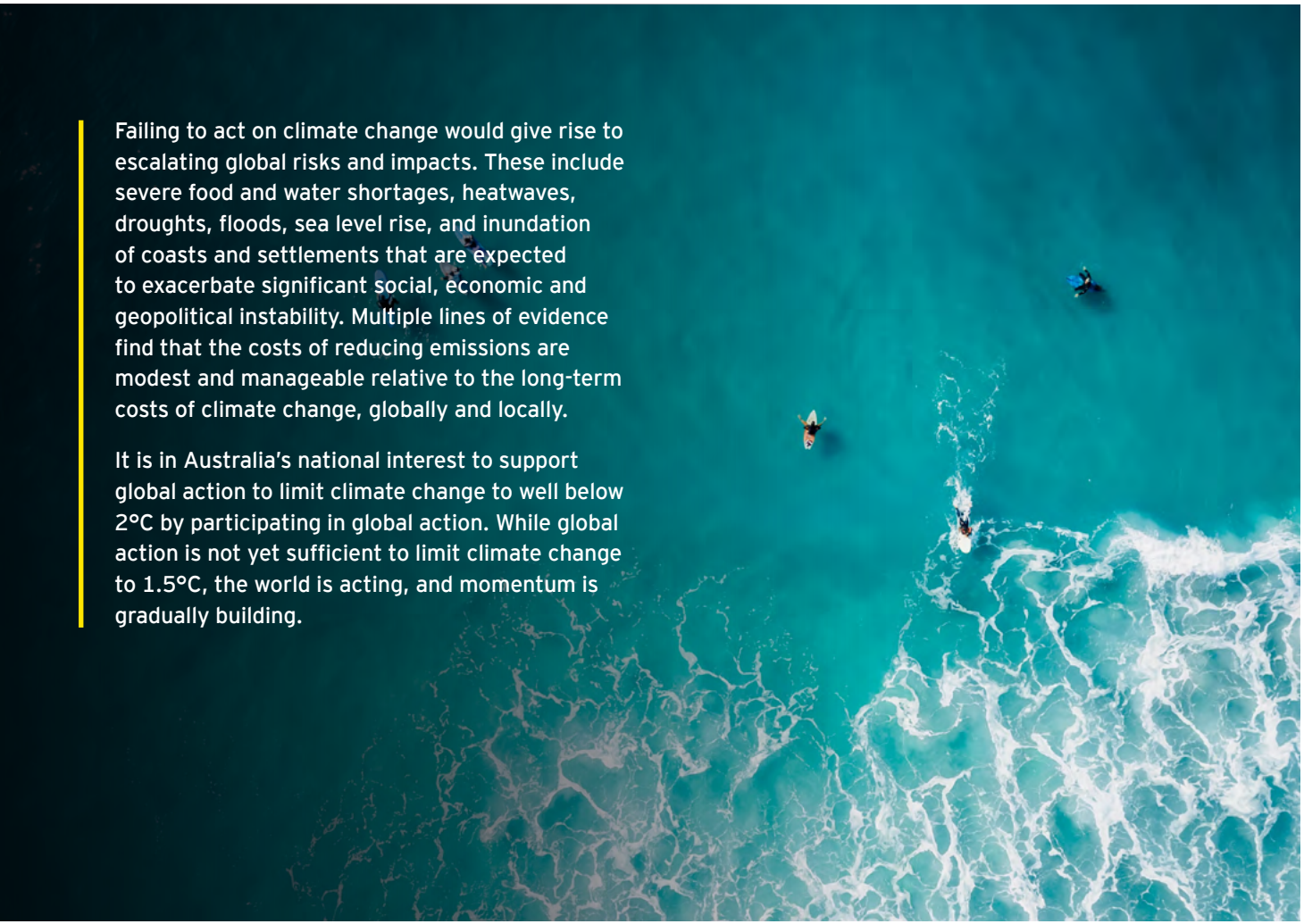
Emissions targets provide guidance to investors and other stakeholders – reducing investment risk, guiding and calibrating implementation, and helping coordinate action across sectors, organisations and supply chains.

Setting an Australian emissions reduction target of 65-75% below 2005 levels by 2035 would be responsible and appropriate, and consistent with the global goal of keeping temperatures well below 2°C and as close as possible to 1.5°C.

Decisive near-term action could prevent future harm and reduce vulnerability to extreme events (including fires, floods and heatwaves), while improving energy efficiency and reducing energy bills.

Government and businesses should recognise the multiple security benefits of 'walking the talk' on climate change: improving community and business resilience; protecting Australia's international reputation and relationships; and reducing dependence on energy imports and vulnerability to international energy price volatility.

Supporting fair, effective and ambitious global climate action is in Australia's national interest



Failing to act on climate change would give rise to escalating global risks and impacts. These include severe food and water shortages, heatwaves, droughts, floods, sea level rise, and inundation of coasts and settlements that are expected to exacerbate significant social, economic and geopolitical instability. Multiple lines of evidence find that the costs of reducing emissions are modest and manageable relative to the long-term costs of climate change, globally and locally.

It is in Australia's national interest to support global action to limit climate change to well below 2°C by participating in global action. While global action is not yet sufficient to limit climate change to 1.5°C, the world is acting, and momentum is gradually building.

Climate change was recognised as a major economic and security challenge from 2005

The years leading up to the 2009 United Nations Climate Change Conference in Copenhagen sharpened attention on the physical, economic and national security implications of climate change, as countries began to count the costs and benefits of emissions reduction.[1-6]

This transformed the debate. By engaging with the diversity and magnitude of climate impacts, climate change was recognised as an economic and security issue requiring a whole-of-government response. Efforts needed to be led by presidents and prime ministers, rather than environmental or energy portfolio ministers.

Australia is extremely vulnerable to climate change and extreme events

Australia is vulnerable to a hotter, drier, more variable climate. That much has always been clear.

Regional industries and communities are particularly exposed. Australian agricultural revenues are already two to three times as variable as other major producers, such as those in the USA and Brazil, as a result of climate and commodity price volatility.[7]

Water security and water shortages have long been a major challenge in Australia, with flows in the decade to 2007 around 40% below average for Sydney, Brisbane and Canberra, and more than 60% below average in Melbourne, Adelaide and Perth.[8]

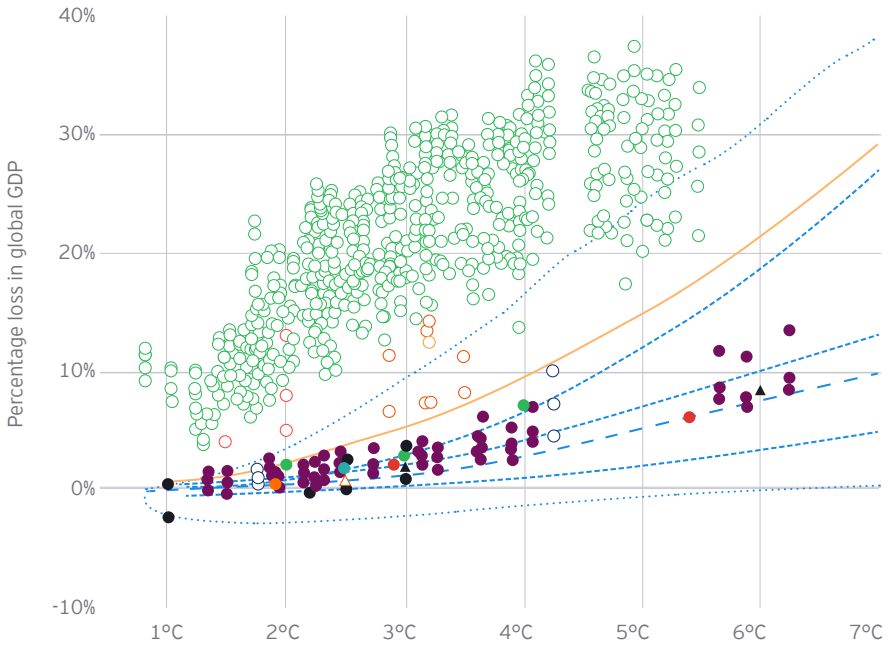
Assessments in 2008 of likely long-run climate impacts under business-as-usual global emissions included:[8-9]

- Lower rainfall and reduced water security, with 13-23% reductions in average rainfall in mainland states and territories by 2100
- Reduced agricultural output, including a 92% reduction in irrigated production in the Murray-Darling Basin
- Increased heat stress, including up to 9,500 additional heat related deaths in Queensland annually
- Real wages 12% lower than they would be without climate change.

Other risks include drought, bushfires, reduced food security, higher prices, damage and disruption to essential infrastructure, storm damage, inland floods, coastal inundation, new disease vectors, and cascading significant geopolitical risks.

Exhibit 01. Studies overwhelmingly find climate change will have significant adverse economic impacts

Aggregate economic impacts by temperature



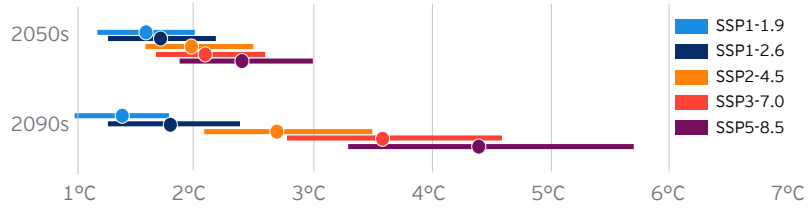
a. Statistical modelling
- Kahn et al. (2019)
- Kahlkul & Wenz (2020)
- Burke et al. (2018) - SR
- Pretis et al. (2018)
- Maddison & Rehdanz (2011)

b. Structural modelling
- Takakura et al. (2019)
- Dellink, Lanzi & Chateau (2019)
- Kompas et al. (2018)
- Roson & van der Mensbrugghe (2012)
- Bosello et al. (2012)
- Rose et al. (2017) - FUND 5th & 95th
- Rose et al. (2017) - PAGE 5th & 95th

c. Meta analyses
- Nordhaus & Moffat (2017)/Nordhaus (2016)
- Tol (2018)
- Howard & Sterner (2017)

d. AR5 various methods
- AR5

Projected average global temperature change by scenario

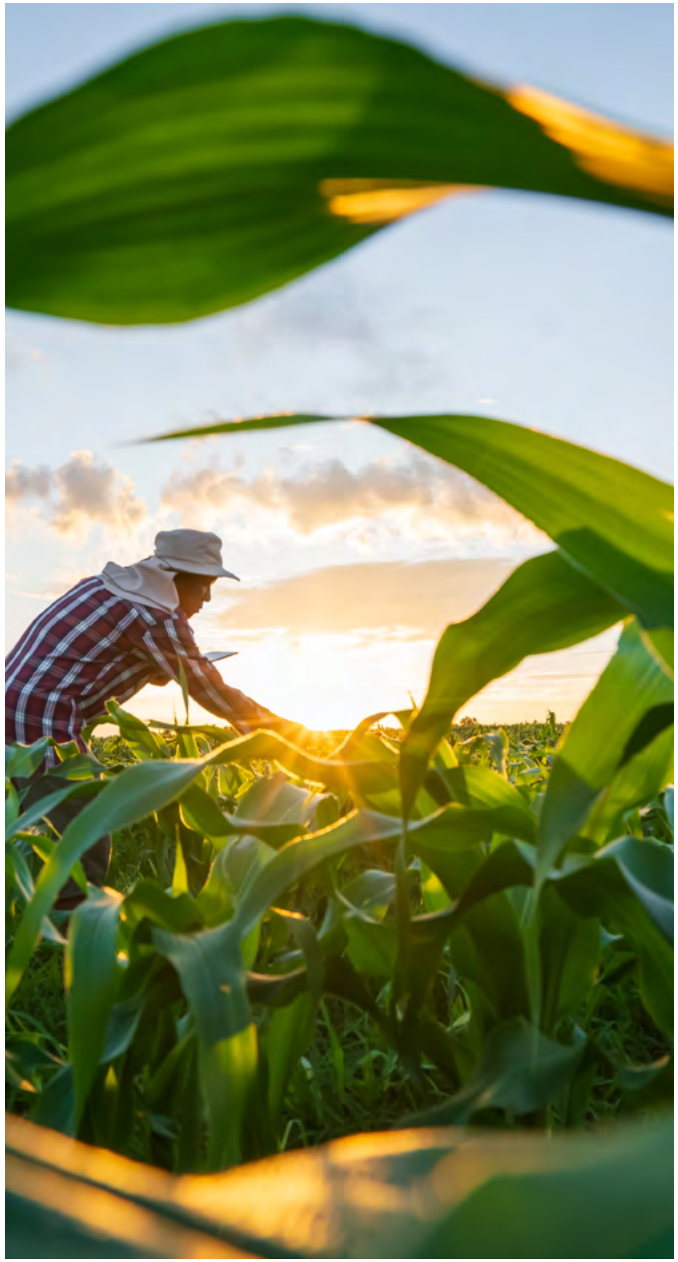


Source: IPCC (O'Neill, B. et al.) 2022a. Cross working group box ECONOMIC.1., page 2497.

The costs of climate action are manageable and well known, while the impacts of failing to act are large, irreversible and persist for hundreds of years

In 2008, Ross Garnaut estimated that the net cost to Australia of participating in global climate action would be significant, in the order of 1.5-2.0% of national income (GNP) from 2030. This calculus excluded the benefits of avoiding non-market impacts and longer-term likely but hard-to-quantify market impacts.

While the market impacts of climate action are known and manageable, allowing global temperatures to rise by 5.1-6.6°C would have catastrophic consequences for human civilisation and ecosystems, destabilising almost every aspect of human life. Once these impacts occur, they would be irreversible or persist for centuries to come.[9]



The economic, social and environmental benefits of global action to reduce emissions outweigh the costs and risks

The Garnaut Review found that the costs of inaction would be significantly greater than the costs of action on climate change, for Australia and the world. An orderly transition to a low-carbon economy should start as soon as possible, Garnaut advised.[9-10]

Garnaut's findings echoed the United Kingdom's Stern Review,[1] published in 2006, which argued for immediate action to limit warming to well below 2°C (see Endnote *A).

The Australian Government[8] accepted the findings of the Garnaut Review that fair and effective global action to limit global warming to well below 2°C would be in Australia's interests, stating:

> Given the risks that climate change poses to Australia, it is in our national interest to help forge an effective global response to climate change and to begin the transformation that will deliver a safe society, a strong economy, high living standards and growing job opportunities into the future.

Australian Government (2008), Section 1.2

The benefit-cost ratio of climate action has improved markedly over the last 15 years

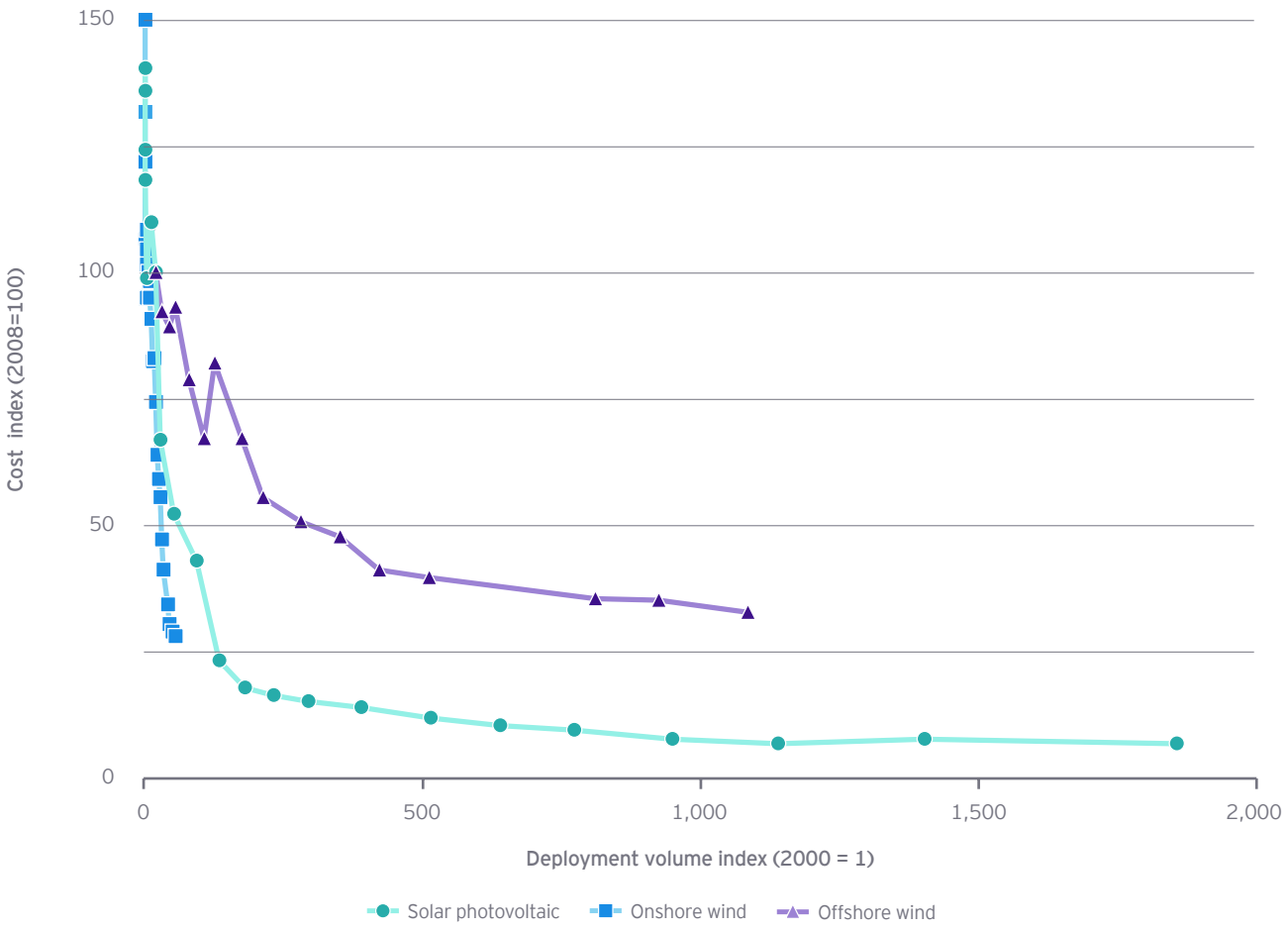
In recent years, the expected costs of climate action have fallen, while expected benefits have grown, strengthening the case for action. Key reasons include rapidly falling costs of emissions reduction technologies, faster than expected reductions in the costs of renewable energy, new unforeseen economic opportunities for Australia emerging from global decarbonisation, and mounting evidence that climate risks and impacts – both nationally and internationally – will be more widespread and severe than previously understood.

Renewable energy costs have fallen further and faster than imagined, with costs now being lower than those of other options

The faster-than-expected deployment of renewable electricity has seen technology costs fall around five times faster than anticipated in the 2008 analysis.[17-18] A renewable energy-based grid now has lower whole-of-system costs than alternative options, even before considering climate goals.[19-22] (Gas-fired electricity has an important role to play in maintaining reliability and system stability, but is expected to provide less than 10% of total generation.)[21]

Exhibit 02. Reductions in renewable energy costs have outpaced expectations

Global weighted costs (index) versus global deployment (index), 2000 - 2023



Note: Global weighted average onshore and offshore wind LCOE (2023 USD/kWh), solar PV panel prices (2023 USD/W) and cumulative deployment (MW). Solar PV and onshore wind data for 2000 to 2023, offshore wind data 2008 to 2023.

Source: IRENA (2024) – processed by Our World in Data.

Australia could prosper as a low-carbon superpower

Australian business leaders and policy makers increasingly recognise the new export opportunities arising from the global low carbon transition – including in green metals, chemicals, critical minerals, carbon credits and data services.[23] The benefits and likelihood of these opportunities are greatest in scenarios with high global ambition, in contrast to scenarios with weaker global action which see a loss of Australia's past advantages (particularly in fossil fuel exports) without offering gains from new areas of advantage.[23-26]

... and more recent assessments and experience demonstrate climate risks are larger than previously thought

More recent assessments[27-30] find climate impacts and risks are larger, more widespread, and likely to occur sooner than expected in previous studies (see Endnote *B).

This reassessment increases the expected benefits of global action, and underpinned the 2015 Paris Agreement aspiration to limit temperatures to as close to 1.5°C as possible.

This increased scientific appreciation of climate risks also resonates with Australia's lived experience of extreme events, including the 2019-20 bushfires, multiple major floods, and increasingly severe heatwaves, droughts and storms. For many, these events have made climate risks more tangible and immediate, and made them more supportive of action to address climate change.[31]

Action, and inaction, speak louder than words – and the world is acting

It has also always been clear that limiting climate change to well below 2°C is a global challenge that will require action from many countries, communities, industries and businesses. Bottom-up action by countries has already bent the curve of global emissions, and momentum is growing.

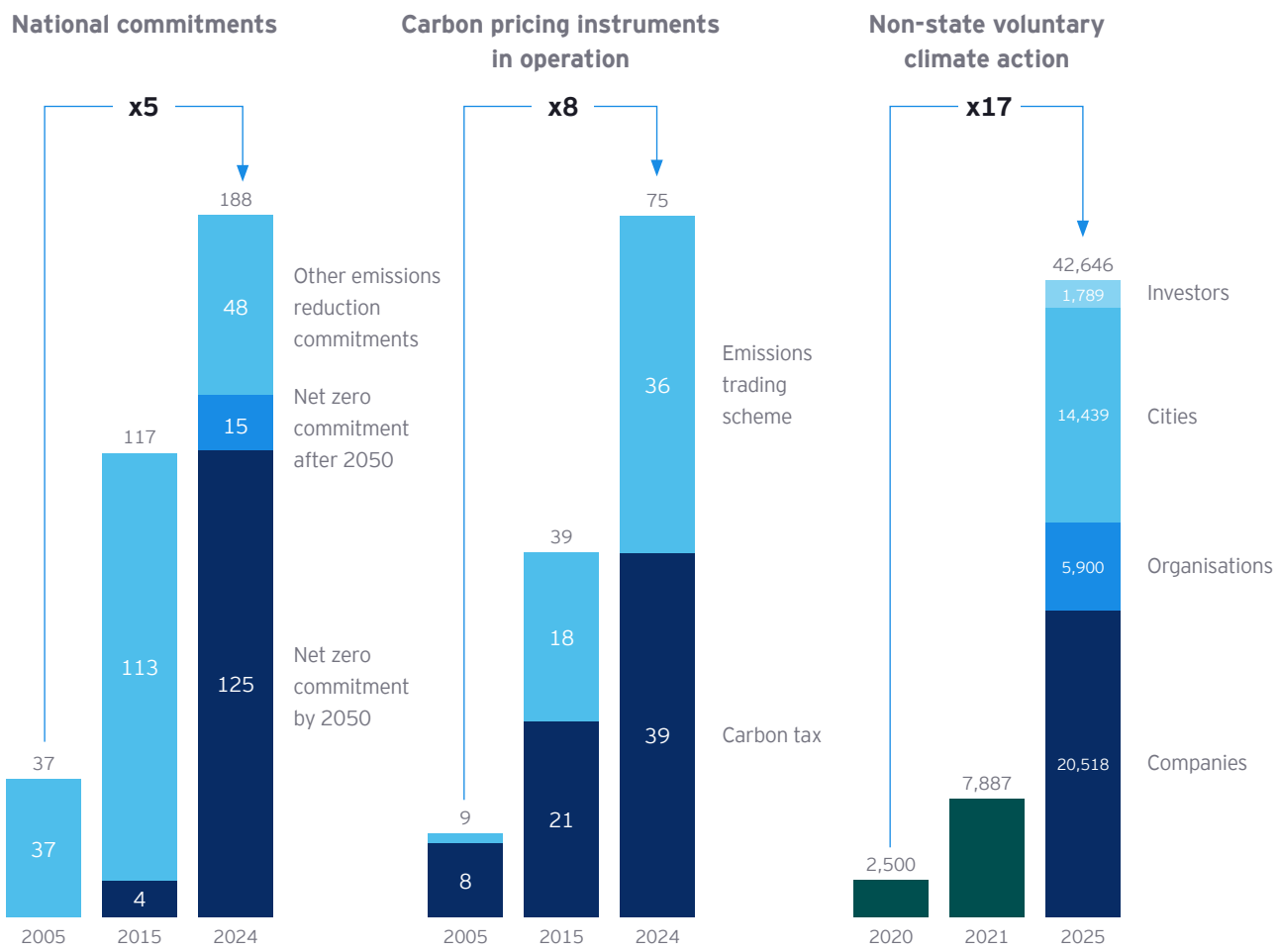
Effective climate action requires global engagement and commitment, which takes time to develop

Australia[8] recognised in 2008 that achieving global commitment to such ambitious action would be difficult and slow, and that:

> The most prospective pathway to this goal is to embark on global action ... that builds confidence that deep cuts in emissions are compatible with continuing economic growth and improved living standards.

Australian Government (2008), Policy Position 1

Exhibit 03. Momentum and tangible action on climate change are building



Note: National commitments based on Kyoto Protocol Annex B for 2005. Net zero commitment includes net zero, climate neutral and carbon neutral target as reported by Energy and Climate Intelligence Unit.

Sources: Net Zero Centre analysis, as described in Endnote *C.

Global progress to reduce emissions has been slower than many people hoped, but faster than many expected.

Bottom-up action around the world is making a difference, and long-term momentum is building

Policies already in place will likely see global emissions peak and begin to fall in the next few years – rather than doubling by 2050.[23]

Notwithstanding the United States' recent withdrawal from the Paris Agreement, the vast majority of countries are investing in renewable energy at scale and pivoting their energy systems towards a low-carbon future.

The world is not yet on track to avoid dangerous climate change. But momentum is building.

Europe's Emissions Trading Scheme (EU ETS) has driven significant industrial transformations over 20 years, and is now incentivising carbon pricing in other countries through a Carbon Border Adjustment Mechanism (CBAM).[32-33]

China's unprecedented investment in renewable energy means zero emissions electricity now accounts for over 50% of generation capacity, while exports of solar cells, lithium batteries and electric vehicles are up 30% in just one year. Climate action provides immediate tangible co-benefits. Air pollution in Beijing is down 60% since 2008, while life expectancy is up 4.6 years in the capital and around 2.0 years for China as a whole.[34-35]

Recent shifts in US policies do not weaken the case for national and global climate action, but will create challenges and opportunities for Australia and Australian business

Growing global momentum is not without its setbacks. The withdrawal of the US from the Paris Agreement, for the second time, gives comfort to anti-climate voices around the world (while weakening confidence in US leadership and credibility). But the main implication for business is the weakening of incentives that drove international clean energy investment towards the US. This will increase the attractiveness of investments elsewhere, including Australia and Europe. Australia remains well positioned for the clean energy transition, with 98% of its mining and energy exports going to countries with net zero commitments.

Attitudes towards climate are treated as a marker in culture wars, rather than an issue to be decided on evidence and risk

Powerful special interests continue to seek to obstruct climate action around the world, including through spreading misinformation and provoking culture wars. This encourages populist leaders to attack or disparage climate action.

Volatile US climate commitments and contributions weaken the pace of global climate action

Climate is sharply contested in the USA, resulting in dramatic swings in federal climate-related incentives and support.

In January 2025 President Trump withdrew the US from the Paris Agreement for the second time, threatened incentives and support provided by the US Inflation Reduction Act (IRA), and reversed more than 100 environmental regulations including vehicle standards and restrictions on electricity emissions.[42-43]

While this will slow trend reductions in US emissions, the major implications lie elsewhere.[44]

US antagonism to climate gives comfort to anti-climate voices in other countries, while weakening US international credibility and leadership more generally. Low-income nations will also be impacted by reductions in climate finance (along with cuts to US aid).

Impacts on the IRA are uncertain. Directives to freeze grant funding for clean energy are subject to legal challenges, and legislation to abolish IRA tax incentives (80% of which benefit facilities in Republican districts) may not secure the necessary support.[45-46]

What is clear, is that US policy volatility has weakened incentives for innovation and investment in US-based clean energy and low carbon technology, and lifted the relative attractiveness of investing in China, Europe and elsewhere.

This will create opportunities and challenges for Australian business operations, who both collaborate with – and compete against – US-based facilities.

Australia's major trade partners, and the world's emerging giants, are committed to climate action and will drive the global transition

US volatility has limited implications for the substance of climate action by Australian government and business.

It remains in Australia's interest to decarbonise its energy system, and build out the foundations for competitive clean energy-intensive industries of the future.

EY Net Zero Centre analysis finds that 94% of Australia's exports (including 98% of mining and energy exports) go to countries with net zero emissions commitments[37, 47] (see Endnote *D), providing a firm base to support the domestic transition.

A national emissions reduction target of 65-75% by 2035 from 2005 levels would be responsible and proportionate

National emissions targets provide businesses and investors with clear guidance on expectations and the likely evolution of policy settings. This motivates cost-effective action, reduces investment risk and helps coordinate action across sectors and along value chains. Point targets, such as achieving net-zero emissions in 2050, are interpreted by stakeholders – including other countries – as an implicit commitment to a defensible multi-year emissions budget, as the pace of climate change is driven by cumulative stock of emissions rather than the net flow of emissions in any one year.

For Australia, there is a growing consensus that reducing net national emissions by 65-75% from 2005 levels would be responsible and appropriate, can be defended as consistent with the global pathway to well below 2°C, and would be consistent with expected commitments by most advanced nations.

Staged national targets support investor confidence and cost-effective action towards net zero

Australian climate policy – like most advanced countries – is anchored in a long-term commitment to net zero emissions, with a series of national emissions targets set 10 years ahead and supported by detailed sectoral policies.

This allows policy and business decisions to respond to changes in context, including new technologies, changes in relative costs, and emerging challenges and opportunities.

A 65-75% emissions reduction target for 2035 would support Australia's national interest

Australia, and Australian business, has much to gain from demonstrating a clear commitment to low-carbon growth, including attracting investment in emerging export sectors and encouraging others to make ambitious emissions reductions.

The Climate Change Authority finds that an emissions reduction target in the range of 65-75% by 2035, backed by appropriate policies, would be consistent with a 1.5°C pathway and the Paris Agreement.[48-49]

The key reasons for the 65-75% range are that it keeps open the chance of achieving 1.5°C, which will require advanced countries to hit net zero closer to 2040 than 2050, and recognises that emissions reductions will get harder – or depend more heavily on international action – after 2035.

This would lay the groundwork for a cost-effective transition to net zero emissions no later than 2050, including by ensuring near-term investments in long-lived assets and infrastructure do not lock in avoidable emissions that need to be offset later.

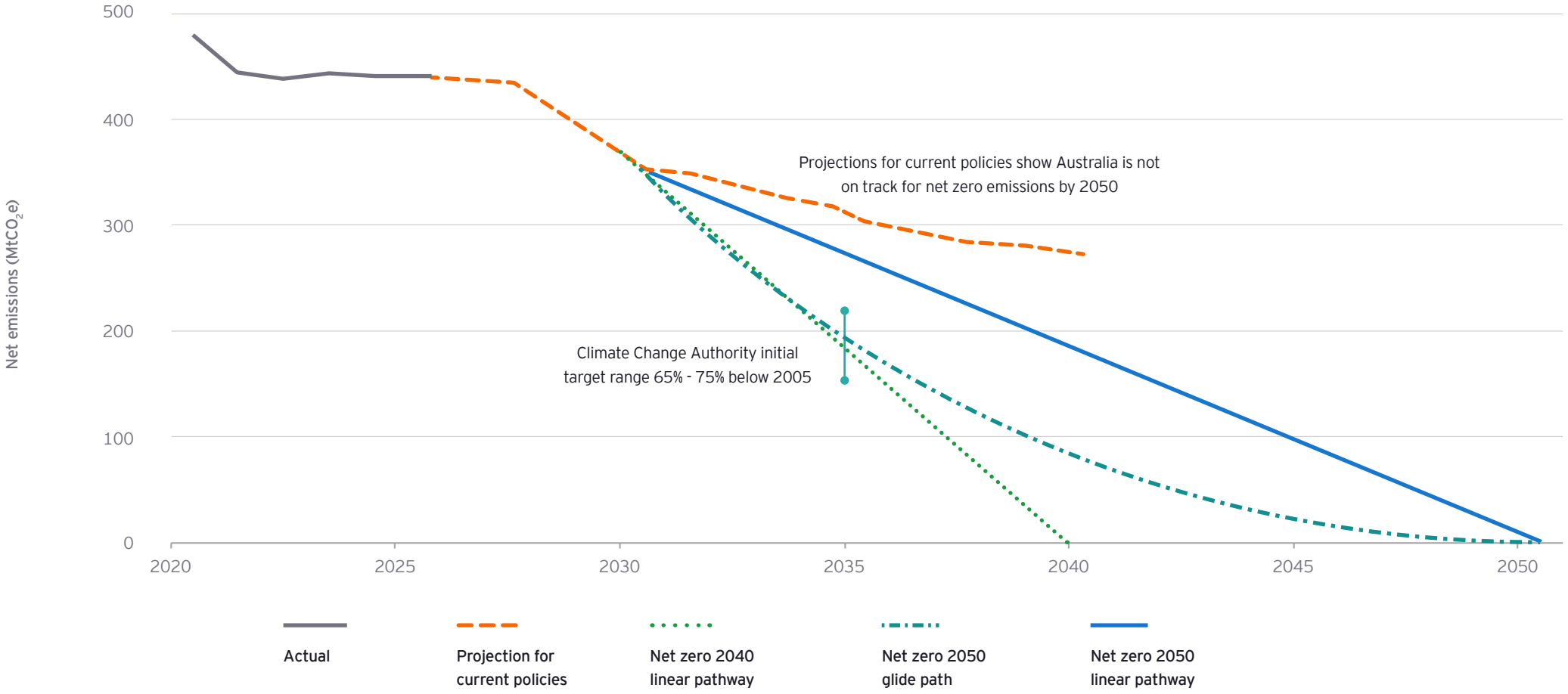
Aiming for the more ambitious end of the target range would build on current state emissions targets, which imply a national reduction of 66-71% from 2005 levels.[50-51]

Given Australia's strong interest in limiting climate change to 1.5°C, the framing of Australia's targets should provide flexibility in favour of larger net emissions reductions, as circumstances allow, to support higher global ambition over time.

The Australian Government and businesses should also urgently step up to support climate resilient buildings and settlements, reduce the harm and disruption caused by climate change and extreme events.

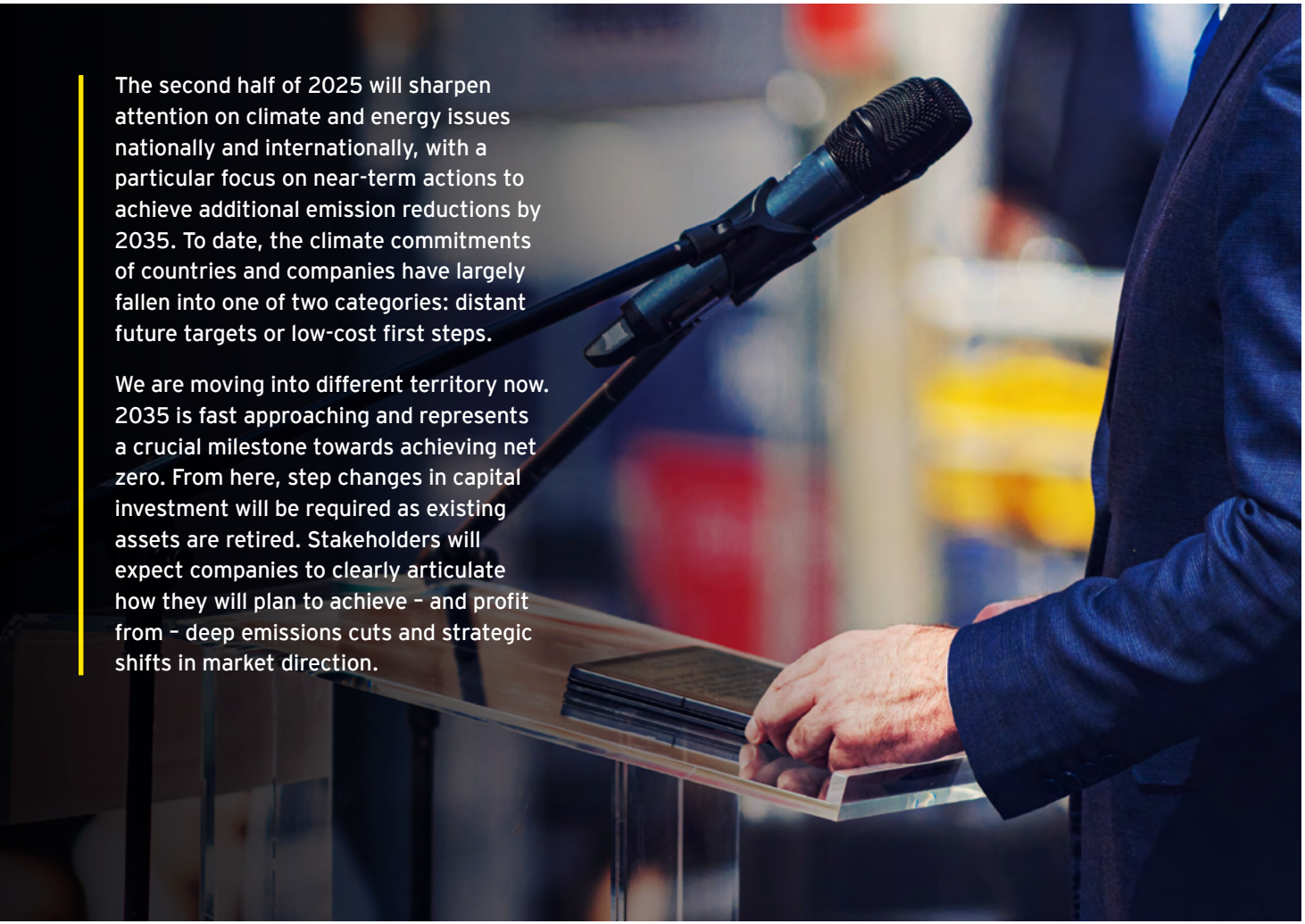
Exhibit 04. A glide path through the 2035 range would be cost effective and provide flexibility towards net zero

Projected emissions under current policies, 2025-2040, and pathways to net zero emissions



Source: Based on data from DCEEW (2024), Climate Change Authority (2024).

Leaders will be expected to articulate pragmatic strategies to drive desired outcomes



The second half of 2025 will sharpen attention on climate and energy issues nationally and internationally, with a particular focus on near-term actions to achieve additional emission reductions by 2035. To date, the climate commitments of countries and companies have largely fallen into one of two categories: distant future targets or low-cost first steps.

We are moving into different territory now. 2035 is fast approaching and represents a crucial milestone towards achieving net zero. From here, step changes in capital investment will be required as existing assets are retired. Stakeholders will expect companies to clearly articulate how they will plan to achieve – and profit from – deep emissions cuts and strategic shifts in market direction.

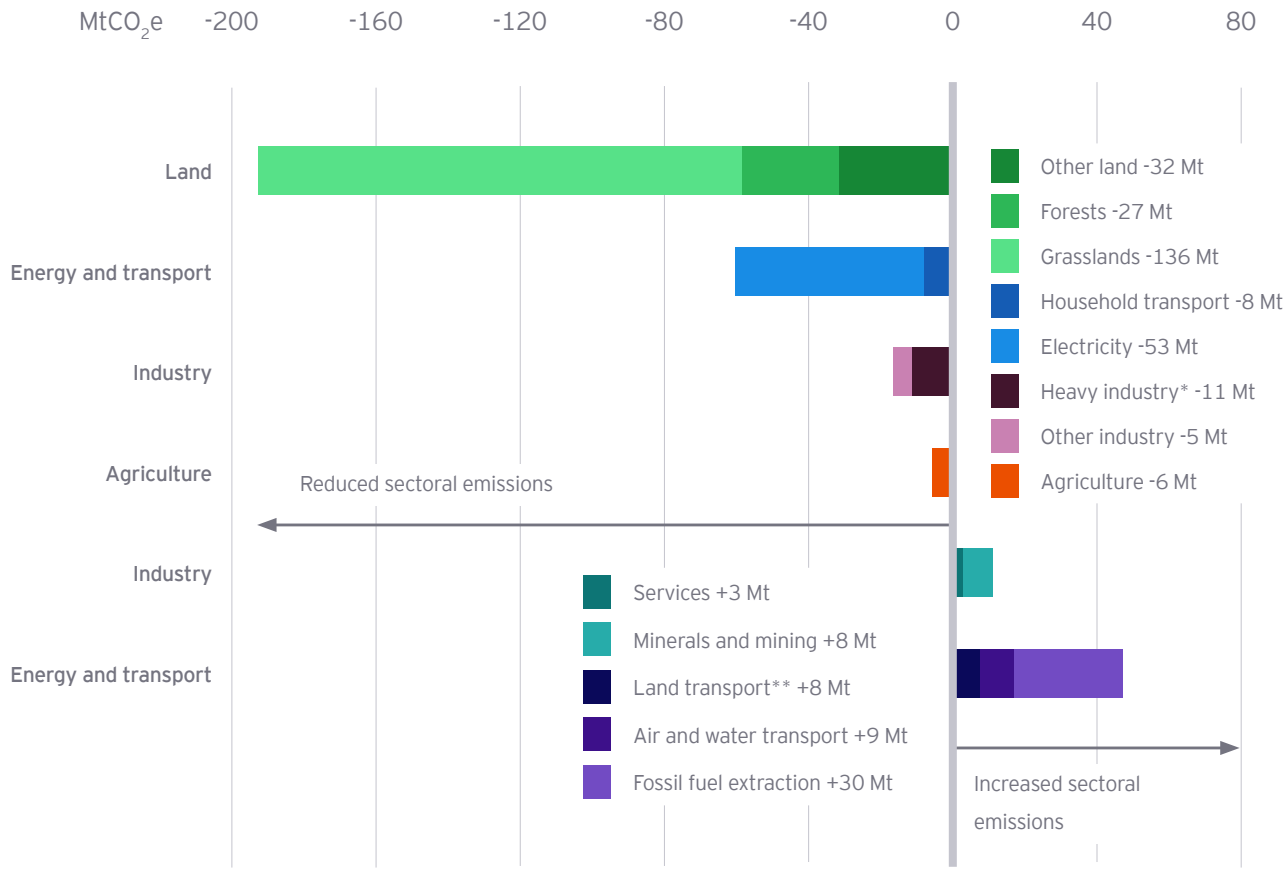
Australia needs to boost and broaden efforts to achieve net zero

Australia is on track to reduce emissions by around 50% from 2005 levels by 2035. This is driven predominantly by decarbonisation of electricity and land sector removals – the sectors accounting for the lion's share of emissions reductions to date.[52]

Stepping up to achieve Australia's bipartisan commitment to net zero emissions by 2050 will require new policies and actions to reduce emissions across all sectors.

Exhibit 05. Electricity and land account for the vast majority of emissions reductions since 2005

Change in net emissions by broad sector, 2023 versus 2005



Notes: Land and agricultural emissions from UNFCCC classifications, all other sectors use ANZSIC classifications.

* Heavy industry includes gas supply (reduced by 2 Mt to 2023).

** Commercial land transport services, excluding household transport.

Source: EY Net Zero Centre analysis of Australia's National Greenhouse Accounts (DCCEEW, 2024).

Sector pathways and business strategy should be tailored to specific barriers and opportunities

Every sector faces different challenges and emissions-reduction opportunities. For example, in the transport sector, battery electric vehicles are now cost-competitive on a whole-of-life basis. However, uptake has been dampened by limited charging networks and higher capital costs relative to conventional vehicles. Reducing emissions from livestock production means addressing methane emissions from cattle; cutting emissions in construction means tackling steel and concrete; while consumer goods companies must focus on sustainable sourcing, circularity and energy-efficient manufacturing.

Government policies can be grouped into four main categories:[53]

- Information that enables robust decisions, such as on energy efficiency or risk mapping of floods and other climate hazards
- Incentives and regulations supporting the net zero transition, such as subsidies for batteries to support greater use of renewable energy or compliance obligations on Safeguard Mechanism (SGM) facilities
- Enabling policies providing a supportive ecosystem for desired actions by business and households, such as the roll-out of EV charging networks or rules for the supply and use of carbon credits
- System coordination that aligns settings across different issues, agencies and sectors to support an orderly and cost-effective transition.

Climate and sustainability strategy can and should create opportunities and drive competitive advantage

Increased stakeholder and public attention on climate and sustainability issues will be reinforced by the introduction of mandatory climate disclosure. ESG issues will become more competitive, and less collaborative, as standardised reporting reveals who is acting and the value proposition on offer.

Ignoring climate change risks and stakeholder sustainability concerns is no longer an option

From 1 January 2025, climate change reporting in Australia became mandatory, and disclosure regimes are continuing to expand in many markets and jurisdictions.

From here, climate and sustainability strategy gets harder, but more rewarding.

Mandatory disclosures will drive greater competition as investors, customers and the market are better able to compare and contrast performance, ambition and strategy. Standardised reporting will better reveal who is acting, and who is only paying lip service to addressing material risks and opportunities. With mandatory reporting there is nowhere left to hide.

Businesses should look at how they are coordinating across sustainability, finance, risk, operations and strategy to position for the new compliance regime – as internal accountability shifts from sustainability teams to chief financial officers.

Setting ambitious but achievable targets is an important first step

Targets provide direction and calibrate action to ambition. They are crucial to transformation efforts.

When companies set net zero targets, they signal their intention to take climate action consistent with achieving the goals of the 2015 Paris Agreement, with more ambitious firms aligning to the goal of limiting global warming to 1.5ºC above pre-industrial levels. Targets with clear timelines for reductions in direct (Scope 1 and 2) and indirect (Scope 3) emissions are considered best practice.[54]

Stakeholders expect business to have a credible path for achieving deep emissions cuts

The strategic context of emissions reductions is different for each business and is shaped by key risks and opportunities associated with emissions intensity and stakeholder pressure.[33] The box on the next page sets out how this context implies five default 'decarbonisation postures' as a first step in developing a value-creating decarbonisation strategy.

But action aligned to strategy, not targets, creates tangible value

The commercial imperatives for businesses to focus on climate and sustainability are getting stronger: managing long-term regulatory risk; maintaining access to capital; appealing to customers and talent; and addressing direct and indirect impacts of climate and environmental damage.

Robust climate and sustainability strategy will be increasingly integrated into wider corporate strategy, as investors continue to push for climate risk-adjusted returns.

Climate and ESG are already becoming more competitive (and less collaborative) as business posture moves from aspirations to embedded commitments and operational plans, backed by disclosure.

Businesses will increasingly focus on creating value by clearly defining their climate strategy and articulating that to investors, customers, employees and other stakeholders.

Stakeholder pressures, business risks and ability to directly eliminate emissions will determine the best decarbonisation strategy for each business

Strategy is best grounded in understanding risks and opportunities

The vulnerability and opportunity space of any business depends on two dimensions:

1. **Emissions intensity relative to peers and to substitute products:** This considers how much carbon a business emits for every dollar it earns, relative to other businesses in the same sector. It also considers how the emissions from a sector's products compare to alternatives with lower emissions. Emissions intensity versus peers contributes to relative competitiveness within an existing sector. The feasibility and attractiveness of substitutes shape the outlook for a sector as a whole.
2. **Pressures to decarbonise:** This considers expectations of key stakeholders, such as governments, customers, investors and employees, and the range of potential responses they might have to commitments and actions aimed at reducing both direct and indirect emissions.

Mapping context in this way provides a framework to identify the most appropriate strategic approach to decarbonisation.[33]

This diagnostic gives rise to five stylised carbon postures:

- **Capitalise** on your position where high pressures create an advantage for businesses with low relative emissions.
- **Avoid complacency**, being conscious that decarbonisation impetus is largely determined by stakeholders (not management) and can change quickly.
- **Prepare for change** by scanning for potential shifts in stakeholder pressure and exploring the merits of options.
- **Scope out your response**, aware that the time available for action may be limited, and that emerging pressures often imply larger-than-usual uncertainties about the competitive context of a business.
- **Reset your strategy** and consider substantive actions to reduce emissions intensity, including shifts in business models, production technologies and the set of product offerings.

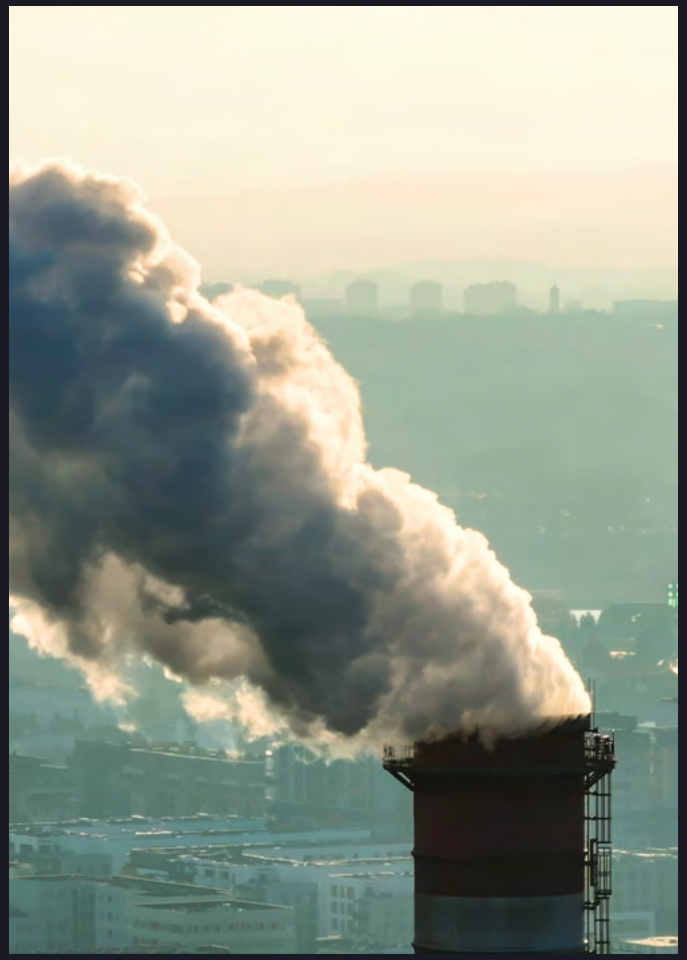
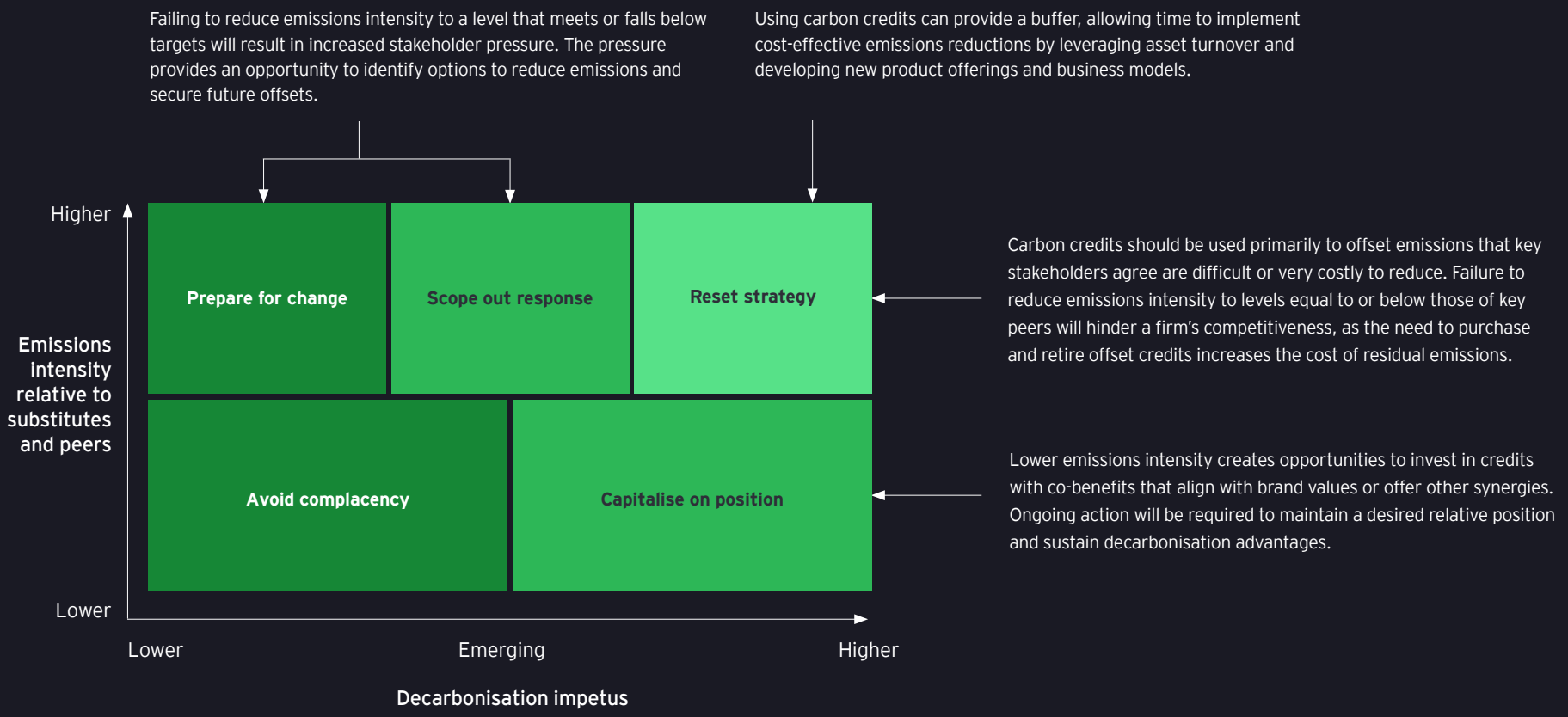


Exhibit 06. The strategic context of emissions reductions is shaped by emissions intensity and stakeholder pressure

Carbon credits should be aligned to decarbonisation strategy, reflecting business exposure, desired pace of change and direct abatement opportunity



Source: EY Net Zero Centre (EY-NZC), 2024c. Exhibit 8.

Walking the talk on climate change enhances domestic and regional security

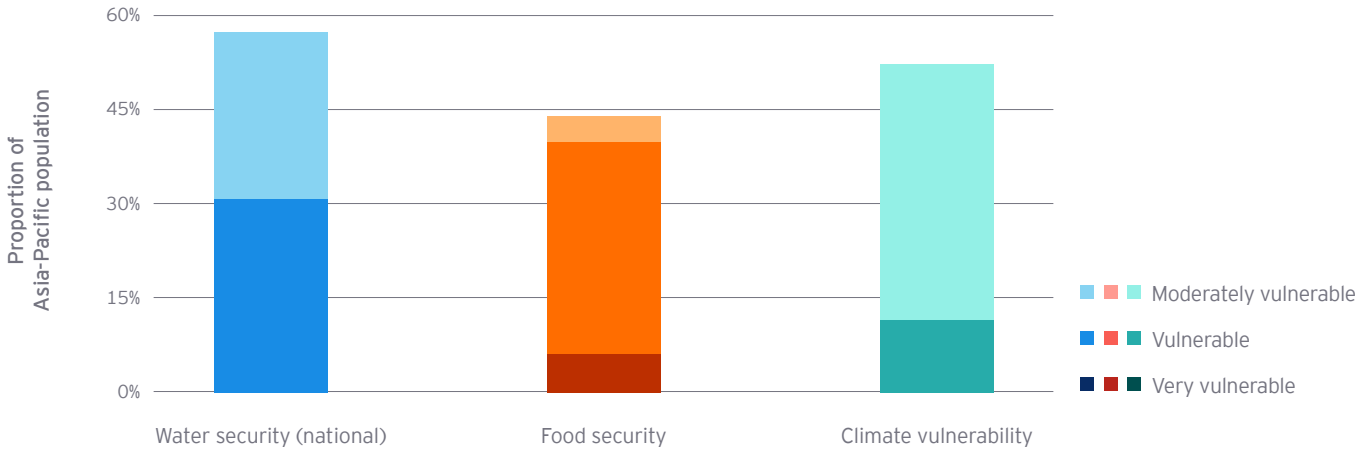
Effective action on climate change is, at heart, a security issue: reducing or avoiding climate disruption in Australia and our wider region; protecting Australia's reputation and international relationships; supporting secure rural and regional jobs; and enhancing Australia's energy security and self-reliance.

Effective action on climate enhances the resilience and security of Australian communities

Actions to reduce emissions and support adaptation address both the fundamental driver of escalating climate change and variability, and the vulnerability of Australian communities and industries to impacts when climate events occur.

Exhibit 07. Fair and effective action on climate change is crucial for the security and resilience of Australia's wider region

Select indices measuring vulnerability to climate change



Source: ADB (2020), World Bank (2024) and University of Notre Dame (2024).

… promotes resilience and geopolitical stability in Australia's wider region

Australia is embedded in the broad Asia-Pacific region, stretching from India to Korea and Japan in the north and east, and through to the Pacific islands. The region accounts for over 40% of global economic activity, 50% of global population, and the major emerging economies of China, India and Indonesia.[55]

Despite unprecedented economic growth and increases in per capita income, hundreds of millions of people in the region remain acutely vulnerable to climate change, including the risk of food shortages, water scarcity, flooding and coastal inundation. This suggests that unchecked climate change could catalyse significant social unrest and political instability.[56-59]

… and protects Australia's reputation as a trusted regional partner

Rich, industrialised nations are responsible for the vast majority of the historical emissions driving climate change, and many stakeholders believe there is a moral obligation for nations like Australia to support adaptation and provide support for climate-related loss and damage, while also dramatically reducing their domestic emissions.[60-61]

When wealthy countries are perceived to ignore their climate responsibilities, it can turn climate impacts and risks into a source of geopolitical tension.

Orderly energy and industry policy is crucial to employment and economic security in Australian regions

Effective climate action will impact demand for fossil fuel exports from existing mines and gas fields, with flow-on effects for employment and regional communities. Stable and coherent policy has a crucial role to play in supporting bankable new business opportunities – and regional jobs – attuned to evolving circumstances, such as growing demand for critical minerals.[23,53]

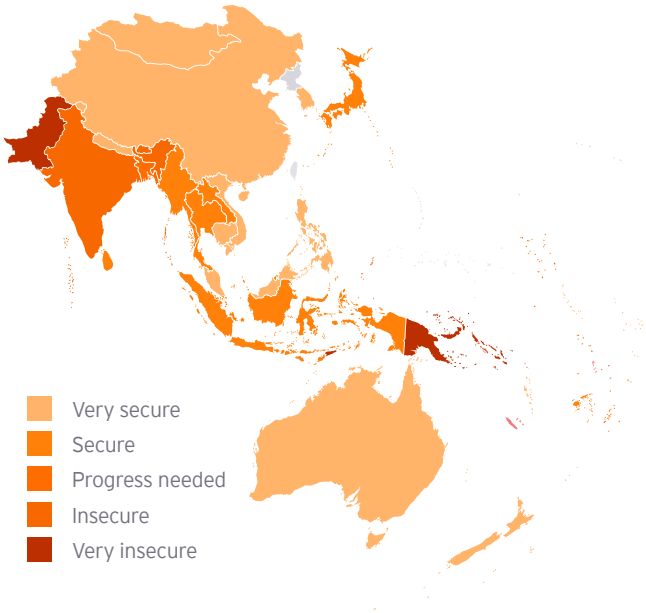
… while the transition to low carbon transport will improve energy security for liquid fuels, and help insulate Australia from energy price shocks

Electrification and the use of low-carbon fuels in transport will replace imported fuel with domestically sourced energy over time. This will improve Australia's energy security and self-reliance,[62] and reduce the impact of volatile international energy prices on inflation and domestic business costs.

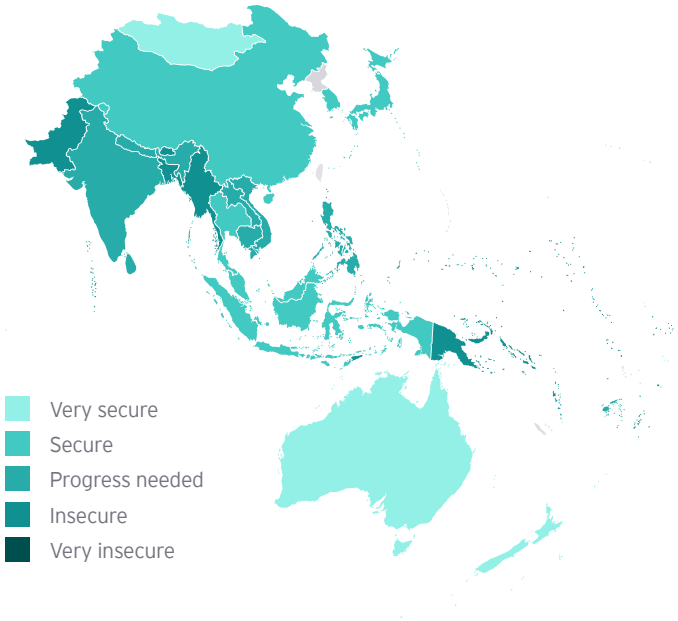
Exhibit 08. Unmitigated climate change threatens food, water, community resilience and ultimately geopolitical stability in the Asia-Pacific

National water security heatmap

Food security heatmap

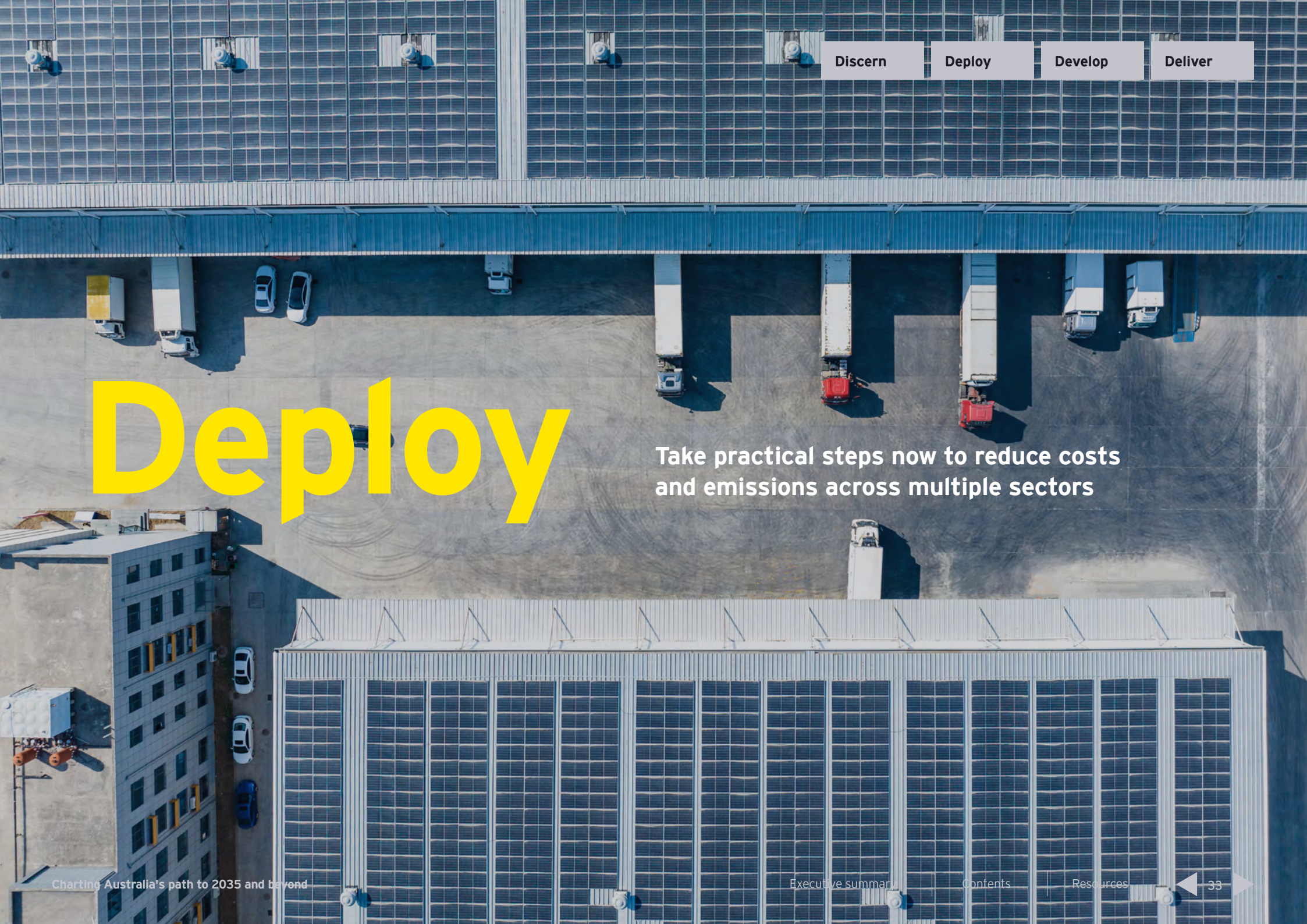


Climate vulnerability heatmap



Note: Darker shades indicate vulnerable jurisdictions.

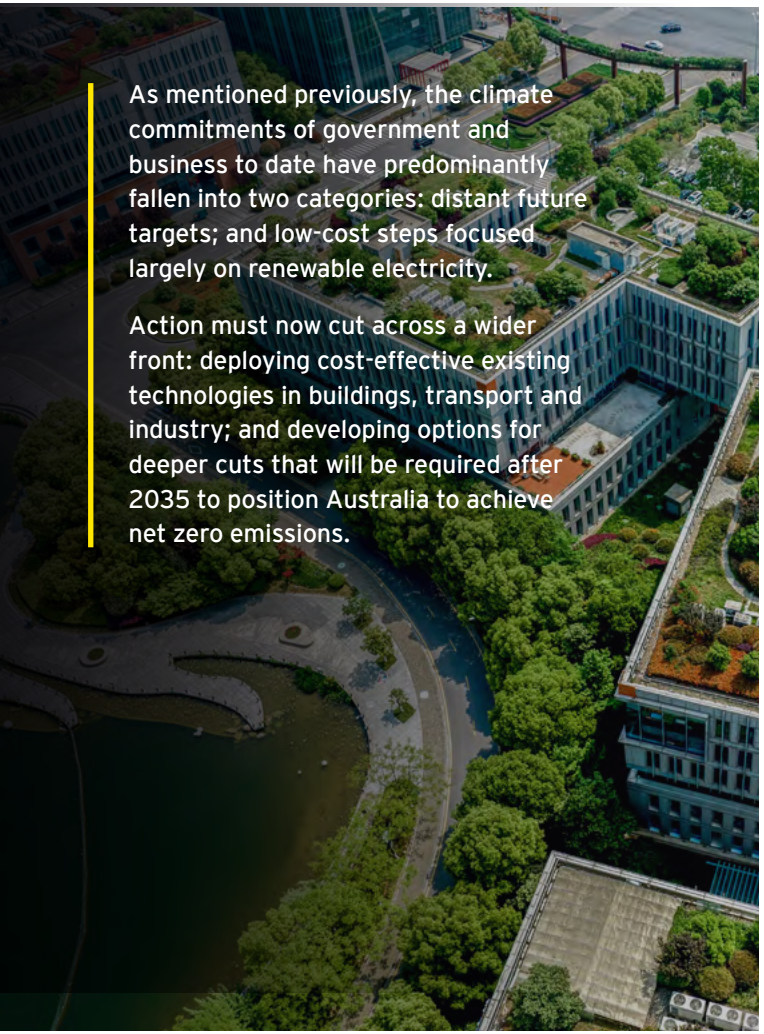
Source: EY Net Zero Centre analysis, as described in Endnote *E.



Deploy

Take practical steps now to reduce costs and emissions across multiple sectors

Existing technology can deliver significant cost savings in buildings and transport, and achieve 80% of the abatement required to 2035



As mentioned previously, the climate commitments of government and business to date have predominantly fallen into two categories: distant future targets; and low-cost steps focused largely on renewable electricity.

Action must now cut across a wider front: deploying cost-effective existing technologies in buildings, transport and industry; and developing options for deeper cuts that will be required after 2035 to position Australia to achieve net zero emissions.

Many low-carbon energy options now have a significant cost advantage over gas and liquid fuels, offering financial savings as well as abatement

This section outlines four key actions to deploy available cost-effective technologies:

- Amplifying the benefits of cost-competitive renewables by electrification of buildings and industry
- Supporting low-carbon transport, including improving access to EV charging
- Promoting attractive future-ready places to live, work and play, and
- Securing and scaling up the land sector removals required by all sectors.

Together, these actions can deliver most of the abatement required to 2035, improving living standards and positioning Australia to achieve net zero emissions and prosper in a low-carbon world.

However, realising these benefits and navigating the clean energy and net zero transitions will be challenging, and success cannot be taken for granted. Success will demand unprecedented increases in zero emissions electricity supply, along with wider innovation and policy reform to address barriers that hold back change.

Exhibit 09. Deploying existing technologies can reduce cost, improve security and create new opportunities

Benefits of priority actions, and abatement contribution to 2035 change

Type of action	Key priorities	Abatement share 2025-2035*	Benefit or advantage achieved
Deploy existing technologies	1. Low carbon energy and electrification	~60%	Reduced costs and improved security
	2. Road transport		
	3. Climate resilient buildings and settlements		
	4. Carbon credit supply and use	~20%	Creating new value and opportunities
Develop options	5. New competitive advantages	**	
	6. Low carbon agricultural exports		
	7. Heavy industry and transport	~20%	Supporting an orderly transition
	8. Support the global energy transition		

Notes: * Share of abatement projected by CSIRO for Climate Change Authority (2024) from 2025 to 2035 for relevant sectors, A40/G1 scenario with a 75% target. Shares rounded to nearest 5%. ** No abatement projected before 2035 in this scenario.

Source: Calculated from Climate Change Authority 2024b. Figures 1.1 and AL.2.

1

Electrify (almost) everything

Existing generation capacity is approaching end of life and must be replaced to maintain reliable and affordable electricity. The best option, with the lowest long run costs, is to transition to a renewable-based energy system, supported by efficient transmission infrastructure and distributed energy.

Electrification – swapping from fossil fuels to electricity – can provide significant further cost savings and will require and drive a 50% increase in electricity use by 2035.

Energy efficiency, rooftop solar and using electricity in place of gas and liquid fuels can expand these savings further, while also improving energy security and self-reliance.

Follow the money – firmed renewables are the lowest cost option to replace end-of-life electricity generation assets

Existing coal-fired generation is becoming increasingly unreliable and needs to be replaced over coming years.

The lowest cost option moving forward is to transition to a renewable-based system, shifting from around 50% renewable generation today to over 90% by 2035, firmed by batteries, pumped hydro and gas-powered generation.[20-21] Australian Energy Market Operator (AEMO) finds this would save energy users in the National Energy Market $34.9 billion to 2050.[21]

Combined with distributed energy resources and efficient transmission infrastructure, this would position Australia to become a renewable energy superpower.[23,26, 63-64]

While renewables provide the lowest cost solution over the long term, power prices are likely to rise in the short term as older fully depreciated generation is replaced by new assets – regardless of what type of generation replaces coal.

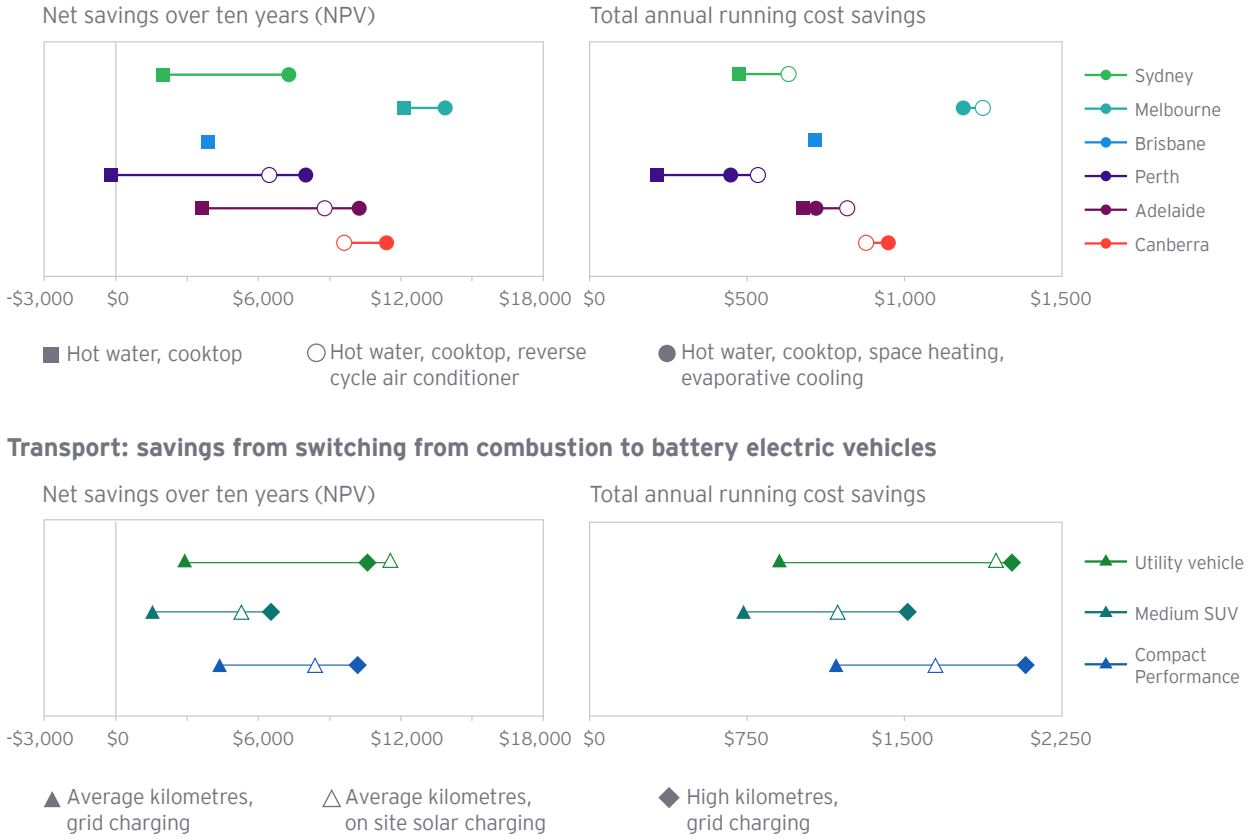
Swapping from gas to electricity offers significant additional cost savings for households and businesses

The transition to reliable, clean low cost electricity is challenging – but is also only the first step.

Electrification – switching from using gas or other fossil fuels to electricity – can deliver household savings of more than $6,000 over 10 years when assets are replaced. Savings are larger when more assets are replaced, and vary across cities due to differences in electricity and gas prices.[65]

Potential savings for many businesses will be larger, with business projected to use around three times as much energy for electrification than households. Cost savings will be greater when energy-hungry assets (such as water heaters, industrial machinery or vehicles) can be powered by on-site solar or distributed energy networks.

Exhibit 10. Electrification offers significant savings for many businesses and households



Source: Wood et al (2023), EY Net Zero Centre analysis as described in Endnote *E.

Unlocking the benefits of electrification will require a 50% increase in electricity supply by 2035

Australia's east coast electricity use is set to increase by around 50% by 2035 – and 100% by 2050 – from 2025 levels, according to AEMO's central scenario.[22]

Electrification and EVs together account for around half of the increase to 2035. Business is responsible for three quarters of energy required for electrification, while three fifths of new EV energy use is driven by households (see Exhibit 11).

Overall, business accounts for three quarters of the projected growth in electricity use, including business electrification and EVs, heavy industry, and the growth of general business use.

Delivering this additional electricity over the next 10 years will require more of almost everything, including: doubling distributed solar generation (+94%), tripling zero emissions grid generation (+190%) and capacity (+265%) to meet demand while replacing retiring coal assets; a 20-fold increase in coordinated batteries and vehicle-to-grid community energy resources (CER); and 5,000 kilometres of new transmission infrastructure.[22]

Exhibit 11. Electrification and EVs account for half the increase in electricity use to 2035

Projected underlying electricity demand, national electricity market, AEMO step change scenario

	2024-25	Increase to 2034-35	Share of increase
	Twh	Twh	%
Electrification	3.5	20.8	22%
▪ business	3.3	15.3	16%
▪ household	0.2	5.5	6%
Electric vehicles	0.6	24.0	26%
▪ business	0.1	9.7	10%
▪ household	0.5	14.3	15%
Heavy industry, hydrogen	53.0	28.6	31%
Business mass market	84.8	16.9	18%
Other household	57.1	3.0	3%
Total consumption	**199.0**	**93.4**	**100%**
▪ business	141.2	70.5	76%
▪ household	57.8	22.9	24%

Notes: Heavy industry includes large industrial loads, LNG and hydrogen supply. Business mass market accounts for all other business use.

Figures may not total exactly due to rounding.

Source: Calculated from AEMO 2024b, Figure 6 and Figure 7

Rising to the challenge will require businesses and government to test their practices and ways of thinking

Previous EY Net Zero Centre analysis[63-64] distils the major obstacles, and highlights that unlocking low carbon energy may require changes to how we think and work:

- **Communicate and collaborate:** Project proponents should give more attention to benefit sharing and clearly communicating the pros and cons of energy infrastructure and the wider energy transition.
- **Customer-centricity:** Energy suppliers and distributors should implement simpler pricing and more attractive models for participating in CER, including orchestration, that ensure benefits to all energy consumers.
- **Simplify, streamline and de-risk:** Governments should simplify and streamline electricity market planning, regulations and infrastructure approvals, and de-risk desired investments where required.

Energy efficiency, time shifting and on-site solar can provide more benefits and savings

Energy efficiency, including more efficient appliances and better insulation, and time-shifting energy use to take advantage of time-of-day pricing can provide further savings and other benefits.

On-site solar offers significant financial savings along with other benefits, for businesses and households that can cover associated upfront costs and own their properties or have suitable lease arrangements.

Many energy users consider a key advantage of on-site solar is the freedom to run air conditioning whenever it is needed, without worrying about energy costs or carbon emissions.

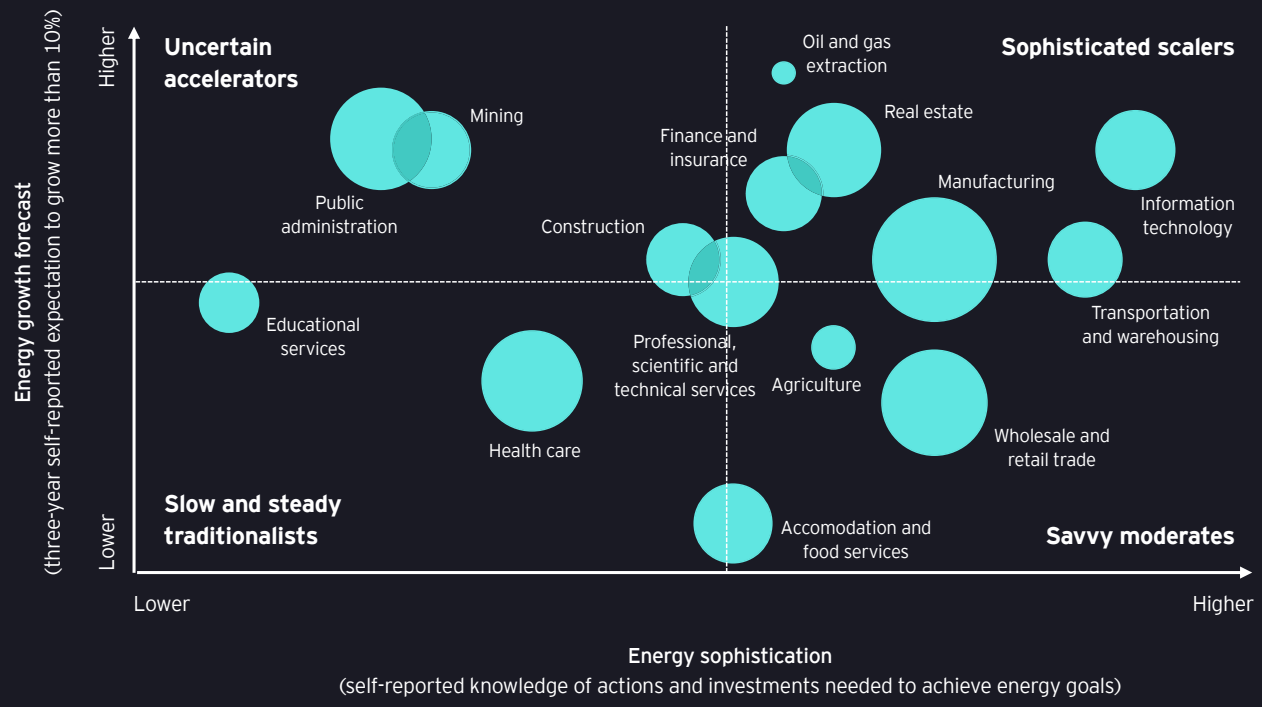
Business is central to the energy transition, driving global electricity growth as energy becomes a competitive differentiator in a more complex energy landscape

Business is the primary driver of the global energy transition, accounting for three quarters of electricity demand growth. While data centres and AI may dominate the headlines, energy is central to the operations of every business, and a crucial competitive differentiator across many sectors.

EY research involving 2,450 business respondents across eight countries finds that sustainability is now the top energy priority for one-fifth of technology and manufacturing companies, and identifies four business energy transition archetypes that can be used to test the right posture for businesses across different contexts.

Exhibit 12: Businesses face different challenges and opportunities in the energy transition

Business energy transition archetypes by subsector



Source: EY (2025) How can soaring energy demand drive lasting prosperity? Navigating the Energy Transition research program. EY Global Limited, UK. Exhibit p.19.

Businesses across all sectors are driving soaring global electricity demand

EY analysis finds global electricity demand is set to double by 2050, with business accounting for three quarters of this global growth.[65] Key components include:

- 45% from industrial demand including electrification, new or larger facilities, and new technologies such as hydrogen.
- 19% from data centres and use of AI.
- 10% from other commercial demand, including office heating and cooling.
- 16% from EVs and mobility (including non-business household use).

Sustainable energy now ranks as a top priority for many businesses, alongside reliability and affordability

Most businesses list reliability as their top energy priority, followed by affordability. But clean sustainable energy is a close third across all sectors – and is rated as the top priority by one-fifth of technology and manufacturing companies.[65]

Businesses have different energy requirements and opportunities

Business energy users across industries are demanding more tailored support from providers and advisors. Meeting these expectations requires a clear understanding of the distinctive needs of each business.

Indeed, almost one in three businesses (29%) identify energy utilities as a barrier to their success, implying providers need to evolve rapidly to satisfy a more complex and diverse customer base.

EY research[65] identifies four archetypes that can help customers and providers navigate the energy transition:

- **Sophisticated scalers** (such as data centres) have high-energy growth and mature strategies – often with more expertise than their energy providers.
- **Savvy moderates** face high energy costs and moderate growth prospects, and may need help electrifying operations.
- **Slow and steady traditionalists** rely on energy, but are less sophisticated about their needs and opportunities.
- **Uncertain accelerators** know they need more energy – quickly – but lack skills in identifying how to best meet their needs.

2

Support EVs and low-carbon transport options that meet Australia's needs, while also reducing costs and reliance on imported energy

Almost every Australian business and household relies on transport. Improving the efficiency of traditional vehicles and uptake of battery electric vehicles (BEVs) can reduce costs, emissions, and reliance on imported energy. Ongoing falls in EV costs offer total cost of ownership savings of up to $1,200 relative to conventional vehicles. While capital costs are higher, this premium is expected to reduce over coming years.

The primary barrier to uptake is now access to charging, which faces multiple challenges, and will require significant uplift in electricity supply and distribution.

The New Vehicle Efficiency Standard supports choice and lower costs

Use of passenger and light commercial vehicles accounts for significant household and business expenditure, with Australian motorists spending an average of around $100 per week on fuel. Light vehicles also account for 70% of road transport emissions and 10% of national emissions.[66]

The New Vehicle Efficiency Standard will expand the supply of more efficient vehicles to Australia. International experience suggests this will offer lower running costs over time, without increasing average purchase prices.[66]

Cost savings and efficiency gains could be substantial. Australian vehicles use around 7% more energy per kilometre and emit 8% more CO_2/km on average than US vehicles (and 30% and 47% more energy than Germany and the UK respectively),[67] in part due to previous lack of standards.

EVs offer cost savings of up to $1,200 a year, and options are increasing

Ongoing falls in EV prices mean they now often provide lower lifetime costs than many traditional internal combustion engine (ICE) vehicles, with lower operating costs outweighing higher up front capital costs.

BEV prices relative to conventional vehicles vary across categories, specifications and markets.

EY Net Zero Centre analysis finds BEVs can offer annual total cost savings of up to $1,200 versus comparable traditional ICE vehicles in Australia (see Exhibit 13).

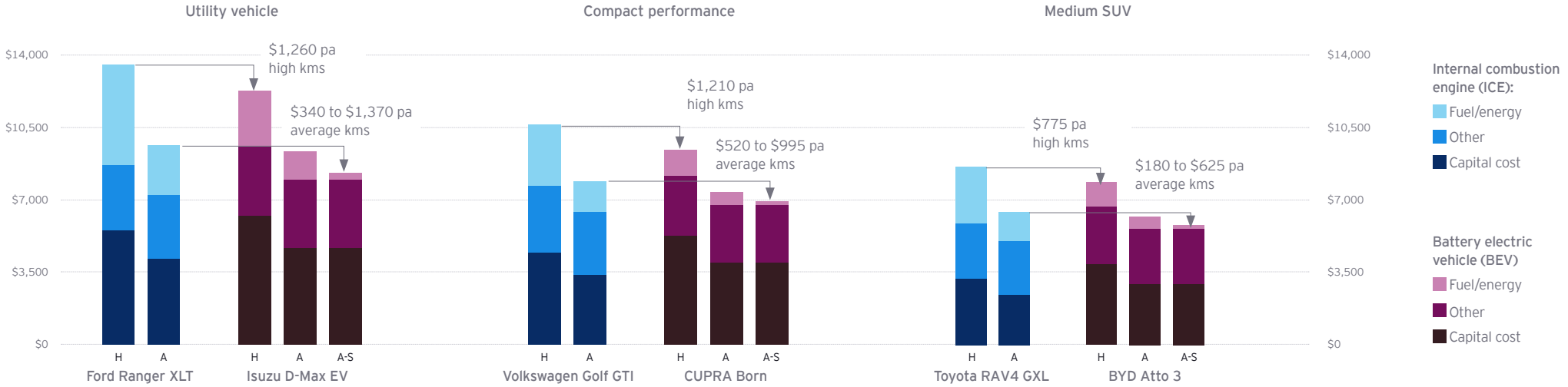
Importantly for businesses, cost savings are higher for vehicles with high kilometres. And these savings increase dramatically where BEVs can be charged using on-site solar.

BEV offerings in advanced markets such as Australia, Germany and the USA generally compete on quality and features more than price. This moderates the effect of recent 10-30% falls in battery prices on vehicle costs and results in an average BEV price premium around 25% in these markets, with around 70% of BEVs being more expensive than comparable conventional vehicles. In China, which focuses more on low-trim models, the BEV price premium has almost disappeared, falling to just 2% in 2024, with BEVs accounting for two thirds of sales.[68]

Available choices for EV and hybrid vehicles are increasing rapidly, with more than 80 BEV models in 2024 – including people movers, cargo vans and utility vehicles. Heavy-duty BEV options are currently more limited than traditional ICE vehicles. However, brands like Ford, Mercedes-Benz and Isuzu offer utes and vans with driving range of 300-400 km. BEV utes can carry payloads of up to 1,000 kg and vans up to 1,600 kg. The range of choices will increase in coming years.[75-77]

Exhibit 13. Cost savings are largest for vehicles that are larger, drive more kilometres, or both

Annual estimated total ownership costs and savings for selected BEV versus ICE vehicles, 2024



Notes: H = high of 30,600 kms pa (utility vehicles) or 22,200 kms pa (medium SUV/compact performance). A = average of 15,300 kms pa (utility vehicles) or 11,100 kms pa (medium SUV/compact performance). A-S = average kms with solar PV charging. Other costs include registration, insurance and servicing. Savings rounded to nearest $5. Costings do not account for government incentives or subsidies other than registration discounts. See Endnote *E for analysis and assumptions.

Source: EY Net Zero Centre analysis.

Access to charging is an unresolved challenge and a major barrier to uptake

Availability of fit-for-purpose and reasonably priced BEV options is necessary but not sufficient for widespread take-up.

Vehicle owners also need to be confident that they will be able to charge when and where they like, quickly and conveniently, at a reasonable price. Existing charging networks do not currently meet this test.

The resulting 'charger anxiety' underlies previous attention to 'range anxiety'.[78] Unlike range anxiety, which can be solved individually by paying more for a car with larger battery capacity, charger anxiety requires a larger, denser (and economically viable) charging network.

The underlying economics of charging networks are very challenging, with economies of scale and network effects that suggest a long run equilibrium involving a small number of large providers.

Willingness to pay and demand volumes for public charging are limited by the significant cost-advantage of on-site charging (see Exhibit 13), which sees most of the existing BEV fleet charged at home or at work at least 70% of the time.[78] However, pricing models are not yet settled, and abundant low cost solar could drive differentiated customer offers based on location, time of day and charge speed (from trickle to ultra-fast).

But the underlying issue for EV charging is the challenge of delivering the increase in electricity supply required.

New EVs are projected to require an additional 24 TWh of electricity per year by 2035. This is equivalent to 28% of current general business use, or 40% of current household electricity. And almost three times this amount will be required to meet other increased needs, including for electrification (21 TWh), heavy industry (29 TWh) and general business growth (17 TWh) – see Exhibit 11.

Removing policy distortions could motivate additional cost savings and emissions reductions

New challenges and circumstances call for a rethink of past decisions and current settings.

Several existing policies create distortions that weaken incentives for efficiency and emissions reductions or complicate the net zero transition.

For example, current fringe benefits tax rules promote the use of larger vehicles (such as dual cab utes) even if there is no business need and employees may prefer a vehicle with lower running costs.

Fuel tax credits effectively subsidise fuel use by heavy vehicles, but could be reformed to reward emissions reductions and ensure vehicles that cause road damage make a fair contribution to road funding.[79]

Cost recovery principles for local electricity distribution networks sensibly apply a user-pays approach. In practice, however, this favours the status quo, and makes it difficult for commercial operators to expand vehicle charging options in areas where distribution networks are already near capacity.

Approval processes for new charging are also slow, often adding more than two years to project timelines.

3

Act decisively to prevent future harm and ensure attractive, affordable and climate resilient places to live, work and play

The world is now halfway to 3°C of warming. Australia's existing infrastructure and settlements were designed and built for historical climate conditions. As temperature and rainfall patterns shift, our capacity to cope, and indeed prosper, will come under increasing pressure.

Businesses – along with government and communities – should consider how to best manage and prepare for a hotter and more variable climate, with more severe storms, floods, bushfires, drought and heatwaves impacting customers, communities, workplaces and supply chains.

The world has arrived at 1.5°C

In 2024, global temperatures reached 1.5°C above average pre-industrial levels for the first time on record, marking the 48th consecutive year of 'above average' temperatures.[80] This implies average temperatures in the coming decades are likely to remain above 1.5°C,[81] the threshold set by the Paris Agreement due to the exponentially increasing climate risks and impacts beyond that level.

This highlights the urgent need for businesses and government to focus not only on reducing greenhouse gas emissions, but also on adaptation – reducing exposure and vulnerability to climate hazards.

Australia can reduce the impacts of unavoidable future climate change

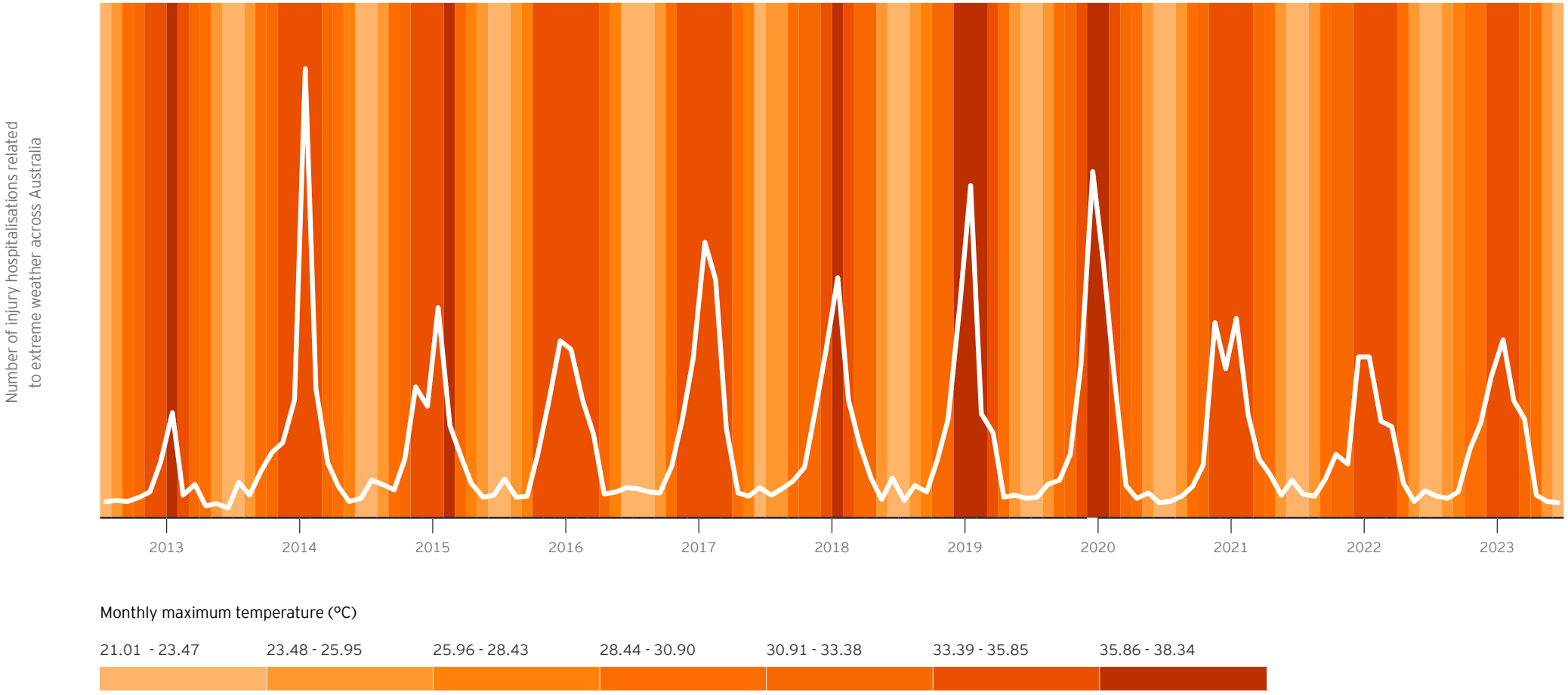
Climate damages and future risks can be considered a function of three factors:[82]

- **Hazards:** Natural or human-influenced physical events with potential for harm
- **Exposure:** The number of people or assets located where hazards may occur
- **Vulnerability:** The likelihood and severity of effects or impacts of the hazard on exposed populations and assets.

While climate-related hazards and extreme events are projected to increase, timely action can reduce exposure and vulnerability of people and assets.

Exhibit 14. Heatwaves have a marked impact on health and wellbeing

Monthly maximum temperatures and monthly hospitalisations due to extreme weather



Source: AIHW National Hospital Morbidity Database (2024), BOM Australian climate variability timeseries (2025).

Hotter more variable weather will enhance the benefits of more efficient and comfortable buildings

Energy-efficient, well-designed and well-sited buildings are more comfortable and have lower year-round operating costs – saving up to $945 a year over the life of the house (see Endnote *G). Installing roof and ceiling insulation can reduce heating and cooling costs up to 45%, and appropriate building orientation can reduce costs by 50-65%.[83]

More comfortable buildings are also safer buildings. Heatwaves and cold snaps can have significant health impacts,[84-85] particularly for the elderly, infants and vulnerable groups (see Exhibit 14). Extreme events and extended periods of heat and cold also contribute to financial stress for households under cost-of-living pressure and concerned about energy bills.

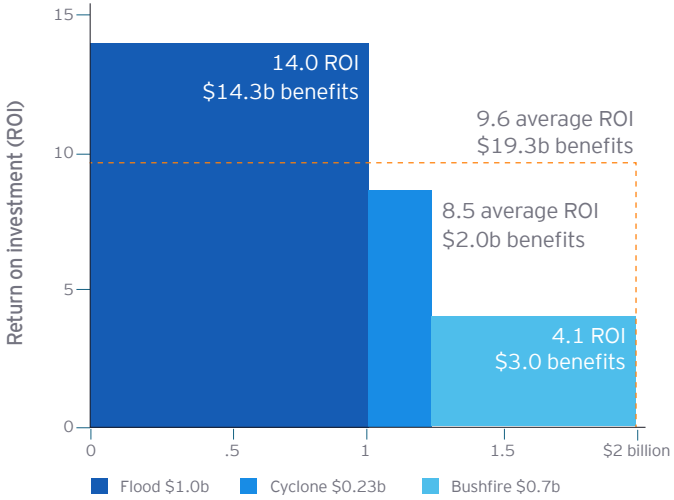
Pro-active risk management is cheaper and more effective than reactive approaches

A decade ago, the Productivity Commission found that 97% of government disaster funding is spent after a disaster and only 3% is directed to mitigation and preparedness, and recommended that all three tiers of government invest $400 million annually to improve disaster resilience and reduce vulnerability.[86]

While governments have introduced a range of worthwhile programs since then, more needs to be done. Analysis for the Insurance Council of Australia[87] finds that new government investment of $2 billion over five years could reduce costs to households, business and governments by $19 billion by 2050 (see Exhibit 15).

Exhibit 15: A stitch in time has an ROI of nine in disaster resilience

Investment and return on investment on selected resilience measures, by peril

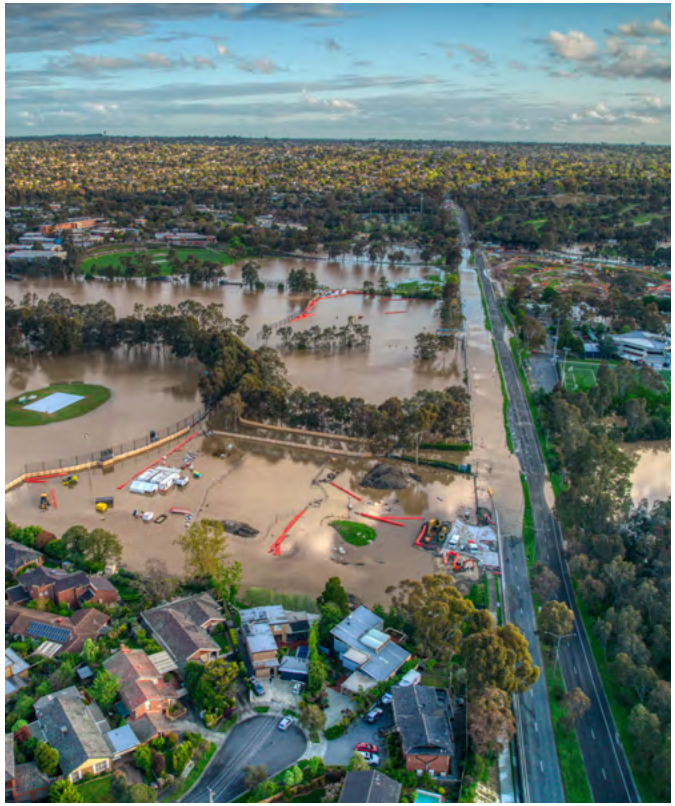


Notes: Area of each rectangle is proportional to total benefit to 2050. Investment includes matching state funding.

Source: Redrawn from ICA 2022, page 4.

… but business-as-usual approaches are exacerbating future pain

Australia continues to build assets and infrastructure in areas that are known to be exposed to harm, particularly floods. This drives up the damage from increasingly severe floods and other extreme weather events. Floods accounted for more than 50% of losses from declared insurance events in the last five years. Nationally, the economic costs of floods could rise to $30-40 billion per year by 2060.[88] Other significant climate hazards include bushfires, hail storms, storms and cyclones.



Government at all levels should act to reduce exposure and vulnerability

Current policy approaches are failing to prevent future harm, including by allowing new developments in areas with severe climate risks.

Governments should move quickly to ensure a consistent national approach that ensures planning, approvals and standards for new buildings and developments – in all parts of the country – give proper weight to the best available climate risk mapping, and avoid locking in excessive long-term exposure to social and economic risks. Crucially, reforms should also simplify and streamline regulations, and accelerate housing supply.

Other adaptation priorities include:

- **Defensive infrastructure:** Invest in defensive infrastructure, such as flood levees, particularly for high density areas at risk.
- **Insurance incentives:** Ensure insurance premiums account for off- and on-site risk mitigation actions.
- **Community adjustment:** Support adjustment in communities facing the most extreme risks, such as through managed relocation and buy-backs.

Businesses should also plan and act

Businesses, community groups and other organisations should explore the full range of available tools, including:

- **Disruption planning:** Plan and prepare for disruption to operations, including indirect effects of climate-related events on workplaces and supply chains, by 'war gaming' contingency plans.
- **Lifecycle risk management:** Consider and manage potential risks over the full life of assets, particularly buildings.
- **Vulnerability reduction:** Invest to reduce vulnerability to hazards, such as early warning systems, fire resistant materials, and relocating electrical equipment in high flood risk buildings.
- **Risk sharing:** Share or pool risk through insurance and other mechanisms.

4

Secure and scale up the land sector removals required by all sectors

Supply of land sector credits provides a crucial advantage in Australia's transition to a prosperous, low-carbon economy.

While current settings for the supply and use of carbon credits provide a sound foundation, policy must evolve to meet the needs of the net zero transition and deliver the full potential value of these credits across all sectors.

Removals-based carbon credits are an extremely valuable commodity in a low-carbon world

Australia's capacity to generate high-integrity carbon credits is a significant economic advantage in a world moving towards net zero emissions. This provides cost-competitive offsets for heavy industry, and reduces the need to purchase carbon credits (or international units) from overseas, avoiding capital outflows.

Analysis of the net zero transition finds cost-effective action to achieve net zero would see gross emissions reductions of 75-80% by 2050, with residual emissions – largely from export activities – offset by high integrity credits.[23,25,48] EY Net Zero Centre finds Australian supply and use of these credits, including for export, could lift national income by around $50 billion in 2050.[25]

Policy needs to evolve to support credits across a wider range of sectors

Current policy settings for ACCUs provide a robust foundation for the supply and use of credits, including motivating use by heavy industry and mining via the SGM.

To support Australia's net zero transition and unlock the full potential value of carbon credits, policy needs to evolve and build on existing foundations. Challenges include:

- Policy uncertainty and underlying boom-bust market dynamics weaken incentives to expand ACCU supply.
- Settings do not support the use of credits outside SGM facilities, which account for around 50% of projected Australian offset demand to 2050.
- Land sector plantings provide carbon sequestration but little or no priority to nature repair or regeneration.
- Regional communities are concerned about potential local economic impacts of unmanaged land use change.

If these challenges are not addressed, Australia will struggle to achieve net zero emissions without relying on imported carbon credits, missing valuable economic benefits and other opportunities.

… and provide a wider range of benefits

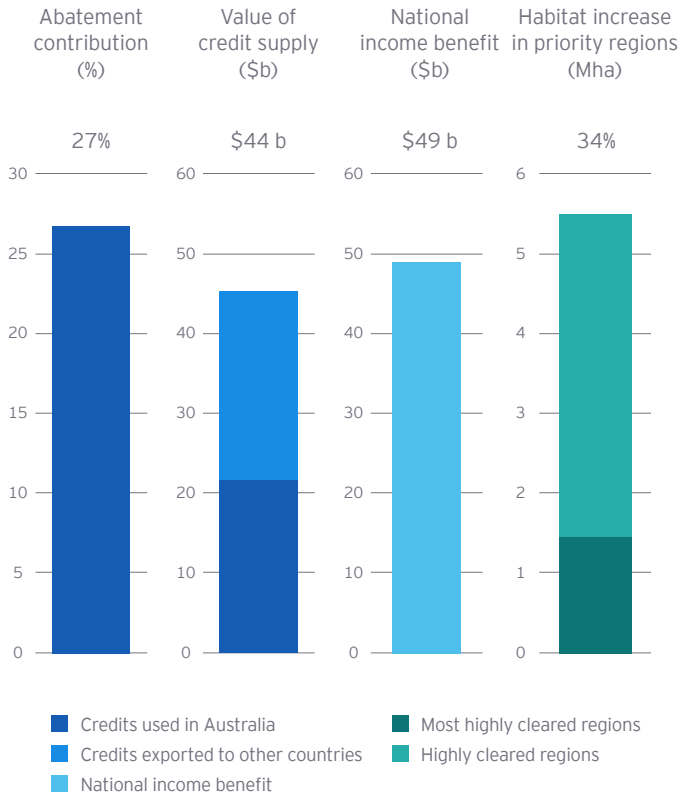
A more integrated approach to carbon credits would involve several elements:

- Laying the groundwork for sectors and businesses outside the SGM to use Australian credits.
- Harnessing carbon credits to support nature repair and regeneration, as well as Australia's net zero transition.
- Lift investor confidence and supply incentives, including by considering managed export of ACCUs after 2030.

EY analysis finds evolving policy settings along these lines could provide multiple benefits, as illustrated in Exhibit 16.

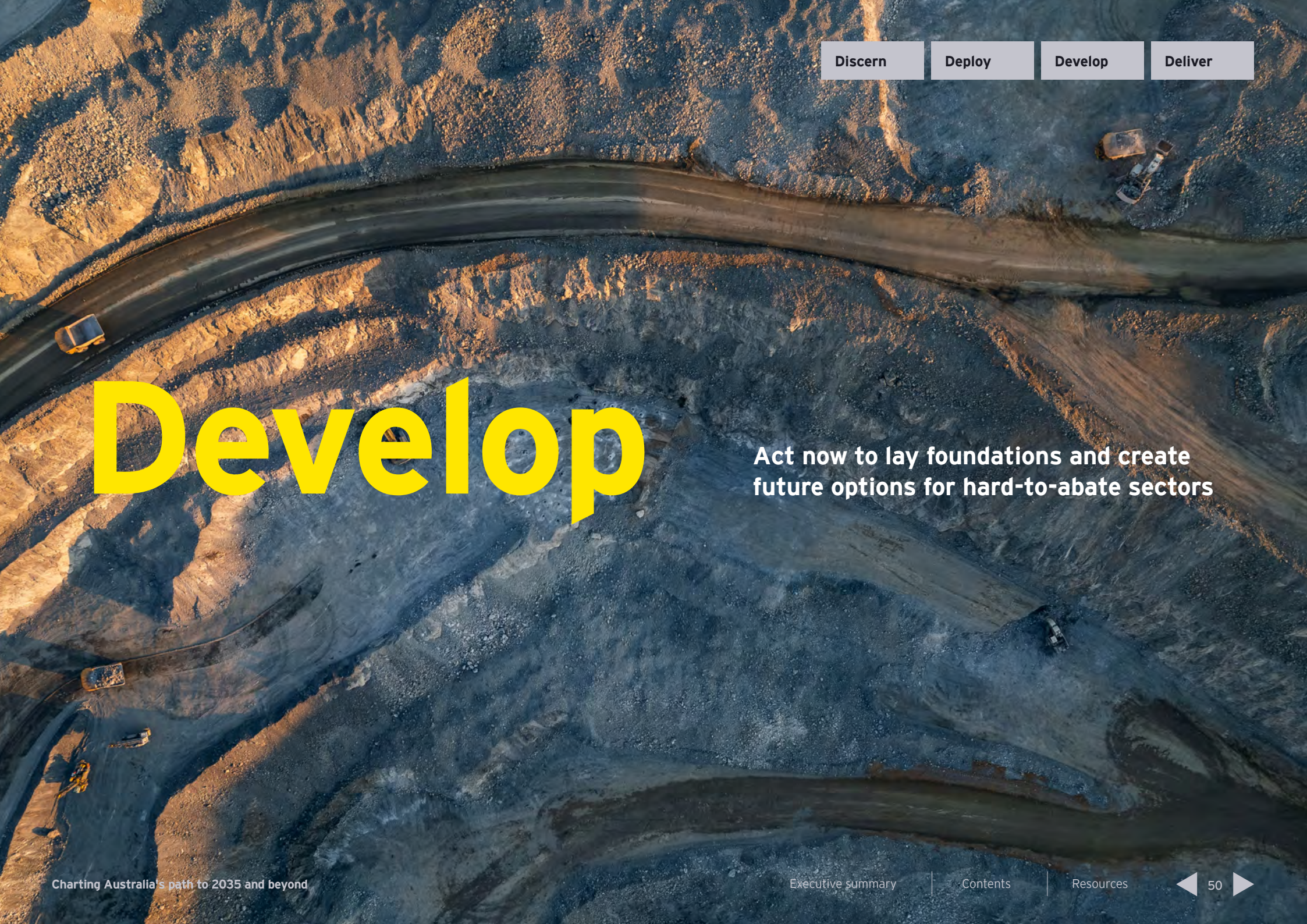
Exhibit 16. New policy settings could unlock additional benefits from land sector carbon credits

Projected potential benefits of supply and use of land sector carbon credits, 2050



Notes: Abatement share is assessed relative to projected 2050 emissions under current policies. National income benefit assumes a 50% reduction in the Australian credit supply, with no export of credits and the domestic shortfall made up through purchase and use of international units.

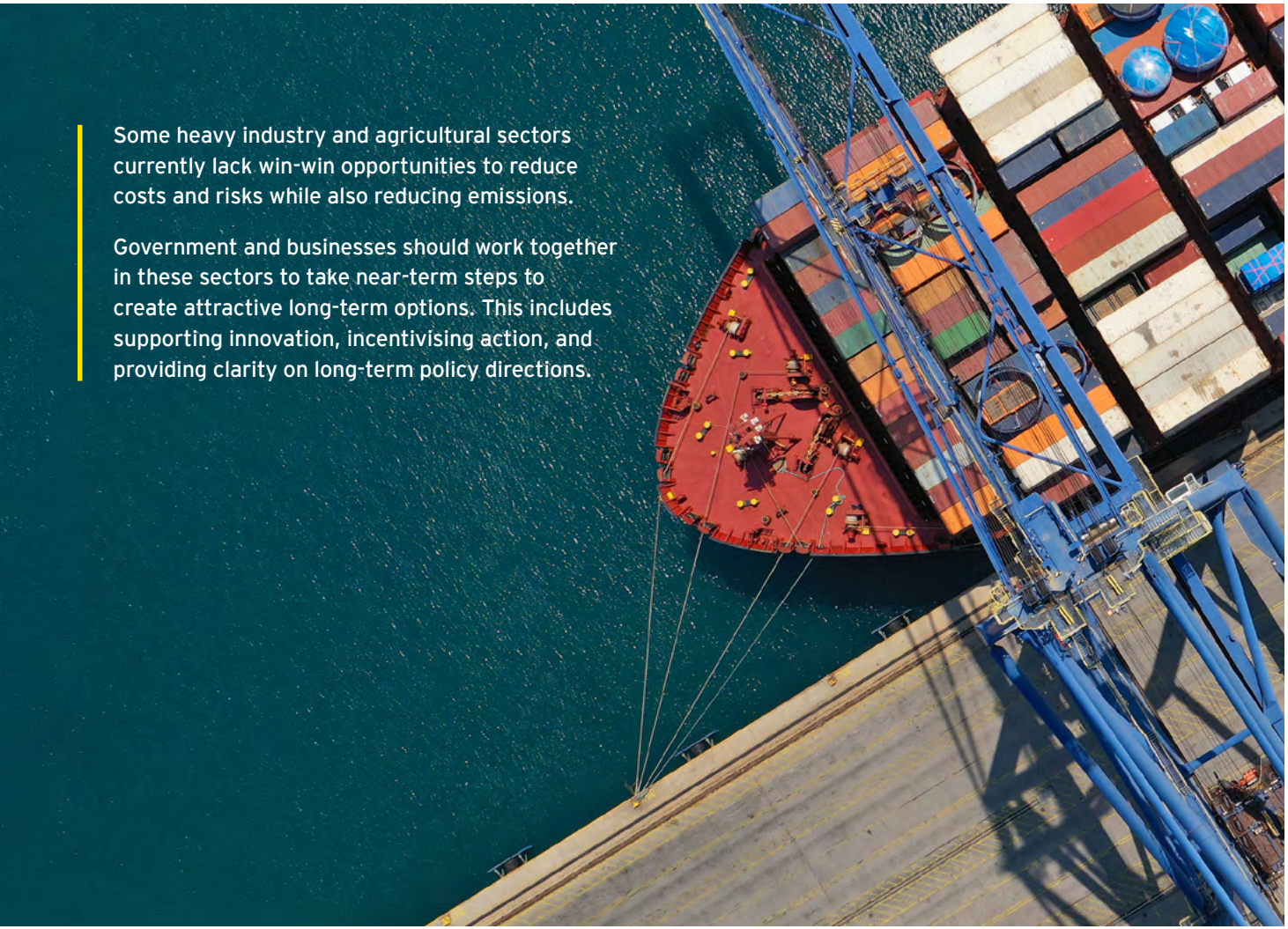
Source: EY NZC (2023c), Exhibits 14 and 26.



Develop

Act now to lay foundations and create future options for hard-to-abate sectors

Australia has work to do to create new commercial opportunities and advantages for energy-intensive industry and agriculture



Some heavy industry and agricultural sectors currently lack win-win opportunities to reduce costs and risks while also reducing emissions.

Government and businesses should work together in these sectors to take near-term steps to create attractive long-term options. This includes supporting innovation, incentivising action, and providing clarity on long-term policy directions.

This section outlines four key actions to prepare the ground for a dynamic low-carbon economy after 2035:

- Invest in developing new competitive low-carbon industries and technologies, harnessing the distinctive contributions of businesses and government.
- Negotiate a low-carbon growth strategy for emissions-intensive agricultural products, working with our major trade partners.
- Stay the course on SGM and transport policy, providing stable and coherent policy that supports decarbonisation, and removing existing policy distortions.
- Recognise downstream emissions from fossil fuel energy exports, to ensure Australia is supporting effective global action to limit dangerous climate change.

Near-term action is required to position Australia for the long game, ensuring competitive low-carbon industries that harness Australia's distinctive strengths and recognise the complexities of the global low-carbon transition.

Solving the challenges for hard-to-abate sectors will require sustained effort and attention. Our focus here is to outline priorities and an appropriate posture on some of Australia's most important challenges and opportunities.

5

Business and government should work together to develop future-facing low-carbon champions

The global low-carbon transition offers enormous opportunities for Australia. Some of these, such as establishing renewable-powered data centres, can be unlocked based on cost-competitive clean energy, stable governance and a skilled workforce. Others, such as green iron (using hydrogen), will require Australia to lean in to develop competitive new-to-world technologies that complement and add value to existing endowments of raw materials.

The global net zero transition will transform comparative advantage in heavy industry around the world

Rising global incomes (driven particularly by emerging Asian nations) will lift global demand for energy- and material-intensive products by around 85% from 2020 to 2050. EY analysis of the global net zero transition projects heavy industry's energy intensity will fall by 40% and emissions intensity by 78% over the same period.[23]

Australia is well placed to ride this wave. Few, if any, countries can match Australia's potential for large-scale, low-cost firmed renewable generation, particularly given very limited global potential for new hydropower. But Australia's distinctive advantage is its ability to combine low-cost energy with raw materials, including metal ores and bio-based chemical inputs.[23,26]

Australia is well positioned to become a low-carbon superpower

Australia could build durable competitive advantage in new areas, while maintaining existing advantages.

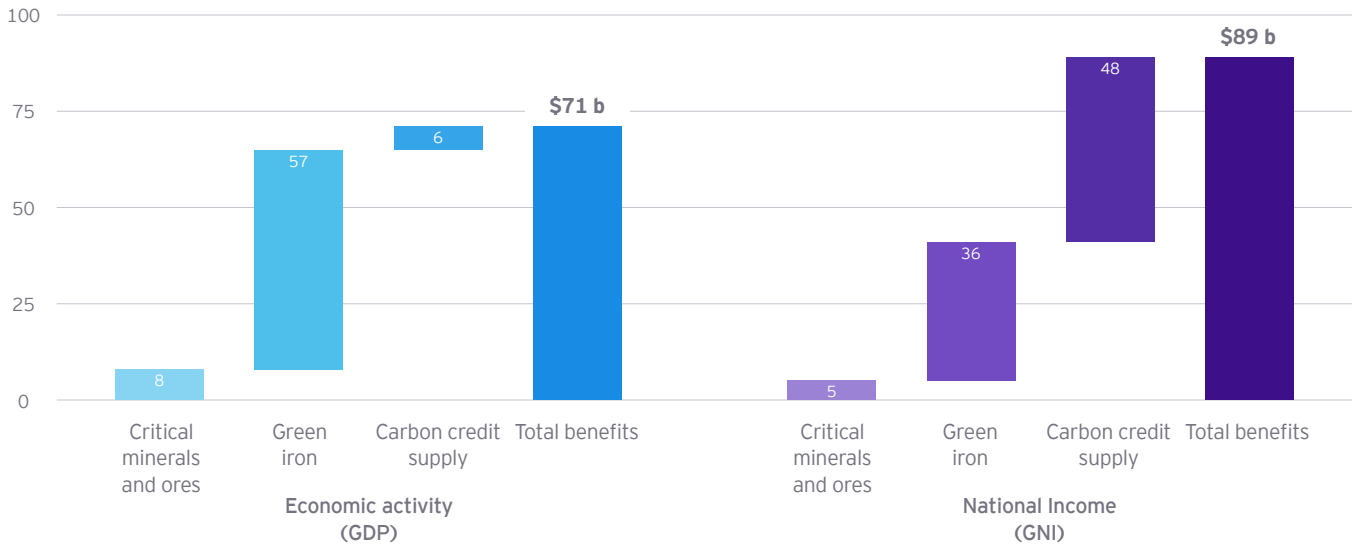
New opportunities include green iron, critical minerals, hydrogen and related chemicals, carbon credits and data centres. These opportunities complement established materials-intensive exports of food, fibre, minerals and metal ores; along with services including tourism and education.

EY analysis finds a modest shift to export green iron (rather than iron ore) could lift Australian GDP by more than $50 billion.[23]

Combined with a reliable supply of carbon credits and policy that builds on Australia's strengths as a friendly and trusted supplier of critical minerals and metal ores, this could lift national income by 3%, or $89 billion in 2050.[25]

Exhibit 17. New low-carbon opportunities could lift Australia's national income by nearly $90 billion or more by 2050

Economic impact, $ billions



Source: EY Net Zero Centre 2023a, 2023c

Government and businesses must partner to develop competitive new-to-world technologies

The EY Net Zero Centre report, *Delivering green growth together*[53] explains the distinctive contributions of government and business in realising this opportunity.

Success will require everyone to play to their strengths:

- Government should signal priorities, make it attractive for business to engage, and support low-cost renewables and the wider industrial ecosystem. Support should be targeted based on clear policy criteria.
- Industry should bring capital, business acumen and an appropriate risk appetite. It should treat government as a co-investor, rather than a cash cow, and build trust through frank sharing of information and perspectives.

Each will need to share the risks they are best placed to manage, with government bearing a large share of pure innovation risks and businesses taking on a larger share of deployment and implementation risks.

6

Negotiate a low-carbon growth plan for emissions-intensive agricultural exports

Agriculture faces huge challenges and huge opportunities as the world transitions to low-carbon food and fibre. Livestock exports are particularly exposed, with limited options for direct abatement making them dependent on offsets, particularly land sector credits. The value of these offsets will need to be passed on to overseas consumers. Negotiating supportive policies in destination markets will take time but is essential for fair and effective global climate action.

The outlook for Australian land sector exports is promising

Economic fundamentals point to a promising outlook for Australian food and fibre exports, with per capita incomes in developing Asia doubling from 2020 to 2050, driving increased demand for protein and nutritious food.[23,89]

Progress towards sustainability will reinforce these trends. Global attention on nature protection will slow (or perhaps even halt) land conversion for crops and livestock globally, while consumers will increasingly recognise and reward more sustainable products and producers.[25,89-90]

Together with other factors, this could reverse a long-standing trend, with agricultural commodity prices rising after more than 60 years of decline.[62]

Benefits to landholders that supply carbon credits will increase as emissions budgets tighten and credit prices rise, lifting and diversifying farm incomes.

EY analysis also finds land sector credits could be leveraged to earn Australia a nature positive reputation, boosting agricultural value added by 30% and helping to lift national income by more than $45 billion by 2050.[25]

Livestock production will likely need to rely on land sector offsets

Agriculture also faces the largest emissions-reduction challenge of any sector in reducing emissions. CSIRO analysis for the Climate Change Authority projects that emissions from crops and livestock will fall less than any other sector: down 20% by 2050, while gross emissions from all other sectors are likely to fall 80% from 2025 levels.[48-49]

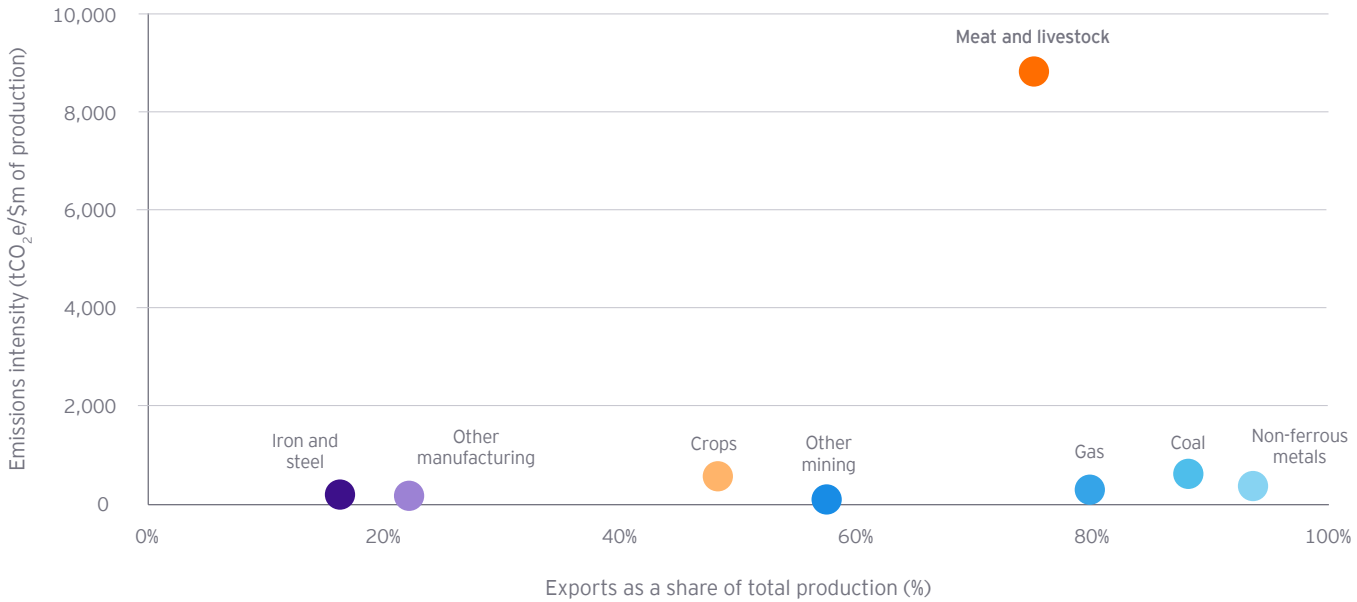
This is material for Australia, with agriculture projected to account for 47% of gross national emissions in 2050, up from around 18% today.[49]

This implies that agriculture will likely need to rely on carbon credits to achieve net zero emissions, and that the value of these credits will need to be passed through to final consumers as credit prices increase.

With around 70% of Australian agricultural output exported,[90] the alternative option of Australian taxpayers subsidising overseas consumption would be neither fair nor efficient.

Exhibit 18. Meat and livestock exports are more trade-exposed than other Australian emissions-intensive products

Exports and emissions intensity for selected sectors



Source: Unpublished EYGEM model data; meat and livestock export share from ABARES 2025 and includes chilled and frozen meat.

Expanding global climate action to include emissions-intensive food will take time, but is essential for effective global action

Government and businesses will both need to work on preparing the ground for this.

First steps should seek an agreed approach for certifying net emissions against an appropriate standard for key food products in all major destination markets, supporting informed consumer choice. Longer term, evolving CBAMs or similar measures could be extended to cover emissions-intensive food products.

Trade-based measures along these lines are essential to support and incentivise food system emissions reductions, including rewarding low-emissions producers.

Australian farmers have a strong interest leading on these issues. The emissions intensity of Australian food products is lower than most or all other major exporters.[90] These products are both highly emissions-intensive and highly trade-exposed (see Exhibit 18), and Australian farmers rely more on exports than most other major producers. This means the details of trade-based measures matter.

While negotiating such measures will be challenging, there are grounds for optimism.

Enabling abatement and offsets for emissions-intensive agriculture is an essential but often overlooked component of effective global climate action.

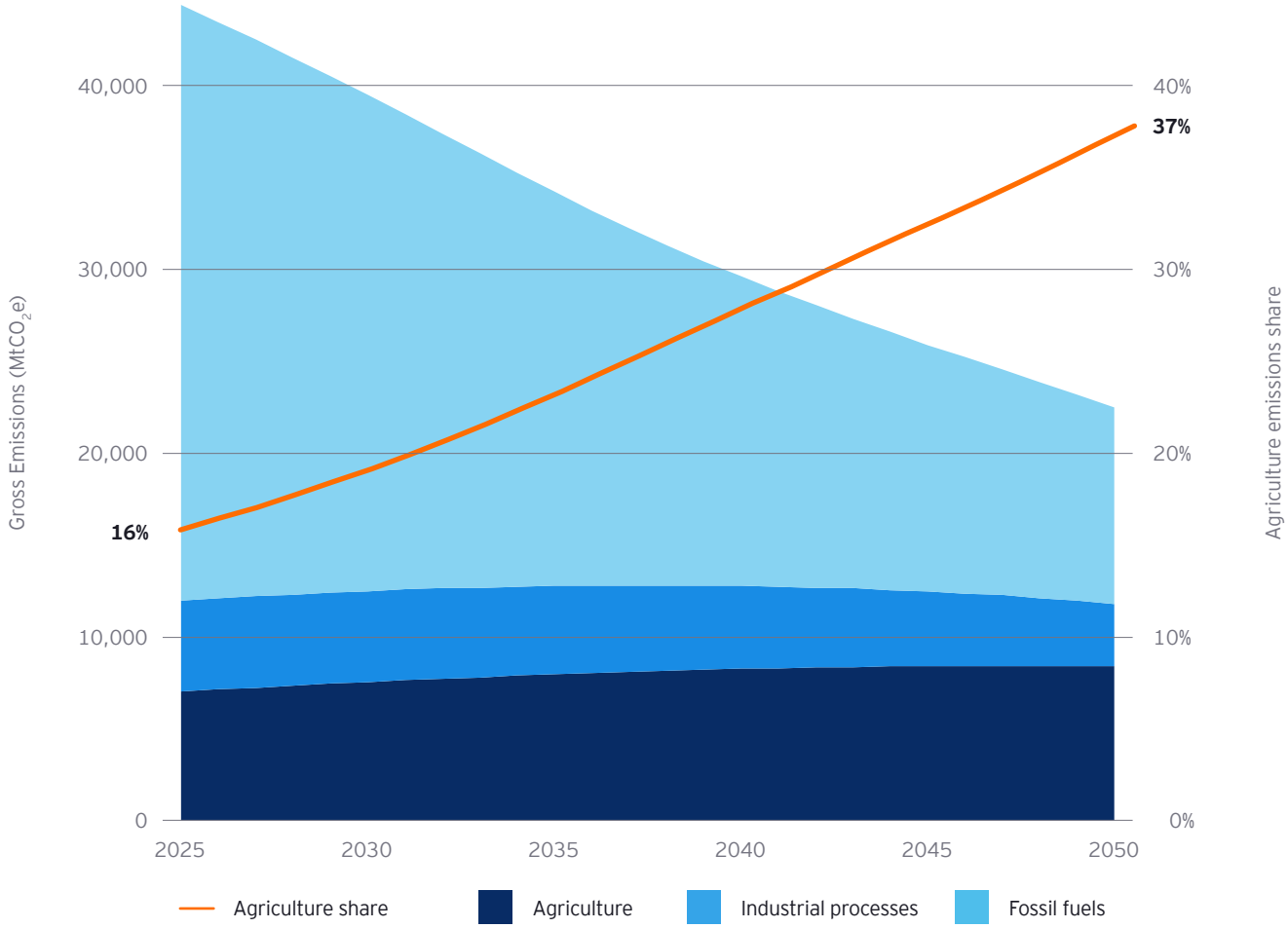
Agricultural emissions will increase in global importance as the world transitions away from fossil fuels, reflecting agriculture's more limited abatement options. Previous EY analysis finds agriculture's share of global emissions could more than double, from around 16% today to 37% in 2050, while total fossil fuel emissions fall by two thirds (see Exhibit 19).

And the geopolitics of food may be less complicated than the geopolitics of energy – particularly for trade-based measures that empower citizens in each nation to choose the characteristics of the food products they wish to consume.

Just 16 countries account for more than two thirds of all meat imports and exports,[91] including China, Brazil, Republic of Korea, Japan, and several EU members (see Endnote *H). Many of these countries are also highly exposed to climate risks and impacts.

Exhibit 19. Agricultural emissions account for an increasing share of global emissions to 2050, and must be addressed as part of effective global climate action

Projected emissions; by sector



Notes: Gross global emissions excluding land use and land use change. Agriculture and industrial process emissions do not include sector fossil fuel use. Below 2°C scenario.

Source: Unpublished EYGEM modelling projections, for EY Net Zero Centre 2023a.

7

Maintain incentives and support for reducing emissions from heavy industry and transport

Australia's history of contested climate policy makes it crucial to provide the policy clarity and stability required for major capital investments, supporting regional employment and reliable supply of energy and materials. Facilities covered by SGM reforms are already incentivised to achieve deep cuts in emissions over time. Government should stay the course, while exploring options to motivate cost-effective abatement in sectors and facilities that are not covered by the SGM.

SGM policy settings combine ambitious mandatory emissions reductions with access to cost-effective high integrity carbon credits

SGM reforms introduced in 2023 imposed steep mandatory reductions in net emissions per unit of output from mines, heavy industry and airlines, putting over 200 facilities on track to net zero emissions in 2050. These obligations can be met through direct reductions in emissions, or by purchase and use of ACCUs.

Government should stay the course, maintaining current settings and using the current Carbon Leakage Review and 2026-27 SGM review to assess the merit of options for system improvement or extension.

EY analysis finds the use of ACCUs allows SGM facilities to achieve ambitious reductions from day one.[92]

The share of abatement achieved off-site through credits falls over time, as firms sequence deeper cuts in direct emissions to take advantage of asset turnover (as most options involve replacement of existing capital equipment).[92]

We find that complementing direct abatement with credits provides significant cost savings. Without access to ACCUs, SGM abatement costs would be:

- Twice as high in 2035
- Over four times as high from 2035 to 2050.

The rising cost advantage of credits reflects their crucial role in offsetting hard-to-abate emissions from products that lack viable low or zero emissions options.

Exhibit 20. Direct abatement accounts for over two-thirds of SGM facilities' net emission reductions by 2035

Projected SGM facility aggregate direct emissions reductions and ACCU abatement, 2023-35 financial years

Notes: * Emissions baseline includes projected new projects. Results for financial years, central scenario.

Source: EY NZC 2023b. Exhibit 03, Exhibit 06 and unpublished data from EY SGM-ACCU market model.

The net zero transition will require cost-effective effort across all sectors

Policy should seek to motivate cost-effective emission reductions from all sectors without imposing excessive compliance burdens.

For example, road freight accounts for a third of road transport emissions,[93] but heavy vehicles are not covered by the New Vehicle Efficiency Standards or by SGM arrangements.

Expanding the SGM to cover road freight would be challenging, and perhaps unwise; freight does not fit easily within the SGM definition of 'facilities', and the vast majority of Australia's 60,000 freight operators fall well below the SGM emissions threshold.[94]

Reform of fuel tax credits would provide an efficient and reasonable policy option in this context.[50,79] Current settings effectively subsidise fuel use by heavy vehicles, which account for most road damage. Aligning fuel tax credits for heavy vehicles with existing arrangements for business utes, vans and small trucks and halving the fuel credit for off road use would:

- Improve incentives for energy efficiency and emissions reductions
- Contribute to budget repair
- Ensure vehicles that cause road damage make a fair contribution to road funding.

Cost-effective options are not yet available for heavy road and rail freight, or air transport

Cost-effective options are more limited outside the light vehicle space.

Businesses should:

- Continue to pursue energy efficiency and operational changes than can be implemented with existing major assets.
- Scan emerging options and invest to understand opportunities (and competitive risks) and be positioned to take timely action.
- Regularly review and evolve interlinked energy, carbon and sustainability strategies, and ensure they are properly embedded in governance and accountability frameworks.
- Articulate strategy and performance to investors and other stakeholders.

Government should continue to offer incentives and support for businesses to adopt near-commercial technologies and develop prospective future options.[49]

8

Provide a coherent long-term framework for Australian fossil fuel extraction and exports

Australian politics has struggled to establish a coherent framework for carbon-intensive energy exports that reconcile Australia's long-term interest in effective global climate action with the short-term interests, and influence, of producers and regions that currently rely on coal and gas exports.

One solution would be to establish a transition framework that incentivises Australian carbon-intensive energy exports to only go to countries with strong decarbonisation targets and coherent energy transition plans. This would ensure Australian exports support the global energy transition and effective action to avoid dangerous climate change.

New gas and coal projects could exacerbate long-term global climate risks and local economic challenges

There is wisdom in the saying that "when you find yourself in a hole, stop digging".

The best available science finds that rapid and deep reductions in energy system emissions are essential to limit climate change to well below 2°C, with energy emissions required to fall by 87-97% by 2050 under a 1.5°C pathway.[95]

The International Energy Agency (IEA) finds this implies there is no need for new oil and gas developments, or new coal mines or extensions, in a world seeking to limit warming to 1.5°C.[96-97]

Indeed, on fossil fuels:

> "Further delaying the hard choices necessary to reach global net zero emissions by 2050 would make the problems substantially worse, and much harder to solve.
>
> IEA (2023a) page 150

It is therefore not in Australia's long-term best interest for any country to allow major new fossil fuel supply projects that add to overall global emissions to the atmosphere.

Allowing new projects or major supply expansions in Australia would also involve a range of domestic risks, including stranded assets, disruption to regional economies and employment, and political pressure from stakeholders seeking support, special treatment, or less stringent policies.

Australian policy should ensure fossil fuel exports support, and do not slow, the global energy transition

While Australian gas exports can play a valuable role in the energy transition, particularly where it displaces coal fired electricity or supports the roll out of variable renewable energy, in some circumstances gas exports could slow the energy transition.

A lack of coherent settled policy on this issue (in Australia and globally) implicitly incentivises carbon-intensive energy players to bet against the global energy transition, including by lobbying against effective climate policies and developing new projects that contribute to excess global fossil fuel supply.

One solution would be for Australia to enact a coherent long-term transition framework. This might see policy prioritise Australian carbon-intensive energy exports to only go to countries with strong decarbonisation targets and energy transition plans consistent with a 1.5°C global pathway. To be effective, the framework would need teeth, such as a levy that increases over time on exports of fossil fuels for final use in jurisdictions that do not meet these criteria, or measures implemented through bilateral trade agreements.

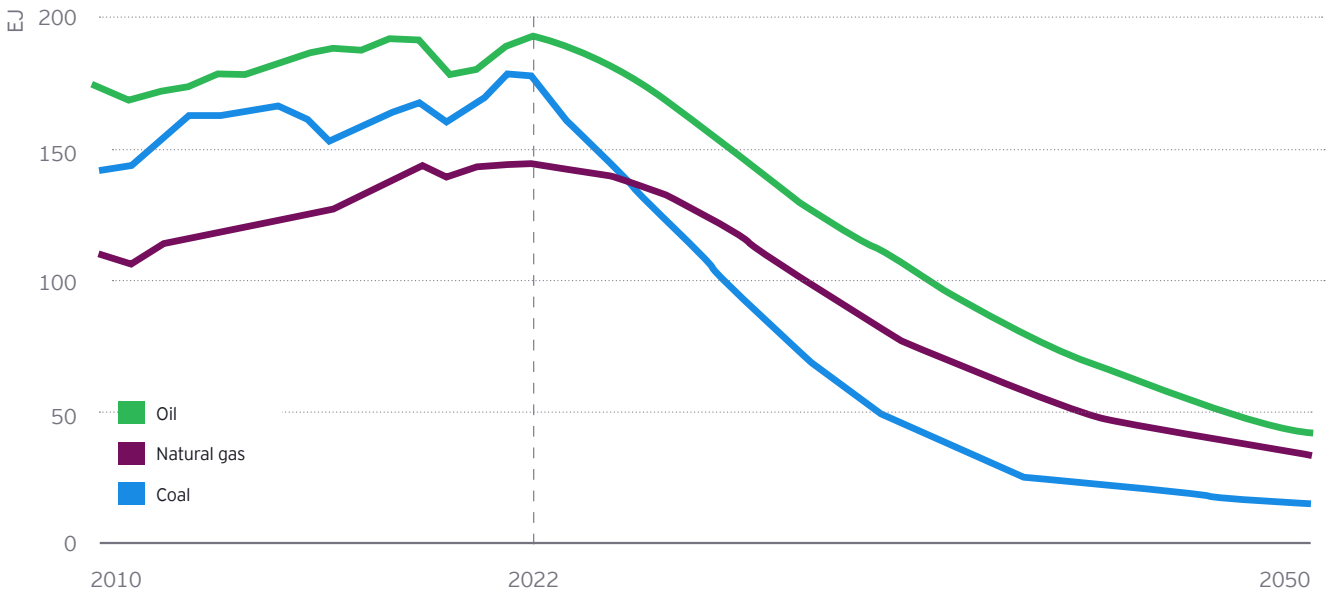
This would strengthen and formalise existing trade patterns, with 99% of Australian energy exports going to countries with net zero commitments in 2024 (see Endnote *D).

Operationalising a policy framework to improve and align industry incentives in this way would be technically and diplomatically challenging, but not impossible. Policy settings in Australia and many other countries already apply export and supply chain controls to products with potentially harmful effects, including uranium, weapons and wildlife trade.

Implementation of a coherent long-term transition framework along these lines would demonstrate Australia's commitment to effective global climate action, and provide confidence that Australian exports are supporting an orderly global energy transition, not undermining it.

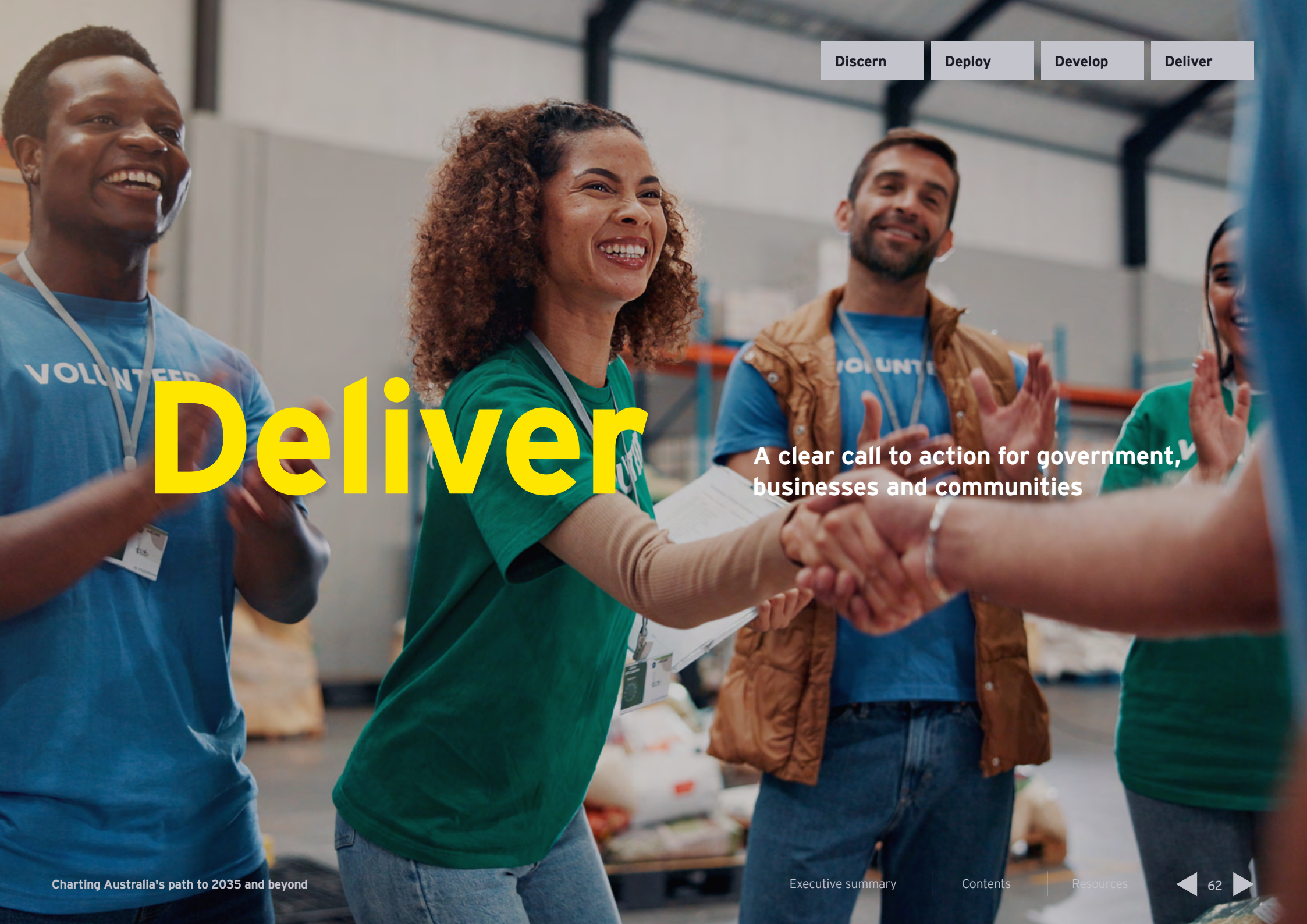
Exhibit 21: IEA finds no new fossil fuel developments are required in a world on track to 1.5°C

Total global fossil fuel supply, actual to 2022 and projected to 2050 under IEA Net Zero Emissions scenario



Notes: The IEA net zero roadmap outlines a 1.5°C pathway with net zero CO_2 emissions in 2050 and continuing emissions of other GHG from agriculture and other sources. The roadmap involves larger fossil fuel emissions reductions than most 1.5°C IPCC scenarios.

Source: IEA 2023b



Deliver

A clear call to action for government, businesses and communities

No time to waste

The world is at an inflection point. While it is too late to limit climate change to 1.5°C without overshoot, it is not too late to step up action to avoid catastrophic climate change. Countries, communities and companies are all in this together, and business has a crucial role in charting the path to a prosperous low-carbon future.

Our near-term choices could have catastrophic long-term consequences

The world is not on track to avoid dangerous climate change.

Countries, communities and companies all have a role to play, and while many have achieved much, the aggregation of millions of daily choices shows that humanity is still opting out from making difficult decisions.

This path risks catastrophic consequences, not only for distant generations but in our lifetime, and for centuries to come. Food shortages. Water wars. Homes, fields and infrastructure drowned by rising waters. Lives and economies disrupted. Generations grieving lost futures and forgone prosperity.

But we can choose to make a difference

2025 is a consequential year in the crucial decade for climate and sustainability.

Countries, communities and companies can step up, and contribute to a better, more secure and prosperous future.

Everyone needs to get down to business

A science-based approach suggests all companies operating in advanced economies should strive for a 75-100% reduction in fossil fuel emissions by 2035.

Specific steps include:

- **Low-emissions replacements:** Transition all energy-consuming assets to the lowest emissions option available when next replaced. Passenger vehicles, cargo vans, light trucks, space heating and commercial kitchen appliances can all be electrified.
- **High-integrity offsets:** Unavoidable residual fossil fuel emissions, such as those from essential air travel, should be offset with high-integrity carbon credits.
- **Supply chain emissions:** Understand purchased supply chain emissions and reduce these over time.
- **Low-carbon innovation:** Invest effort to innovate low-carbon options, especially in energy and emissions-intensive businesses, including freight, to align the net zero transition with business needs and value creation opportunities.

Businesses should also seek upside opportunities, such as distributed energy, and explore potential new approaches and business models.

Businesses with significant industrial or other non-energy emissions should prepare for disruptions to the status quo, including competition from alternative products and production processes.

… while recognising success will require companies to prepare for the new world while competing in the old

To thrive in a net zero world, businesses must undergo transformative change.

Historically, companies have focused on efficiency at the expense of the environment. Now, they face mounting pressure to eliminate carbon emissions, even though the necessary incentives and supports are only beginning to emerge.

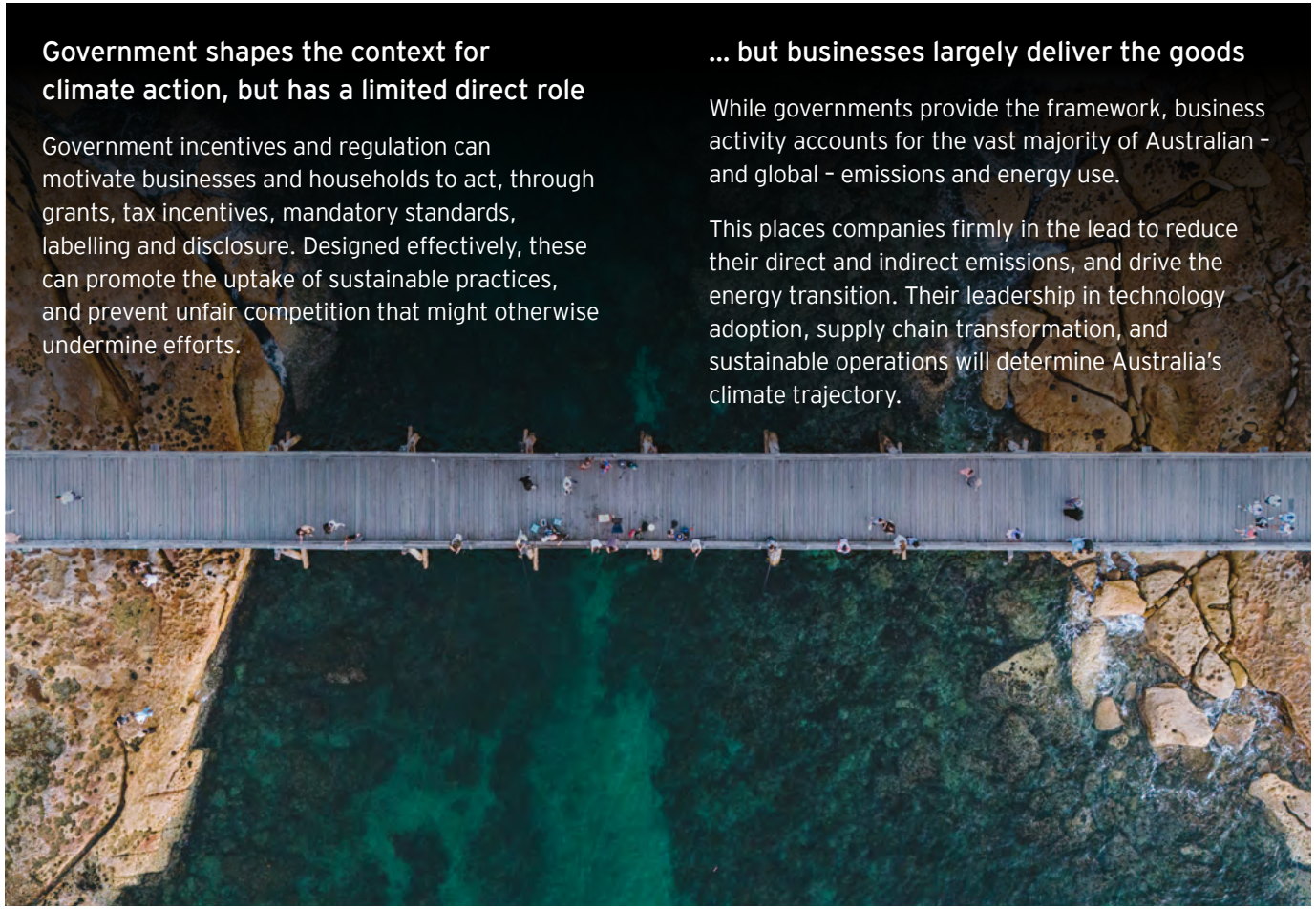
Businesses must embrace significant risks, and deal with multiple substantial challenges:

- Shifting away from conventional energy systems and phase out carbon-intensive assets while investing in new technologies and approaches with uncertain returns.
- Collaborating with competitors to move away from established, optimised supply chains and build new relationships that support carbon reduction.
- Expanding their focus from optimising existing advantages to forging new, uncertain business models and value propositions.

Change is coming, ready or not.

Governments and businesses are both essential to achieving a successful and resilient low-carbon world

Each priority action in this report offers clear benefits – from cost savings and enhanced security to long-term commercial gains – in addition to reducing emissions. But these benefits are not automatic. Realising them will require effort and investment. The government has a distinctive role to play in ensuring and shaping a supportive context, while businesses are the primary drivers of tangible action.



Government shapes the context for climate action, but has a limited direct role

Government incentives and regulation can motivate businesses and households to act, through grants, tax incentives, mandatory standards, labelling and disclosure. Designed effectively, these can promote the uptake of sustainable practices, and prevent unfair competition that might otherwise undermine efforts.

… but businesses largely deliver the goods

While governments provide the framework, business activity accounts for the vast majority of Australian – and global – emissions and energy use.

This places companies firmly in the lead to reduce their direct and indirect emissions, and drive the energy transition. Their leadership in technology adoption, supply chain transformation, and sustainable operations will determine Australia's climate trajectory.

Exhibit 22. The path to 2035 will require and reward a wider range of climate actions by government and businesses, unlocking lower costs, improved security and lower emissions

Insights and implications of the eight key priorities

PRIORITIES	GOVERNMENT		BUSINESS		BENEFITS	
	Firm foundation	Worthwhile stretch	Firm foundation	Worthwhile stretch		
Net Zero Pathway	**Set 65-75% national reduction target by 2035, from 2005 levels, backed by coherent sectoral policies***	**Consider updating net zero target date to 'no later than 2050'**	**Develop and deliver ambitious corporate climate strategy, consistent with a 1.5°C pathway****	**Support orderly national policy consistent with 1.5°C, and push back on special interests****	**Support stronger global action on climate change, in the national interest**	
1. Low carbon energy and electrification	Drive >80% renewable electricity Financial support for electrification and batteries	Consider incentives for low emissions rental properties Support future orchestration of distributed energy resources (DER)	Electrify energy assets as they turn over Offset residual emissions**	Understand and reduce supply chain emissions**	Lower energy costs; new competitive advantages	**Reduced costs and improved security**
2. Road transport	Stay the course on the New Vehicle Emissions Standard	Accelerate expansion of the charging network Reform fringe benefit tax (FBT) rules	Shift to battery electric vehicles (BEVs) Support distributed charging	Develop options for heavy freight, test new client value propositions	Lower life cycle transport costs; improved air quality	
3. Climate resilient buildings and settlements	Increase adaption funding Prevent developments in flood zones	Ensure future-ready building standards	Showcase sustainable and efficient buildings Deploy and support distributed energy**	Develop more affordable and sustainable offerings (including build to rent)	Safer, more resilient and efficient buildings and settlements	
4. Carbon credit supply and use	Articulate how ACCUs will support non-SGM activities	Evolve ACCUs to lift supply and deliver nature benefits	Articulate offset strategy, including co-benefits*	Lean in to create a best-in-class credit portfolio†	Australian supply of credits supports lower costs and creates value	**Creating new value and opportunities**
5. New competitive advantages	Evolve and deliver low carbon stream within Future Made in Australia	Do not shy away from creating national champions	Treat governments as co-investors in innovation	Mobilise capital and partner to create new opportunities and value	Develop new competitive industries	
6. Low carbon agricultural exports	Include credits and destination market measures in agriculture strategy	Explore inclusion of emissions-intensive foods in Carbon Border Adjustment Mechanisms (CBAMs)	Support landholders' ability to participate in carbon and environmental markets	Recognise the national reputational risk arising from agricultural land clearing††	Harness support of consumers for offsets and abatement	
7. Heavy industry and transport	Stay the course on Safeguard Mechanism (SGM) reforms	Reform fuel credits Explore emissions reduction options for non-SGM facilities	Deep dive on international developments and options	War game disruption from low emissions technologies†	Improved investment confidence	**Supporting an orderly transition**
8. Support the global energy transition	Support Australia's distinctive contributions to global decarbonisation efforts	Establish a long term framework to ensure Australian energy exports support the transition	Support emerging low carbon export opportunities, and orderly transition of regional industries	Recognise the costs and risks of dangerous climate change*	Support confidence in global transition, and avoid potential disruption	

Notes: More details are provided in later pages on key actions 1-8. * See section on Discern: Understand what is at stake, and Australia's national interest.
** See section on Deliver: A call to action. † See Exhibit 06 in Box, page 28-29. †† See EY NZC 2023c. Source: EY Net Zero Centre analysis

Businesses should engage early, and consider five steps to position and prosper through disruptive change

The EY Net Zero Centre analysis presented in this report highlights that climate action to 2035 and beyond will cover a wider range of activities than those required to date.

This reflects a new phase of action, moving beyond the previous focus on decarbonising electricity to progressively replacing all fossil energy with electricity, adapting to more severe extreme events and climate impacts, and developing options for hard-to-abate sectors after 2035.

The decades ahead will be very different

Businesses around the world are changing gear, signalling a shift to much deeper and faster emissions reductions in the future.

Low-carbon energy is now often cost competitive against traditional fossil fuel options for space and water heating, road transport, cooking and low heat industrial processes. The default is now to switch to electricity for all energy-using assets as they are renewed or turned over, unless there is a clear case for delay.

Unavoidable residual emissions should be offset by high-integrity carbon credits, noting the price of credits worth using could rise more than three-fold to 2035.

Leaders who engage early and deeply will be most likely to achieve a successful climate transition

The underlying drivers of action will intensify in coming years, shaped by events that cannot be predicted in detail, but will have profound impacts on countries, communities and companies.

Some events will occur quickly. And many will take the unprepared by surprise.

The future of climate change, and the role of Australian business in the global transition, is not yet written

We suggest business can consider the following five steps to get ahead of the curve, and position for disruptive change and the opportunities and challenges ahead.[33]

As always, leaders who lean in to engage, explore and imagine the possible will be best placed to create the future.

Exhibit 23. Five steps to position and prosper through disruptive change

1

Assess your current and future context with fresh eyes

- Are you up to date?
- Who is scanning?
- What are they looking at?
- How have things changed in the last three years, and what might this imply?

2

Review your long-term strategy

- What are the implications of your stakeholder pressures, emissions intensity, and opportunity space for strategy and positioning?
- Is your strategy robust to a range of carbon credit price trajectories?

3

Identify potential tipping points for pressures and opportunities

- What swift shifts or surprises could transform your context?
- What new technology options would move the dial?

4

Articulate several distinctive value propositions for your company in 2030-35

- What could be your distinctive offer?
- What factors would give weight to one option over another?
- How would these long-term value propositions be implemented and delivered?

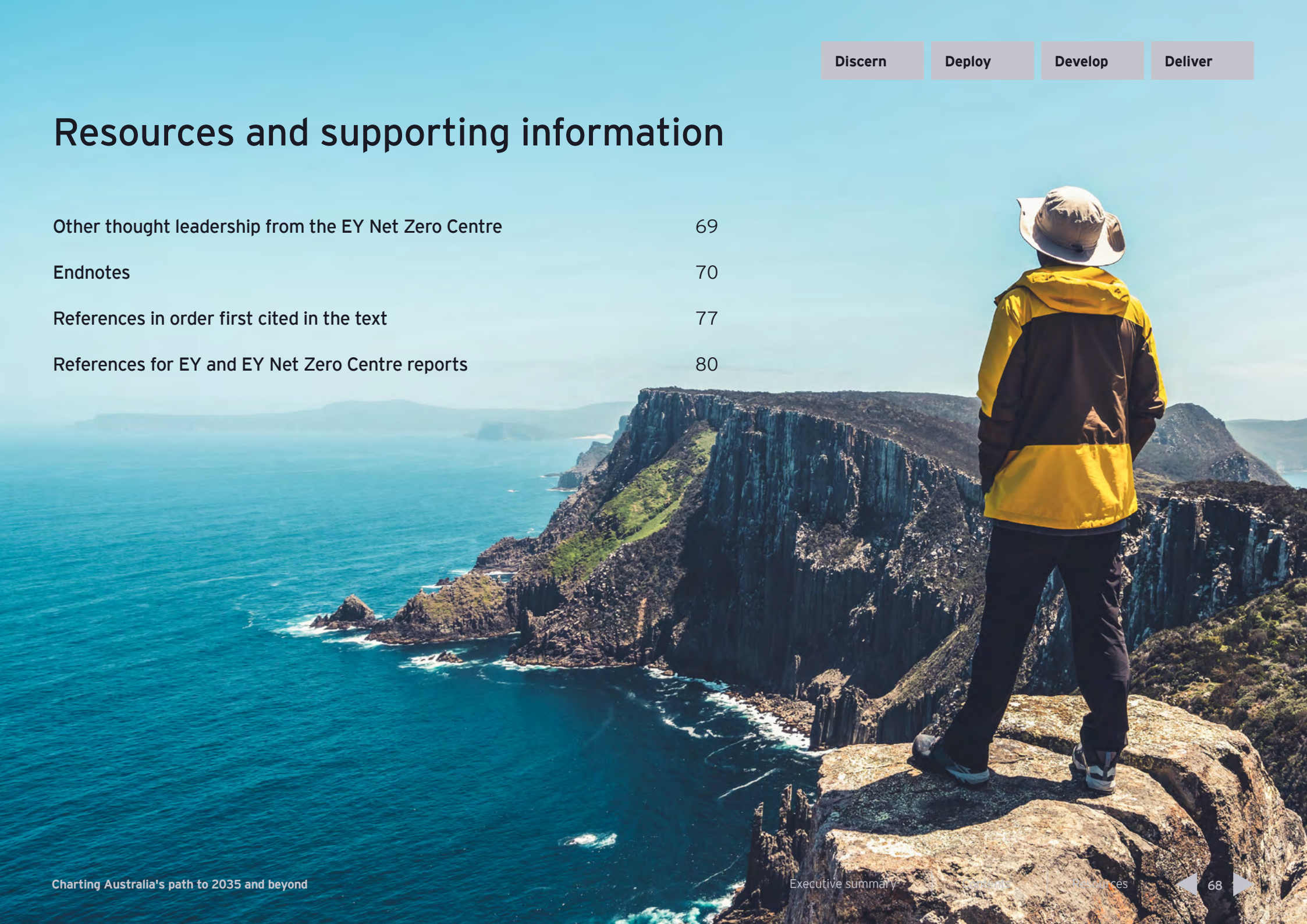
5

Act now to create options and manage risks

- What early actions would provide non-carbon benefits as well as reduce your carbon risks?
- Where might you gain confidence or insight through learning-by-doing?
- How might you gain an advantage over your peers and competitors?

Source: EY Net Zero Centre 2024d, Exhibit 18.

Resources and supporting information



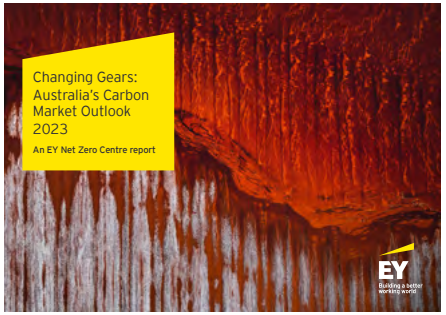
Other thought leadership from the EY Net Zero Centre

Assessing the outlook for Australia in a net zero world

Seizing Australia's energy superpower opportunities

Creating a nature-positive advantage

Carbon market outlooks



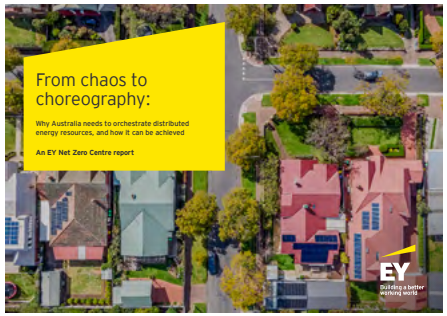
Changing Gears: Australia's Carbon Market Outlook 2023

Essential and still evolving: The global voluntary carbon market outlook 2024

Executive briefing: Property

Zeroing in on net zero buildings

Executive briefing: Energy Infrastructure Series



From chaos to choreography: Why Australia needs to orchestrate distributed energy resources and how it can be achieved

Powering progress: How Australia can fast-track energy transmission projects for a renewable future

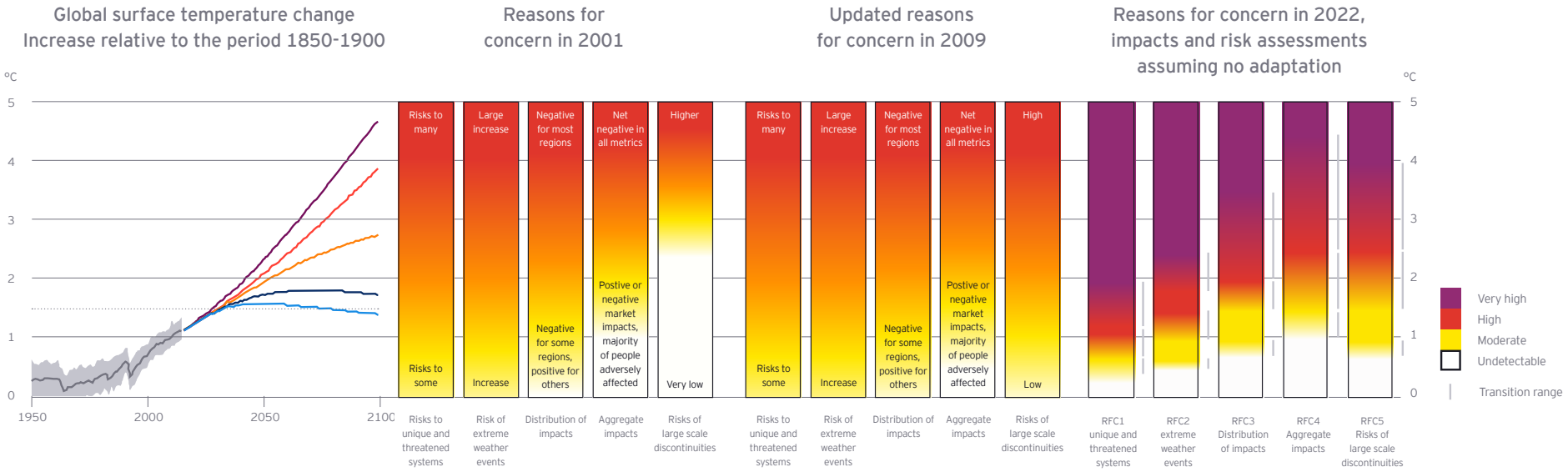
Delivering green growth together: How business and government can drive and thrive in the net zero transition

Endnotes

*A The 2008 analysis by Garnaut and Treasury assessed two global greenhouse gas stabilisation scenarios: stabilisation at 450ppm CO_2e with a most likely global mean temperature increase of 1.6ºC above 1990 levels by 2100, and 550ppm with a likely increase of 2.0ºC. These were assessed against a no mitigation scenario, with a most likely temperature increase of 5.1ºC by 2100 and possible likely temperature increase of up to 6.6ºC. While the Stern Review (2006, 2007) focused on a 550ppm scenario, more recent work by Stern finds that more ambitious global action to limit global warming to well below 2ºC is crucial given the significant incremental risks associated with warming of 2ºC or more, and substantial increases in expected climate impacts in subsequent IPCC assessments (see Endnote B).[11-13] Other prominent economists, including some who were originally critical of Stern's findings, now also find the benefits of limiting climate change to well below 2ºC outweigh the costs.[14] This cohort includes economists who are cautious of the value of precise calculations of costs and benefits, but who argue climate change is already having significant impacts,[15] and strong global action is crucial to avoid low probability risks of irreversible catastrophic outcomes.[13,16]

*B The assessment third report of the Intergovernmental Panel on Climate Change (IPPC) published in 2001 identified five broad 'reasons for concern'. Each subsequent IPCC assessment has found that the likelihood and severity of these impacts is larger than previously assessed.[27-29] This includes identification of new types of risks – such as reinforcing earth-system feedbacks, where climate-related tipping points in natural systems drive higher emissions and temperatures over and above changes driven directly by human activity.[28-30]

Exhibit SI-01. Successive IPCC assessments have found climate risks and impacts to be more severe and widespread than previously thought, and that limiting temperatures to 1.5°C would avoid significant risks relative to 2°C or more



Notes: Embers are shown for each reason for concern (RFC), assuming low to no adaptation (i.e., adaptation is fragmented, localised, incremental adjustments to existing practices). Impacts shown for temperatures below 1.09°C are based on past observed impacts, and projected future risks for temperatures above that level. The levels of risk in 2022 reflect the judgements of IPCC author experts from WGI (2021) and WGII (2022).

Colours indicate the level of risks and impacts from climate change. Purple indicates very high risks of severe impacts and the presence of significant irreversibility of the persistence of climate-related hazards, combined with limited ability to adapt due to the nature of the hazard or impacts/risks. Red indicates severe and widespread impacts/risks. Yellow indicates that impacts/risks are detectable and attributable to climate change with at least medium confidence. White indicates that no impacts are detectable and attributable to climate change. The distinction between red 'high' and purple 'very high' risk/impact categories was added after 2009.

RFC1 Unique and threatened systems: Ecological and human systems that have restricted geographic ranges constrained by climate-related conditions and have high endemism or other distinctive properties. Examples include coral reefs, the Arctic and its Indigenous People, mountain glaciers and biodiversity hotspots. RFC2 Extreme weather events: Risks/impacts to human health, livelihoods, assets and ecosystems from extreme weather events such as heatwaves, heavy rain, drought and associated wildfires, and coastal flooding. RFC3 Distribution of impacts: Risks/impacts that disproportionately affect particular groups owing to uneven distribution of physical climate change hazards, exposure or vulnerability. RFC4 Global aggregate impacts: Impacts to socio-ecological systems that can be aggregated globally into a single metric, such as monetary damages, lives affected, species lost or ecosystem degradation at a global scale. RFC5 Large-scale singular events: Relatively large, abrupt and sometimes irreversible changes in systems caused by global warming, such as ice sheet disintegration or thermohaline circulation slowing.

Temperature projections in panel (a) are for global surface temperature (GST), relative to pre-industrial, 1850–1900 from IPCC 2021 in O'Neil et al 2022.

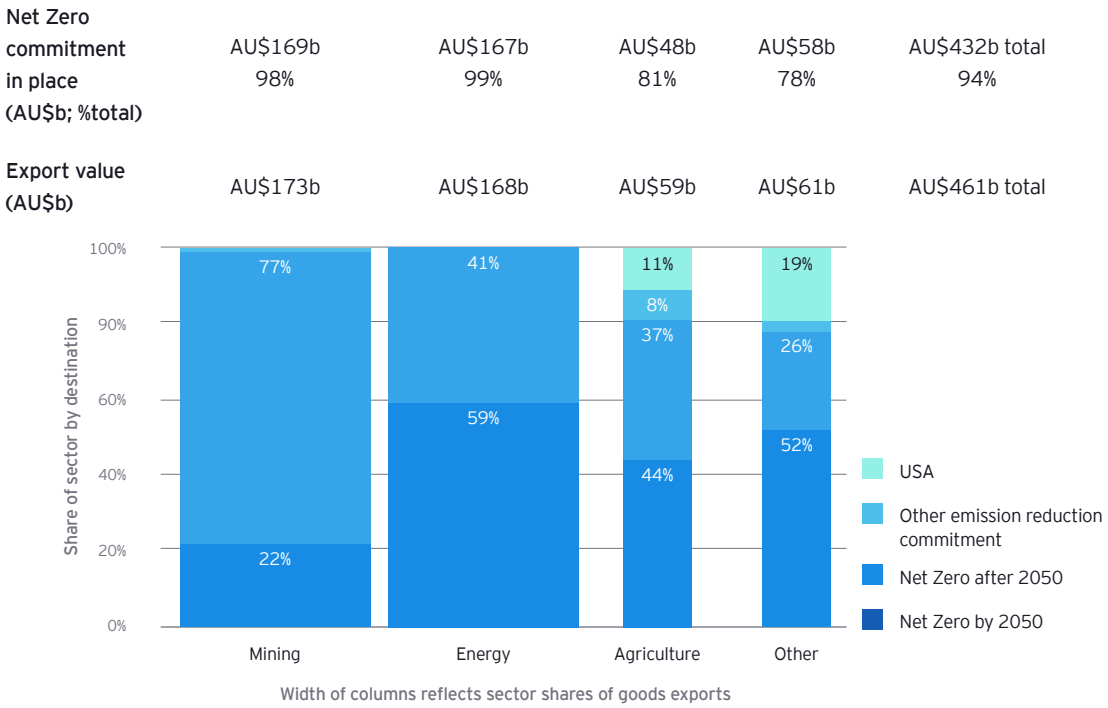
Source: Redrawn from Fig 1 in Smith and Schneider et al 2009 and Fig 16.15 in IPCC (O'Neil et al) 2022.

*C National commitments data sources (left panel): UNFCC 1997, Energy and Climate Intelligence Unit 2025, ClimateWatch 2025, WRI 2020.[36-39]
Carbon pricing data source (centre panel): World Bank 2024.[40]
Non-state voluntary climate action (right panel): UNFCC 2025 (as at 16 April 2025).[41]

*D EY Net Zero Centre analysis finds the vast majority of Australian exports go to destination markets with net zero commitments, including 98% of mining and energy exports, as shown below. [37,47]

Exhibit SI-02. Over 90% of Australian goods exports go to countries with net zero commitments

Total goods exports by climate commitments of destination market, 2024



Notes: USA has indicated it is withdrawing from the Paris Agreement but has not withdrawn from the UN Framework Convention on Climate Change. Net Zero commitments includes those countries who have committed to becoming 'Net Zero', 'Carbon Neutral' or 'Climate Neutral' either through enacting in law, in policy documentation, have pledged or proposed. Total goods exports do not include special transactions or coins. Figures may not total exactly due to rounding.

Source: DFAT (2025) Trade statistical pivot tables; Energy & Climate Intelligence Unit (2025) Net Zero Tracker.

*E EY Net Zero Centre used certain indexes prepared by the Asian Development Bank, World Bank, European Commission and Notre Dame University[56-59] to categorise the climate vulnerability of each country against a five-level scale, as set out in Exhibit SI-03 below. These are shown in aggregate weighted by population shares (using World Bank data)[55], and in heat maps showing individual country results (refer Exhibit 08).

Very high vulnerability (or very insecure) is interpreted as follows:

- Water: Significant gaps in water security with low proportions of the population with access to basic water supply
- Food: At least 10% prevalence of undernourishment and less than 100% food availability
- Climate vulnerability: Assesses country exposure, sensitivity and adaptive capacity across key life-supporting sectors such as health, ecosystem service, human habitat and infrastructure, with scores above 0.43 deemed as having some level of vulnerability as these scores fall within the red zone of the adaptation matrix

Exhibit SI-03. Interpretation of vulnerability levels based on index score for each country

Vulnerability level	Index score		
	Water security	Food security	Climate vulnerability
Very high (very insecure)	0 - 42	5 +	0.7 - 1
High (insecure)	42 - 60	4 - 5	0.5 - 0.7
Moderate	60 - 78	3 - 4	0.43 - 0.5
Low (secure)	78 - 96	2 - 3	0.35 - 0.43
Very low (very secure)	96 - 100	0 - 2	0 - 0.35
Source	National Water Security Index (ADB 2022)	Vulnerability to food insecurity (World Bank 2024), INFORM Risk Index 2025 (EU 2025)	ND-GAIN Climate Vulnerability Index (Notre Dame 2024)

Sources: ADB 2022, World Bank 2024, EU 2025, Notre Dame 2024.

*F EY Net Zero Centre calculated the relative total ownership costs of select internal combustion engine (ICE) and battery electric vehicles (BEV) to typify certain vehicle categories. Key assumptions and sources [70-74] are shown in Exhibit SI-04, and summary results are shown in Exhibits 10 and 13 in the report and Exhibit SI-05 below.

Exhibit SI-04. Key variables and assumptions used in calculating total ownership cost of selected vehicles

Variable	Scenario or vehicle type	Unit	Assumption	Source
Kilometres travelled	Average – passenger Average – light commercial	kms	11,200 15,300	ABS, Survey of Motor Vehicle Use, Australia, 2020
	High kilometres	kms	Double the average	EY NZC scenario assumption
Fuel prices	Petrol Diesel	$/l $/l	1.90 1.89	DCCEEW, Australian Petroleum Statistics 2024, 2025
Electricity price and opportunity cost	Electricity, grid	$/kwh	0.33	Canstar, Average retail price across non-solar plans, 2025
	Electricity, on-site solar opportunity cost	$/kwh	0.08	EY NZC assumption, assumes 100% trickle charging
Period of ownership	All	years	10 years	EY NZC scenario assumption
Depreciation - ICE	Average kilometres High kilometres	%	60% over 10 years 80% over 10 years	EY NZC assumption
Depreciation - BEV	Average kilometres High kilometres	%	66% over 10 years 88% over 10 years	EY NZC assumption, embodying 10% higher depreciation for BEVs vs similar ICE vehicle
Vehicle costs	Specific to each vehicle, 2024 model*	$	Purchase price including GST	Australian Automobile Association, Electric Vehicle Index, 2025 Car Expert, Research, 2025
Fuel and energy use	Specific to each vehicle	$pa		Australian Automobile Association, Electric Vehicle Index, 2025 Car Expert, Research, 2025
Operating costs (registration, insurance, servicing)	Specific to each vehicle	$pa		Average of four online insurance** and service quotes for each vehicle. Registration average for Qld, WA, NSW and Vic.
	High kilometres service costs	$pa	20% higher than for average kilometres	EY NZC assumption
Discount rate	Used to calculate Net Present Value (NPV)	%	4%	Wood et al 2023

Notes: * Assumptions for Isuzu D-max EV based on LDV eT60, other than vehicle cost. ** Insurance quotes assumed 40 year old male, no prior accidents, living in Sydney, with a garaged vehicle.

Sources: As set out in table.

Exhibit SI-05. Key summary results for total ownership cost of selected vehicles

	Utility vehicle	Compact performance	Medium SUV
Total net savings			
Average kilometres scenario	$2,887	$4,400	$1,523
Average kilometres – solar scenario	$11,544	$8,384	$5,273
High kilometres scenario	$10,616	$10,202	$6,533

	Utility vehicle		Compact performance		Medium SUV	
Annual costs	Ford Ranger XLT	Isuzu D-Max EV	Volkswagen Golf GTI	CUPRA Born	Toyota Rav4 GXL	BYD Atto 3
Average kilometres scenario						
Capital costs	$4,140	$4,686	$3,329	$3,959	$2,400	$2,937
Other costs	$3,097	$3,277	$3,082	$2,780	$2,627	$2,690
Fuel costs	$2,423	$1,354	$1,472	$623	$1,367	$587
Average kilometres – solar scenario						
Capital costs	-	$4,686	-	$3,959	-	$2,937
Other costs	-	$3,277	-	$2,780	-	$2,690
Fuel costs	-	$328	-	$151	-	$142
High kilometres scenario						
Capital costs	$5,520	$6,248	$4,439	$5,279	$3,200	$3,916
Other costs	$3,172	$3,322	$3,194	$2,843	$2,679	$2,750
Fuel costs	$4,845	$2,709	$2,945	$1,247	$2,734	$1,173

Sources: As set out in Exhibit SI-04 above.

*G Climate Council analysis[83] finds a 7-star house in any capital city would provide heating and cooling cost savings of $119 to $945 each year, with an average saving of $450, relative to the 6-star minimum standard. Many homes could achieve much greater savings, with homes built before 2005 averaging less than 2-stars in many regions. CSIRO finds 7.5 stars provides the greatest cost savings accounting for building and operating costs.

*H FAO data shows 16 jurisdictions account for around two thirds of fresh and chilled beef exports and imports.[91] This includes eight exporters and 11 importers, with three jurisdictions that are both major importers and major exporters, as shown in Exhibit SI-06.

Exhibit SI-05. 16 nations acocunf for two thirds of beef exports and imports

Major exporters and importers of fresh or chilled beef, 2023

Exports		
Country	Rank	Share
Brazil	1	16%
USA*	2	14%
Australia	3	13%
Netherlands*	4	6%
Canada*	5	5%
Argentina	6	5%
Ireland	7	4%
New Zealand	8	4%
Total		**68%**

Imports		
Country	Rank	Share
China Mainland	1	23%
USA*	2	14%
Republic of Korea	3	6%
Japan	4	5%
Germany	5	4%
Netherlands*	6	4%
Chile	7	4%
France	8	3%
UK	9	2%
Taiwan	10	2%
Canada*	13	2%
Total		**68%**

Notes: Data for cattle meat, boneless or on the bone. * indicates jurisdiction is a major exporter and a major importer. Figures may not total exactly due to rounding.

Source: FAO (2025) FAOSTAT database.

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