Regional Development South Australia

2024 ANNUAL SUMMIT

An Australian Government Initiative

Government of South Australia

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2024 Summit Partner .id informed decisions

2024 ANNUAL SUMMIT

The future of regional South Australia

The transition to Net Zero, Circular Economy and the advance of AI

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Meet your MC

MIKE SMITHSON

Channel Seven

Welcome

MAYOR LINLEY SHINE

Port Augusta City Council

Port Augusta CITY COUNCIL

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Welcome

HON. CLARE SCRIVEN MLC

Minister for Primary Industries and Regional Development, Minister for Forest Industries

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SESSION 1

The path to Net Zero

How does regional South Australia maximise its potential?

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What are the opportunities for regional South Australia to maximise on the transition to Net Zero?

RICHARD BOLT

Chair Hydro Tasmania, Director Nous Consulting, Member of Climate Change Authority and Founding Member Net Zero Australia

Hydro Tasmania

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Net zero: what are the opportunities and challenges for regional SA?

2 October 2024

Richard Bolt, Nous Group

Regional Development South Australia
Annual Summit

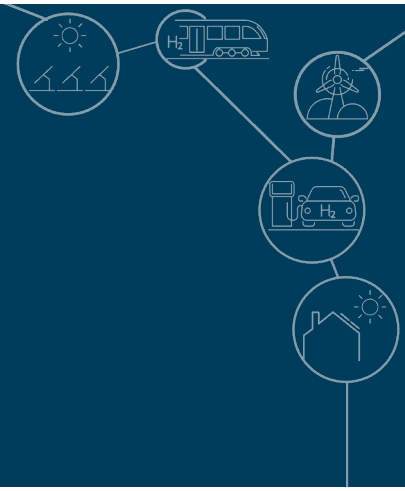
NET ZERO
AUSTRALIA

Presentation agenda

1	What might South Australia's future energy system look like?	5 mins
2	What opportunities might this create for regional South Australia? What challenges will need to be overcome?	10 mins
3	What does this mean for policy makers?	5 mins

1 - Future energy system

Results from Net Zero Australia



About Net Zero Australia

The Net Zero Australia project (NZAu) analysed net zero pathways that reflect the boundaries of the Australian debate, for both our domestic and export emissions

The study is:

Net Zero Australia is a partnership between the **University of Melbourne,** the **University of Queensland, Princeton University,** and management consultancy **Nous Group.**

THE UNIVERSITY OF MELBOURNE

THE UNIVERSITY OF QUEENSLAND AUSTRALIA
CREATE CHANGE

PRINCETON UNIVERSITY

nous

NZAu used the modelling method developed by Princeton University and Evolved Energy Research for its 2020 ***Net-Zero America study.***

We modelled six Core Scenarios

REF

Reference

- Projects historical trends, does not model cost impacts of fossil fuel supply constraints
- No new greenhouse gas emission constraints imposed domestically *or* on exports
- Policy settings frozen from 2020 onwards

E+

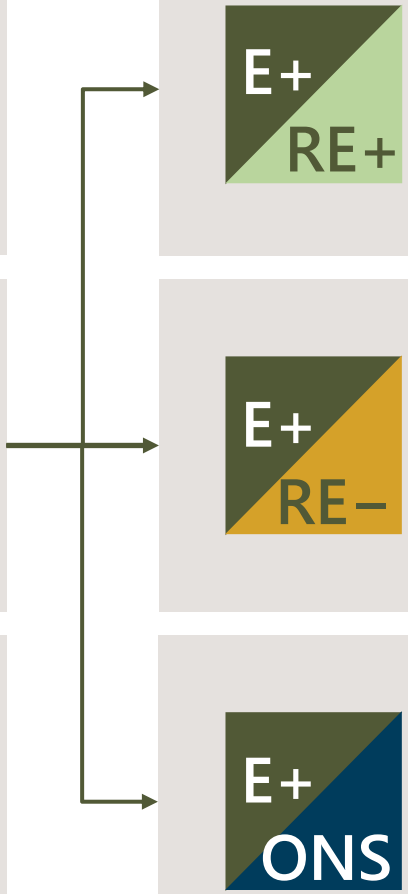
Rapid electrification

- Nearly full electrification of transport and buildings by 2050
- Renewable rollout rate almost unconstrained
- Lower cap on underground carbon storage rate.

E−

Slower electrification

- Slower electrification of transport and buildings compared to E+
- Renewable rollout rate almost unconstrained
- Lower cap on underground carbon storage rate.



Full renewables rollout

- No fossil fuel use allowed by 2050
- Renewable rollout rate almost unconstrained
- Lower cap on underground carbon storage rate, which is only used for non-fossil fuel sources post 2050 (e.g. cement production).

Constrained renewables rollout

- Renewable rollout rate limited to several times historical levels (to examine supply chain and social licence constraints)
- Much higher cap on underground carbon storage (to make net zero achievable).

Onshoring

- Domestic production of iron and aluminum using clean energy
- Progressively displaces exports of iron ore, bauxite, alumina and fossil fuels.

The Reference Scenario has *no emissions objective*. All other Scenarios are 'net zero' for both the domestic and exported emissions separately, and start from current emissions, and track in a line to net zero emissions by 2050 (domestic) and 2060 (export). None of the scenarios are forecasts.

Net Zero Australia - insights for South Australia

DOMESTIC ENERGY SYSTEM

1. **Renewables will be the main energy source – mostly solar and wind** - between **400MW and 1.6GW** per year to 2060 for domestic decarbonisation, and more for export growth.
2. **Electricity storage will back up wind and solar**, mainly batteries supported by new gas generation capacity (used sparingly in the near term and rarely in the long term).
3. **Energy networks will be substantially expanded** to support increased supply and demand, and enable sharing of energy across regions. **CO2** pipeline to Moomba may also be needed.
4. SA can become a large **hydrogen** exporter using additional solar and possibly gas with CCUS, especially when capital costs in the north are higher.

EXPORTS

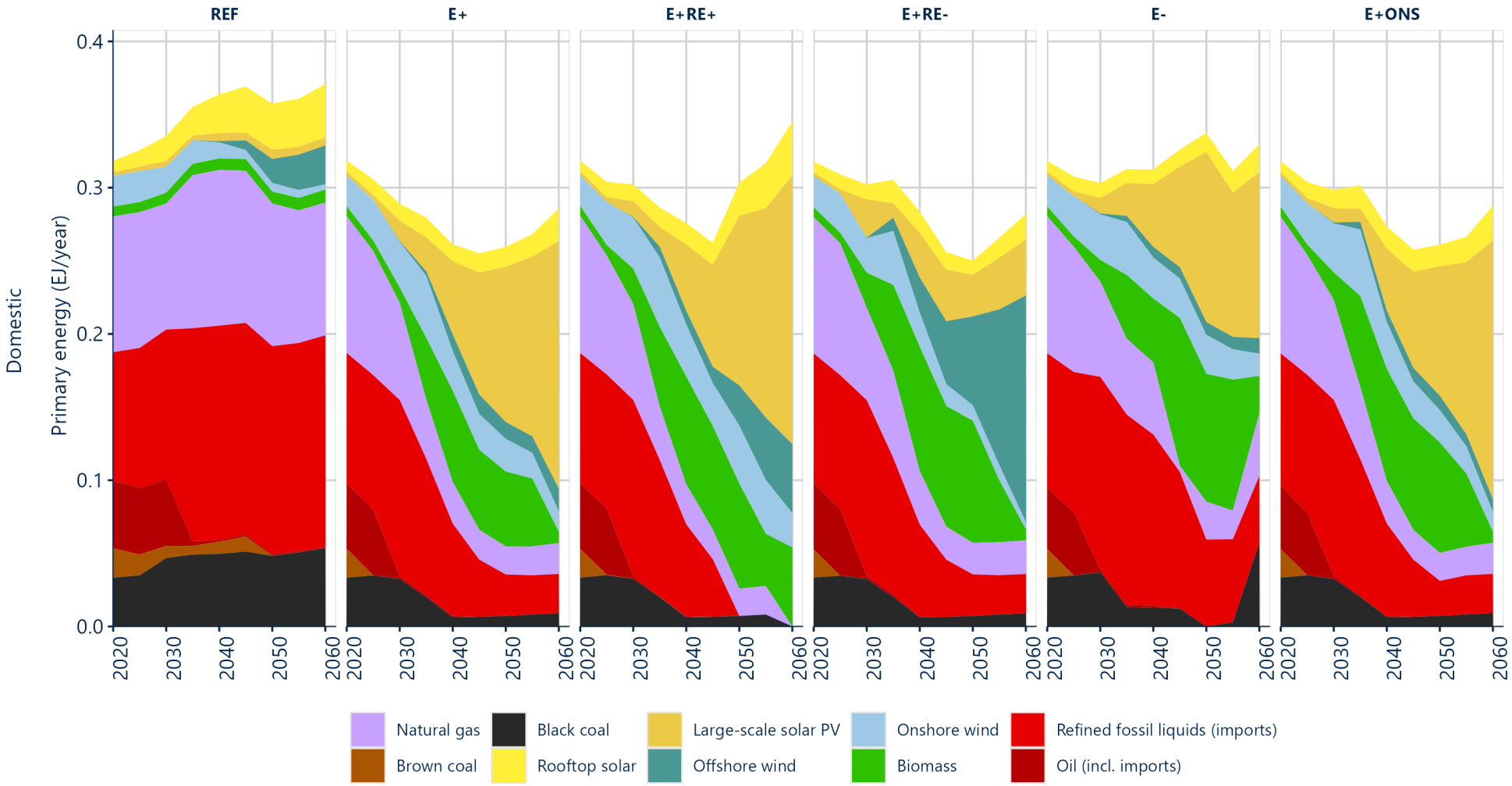
5. **Biomass** is used up to sustainable limit to produce small quantities of hydrogen.
6. **Revegetation will make a larger contribution to reducing emissions**, but the land sector (essentially agriculture and forestry) is likely to be a **net consumer of offsets**.

PEOPLE AND LAND

7. Domestic energy sector **employment** reaches ~15,000 jobs by 2060, unless renewables are constrained where additional energy capacity in SA requires ~43,000 jobs.

Wind and solar dominate domestic energy supply

Projected domestic primary energy (EJ/ year).



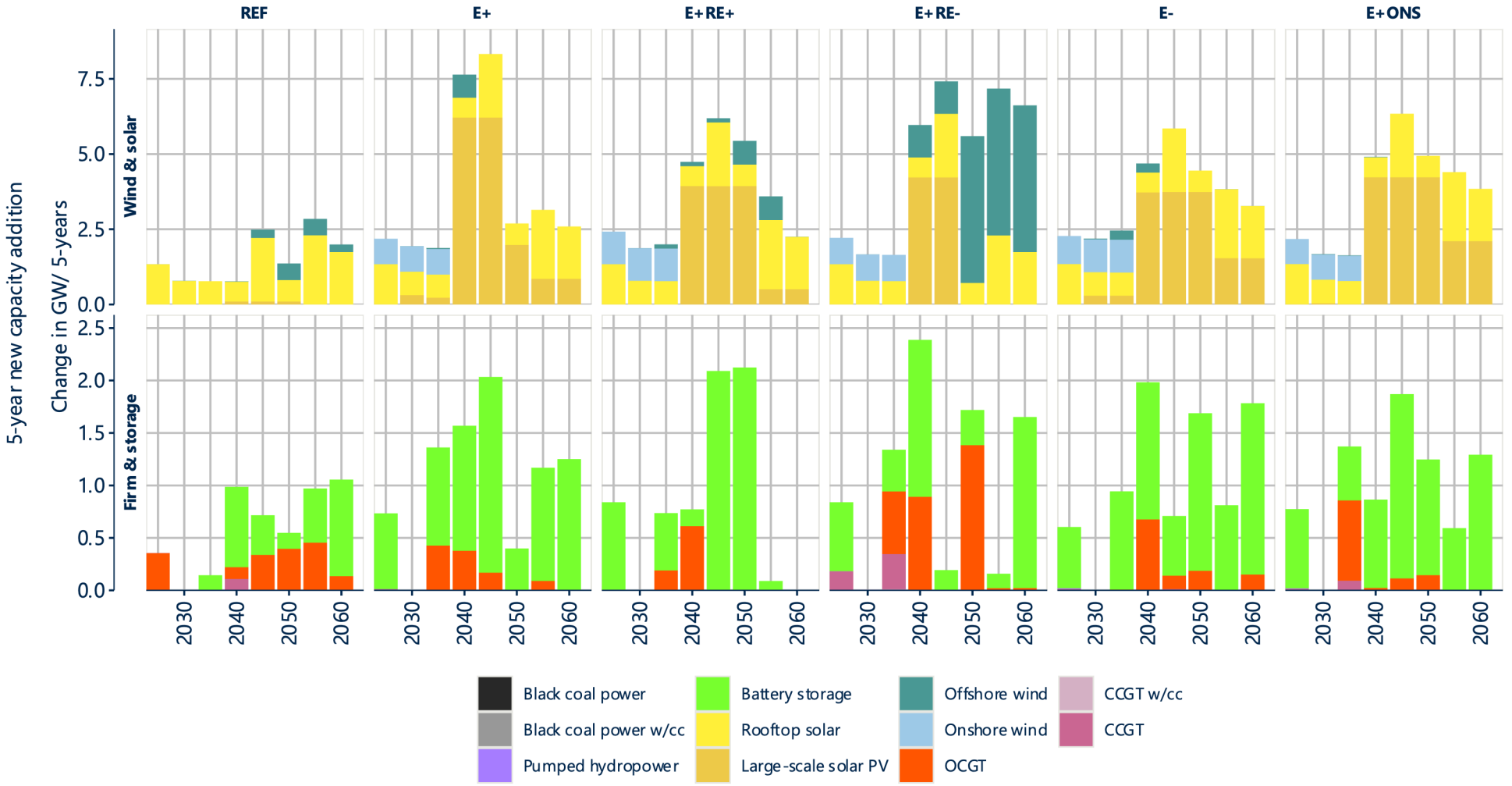
South Australia result

KEY TAKEAWAYS

- Renewable electricity leads energy supply in all Scenarios.
- Total domestic primary energy supply is lower than REF in all Scenarios, due to productivity gains from end-use electrification and efficiency improvements.
- Offshore wind competes domestically on cost and is significant in E+RE- due to limitations on rollout of other renewables.

In SA, between ~2-8GW of renewables are installed every 5 years, mainly solar

Projected 5-year capacity additions to domestic electricity (New GW/ 5 years). Note varying y-axis scales.



South Australia result

KEY TAKEAWAYS

- All Scenarios require increases in deployed capacity and storage compared to REF.
- In E+RE−, offshore wind dominates generation deployment, while greater gas firming and storage capacity is required due to constrained deployment of renewables.
- New gas capacity is required in all Scenarios, especially in the next two decades.

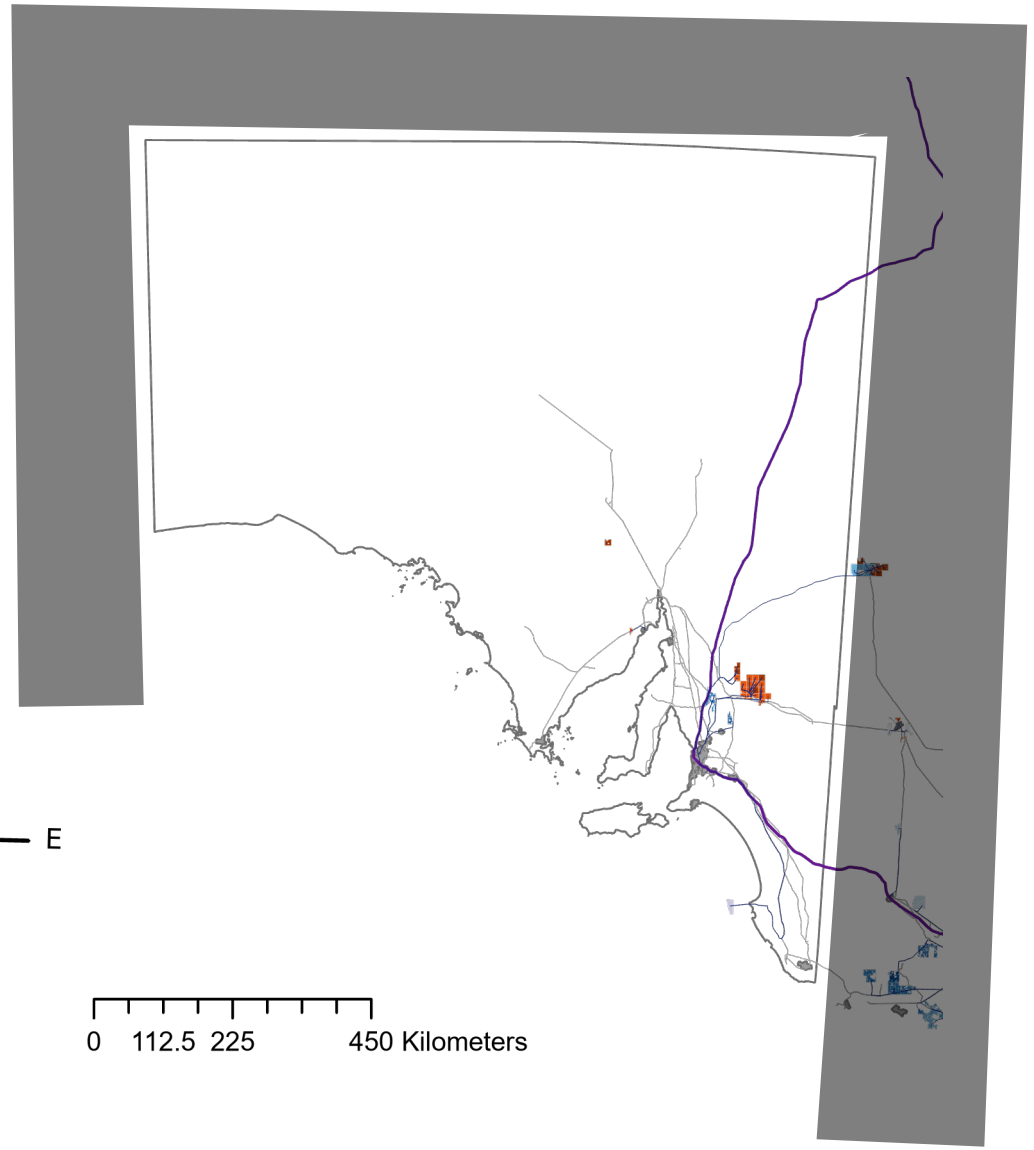
Scenarios dramatically shift capacity build

E+ 2060

- Minimal VRE capacity relative to northern states
- Inter-state transmission lines to QLD and VIC to connect domestic systems.

INDICATIVE ONLY

	Wind	Solar
Capacity installed (GW)		
	1.6	16.9
Area used (1000 km2)		
Total	0.48	0.38
Direct	0.0	0.34
Transmission added (GW-km)		
Capacity domestic area		9266
Capacity export zone		1
Capacity not sited		4723



Transmission (MW)
5
6,627
13,255
19,882

VRE project capacity factors

Solar PV	Onshore wind	Offshore wind
0.175343 - 0.197406	0.205740 - 0.256460	0.200044 - 0.358361
0.197407 - 0.209959	0.256461 - 0.280110	0.358362 - 0.462947
0.209960 - 0.220120	0.280111 - 0.296584	0.462948 - 0.557233
0.220121 - 0.233899	0.296585 - 0.312936	0.557234 - 0.657356
0.233900 - 0.350000	0.312937 - 0.376620	0.657357 - 0.804897

ABS SA2 region with population > 5,000 people & density > 100 people/km^2

Scenarios dramatically shift capacity build

E+ 2060 Sensitivity: RemoteCost

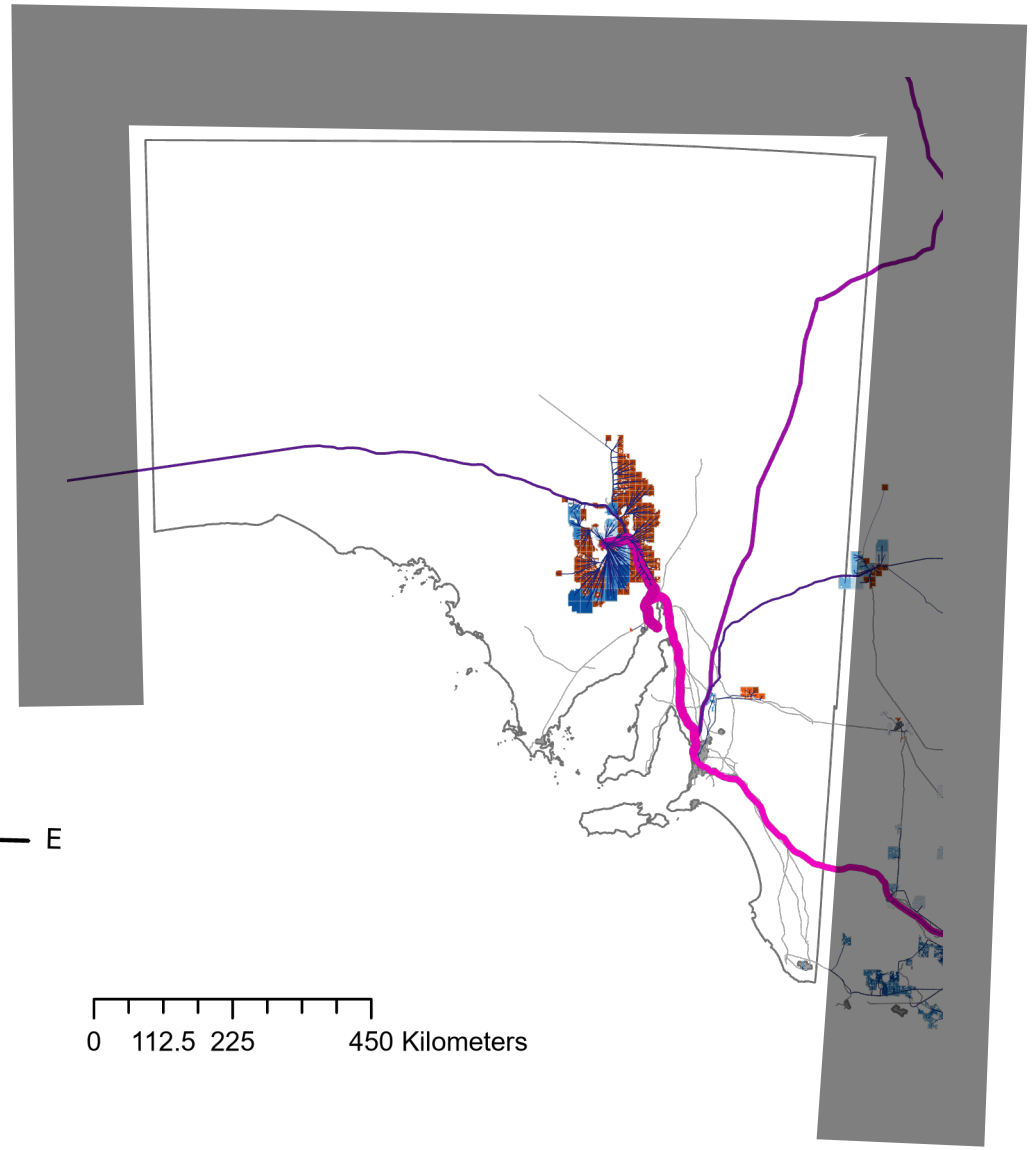
- Substantial increase in VRE and transmission in central SA for export in response to higher capital costs in remote northern regions.

INDICATIVE ONLY

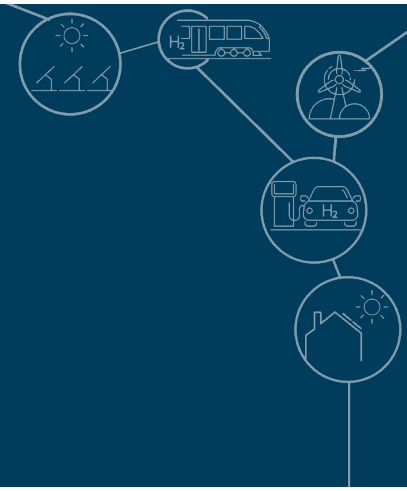
	Wind	Solar
Capacity installed (GW)		
	17.9	192.5
Area used (1000 km2)		
Total	6.64	4.28
Direct	0.07	3.89
Transmission added (GW-km)		
Capacity domestic area		21324
Capacity export zone		19892
Capacity not sited		1383

Sensitivity definition

- RemoteCost+: capital costs +30% in WA-north, WA-export, and NT, +15% in QLD-north and QLD-export



2 – Opportunities for regional SA



Existing plans (State Prosperity Project, Green Iron and Steel Strategy) seek to capitalise on regional SA's export potential…

OPPORTUNITIES

Creates jobs	Builds on existing industrial capability	First mover advantage	Flow on benefits to domestic energy system

Hydrogen	**Hydrogen Jobs Plan Project near Whyalla** by early 2026, for power generation **Port Bonython Hydrogen Hub** - multi-user export precinct with first export by 2030
Minerals export and processing	**Copper exports** • Olympic Dam, Carrapateena, Prominent Hill and the emerging Oak Dam deposit • Double production by middle of next decade building on existing smelter **Green steel** • Whyalla Steelworks – produce 1.5 Mt/yr direct reduced iron with hydrogen / gas • Leverage solar, firmed by gas

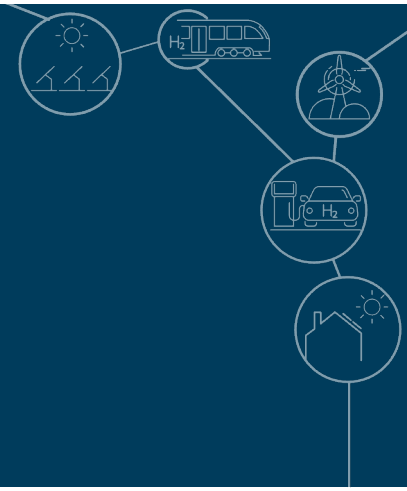
CONSIDERATIONS

Costs and impact on scale	Workforce	Difficulty converting mineral processing to electricity

… and require many coordinated actions to achieve scale.

Water	• For **hydrogen** production, **mineral processing, people** • Northern Water (Cape Hardy) **desalination** plant a good start
Essential infrastructure and services	• Upgraded **roads, rail and ports** for bulk exports and equipment imports • More **housing, health, education, training** and other services
Supply chains	• Large, certain, long **pipeline of investments** needed • Ambitious collaboration of **government, business and communities** to plan, attract, and approve investment
Storage & firming	• Solar needs storage and firming for reliability • **Batteries and gas** most prospective • Adelaide or on site?
Utility network upgrades	• Transmission lines and pipelines for **electricity, gas, hydrogen, water and CO2**
Social licence	• For wind, solar, powerlines and pipelines • **More acute in urban areas than Upper Spencer Gulf?** • Comprehensive engagement and benefit-sharing essential

3 – Policy directions



How to make net zero happen? *Actions for policy makers*

WIRE IN MECHANISMS

- Establish **legislated drivers** of investment and energy efficiency
- Ramp up **collaboration**, leverage **competition** but force it to share the stage
- Broaden the focus, put **all options** on the table
- **Cover your backs** – gas and long duration storage
- Put a fair share of the transition costs onto **taxpayers, not only users**

RESOURCE LOCAL PRESENCE

- Actively **coordinate** supply and demand measures in regional hubs
- Prioritise proactive **benefit sharing** based partnership, inclusion, and net gain
- Pursue net gain for **environments and biodiversity** in parallel with net zero

BUILD PUBLIC CAPABILITY *(without sidelining private)*

- Establish **cross-government leadership -** most ministers and departments - to drive transformation
- Stimulate and **coordinate private action**, and decide who pays, and how
- **A large role for States** – touches the public and land use too much to be mainly national

Thank you

NET ZERO
AUSTRALIA

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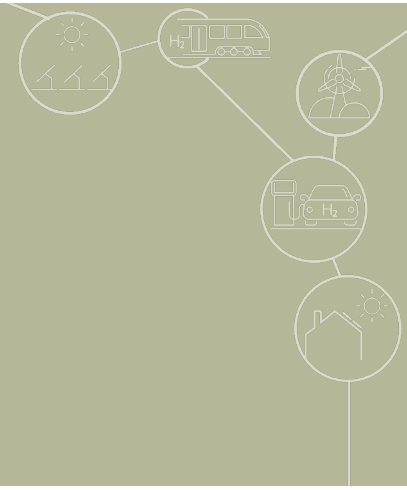
THE UNIVERSITY OF QUEENSLAND
AUSTRALIA
CREATE CHANGE

PRINCETON UNIVERSITY

nous

Other national results as required *(delete if not needed)*



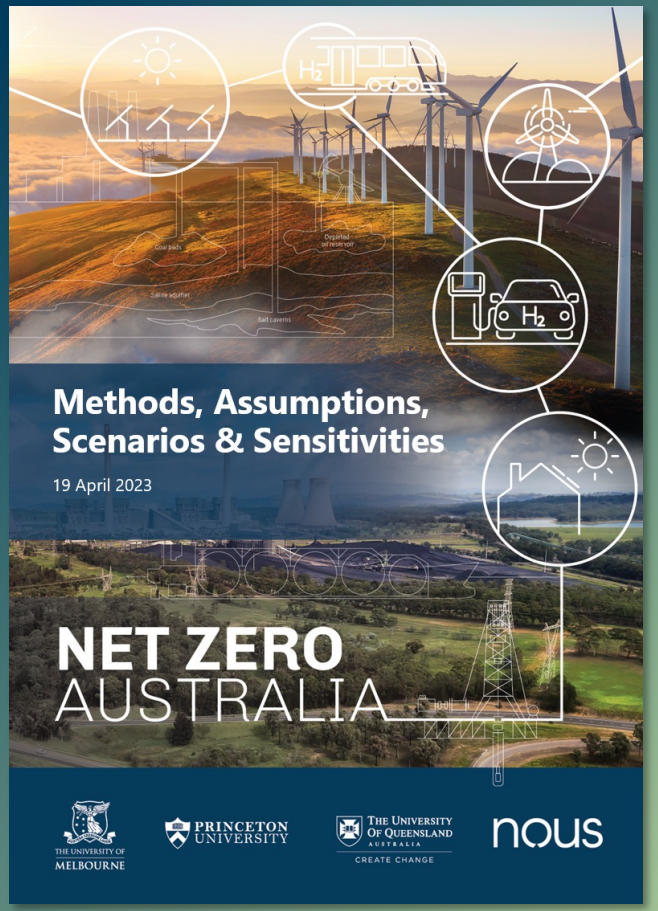
Overview | **Options**

Long-range assumptions are **uncertain**.

Priorities will change through the transition.

Eliminating options too early could be costly.

All material net zero options should be accelerated.



Key insights from Net Zero Australia modelling

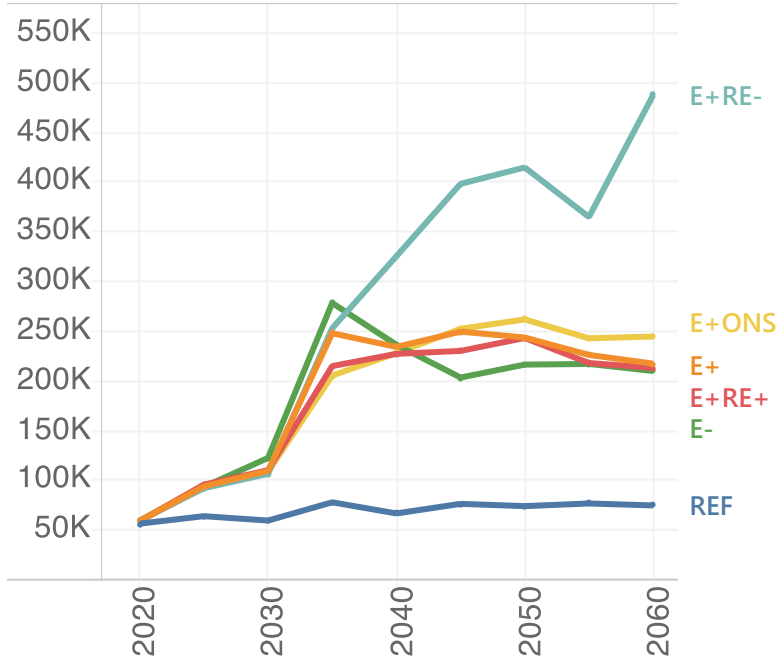
WHAT IT WOULD TAKE TO REACH NET ZERO		WHAT AUSTRALIA MUST DO
1	Grow **renewables** as our main domestic and export energy source	**Deliver an energy transformation** unprecedented in scale and pace
2	Establish a large fleet of **batteries**, **pumped hydro** and **gas-fired firming**	
3	Greatly increase **electrification** and **energy efficiency**	
4	Develop a large **carbon capture, utilisation and storage** industry	
5	Greatly expand our **energy transmission and distribution networks**	
6	Attract and invest $7-9 trillion of **capital** to 2060	
7	No role for **nuclear** unless costs fall sharply and renewables are constrained	
8	Transition to **clean energy** and **clean minerals exports**	**Transform our exports** an essential contribution to global decarbonisation
9	**Locate** these **new export industries** in the north; possibly also in the south	
10	Expand a **skilled workforce** from about 100,000 today to 7-800,000 by 2060	**Invest in our people and land** to reduce impacts and share benefits
11	Move the **land sector** towards net zero and potentially to net negative	
12	Carefully manage major **land use changes**, including the Indigenous Estate, ecosystems and agriculture	

Expand a skilled workforce from about 100,000 today to 700,000 - 850,000 by 2060

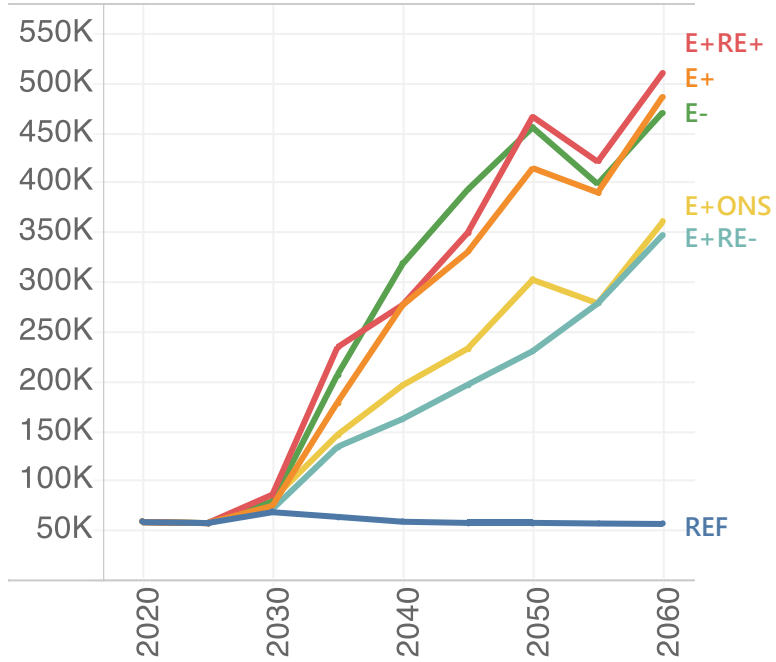
10

Gross energy sector employment (full time equivalent jobs)

DOMESTIC SYSTEM



EXPORT SYSTEM



By 2060, the current energy sector workforce of 100,000 would expand to **700,000 - 850,000 workers** – most with **technical skills**.

Most new workers will be in **regional and remote Australia**, which would experience **significant population growth**.

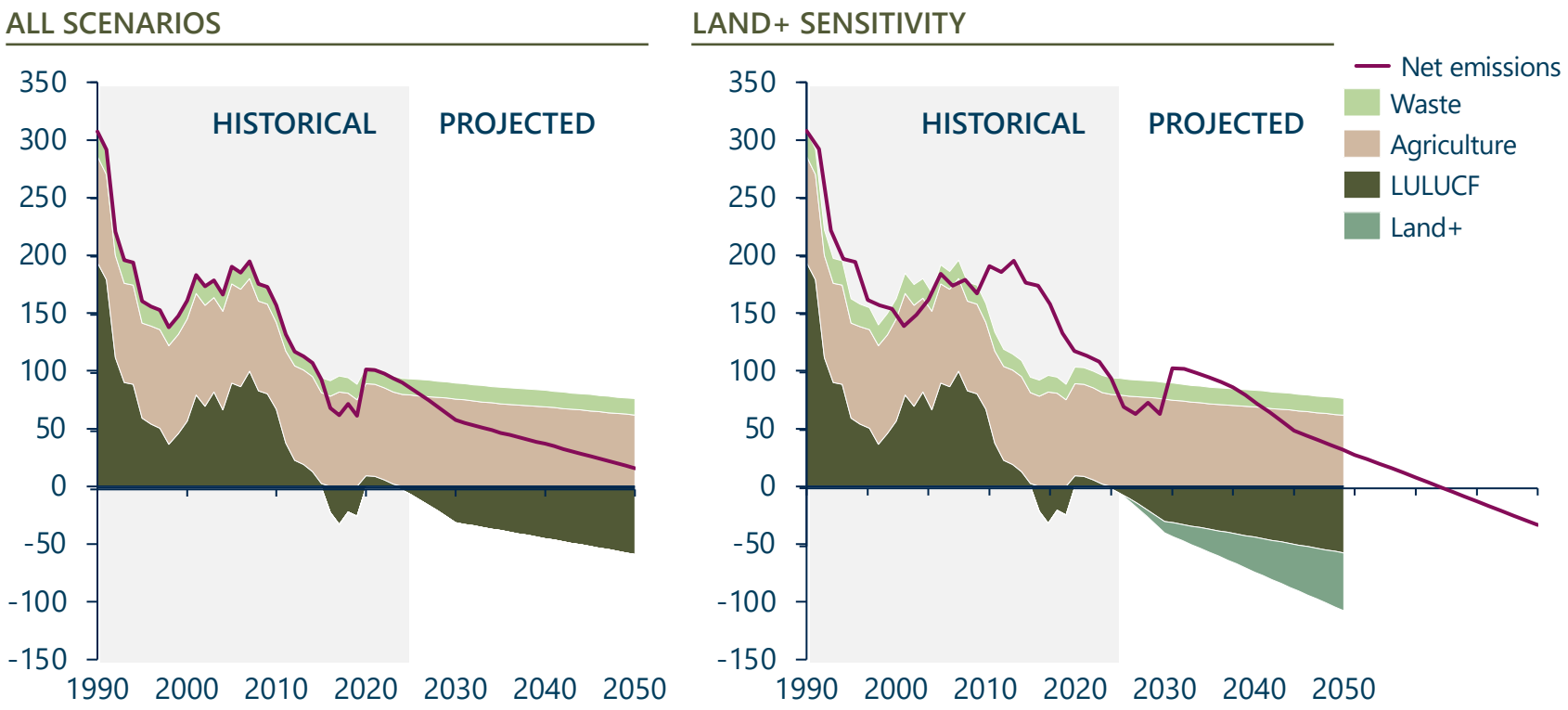
This has significant implications for **First Nations** peoples, **national security** and **immigration.**

Workforce growth would be needed for both **domestic and export** decarbonisation.

Move the land sector towards net zero and potentially net negative – by reducing livestock emissions by 20 Mt/yr and expanding revegetation by 50 Mt/yr

11

Historical and projected GHG emissions (Mt-CO_2e / year).



Land sector emissions are reduced by:

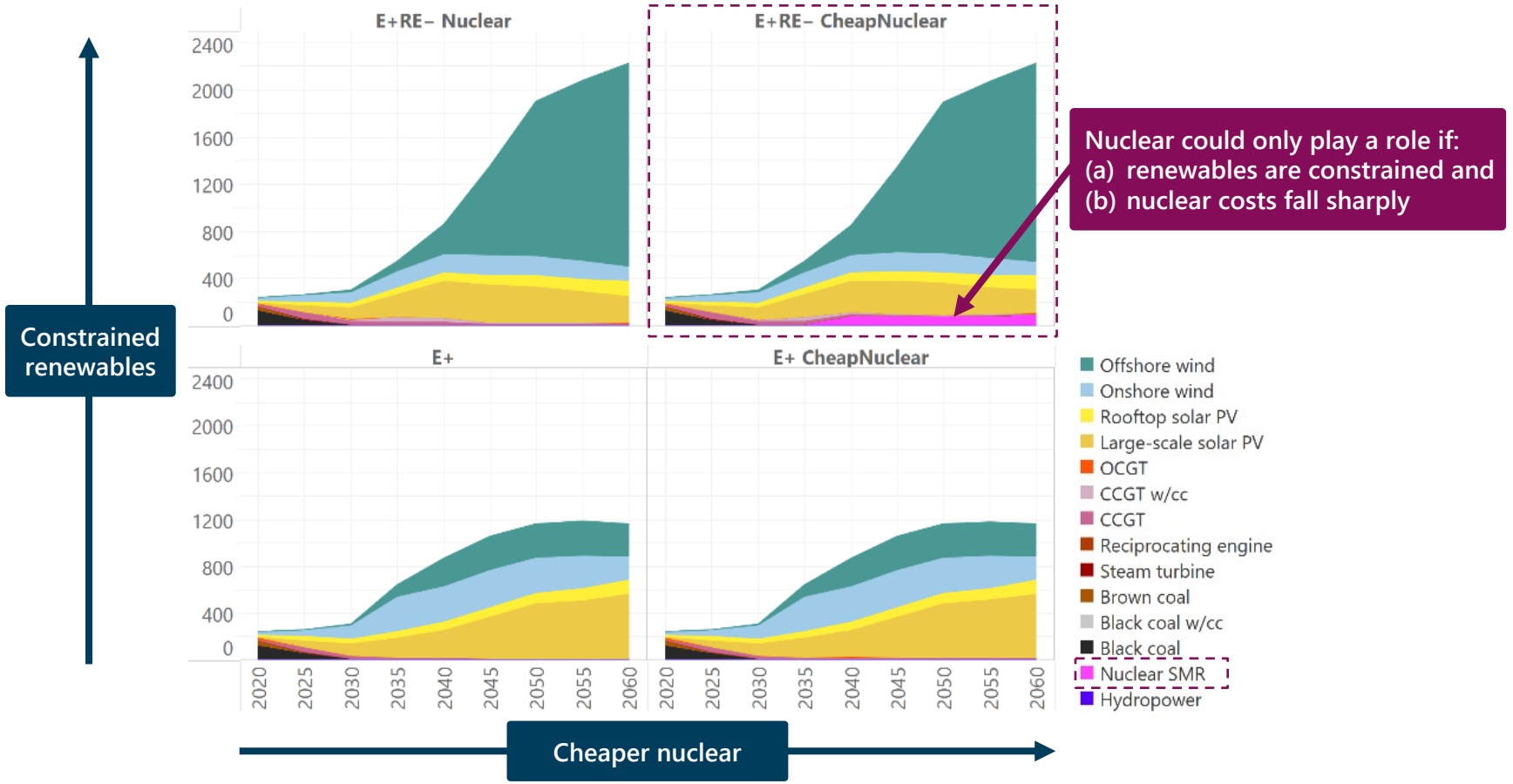
- feeding supplements
- Revegetation
- adding fertiliser inhibitors
- using waste methane.

Land sector **does not quite reach net zero** in our Core Scenarios, and reaches modest net negative in our Land+ sensitivity (from better management of rangeland).

Energy and industry can not plan to rely on significant **offsets** from the land sector.

No role for nuclear energy unless costs fall sharply, and renewable energy growth is constrained

Domestic electricity generation (TWh / year)



KEY TAKEAWAYS

Nuclear could **only play a role** when:

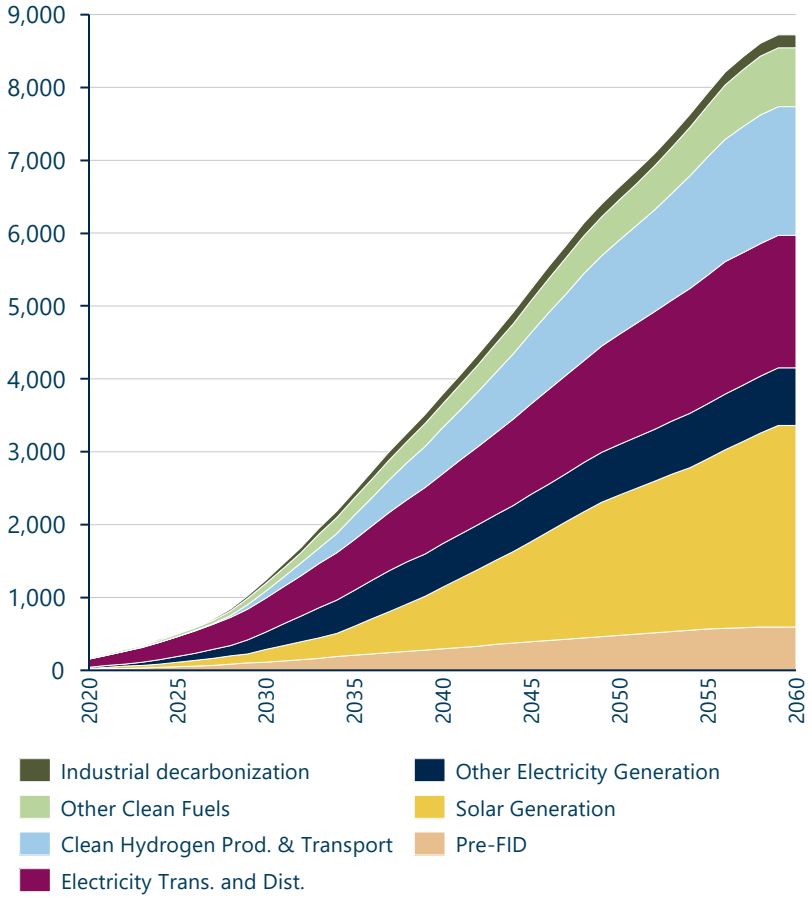
- nuclear costs are ~30% lower than current international best practice; and
- renewable build out is constrained (E+RE-).

In this case, the **proportion of nuclear** generation is:

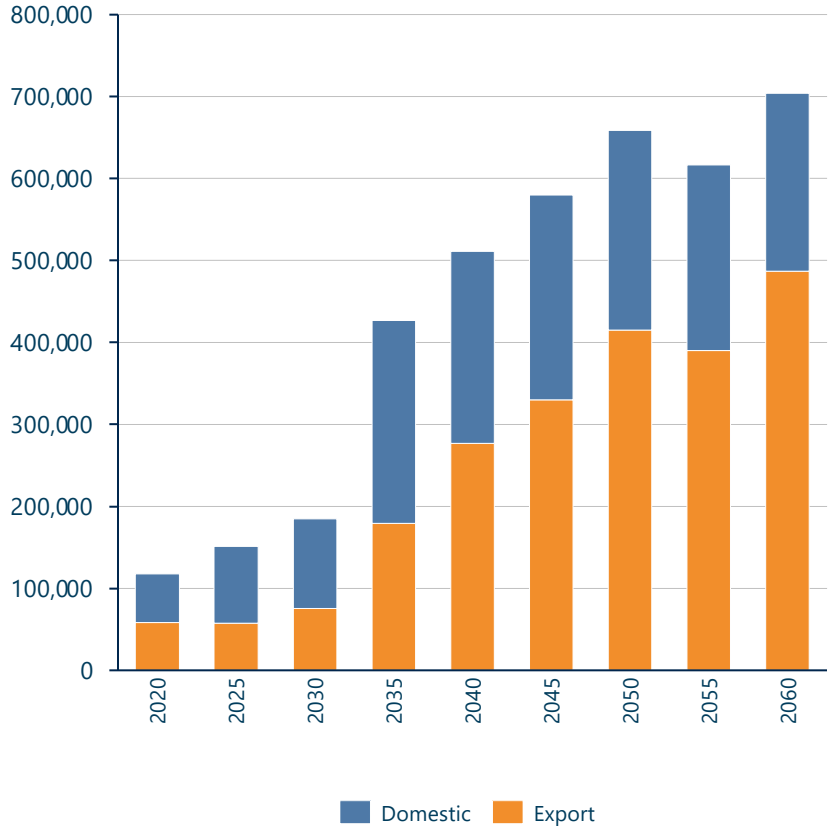
- a modest share of domestic electricity generation; and
- an even smaller share of total export and domestic energy.

An enormous quantity of finance and skills is required

Cumulative capital committed over time, by technology (E+ Scenario, A$ billion)



Gross jobs for the domestic and export energy systems (E+ Scenario FTE jobs[2])



KEY TAKEAWAYS

- $9 trillion is required to deliver the transition by 2060.
- Energy sector employment is modelled to increase from less than 1% to 3-4% of the total workforce by 2060.
- Largest job growth will be in VET/TAFE roles

Overview | **Exports, investment, and jobs**

Australia has a strategic and self-interest in **clean exports**.

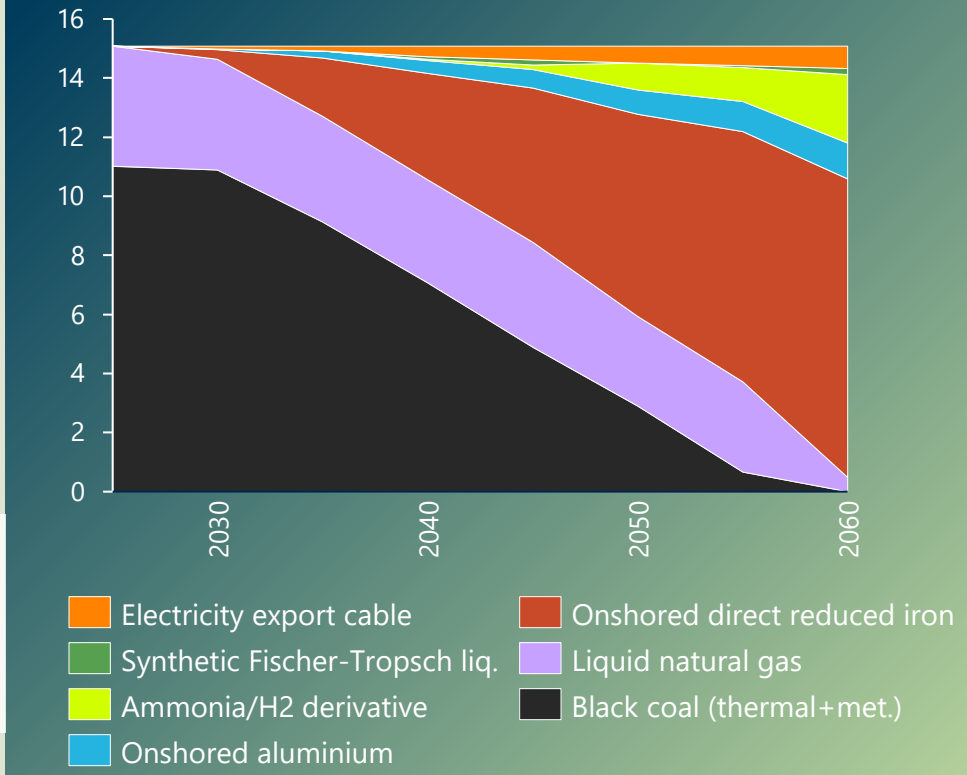
We should also support an **orderly and just transition**.

Fossil fuel exports will be scrutinised over that transition.

The export transition needs careful management.

Fossil energy exports are replaced by low-emissions energy carriers.

Projected form of export energy (EJ/year), E+ONS Scenario.



Overview | **Impacts**

Land use change will impact **First Nations**, **farming communities** and **biodiversity**.

Fossil fuel regions will experience losses.

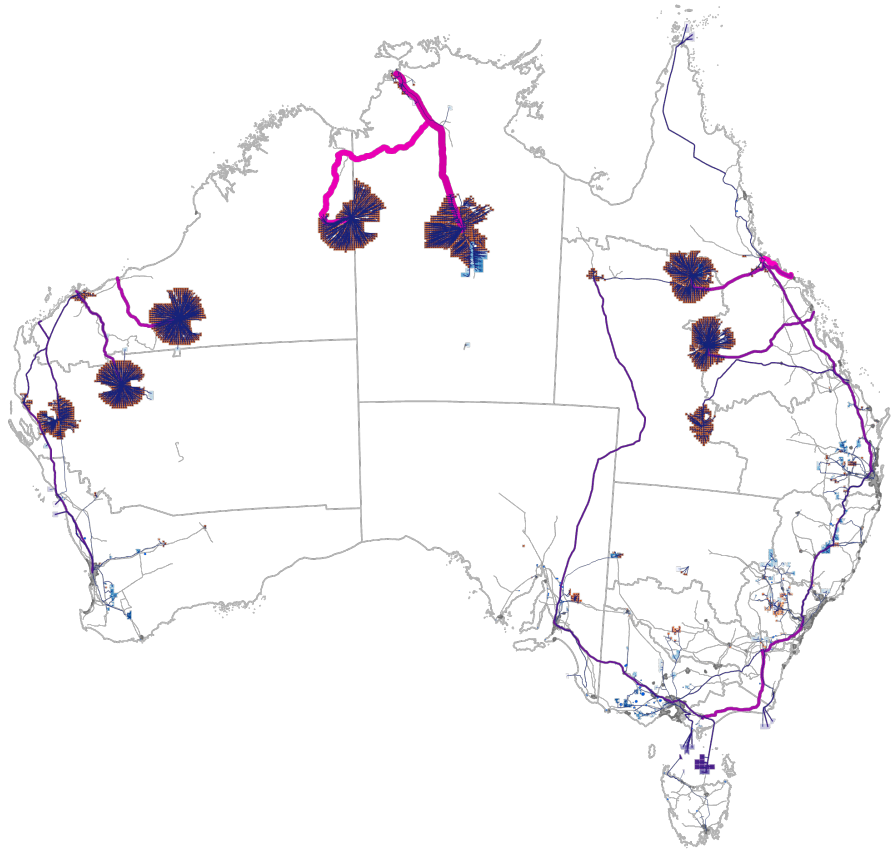
Low-income consumers will face costs.

Disorderly transition is a major risk.

Impact reduction and benefit sharing are critical.

Solar, wind and electricity transmission siting.

E+ Scenario, 2060.



Overview | **Roles and coordination**

Investment will mostly be done by **business**, and also **households**.

Governments must stimulate and coordinate action – and decide who pays.

The transition must be a **high priority** for decades.

Net zero needs sustained commitment – and trust.

Net Zero Transition- Hydrogen's future in regional South Australia

SAM CRAFTER PSM

CE, Office of Hydrogen Power SA

Hydrogen Power SA | Government of South Australia

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How policymakers can better support the transition to net zero.

RACHEL BRDANOVIC

CEO, Tandem Energy

Tandem energy

How policymakers can better support the transition to net zero

Rachel Brdanovic

Tandem energy

Climate Active REGISTERED CONSULTANT

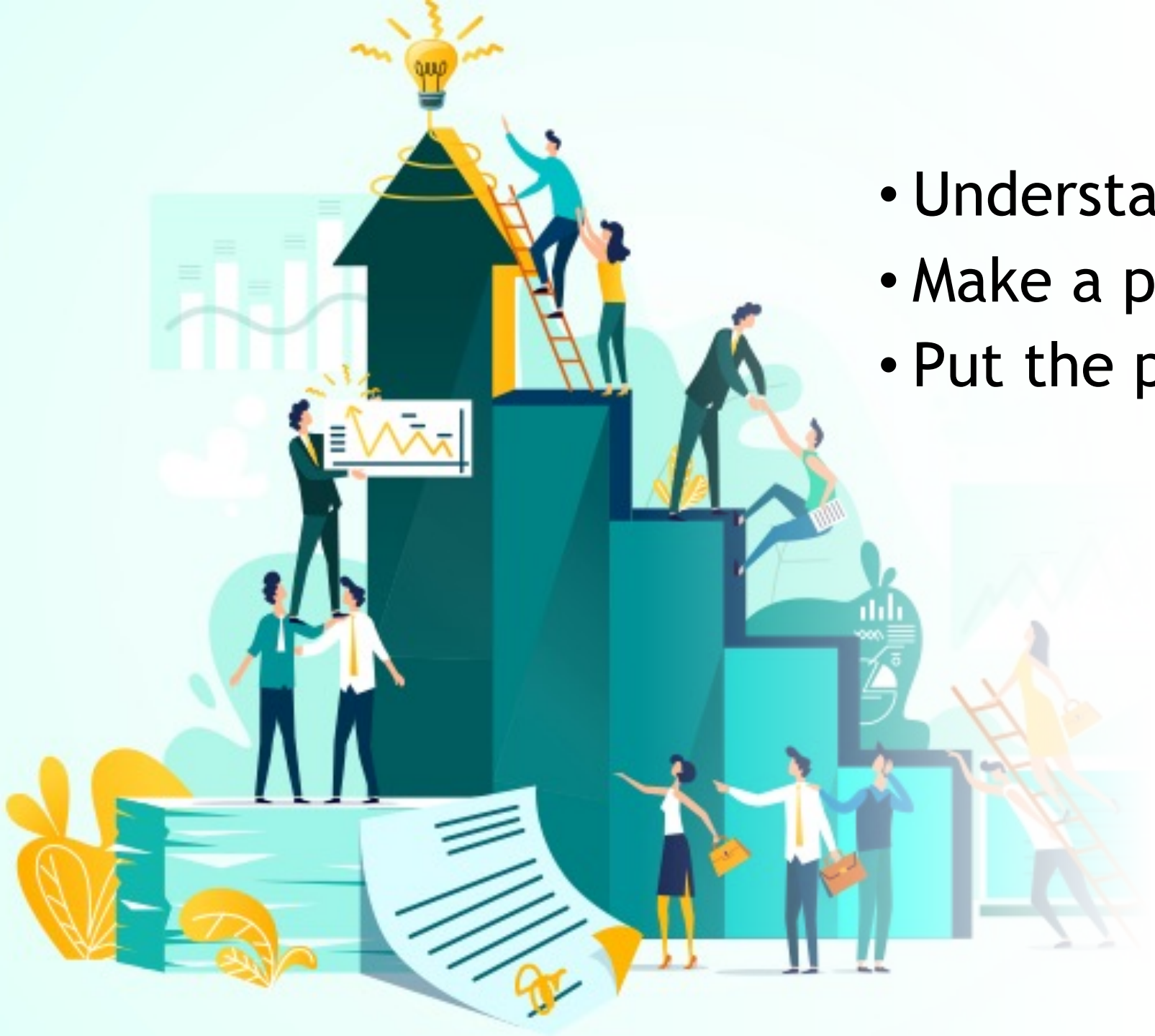
Climate Active Carbon Neutral ORGANISATION

Certified B Corporation


CLIMATE ACTION
SUMMIT
2019

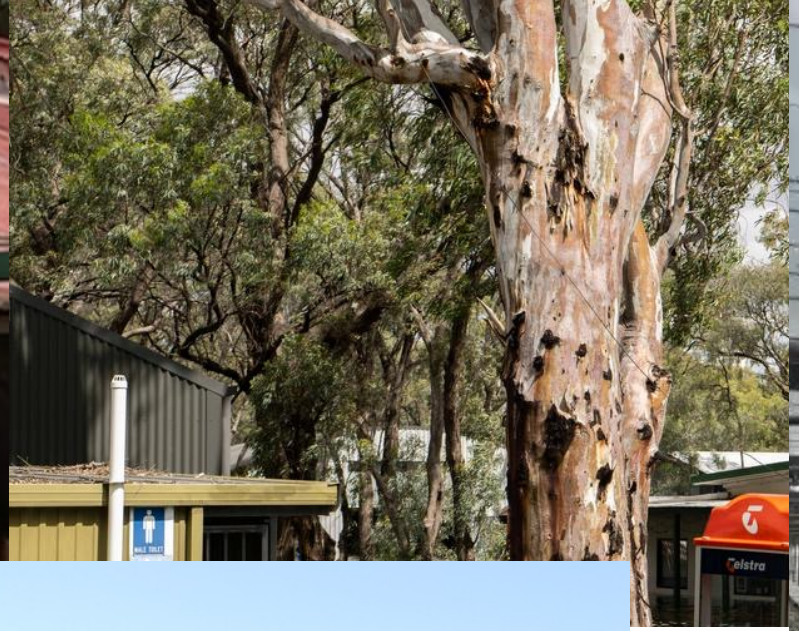

Parcel Pick-up
DEMOCRACY
SYSTEM CHANGE NOT CLIMATE CHANGE
CLIMATE TRUTH
CLIMATE ACT NOW
EXTINCTION REBELLION
MOMEN EA
Cherry

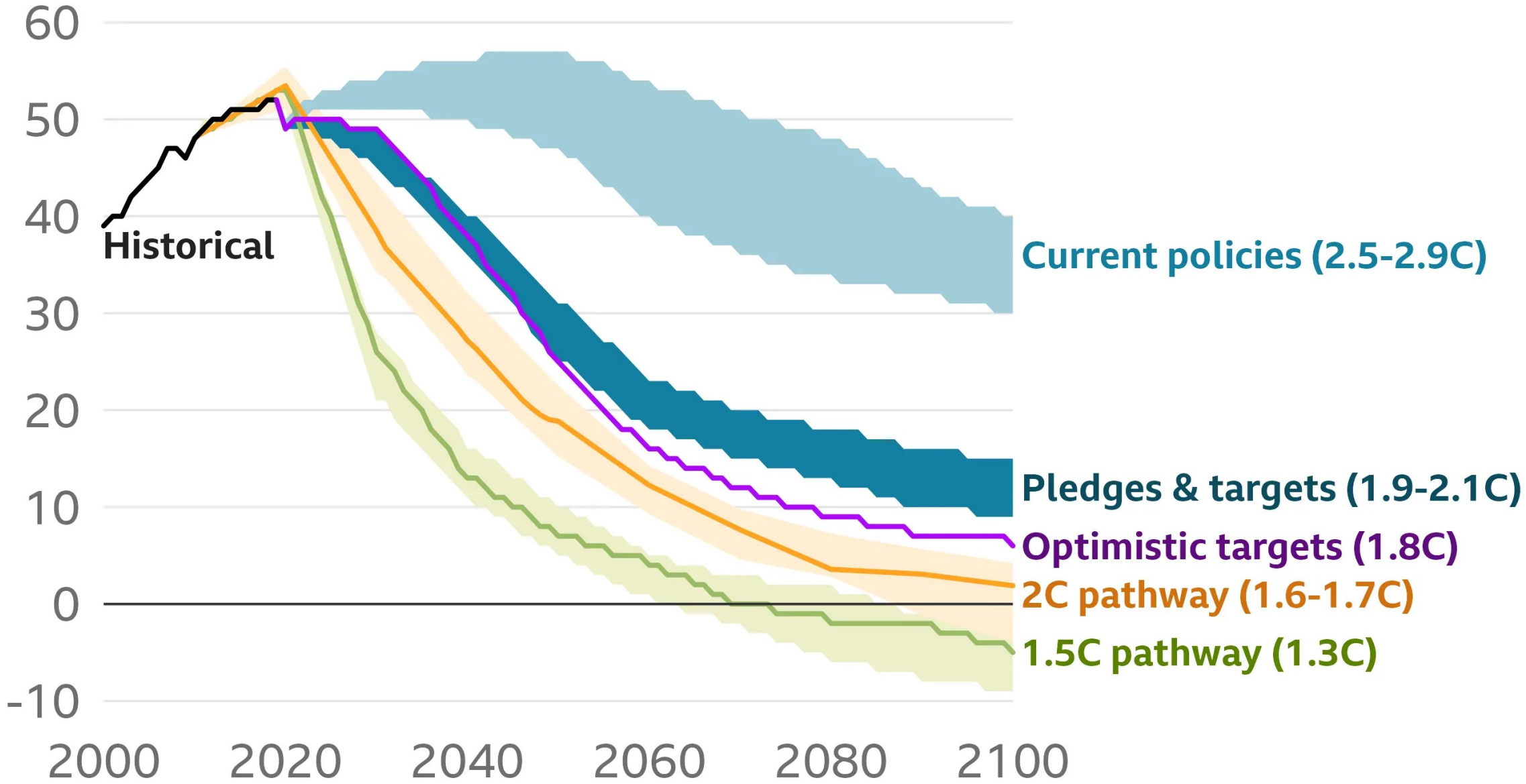
Climate emergency declaration passes in Parliament



- Understand the problem
- Make a plan
- Put the plan into action

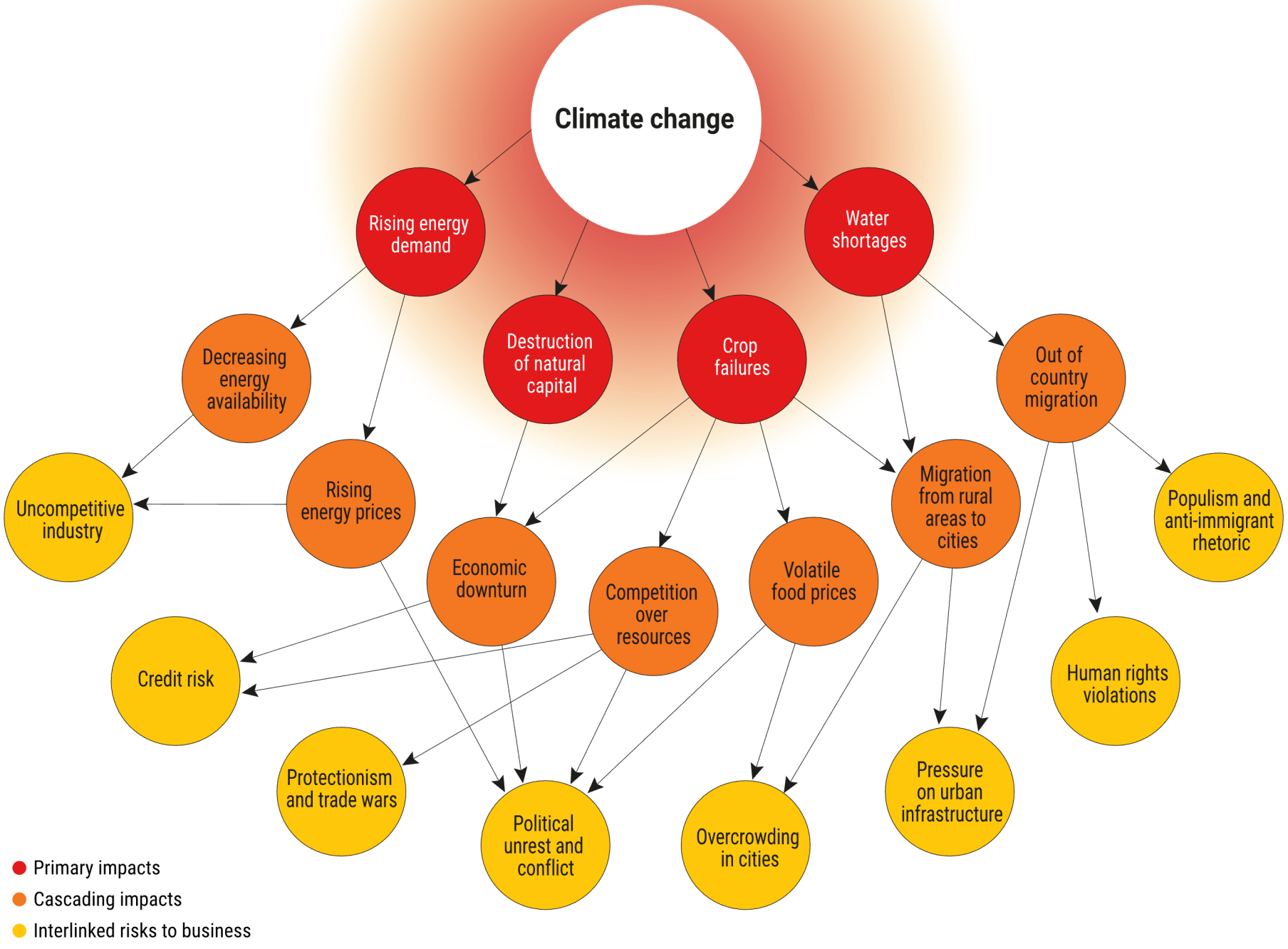
Understand the problem


MALE TOILET
Telstra



Source: Climate Action Tracker

BBC



Climate trends projected to 2050 and beyond indicate:

Increasing maximum, minimum and average temperatures.*

Warmer spring temperatures.*

Hotter and more frequent hot days.*

Declining rainfall.*

Lower spring rainfall.*

More intense heavy rainfall events.

More dangerous fire weather.

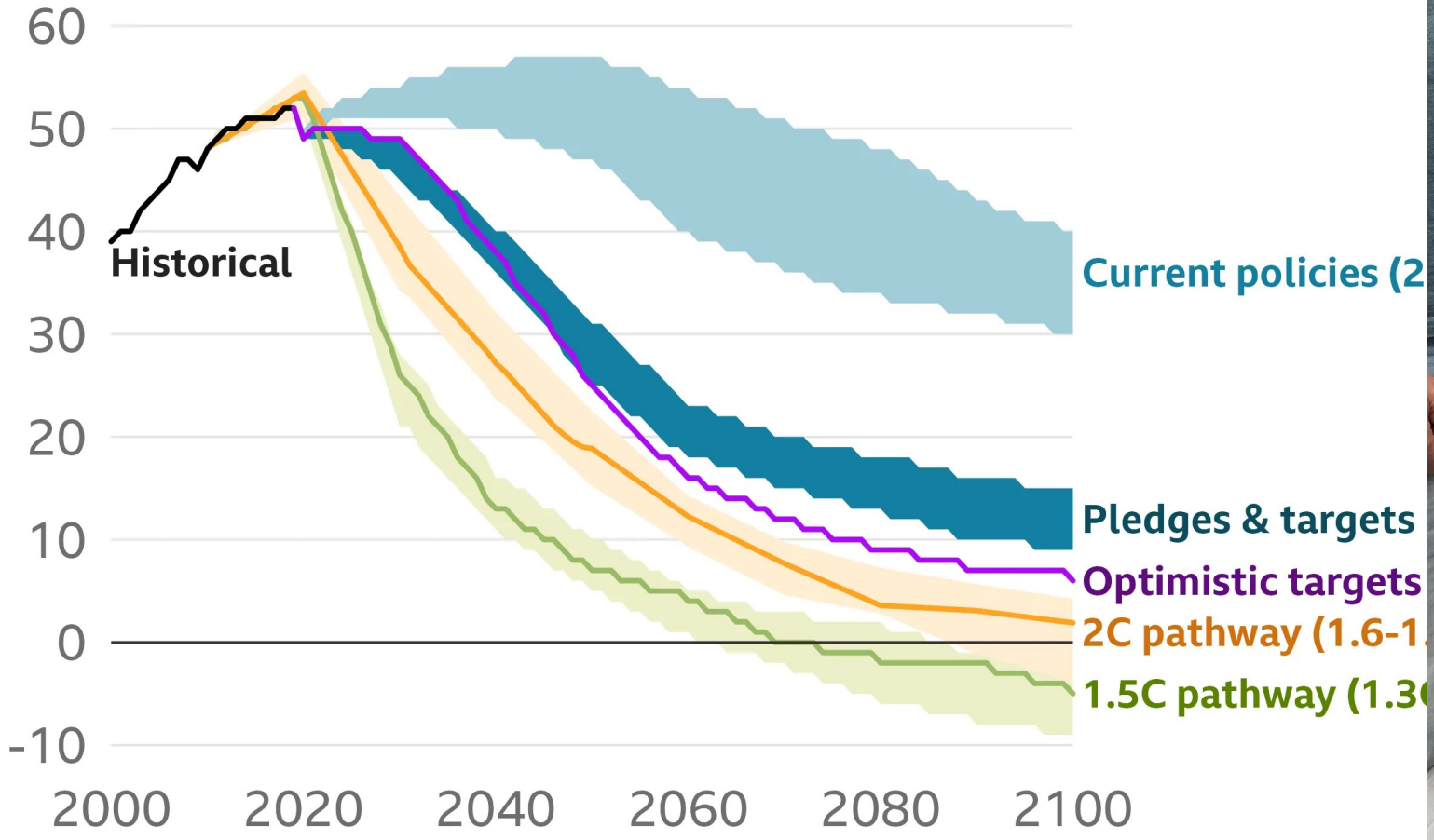
**Based on new climate projections from the NSW Australian Regional Climate Modelling Project stage 1.5.*

For more information see the updated **Guide to Climate Projections for Risk Assessment and Planning in South Australia 2022.**

Swedish activists, including Greta Thunberg, sue state alleging climate policies violate human rights

Posted Sat 26 Nov 2022 at 12:49pm

What does climate action look like?



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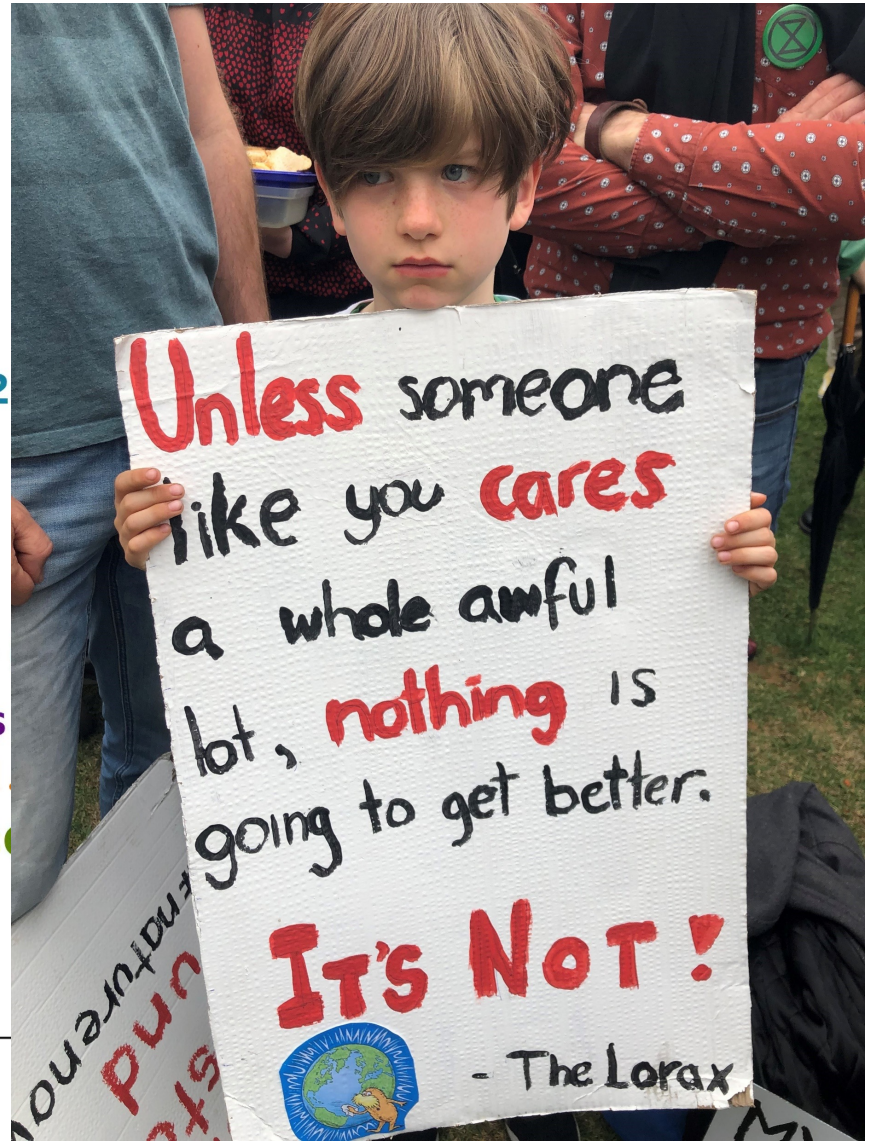

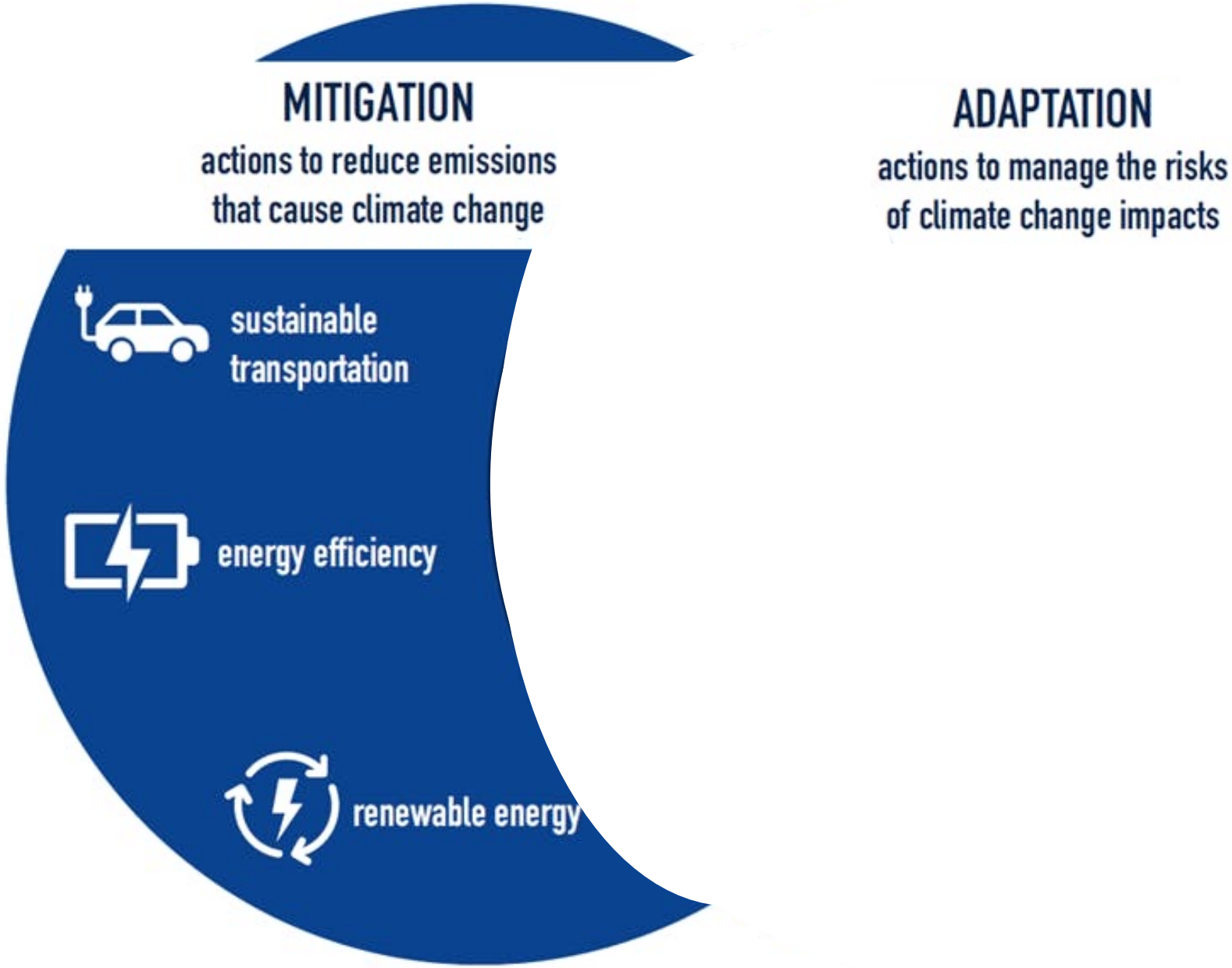

Source: Town of Lincoln [US] Climate Adaptation Plan

Make a plan

South Australia's C
Change Challen
and Opportunity

Ross Garnaut
September 2020

CLIMATE EMERGE
ACTION PLAN
2022–2030

CLI

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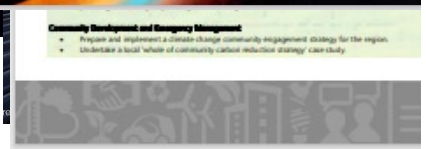
South Australian Government
CLIMATE CHANGE ACTIONS

SOUTH AUSTRALIA
Government of South Australia



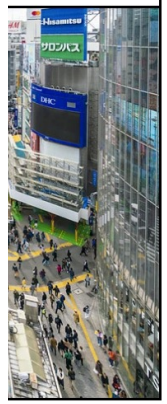
December 2016

Far North
and Outback SA
Climate Change
Adaptation Plan

Government of South Australia

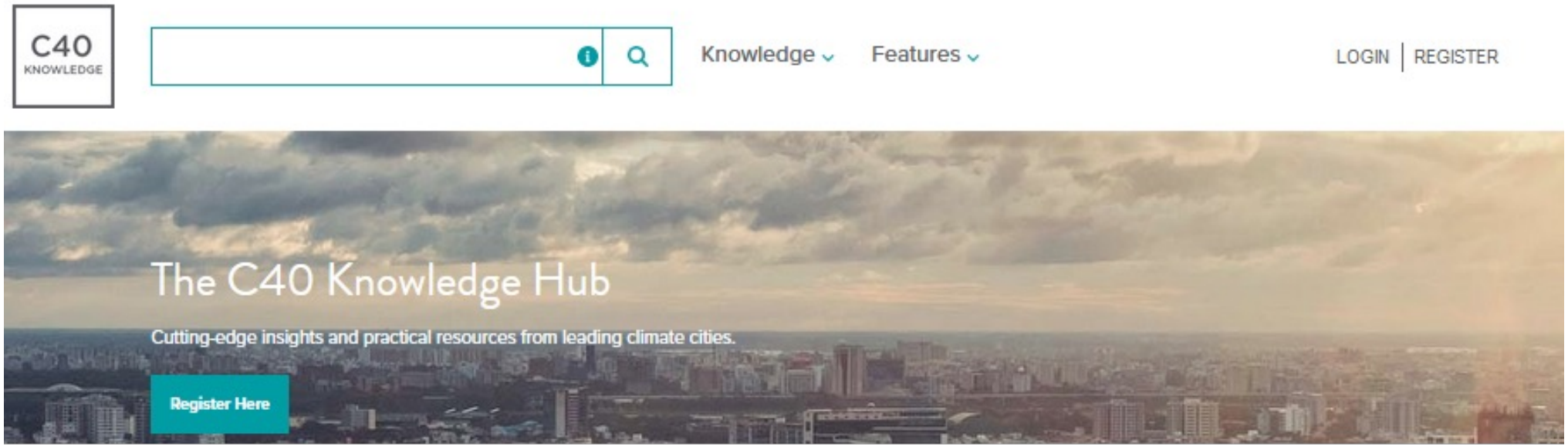
Regional Development Australia
FAR NORTH

LANGUAGE



Cities Race to Zero

An unprecedented coalition of cities committed to setting science-based targets and start implementing inclusive and resilient climate action ahead of and beyond the 2021 UN Climate Change Conference in Glasgow.



https://www.c40knowledgehub.org

- Create a more inclusive society
- Create green and healthy streets
- Reduce air pollution
- Develop zero carbon buildings
- Move toward resilient and sustainable energy systems
- Advance toward zero waste
- Create sustainable food systems
  - How cities can shift toward a Planetary Health Diet for all
  - How cities can reduce food waste by households and businesses

How cities can reduce food waste by households and businesses

Food | Waste

Around a third of all food produced globally is either lost or wasted, generating vast quantities of methane and driving up solid-waste management costs. Indeed, food waste is the largest waste-sector contributor to cities' greenhouse gas (GHG) emissions and a source of potent GHG methane. At the same time, most cities are home to people who suffer from food insecurity, hunger and malnutrition because of insufficient access to food. By reducing the food wasted by households and food businesses and redistributing as much surplus food as possible, cities can tackle both of these problems together.

Measure current food loss and waste and aim to reduce it by 50% by 2030

Start by quantifying and characterising the food lost and wasted. This will establish a baseline and inform the strategy for reducing it. The *Food Loss*

Food loss and waste

At a Glance

Start by quantifying and characterising the food lost and wasted. Target a 50% reduction in food lost and wasted by 2030, achieving at least a 25% reduction by 2025.

Raise awareness of why and how households can reduce their food waste, focusing on practical ways that people can reduce their food waste in the context of its root causes.

Encourage food-waste reduction and recovery by businesses, including by helping them to measure their food waste and to pilot new food waste prevention

Put the plan into action

Lights off, heat down: central Europe governments save power to set example

By Jan Lopatka

Spain heatwave: PM tells workers to stop wearing ties to save energy

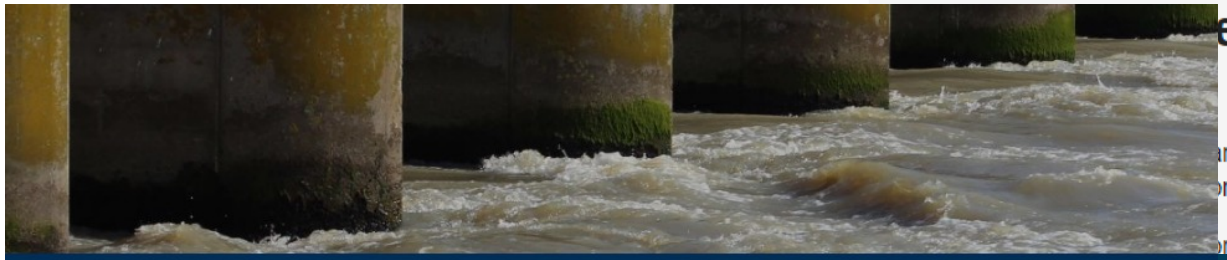
29 July 2022

Europe heatwaves

iea

Countries Fuels & technologies Analysis Data

Emergency measures can quickly cut global oil demand by 2.7 million barrels a day, reducing the risk of a damaging supply crunch



Flood disaster waste management

GISA > Flood disaster waste management

River Murray Region Floods 2022–23

e it': Albanese to focus on bushfire relief

anese says a disaster recovery funding declaration has been made in light of the recent bushfires ommunities in New South Wales.

rt fund would be activated by a request from the Premier with support from the NSW Opposition

t Agency

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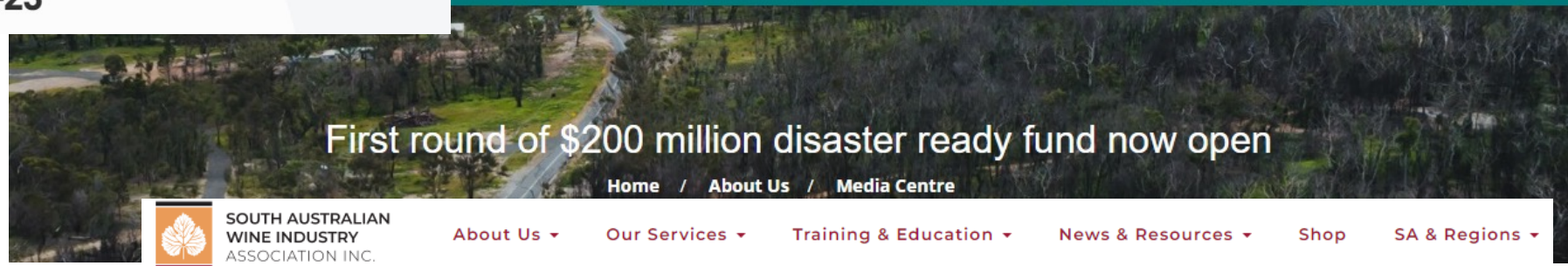

First round of $200 million disaster ready fund now open

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Storm clean-up support communities across Sou

ABC Riverland / By Victor Petrovic, Eliza Berlage, Sophie Landau,

Posted Fri 12 Nov 2021 at 3:26pm, updated Fri 12 Nov 2021 at 3:31

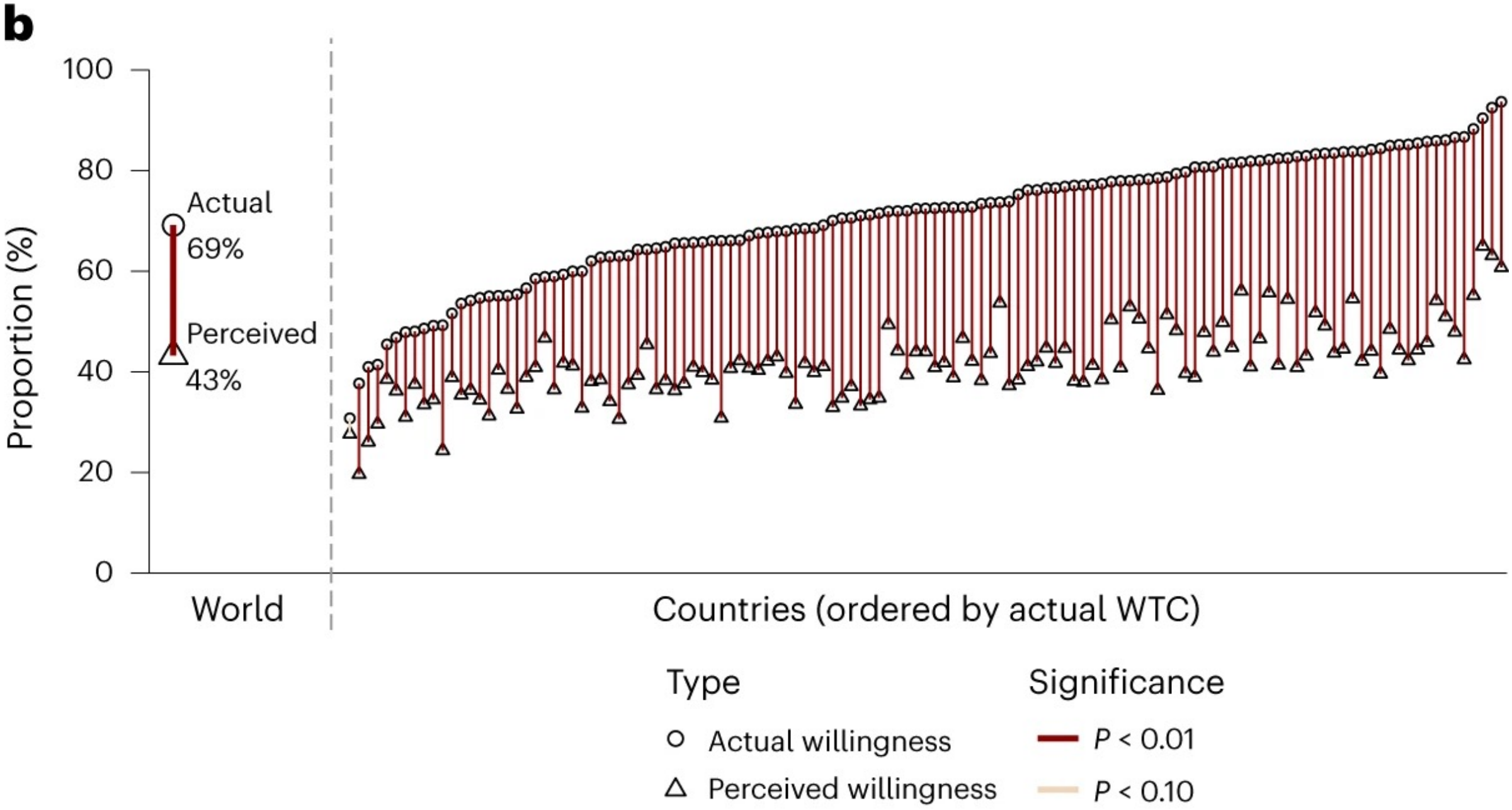
Disaster assistance for hail damage - now available

Monday 22, Nov 2021

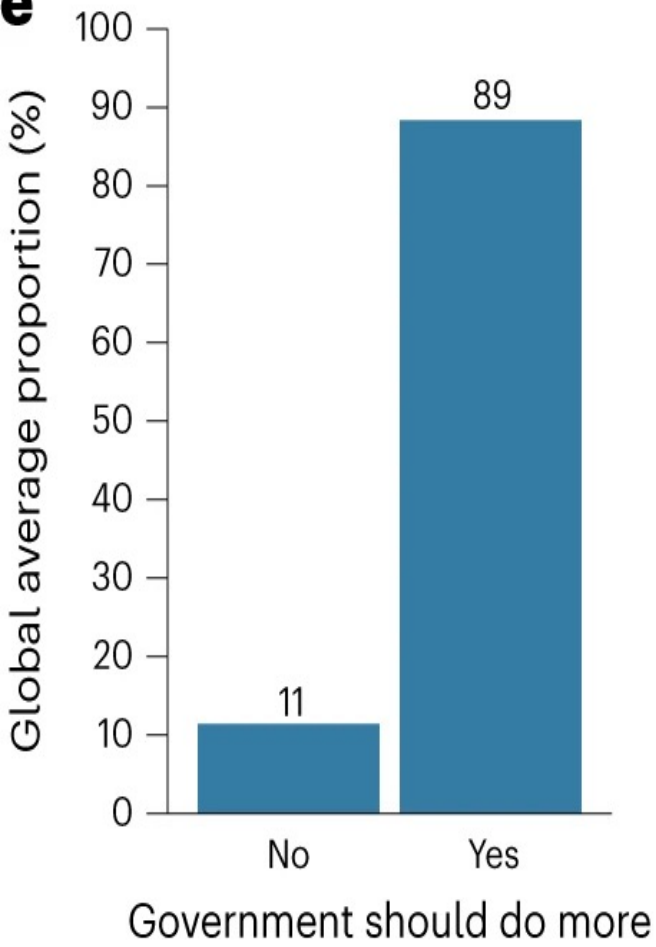
Disaster assistance is now available in 24 council areas, including the Adelaide Hills, Barossa and Riverland, following severe storms on Thursday 28 October. Assistance is being provided through the jointly funded Commonwealth-State Disaster Recovery Funding Arrangements (DRFA).

The storm event required a significant response from the SA State Emergency Services, which received 1,338 calls over a 24-hour period. The extent of the damage is still being assessed by the Department of Primary Industries and Regions South Australia.

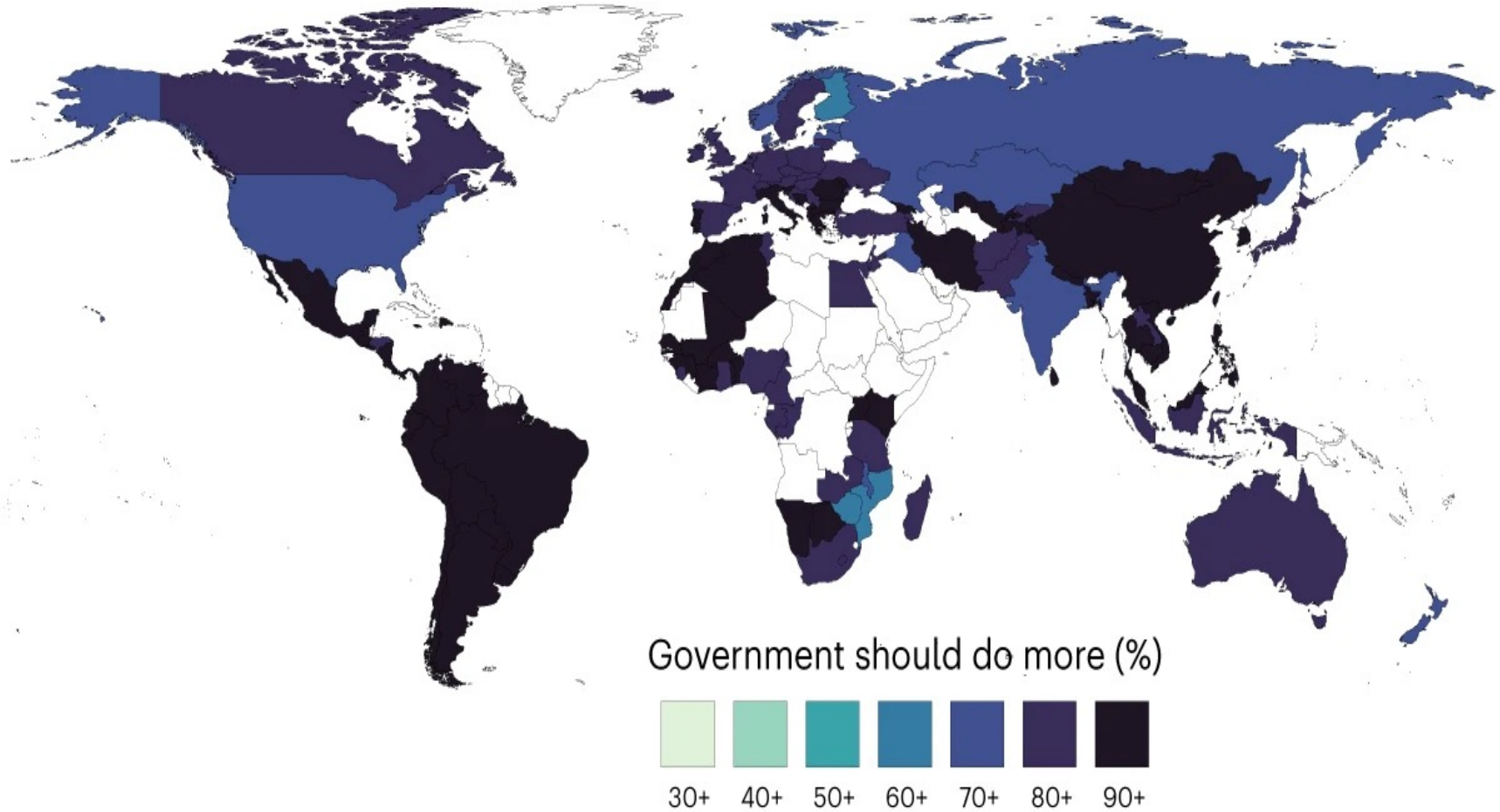

WHAT'S the
HOLD UP?


b
100
80
60
40
20
0
Proportion (%)
Actual
69%
Perceived
43%
World
Countries (ordered by actual WTC)
Type
Actual willingness
Perceived willingness
Significance
P < 0.01
P < 0.10

e


Global average proportion (%)
100
90
80
70
60
50
40
30
20
10
0
89
11
No
Yes
Government should do more

f


Government should do more (%)
30+
40+
50+
60+
70+
80+
90+

People’s assembly

SOUTH AUSTRALIA'S COMMUNITY CLIMATE PANEL

The South Australian Community Climate Panel has kickstarted a statewide conversation about how to involve the community in reducing emissions, as South Australia works towards net zero carbon emissions by 2050.

democracyCo

Put an internal value on climate action

- Build a cost of carbon and climate risk into any decisions you make
- Ensure RFQs or tender documents include climate considerations
- Support local businesses in the ways they ask you to

Educate and empower staff

- Top down
- Bottom up

AN EMPLOYEE GUIDE TO DRAWDOWN-ALIGNED BUSINESS | SEPTEMBER 2021

PROJECT DRAWDOWN

CLIMATE ACTION PROJECT

Work forClimate

News Resources Courses About

Amplify your climate impact

WorkforClimate helps you 10x your impact by guiding you through the steps required to take climate action at work

Find out more

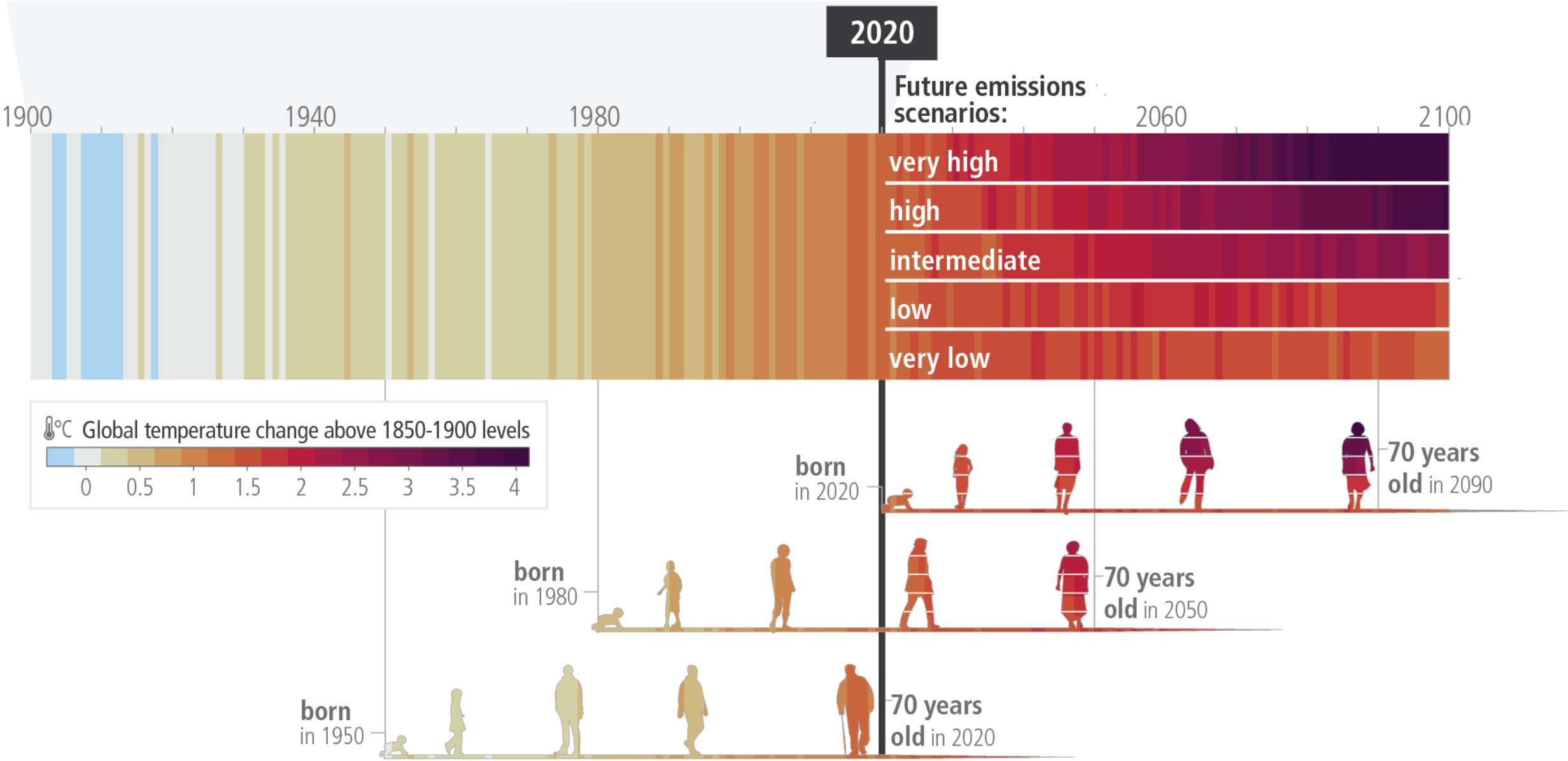
Key take-aways

Involve communities effectively in decision making

Consider the climate in every decision you make

Make sure your whole team is on board

It’s an emergency, act like it!


2020
1900
1940
1980
2060
2100
Future emissions scenarios:
very high
high
intermediate
low
very low
°C Global temperature change above 1850-1900 levels
0
0.5
1
1.5
2
2.5
3
3.5
4
born in 2020
70 years old in 2090
born in 1980
70 years old in 2050
born in 1950
70 years old in 2020

PANEL DISCUSSION

Industry Perspectives- How does Regional SA make the most of the Net Zero opportunity.

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Regional Development South Australia

SAM CRAFTER PSM

CE
Office of Hydrogen Power SA

RACHEL BRDANOVIC

CEO
Tandem Energy

RICHARD BOLT

Chair
Hydro Tasmania

TORI CASTLEDINE

Community & Social Performance
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SESSION 2

The path to Net Zero

The Nature and Circular Economy- how does regional South Australia lead?

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What are the Circular Economy Metrics for Australia and where do the opportunities lie?

LISA MCLEAN

CEO, Circular Australia, Member of Circular Economy Ministerial Advisory Group

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Circular Australia

Circular Economy

Opportunities & Measuring success

Circular Australia

We acknowledge the Traditional Custodians of the land on which we stand today.

We recognise their continuing connection to land, water and community and pay respects to Elders past, present and emerging.

Always was, always will be Aboriginal land.

Lisa McLean

Managing Director & CEO
Circular Australia

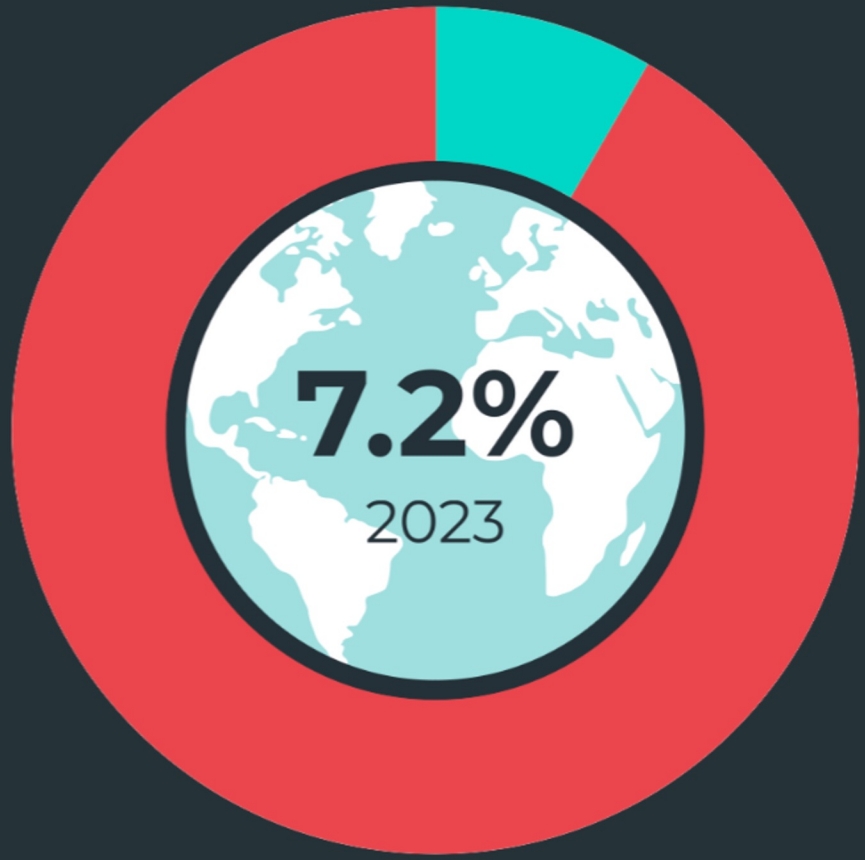
THE GLOBAL ECONOMY IS NOW ONLY 7.2% CIRCULAR

The global situation is getting worse year on year —driven by rising material extraction and use.

Rising material extraction has shrunk global circularity: from 9.1% in 2018, to 8.6% 2020, and now 7.2% in 2023. This leaves a huge Circularity Gap: the globe almost exclusively relies on new (virgin) materials.

This means that more than 90% of materials are either wasted, lost or remain unavailable for reuse for years as they are locked into long-lasting stock such as buildings and machinery.

How do we measure circularity? ↗



Materials that are cycled back into the global economy after the end of their useful life, otherwise known as secondary materials, account for 7.2% of all material inputs into the economy—this is the Circularity Metric.

Images attributed to Circular Gap Report

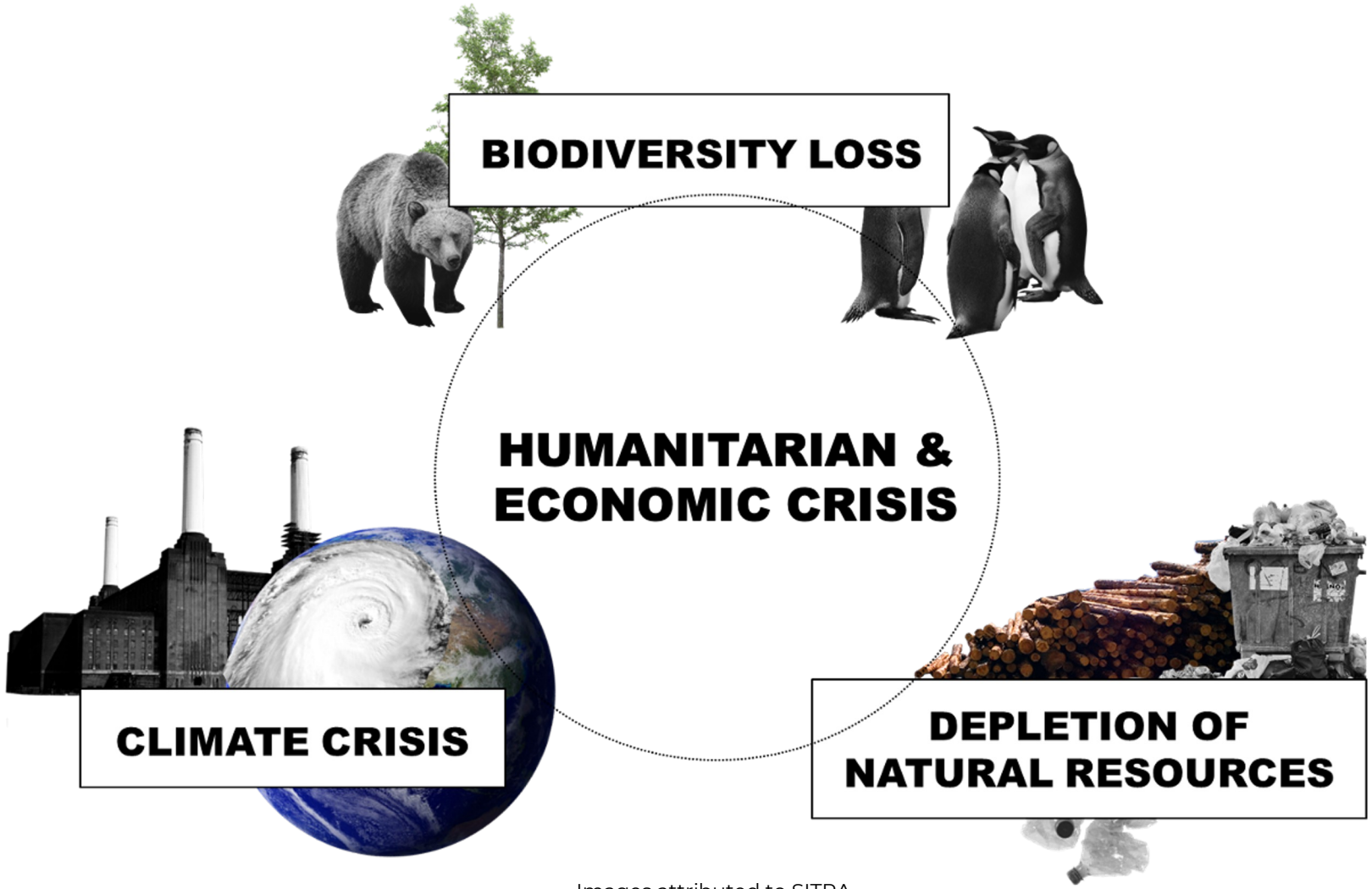
Consumption is the driver of the triple planetary crises

Increasing resource use is the main driver of the triple planetary crisis (climate, biodiversity and air pollution)

Material use has increased 3 x in the last 50 years alone and continues to grow

High income countries cause much higher impacts

- using 6 times more materials per capita
- creating 10 x more climate impacts than low-income countries



Images attributed to SITRA

Circular Australia

Around 75% of the G20 have an overarching circular economy policy, strategy or framework – Australia's is in the making

What is the Circular Economy?

Circular Australia

The circular economy decouples economic growth from the consumption of finite resources, designing waste out of the system.

It is based on three principles:

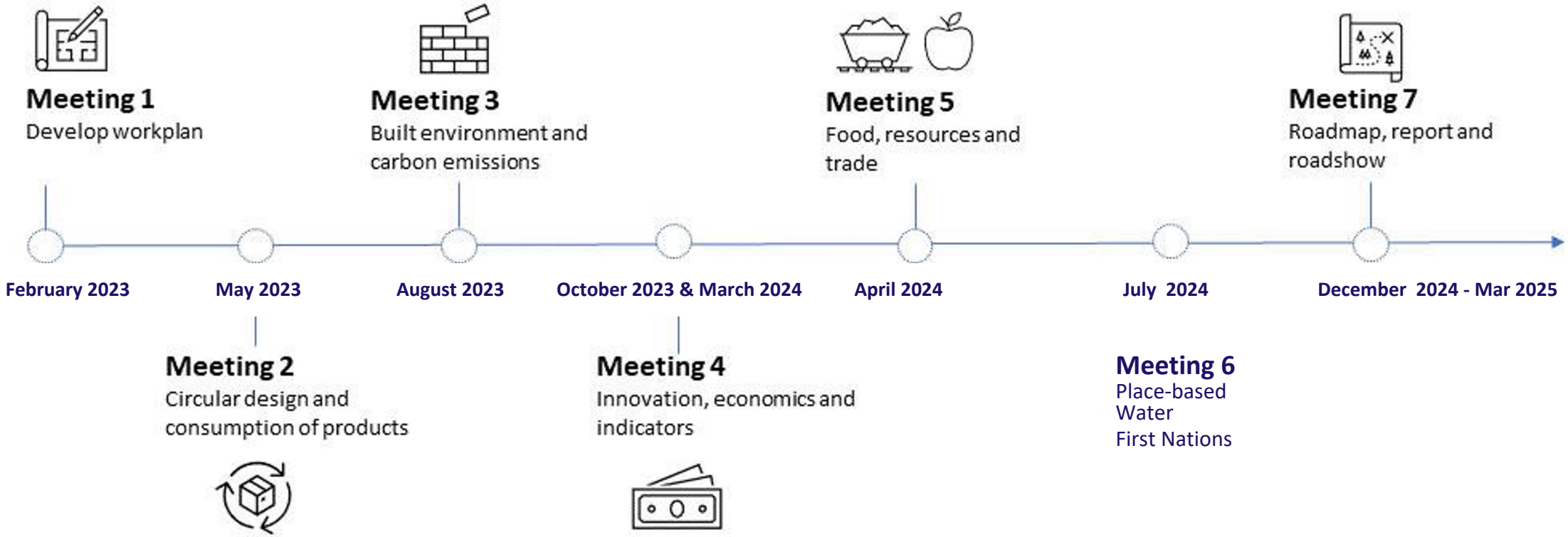
1. Design out waste and pollution at every stage of production, use and end-of-life.
2. Keep products and materials in use at their highest possible value.
3. Regenerate natural systems for example through water reuse, soil improvement, the removal of toxic waste, tree planting etc

Circular Australia

Australian Circular Economy framework in development

Australian CE Framework

Ministerial Advisory Group



Final Report on Circular Economy due end 2024

The interim report makes 20 recommendations to shift to an Australian circular economy with a strong emphasis on:

- enhancing materials efficiency
- reducing energy demand
- minimising waste
- achieving net zero emissions

Actions include:

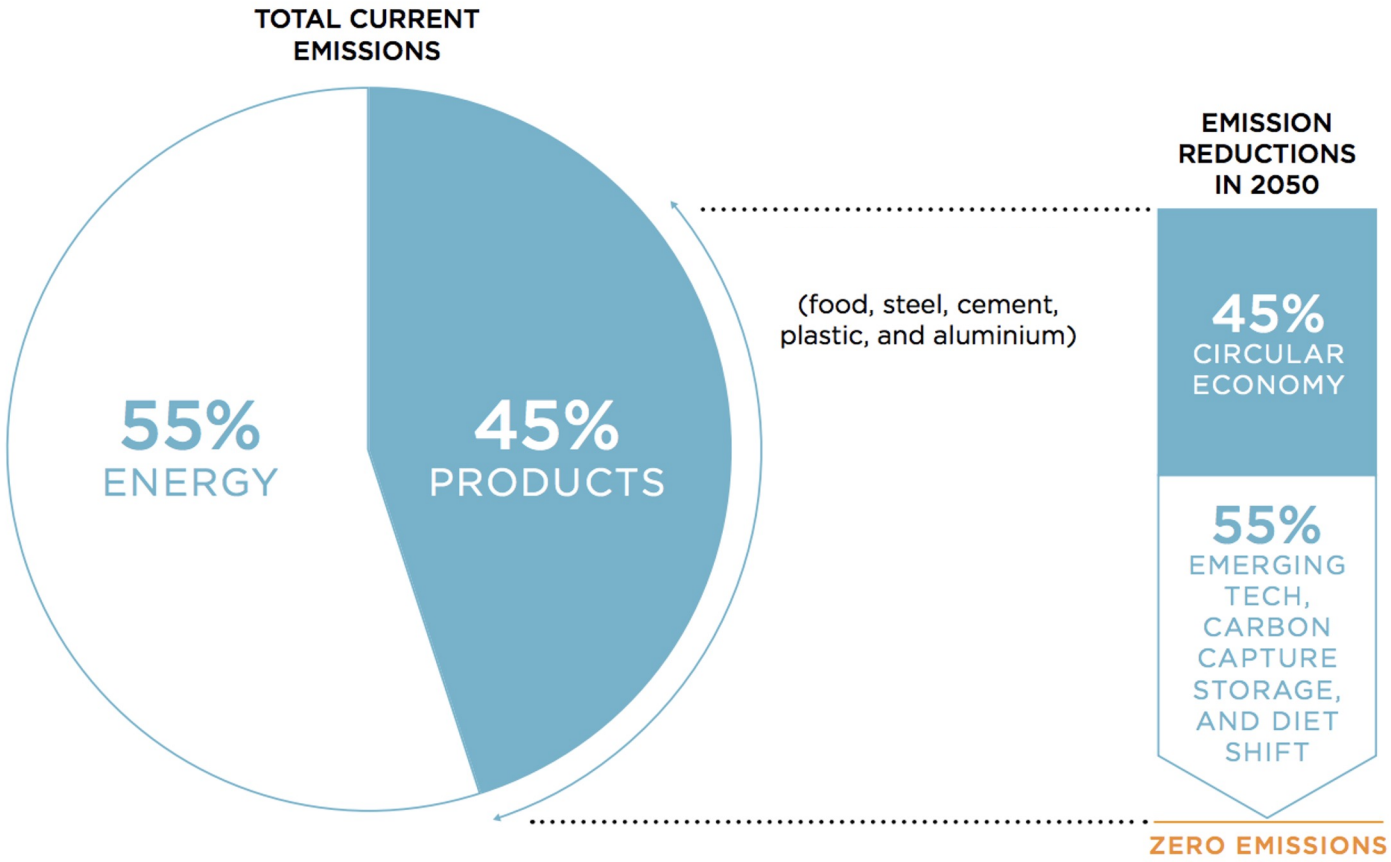
New Procurement rules

Productivity Commission Review

Circular Australia

Opportunities

No Net Zero without circular economy



Even in a fully renewable energy system, ongoing high consumption, a lack of circular design, engineering infrastructure incl. recycling and manufacturing - will still drive high emissions.

Completing the Picture: How the Circular Economy Tackles Climate Change, Ellen MacArthur Foundation

A $2 trillion economic opportunity

Circular Australia

$1.9 trillion

Australian estimated economic boost over the next 20 years from circular solutions

100,000s

number of new full time jobs the circular economy can generate in Australia

$83M Net Zero Sector Plans + Circular Economy

Electricity & energy
Industry
Resources
Built environment
Agriculture & land
Transport

$15B National Reconstruction Fund & Circular Economy

Co-investments in advanced manufacturing, value-add in resources and renewables and low emission technologies for Circular economy outcomes

Circularity solves problems

Circular Australia

Circular economic approaches are addressing regional issues

- Unsustainable land practices - land clearing, landfill, burning waste
- Fossil fuel use
- Production and use of iron and steel and construction materials
- Metals extraction and use
- Waste management
- Water management
- Biodiversity loss

Regional circular opportunities

Waste

2/3 of all organics waste in Australia come directly from agriculture and fisheries

Reducing waste & increasing diversion generates savings & revenue, reduces emissions, rejuvenates soil, improves land productivity & crop yields

Transport

<80M T output is transported between farms, storage, processors to markets generating 2Mt CO2e p.a.

Smart logistics and greater reliance on low-carbon freight can lead to long term savings and reduced emissions

Water

60% (8,558 GL) water extracted in 2018-19 for agriculture, with record $334m spend on water purchased on a temporary basis

More circular water systems can mitigate supply risks and help stabilise production overheads

Sources: Department of Industry, Science, Energy and Resources, 2018-19 National Waste Report, CSIRO, Dept of Agriculture, Water and the Environment, ABS

Dematerialising

Residential builds

- **Cement and steel are the two most significant sources of embodied carbon emissions in construction.**
- Switching to lightweight ‘fitments’ over conventional steel results in a 25 to 33 per cent reduction in carbon emissions per tonne of fitments.
- Replacing cement with supplementary cementitious materials or replacing concrete and steel with cross laminated timber reduces embodied emissions.

CEFC Opportunities for cutting embodied carbon

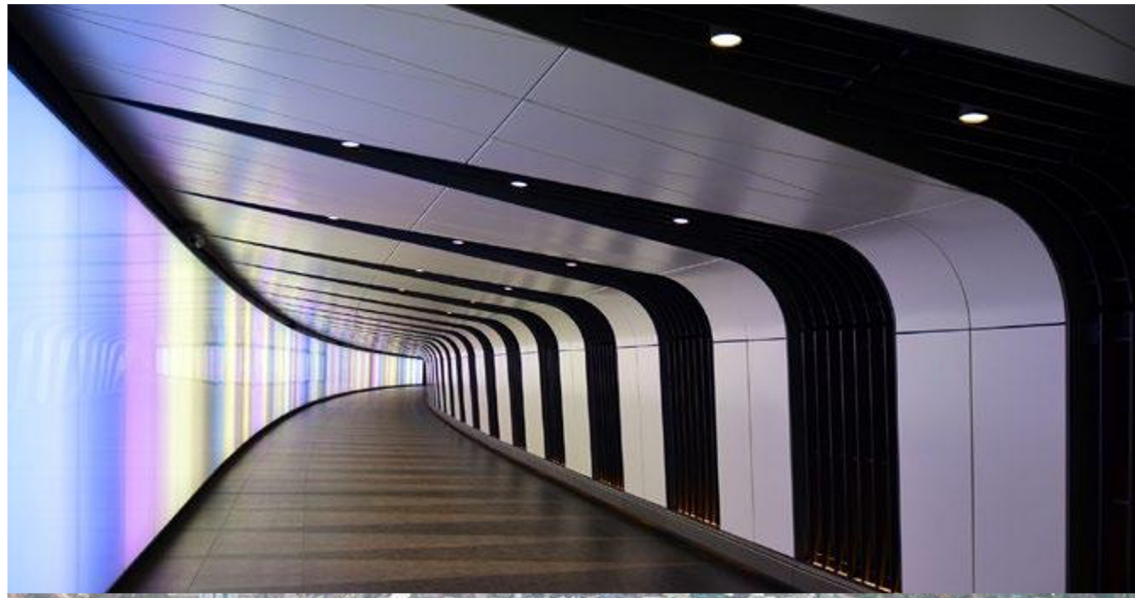
‘Design for Repair’ & Design for Disassembly’

Supporting the Net Zero Transition with ‘secondary’ critical minerals

- **Designing for Repair & Disassembly** ensures the residual value of assets can be harnessed.
- **Using secondary materials can create circular economy markets in Australia**
- **Critical minerals embedded in waste streams** 90-100% of materials can be recycled from photovoltaics, wind and energy storage infrastructure.

‘As a service’ solutions

- **Philips** provides lighting as a service to Amsterdam’s Schiphol Airport on a lease basis.
- **UK ESCos (Energy Service Companies)** offer energy as a service to customers, rather than simply supplying kWhs.
- **Research from Delft University in The Netherlands** is highlighting the economic and environmental benefits of providing building facades as a service



CASE STUDY ‘As a service’

CATERPILLAR®

Retaining the residual value of the asset

Caterpillar keeps resources in the Caterpillar value chain through a circular flow of materials, energy, water. This maximises total life cycle value of products and minimises cost of ownership for customers

A manufacturing and rebuild program

- Increasing reliability and equipment uptime
- Ensuring cost-effective performance
- **Receiving a like-new warranty**
- Increasing customer return on investment
- **Providing customer with a variety of repair options**
- Providing customer with a higher resale value
- Providing lowest total owning and operating costs
- **Preserving energy & materials for original component**

Circular Australia

Metrics

Metrics

Circular Australia

ISO 59000 series

ISO 59 004
Circular Economy – Terminology, Principles and Guidance for implementation

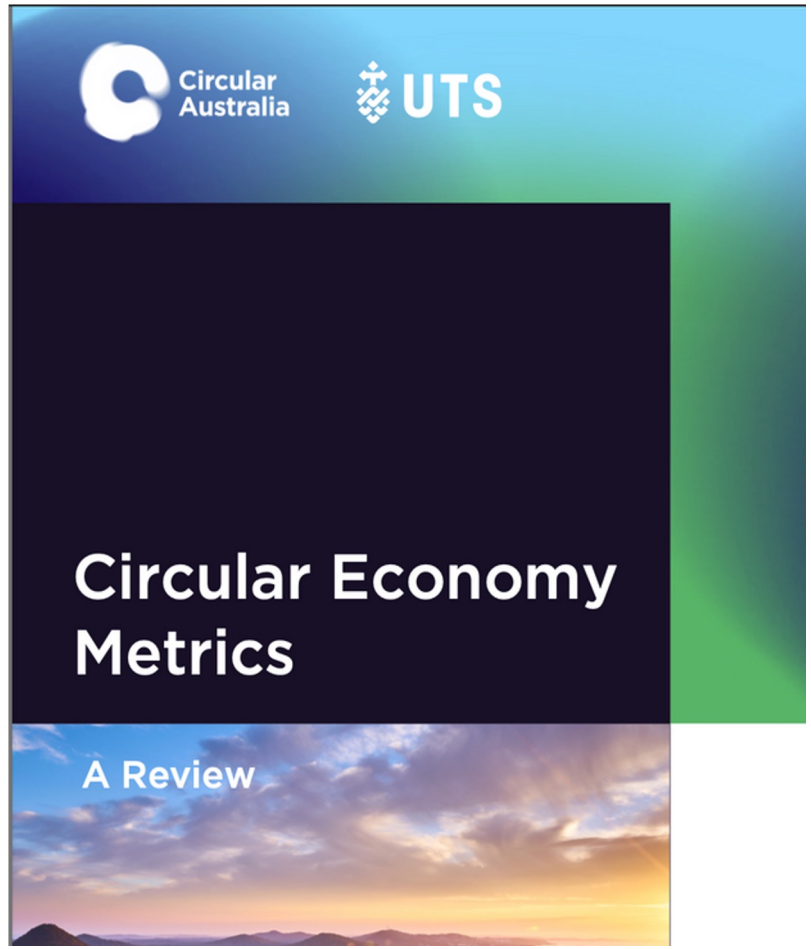
ISO 59 010
Circular Economy – Guidance on business models and value networks

ISO 59 020
Circular Economy – Measuring and assessing circularity

ISO 59 040
Circular Economy – Product Circularity Data Sheet

ISO 59 014
Secondary materials – Principles, sustainability and traceability requirements

ISO TR 59 031 – Circular Economy – Performance based approaches
ISO TR 59 032 – Circular Economy – Review of business model implementation

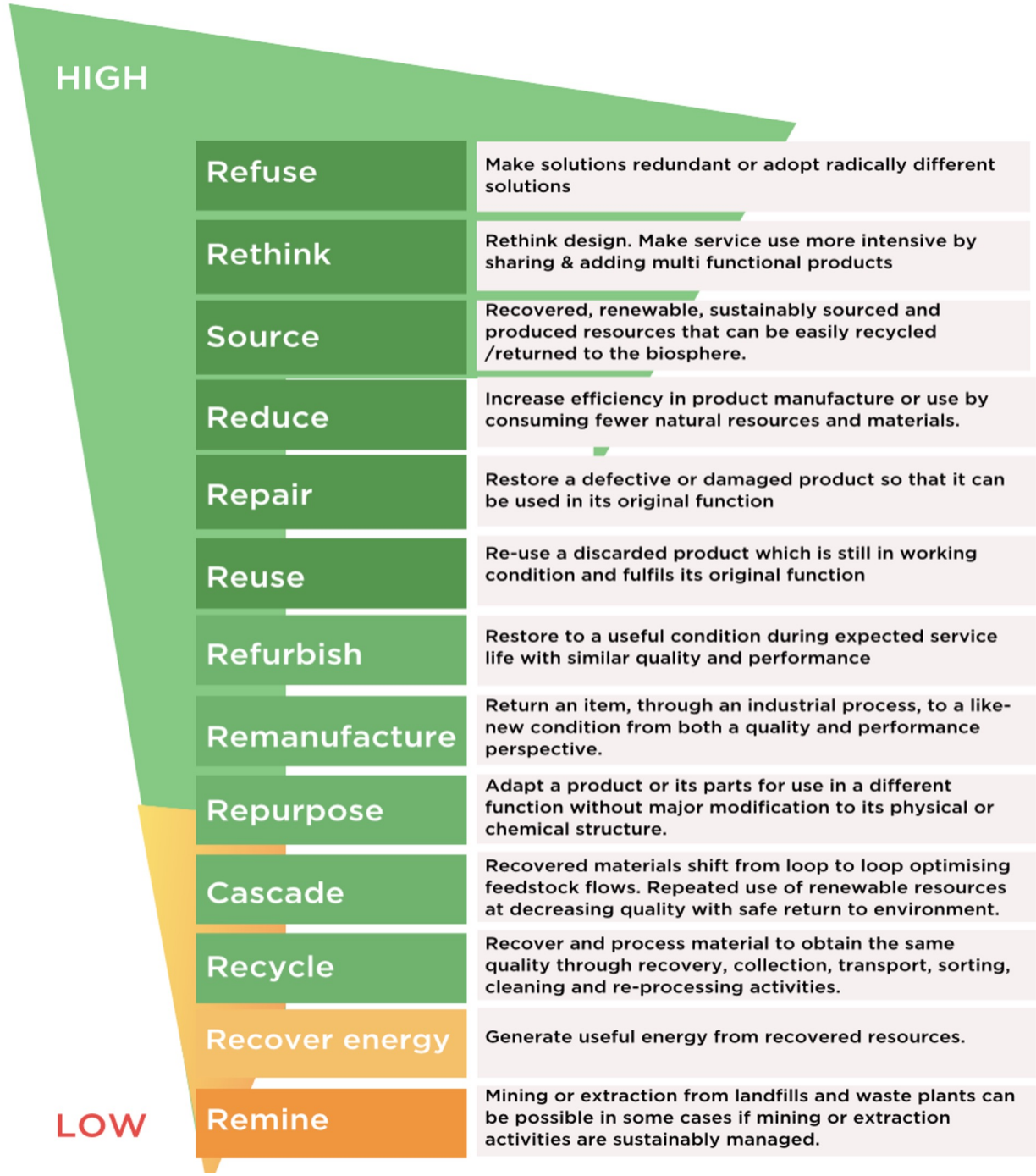


Metrics

1. Material use
2. Energy & GHG emissions
3. Water Natural & regenerative environment
4. Jobs and investment

Hierarchy of Circular Economy

Applying the framework



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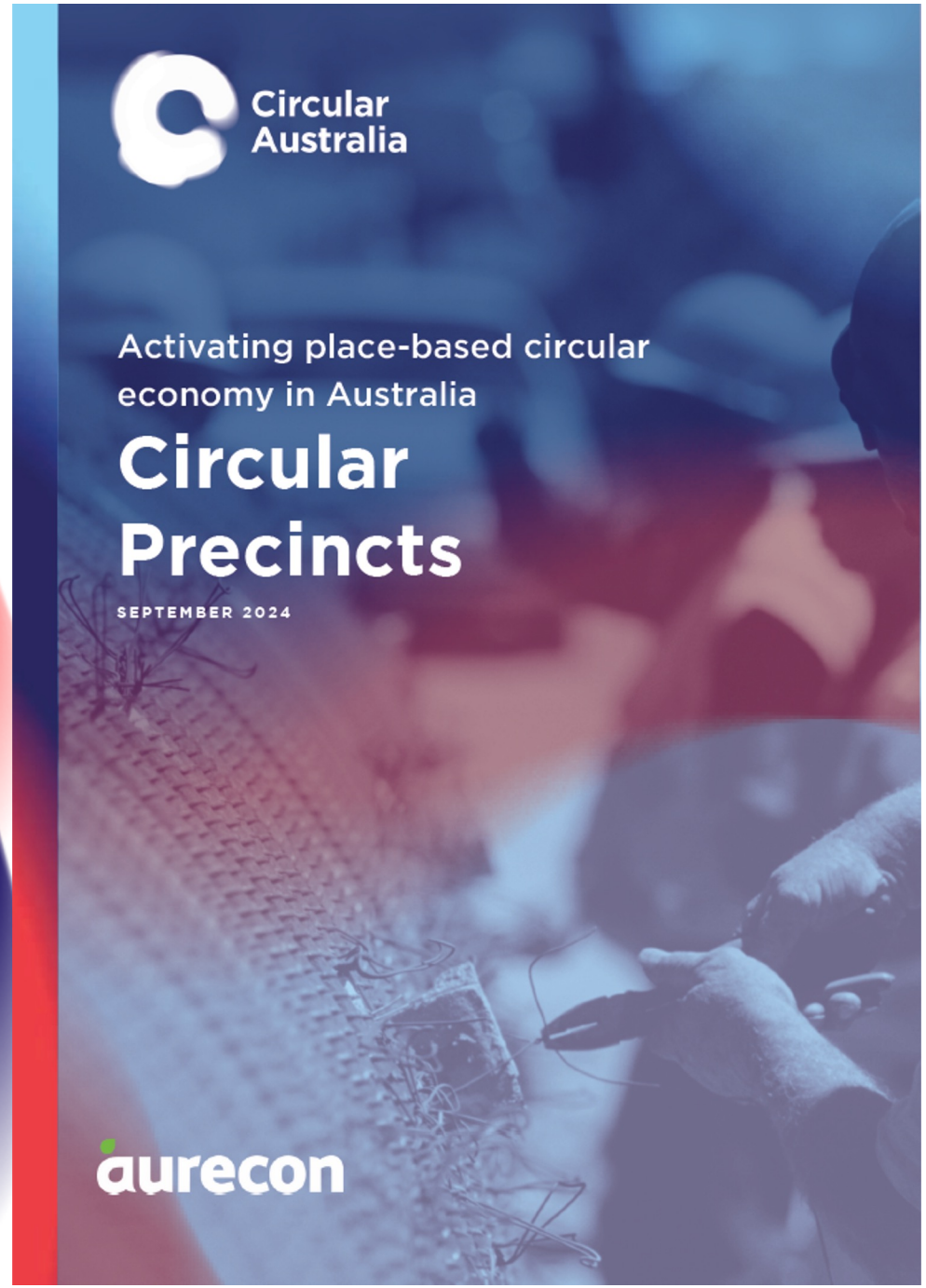
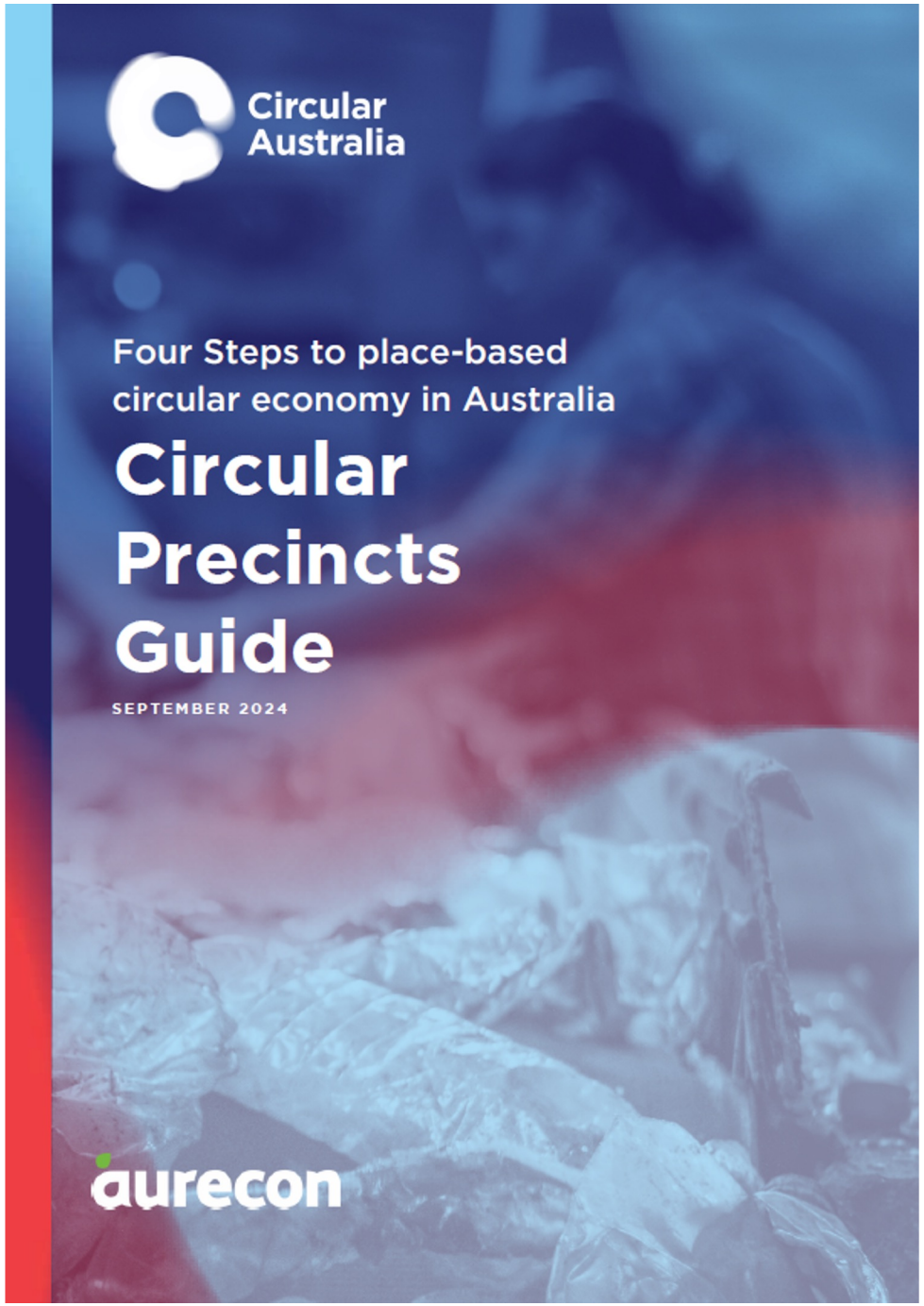
Why we need places that embed circularity


Circular Australia
Activating place-based circular economy in Australia
Circular Precincts
SEPTEMBER 2024
aurecon


Circular Australia
Four Steps to place-based circular economy in Australia
Circular Precincts Guide
SEPTEMBER 2024
aurecon

Definition

What are circular precincts?

Circular Australia

Circular precincts are **geographically bound** places, bringing people and organisations together to deliver more sustainable solutions, such as **repair**, **reuse** and **remanufacture** goods; **share** resources and tools; and **innovate** collaboratively.

A circular precinct aims to keep assets and materials at their **highest value, locally**.

Source: Burwood Brickworks, Frasers Development

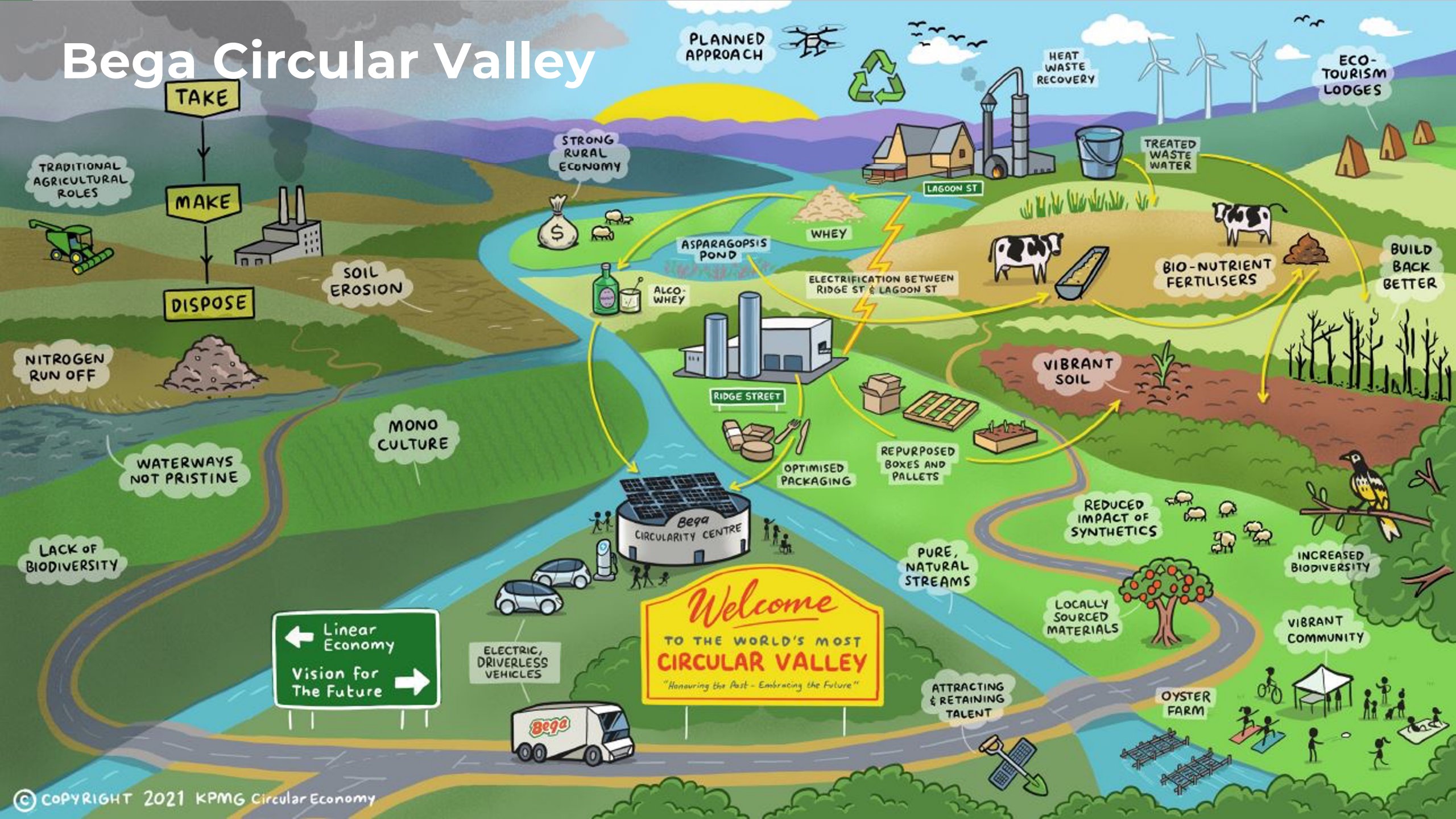
Definition

Industrial ecology (or symbiosis) precincts

Where intense collaboration between companies in resource or manufacturing (usually co-located in an industrial park) lead to exchanges of materials, energy and water between businesses.

Source: Kwinana Industries Council

Bega Circular Valley



UNIDO - World leading circularity

Parkes Special Activation Precinct

Will build on already planned private and government investments, creating up to 3,000 jobs across a range of industries.

As Australia's first UNIDO Eco-Industrial Park, the precinct offers sustainability solutions, including waste and water reuse and energy use and generation.

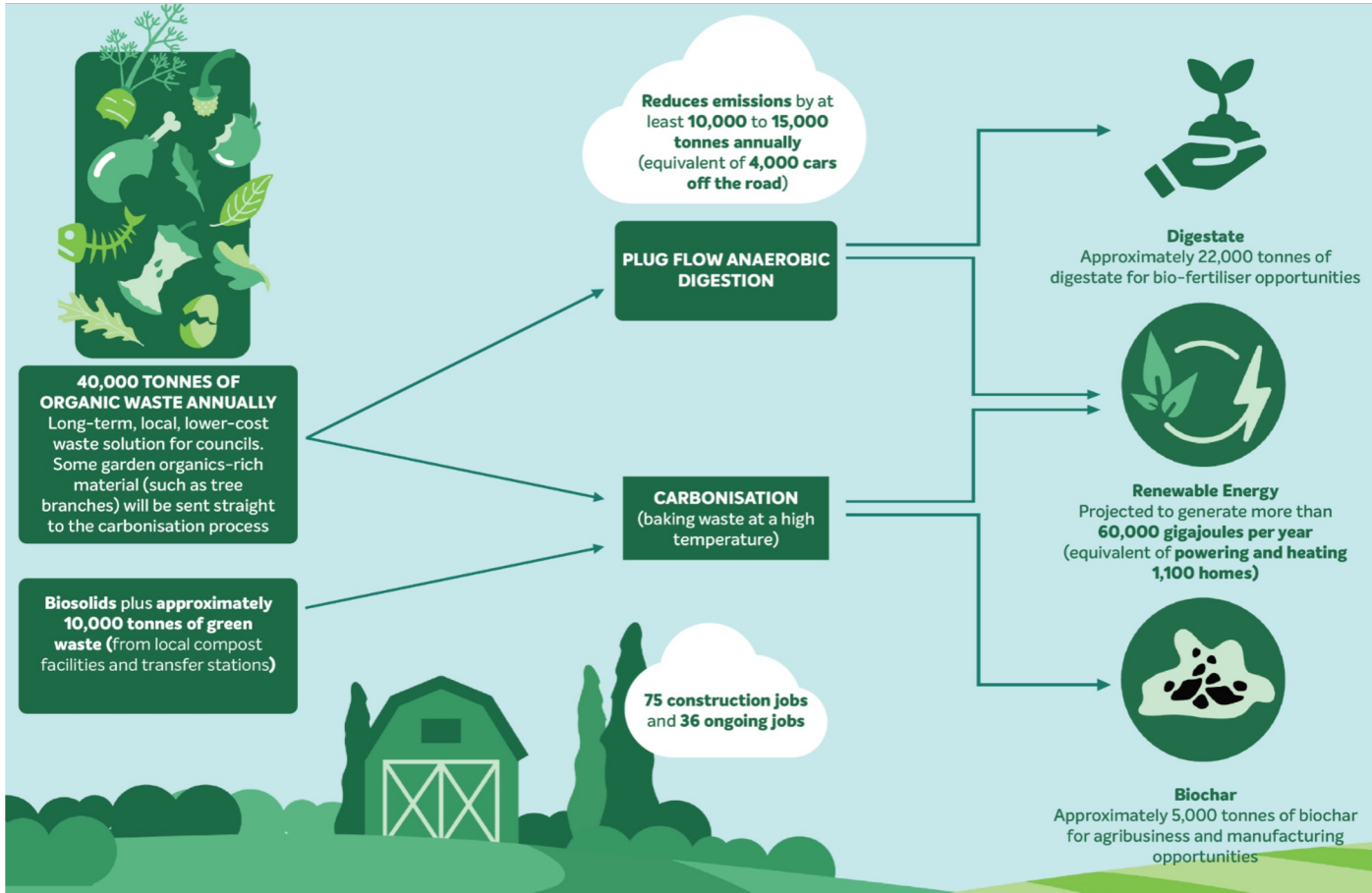
Definition

Circular material hubs

Circular Australia

Barwon Water Biochar

By aggregating material flows, these hubs make more types of reuse and recycling economically viable. Close access to recycling plant, landfill or or waste to energy facilities also helps the viability of many recycling activities.

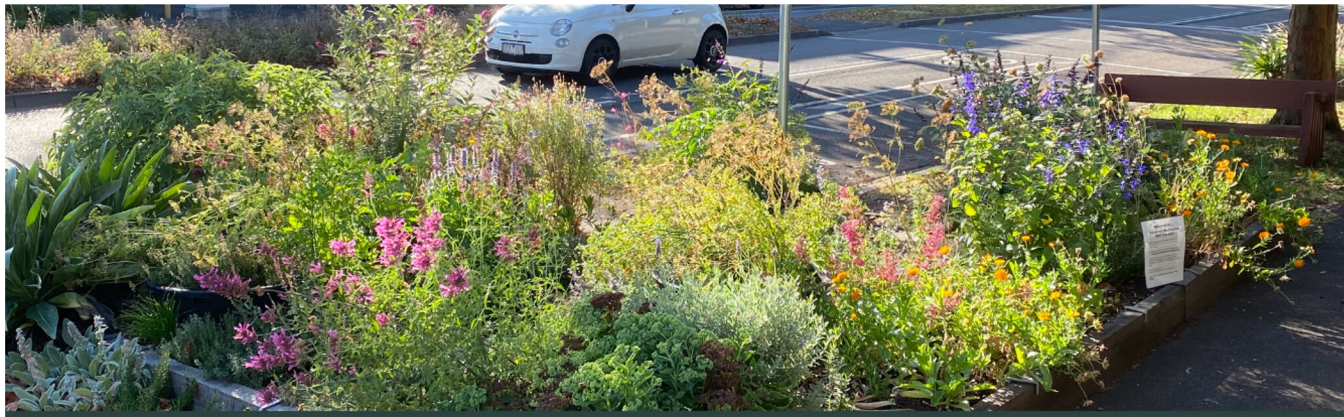


Source: Barwon Water - Biochar Circular Agriculture Project

Definition

Circular communities

Typically involve a mix of residential, commercial and public spaces, along with green infrastructure such as parks, gardens and streets that enable low-carbon transport such as walking and cycling.



Source: [Heartscapes (theheartgardeningproject.org.au)](), Melbourne Pollinator Corridor

Drivers

Why circular precincts are important?

Circular Australia

Embodied Carbon

Foster innovation in low-carbon technologies and enhance resilience against future climate challenges.

Regenerating Natural Systems

Integrate nature into urban planning and business models to remain within our planetary boundaries.

Infrastructure Development

Access, transform, transport and use materials to support a fast pace, resource intensive energy transition.

Housing Crisis

Improve housing affordability, reduce waste in construction, and encourage sustainable housing practices.

Circular Australia

Questions

What is the Green Economy in South Australia look like and how do we get there?

PROFESSOR IAN OVERTON

Principal, Natural Economy

An Australian Government Initiative

Government of South Australia

Local Government Association of South Australia

Regional Development Australia

Regional Development South Australia

PANEL DISCUSSION

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CEO, Circular Australia

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Director, Natural Economy

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Government of South Australia

Local Government Association of South Australia

Regional Development Australia

Regional Development South Australia

Green Cement Benefits

Comparative Carbon Emissions of regular GP Cement and Optimised Green Cement

500ktpa

Cementitious

82%

Reduction on emissions or

314kt CO_2

GP Cement

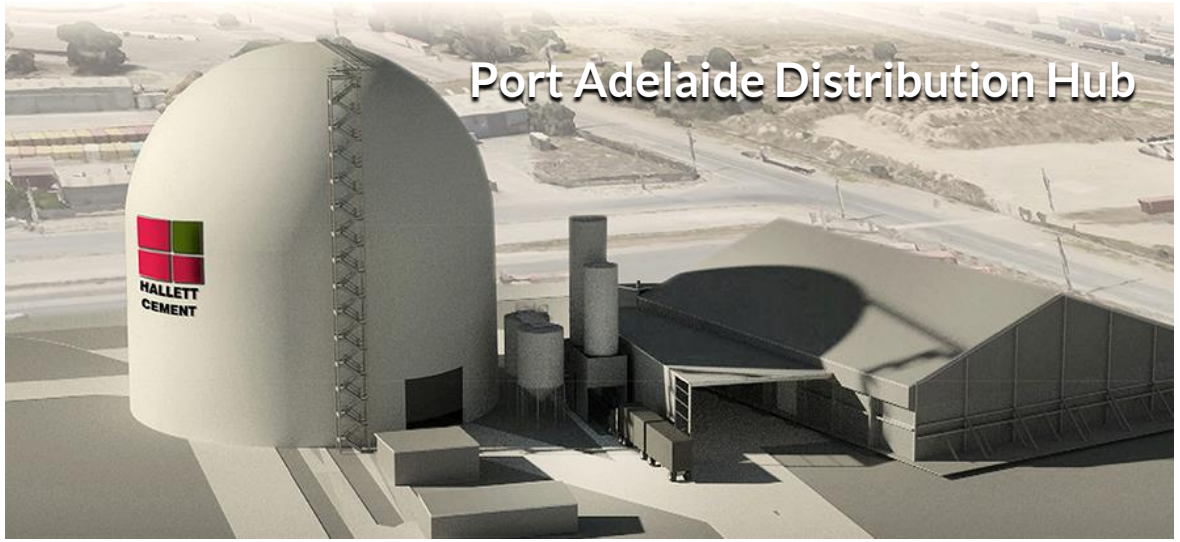
384kt CO_2

Emissions

Optimised Green Cement

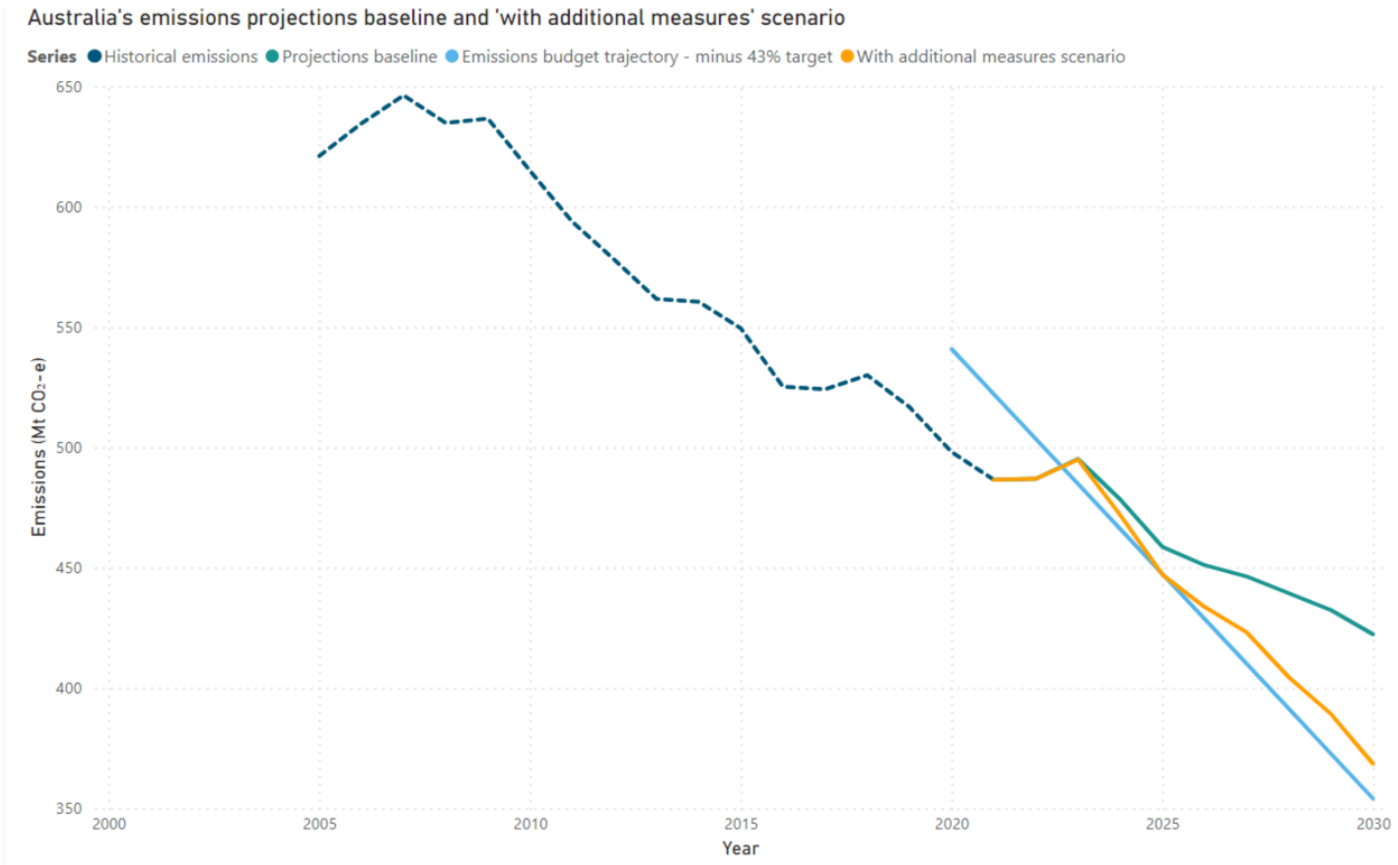
70kt CO_2

Emissions



What does all this mean?

- **Our Green Cement project** will **reduce** Australian CO_2 emissions by **300,000** tonners per annum immediately, growing to a **1 million** tonnes in years to come



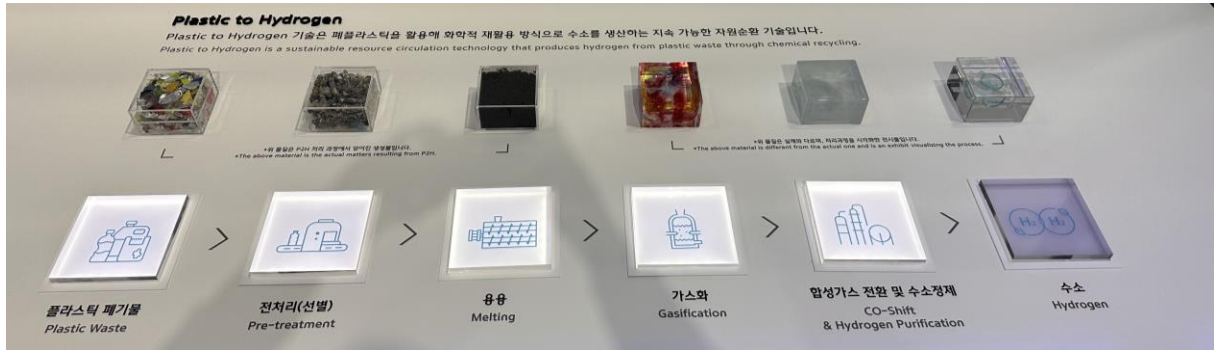
- In context, Australia's emissions Projections **Baseline** for year 2026 is a 7.6MtCo_2-e reduction on the previous year

Australia needs to move forward

Australia needs to move forward

Australia needs to move forward

Australia needs to move forward



Australia needs to move forward

Powering the Transition: The net zero workforce challenge and Clean Energy Precincts.

ANDREW BARKER

Head of Research, Committee for Economic Development Australia

>ceda

An Australian Government Initiative

Government of South Australia

Local Government Association of South Australia

Regional Development Australia

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Clean energy jobs and precincts

RDA South Australia Annual Summit

2 October 2024

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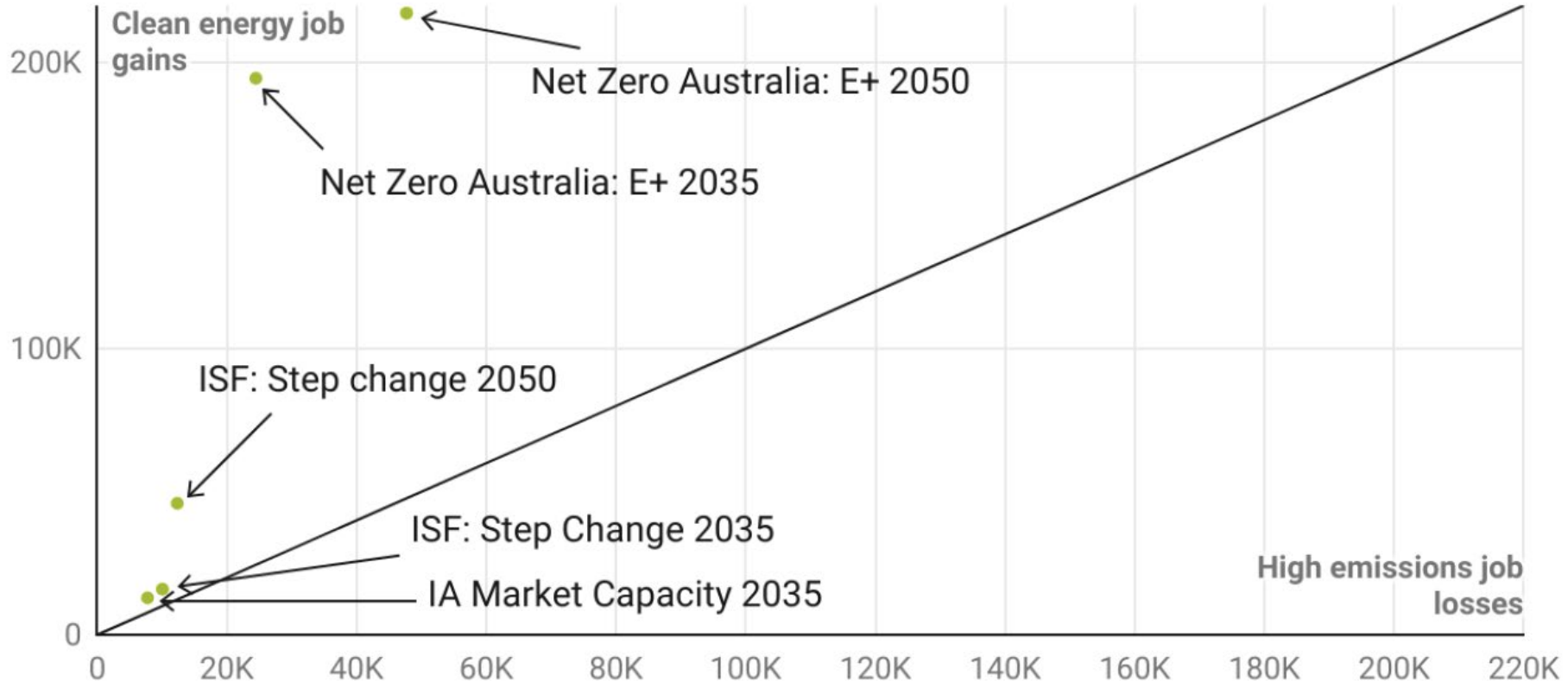
The net zero workforce challenge

Energy sector modelling shows net job gains



Each dot measures estimated clean energy job gains and job losses up to the stated year under the scenario noted. Dots to the left of the 45 degree line indicate more job gains in clean energy than job losses in old technologies.

Source: Net Zero Australia (2023) Final Modelling Results; Institute for Sustainable Futures (ISF) (2023) The Australian Energy Workforce for the 2022 ISP Revision 1; Infrastructure Australia (2021) Market Capacity for Electricity Generation and Transmission Projects. • Created with Datawrapper

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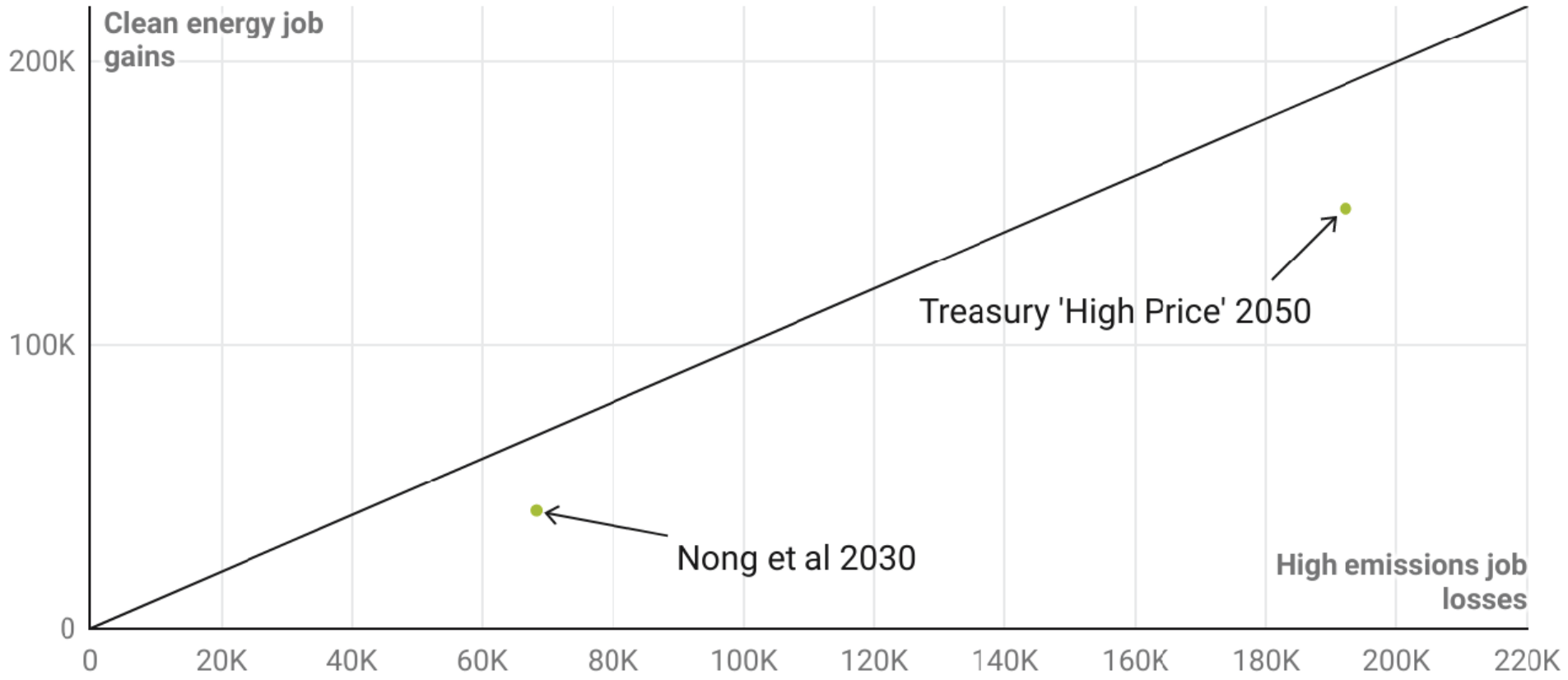
Economywide models are less optimistic

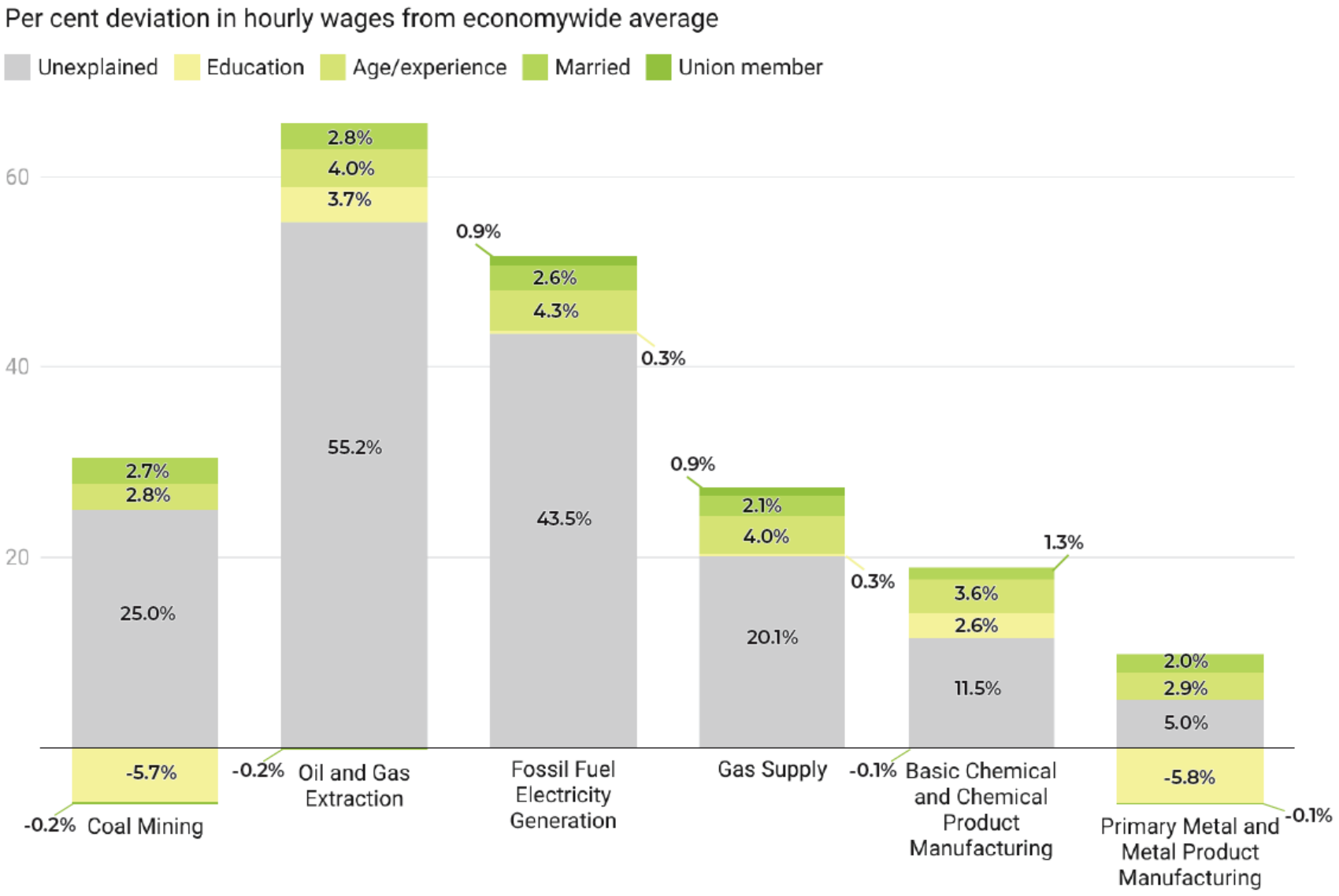


Each dot measures estimated clean energy job gains and job losses up to the stated year under the scenario noted. Dots to the right of the 45 degree line indicate more job losses in old technologies than gains in clean energy.

Source: Nong, D., Meng, S. and Siriwardana, M. (2017) An Assessment of a Proposed ETS in Australia by Using the MONASH-Green Model; Treasury (2011) Strong Growth, Low Pollution: Modelling a Carbon Price • Created with Datawrapper

ceda

High-emissions sectors pay high wages



Source: ABS 2021 Census data and wage equation coefficients from Forbes et al (2010) and Waddoups (2005) • Created with Datawrapper

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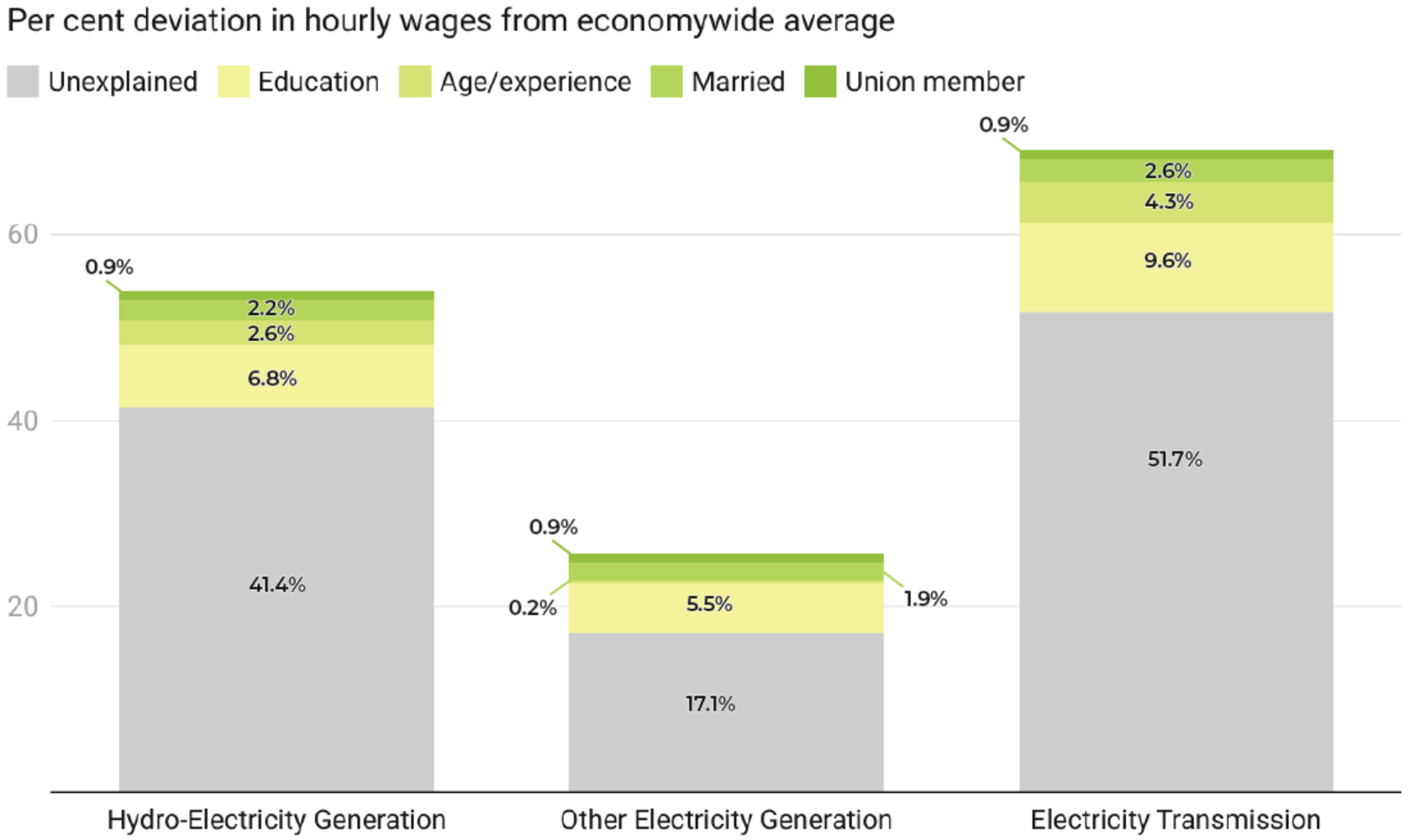
Wages are also high in key clean energy sectors



Source: ABS 2021 Census data and wage equation coefficients from Forbes et al (2010) and Waddoups (2005) • Created with Datawrapper

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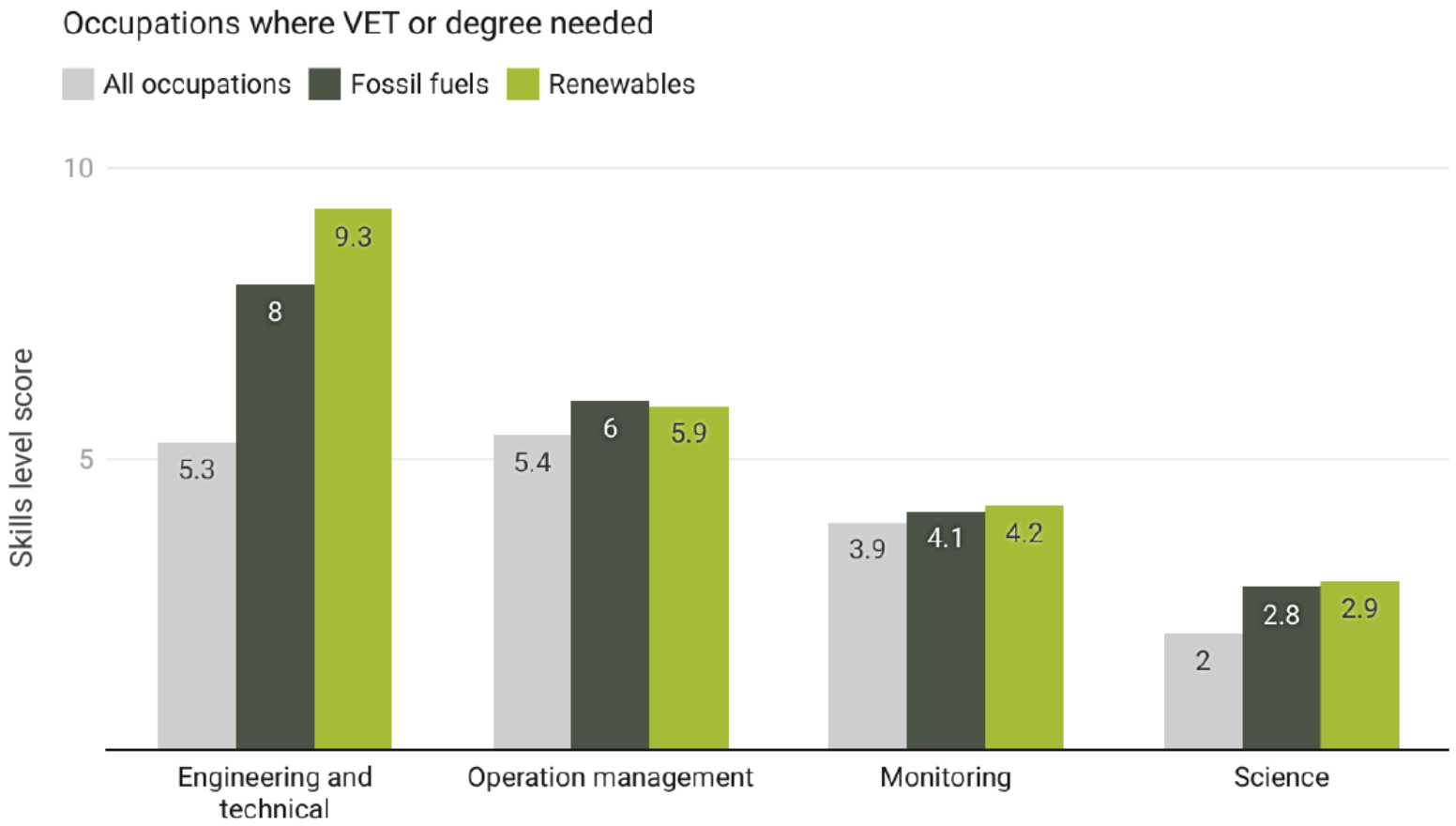
Similarities will help with skill transfer

FIGURE 5B



*Skills, knowledge and work activities from O*Net data collapsed into aggregate score of skills particularly relevant for green occupations using Principal Components Analysis published in Vona et al. (2018). Fossil fuel and renewables occupations listed in Appendix A.*

Source: US Department of Labor O*Net data; Vona et al. (2018) • Created with Datawrapper

>ceda

Recommendations

- Communicate the transition challenge
- Remove barriers to people moving to new jobs
  - Update training and occupational licensing
  - Temporary migration system that attracts high skilled workers
- Support workers and communities via Net Zero Authority
  - Personalised support and career planning
  - Coordination across govt, industry, unions and training
  - Invest in locally-driven projects in most affected communities
  - Use data to evaluate and reprioritise transition support

>ceda

Clean energy precincts: how to seize the green export opportunity

ceda

Summary

- Clean energy precincts offer big opportunities
- Governments are funding the development of precincts, particularly hydrogen
- Project proponents are facing barriers
  - Cumbersome planning and permitting
  - Skill shortages
  - Lack of coordination
- A framework for government support

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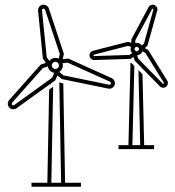
Definitions

Clean energy precincts are clusters of geographically close businesses, industrial facilities, education providers and energy producers that share a goal of having low to zero energy and process emissions.

Our research focused on large, industrial-scale clean energy precincts.



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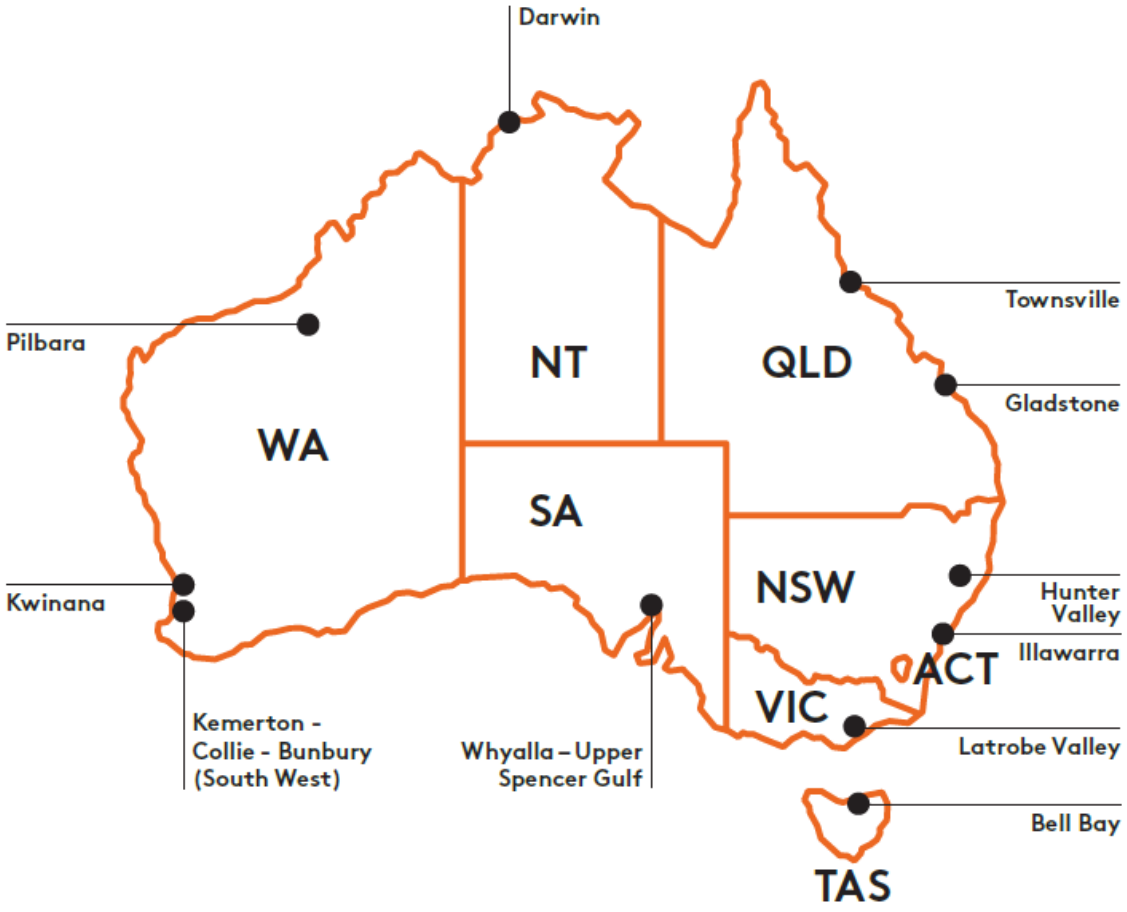
Potential clean energy precincts



Source: Climateworks 2023, *Renewable Energy Industrial Precincts*, Brief for Policy-Makers

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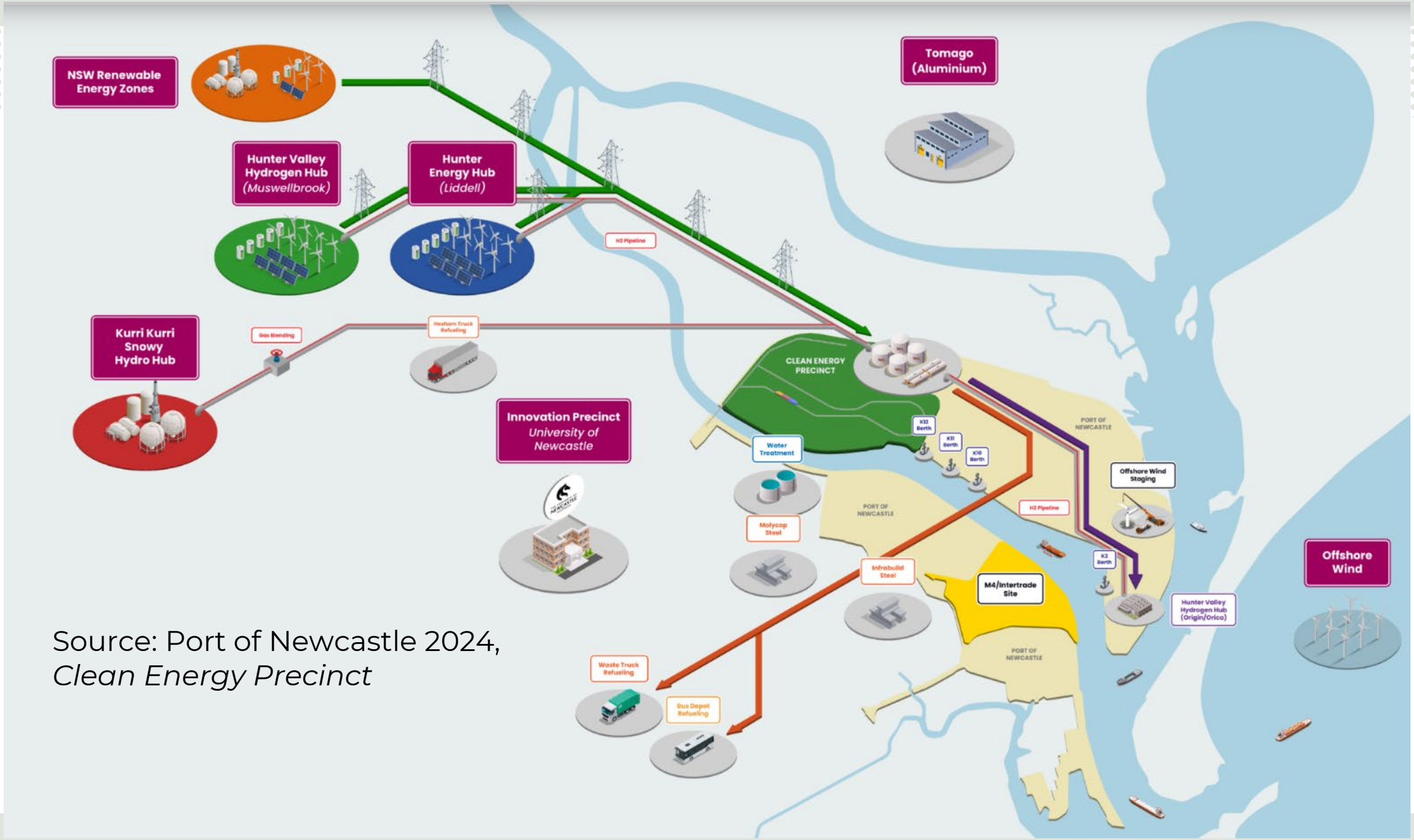

Source: Port of Newcastle 2024, *Clean Energy Precinct*

Precincts could help meet several challenges from the energy transition

Positive impact for regional communities

Policy certainty

Complexity and scale of transition

Resource and infrastructure intensity

Domestic energy security

Skills development and matching

Research and innovation

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Success factors

- Clear objectives
- Market demand & comparative advantage
- Coordination of resources
- Access to funding
- Existing industrial infrastructure
- Accommodative regulation and zoning
- Barriers to entry and competition

Sources: Urbis ‘From Potential to Performance: Australia’s Path to Innovation Excellence’; Brookings Institute

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All parties must play a role

COMMUNITY

- Engage in project consultation
- Enable First Nations engagement
- Identify opportunities and barriers to local precincts
- Identify local comparative advantages and networks
- Develop shared sense of ownership

GOVERNMENTS

- Coordination to unlock benefits from innovation and skills
- Supporting a pipeline of skills
- Providing shared-use infrastructure
- Fit-for-purpose planning and permitting
- Creating a supportive business and regulatory environment

EDUCATION PROVIDERS

- Early involvement as an 'anchor institution'
- Developing courses and training that responds to industry need
- Industry-relevant research and shared research facilities

BUSINESSES

- Collaboration with other participants
- Partnering in research to overcome technical challenges
- Assessment of commercial opportunities
- Matching opportunities to local comparative advantages
- Investment in capital and skills

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Community engagement is key

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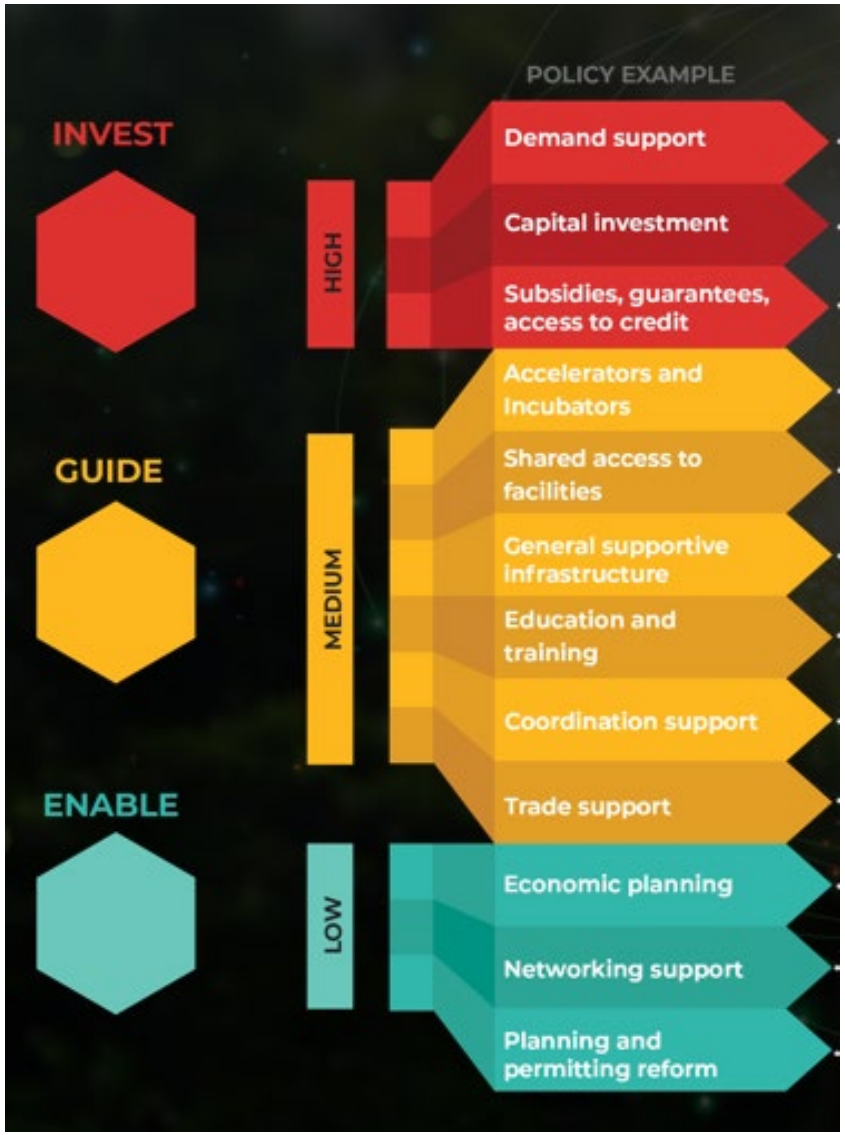
A framework for government support



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Conclusions

- Big opportunities; much complexity
- Critical roles for community, business and education providers
- Governments should *enable* and *guide* development
- Government *investment* needs to be much better than in the past
  - Objectives, transparency, analysis and evaluation

>ceda

Thank you!

SESSION 3

Agriculture and the path to Net Zero, AI and what does it mean for regional South Australia

An Australian Government Initiative

Government of South Australia

Local Government Association of South Australia

Regional Development Australia

Regional Development South Australia

WILDCARD

Upper Spencer Gulf RDAs

An Australian Government Initiative

Government of South Australia

Local Government Association of South Australia

Regional Development Australia

Regional Development South Australia

Carbon Accounting in Agriculture and its implications and opportunities.

SARAH BARRETT

Lead Consultant- Sustainability Strategy, Pinion Advisory

pinion ADVISORY

An Australian Government Initiative

Government of South Australia

Local Government Association of South Australia

Regional Development Australia

Regional Development South Australia

SARAH BARRETT

Carbon accounting in agriculture

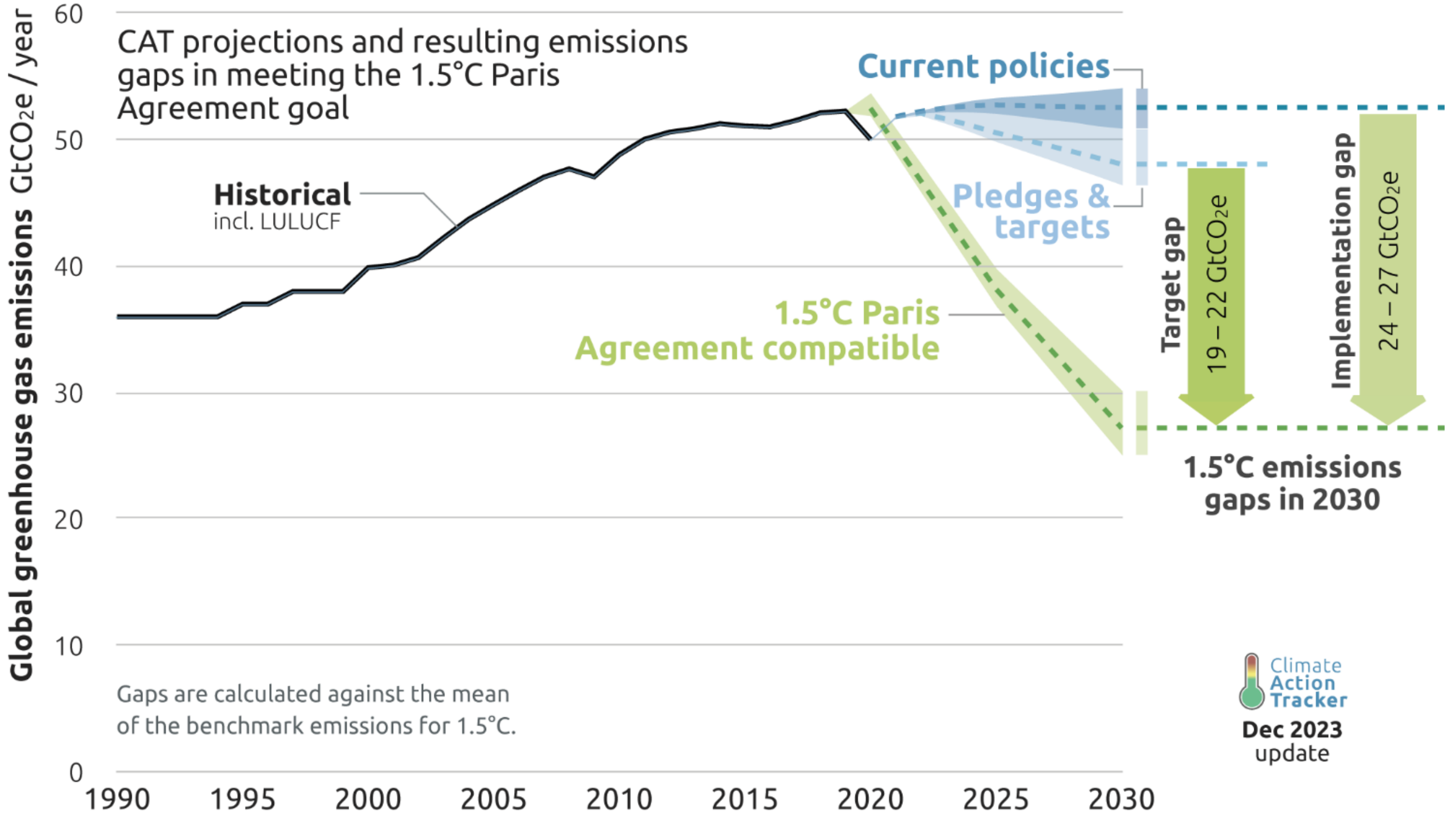
pinion
ADVISORY

Agriculture 2024+ setting the scene

- Ag-tech
  - Labour pinch points
  - Automation
  - Data management
- Climate & Change
  - Variability
  - Pledges & targets
- Greater connection
  - Know where your food comes from
  - ESG evidence

pinion ADVISORY

2030 EMISSIONS GAPS



International drivers

Science Based Targets Initiative	**SBTi**
Taskforce on Climate-Related Financial Disclosures	**TCFD**
Taskforce on Nature-related Financial Disclosures	**TNFD**

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

International standards

International Sustainability Standards Board	**ISSB**
System of Environmental-Economic Accounting	**SEEA**
ISO140x series	**ISO 140 series**

TNFD Taskforce on Nature-related Financial Disclosures

System of Environmental Economic Accounting

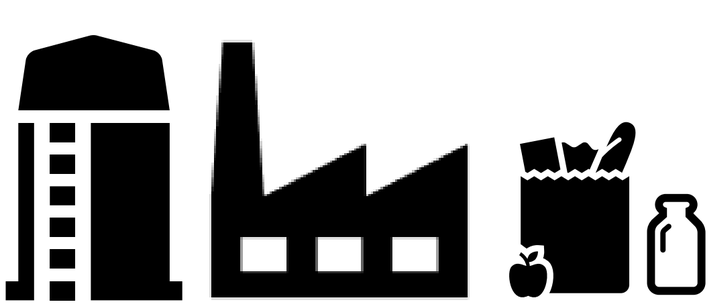
pinion ADVISORY

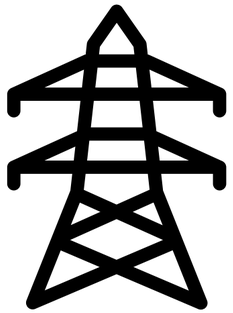
New climate reporting rules now law

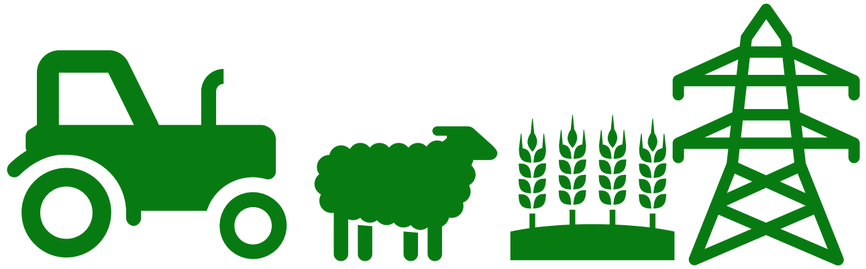
Changes to the Corporations Act effective FY 25*
Mandatory reporting effective when **2 out of 3** criteria met
Credit: Kym Wilson

WHEN	**FY 25**	**FY26**	**FY27**	**COLES**
Revenue	$500M	$200M	$50M	$41B
Assets	$1B	$500M	25M	$18B
Employees	500	250	100	120,000
Scope 3 suppliers included (FARM PRODUCTS)	NO	YES	YES	YES (from FY26)

Scope of emissions supply chain







Scope 1
Emissions occurring during processing within control.

Scope 2
Electricity and energy used during processing

Scope 3 (0n-farm scope 1 +2)
Emissions occurring to produce the (raw) product on-farm.

pinion ADVISORY

Political and Social signals

AFI Monthly Update Newsletter + Subscribe

New climate reporting rules now law

Australian Farm Institute on LinkedIn • 2 min read

VegNews @VegNews · 8h

@BeyondMeat has shifted to electric transport fleets to lower their **carbon** ootprint even further.

vegnews.com

With a New Electric Truck Fleet, Beyond Meat Is Now Even More Sust...

Producing meat from plants is already more sustainable than animal agriculture. Beyond Meat's new partnership with Einride will reduce it...

70

Muneeb @mMuneeBj · Sep 9

Good **News**... **Australia**'s parliament has passed legislation enshrining a pledge to slash **carbon** emissions by 43% by 2030 and to net zero by 2050.

bbc.com

Australia sets new climate target in landmark bill

The new target brings one of the world's biggest emitters more in line with allies.

Australian Conservation Foundation

30,117 followers

5d •

+ Follow

Woolworths has made a huge commitment to halt the sale of beef linked to deforestation. ...more

nents · 7 reposts

Grain Producers SA

970 followers

1d •

PARAQUAT & DIQUAT UPDATE WEBINAR: GPSA is hosting a webinar to provide an update to grain producers on the recent APVMA proposed decision on paraquat and diquat and next steps. We will have speakers from GPSA, GI ...more

4 2 reposts

Like Comment Repost Send

Crucial News Global @crucial_news · Sep 8

Australia passes a law requiring net zero emissions by 2050

Read more: crucial.news/australia-pass...

#Australia #Law #carbon #pollution #environment

2 2

TheClimateInstitute @climateinstitut · Mar 21, 2017

National Farmers' Federation calls for **carbon** price on energy

weeklytimesnow.com.au/news/national/...

1 16 7

Industry and market drivers

Companies setting climate targets and pledges

- Coles
  - 2027 target for 75% of suppliers to have emissions reduction plan.

Woolworths

63% net positive carbon emissions by 2050

Deforestation FREE beef by 2025.

- Fonterra
  - Climate-neutral growth to 2030 for pre-farmgate emissions from a 2015 base year.
- Unilever
  - Reducing the GHG impact of their products by 50% by 2030, compared to baseline of 2010.
- Nestle
  - Zero environmental impact in our operations.
- JBS
  - Net-zero GHG by 2040 and zero deforestation across its global supply chain by 2035.
- Mars
  - Reduce GHG across our value chain 27% by 2025 and 67% by 2050 (from 2015 levels).
- Kellogg Company
  - 65% reduction by 2050.
  - 100% renewable energy.
- Pfizer
  - 60 to 80% by 2050.
- Heineken
  - Carbon neutral barley-malt supply chain.
- Qantas
  - 10% use of sustainable aviation fuel by 2030; 60% by 2050.

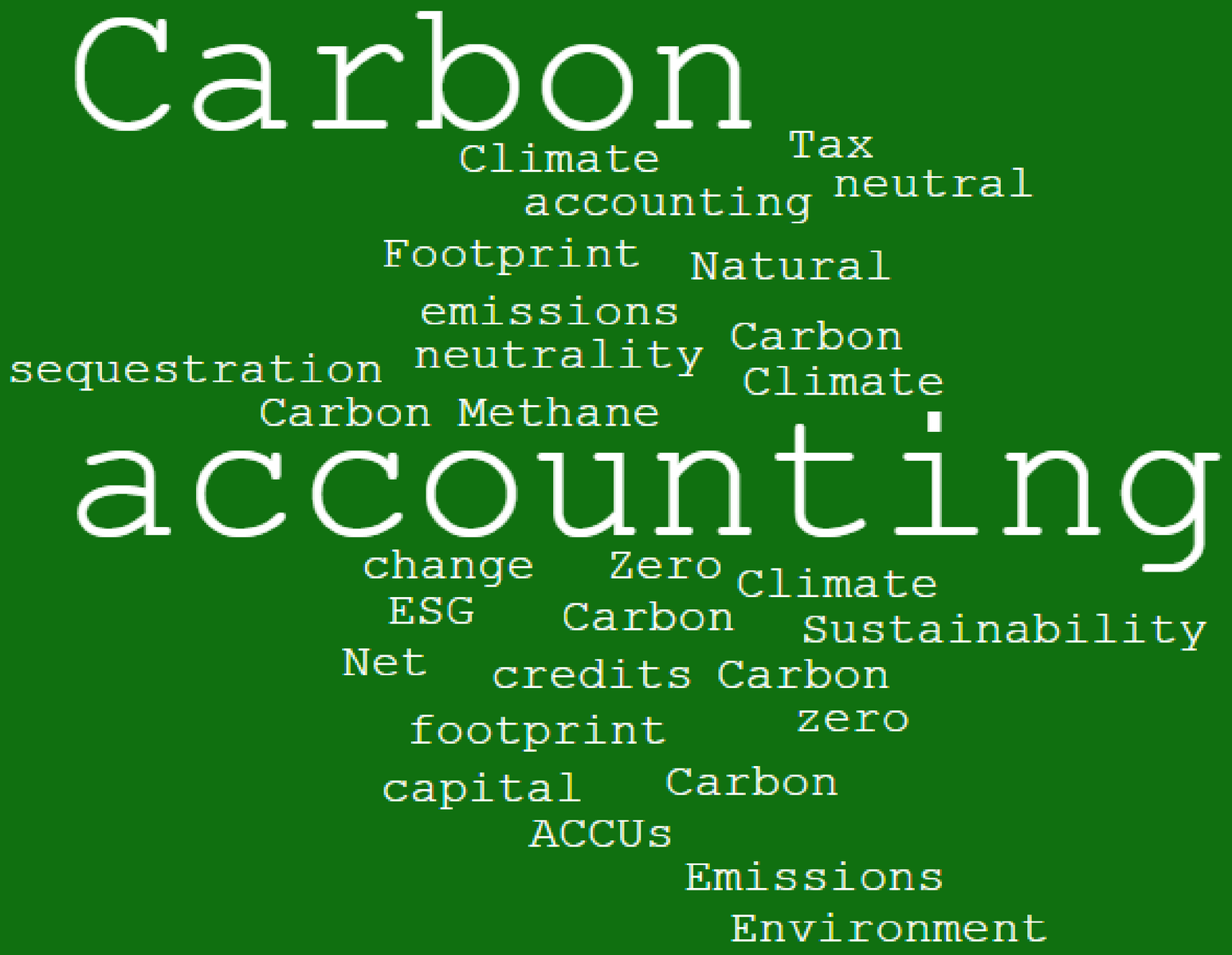
National Farmers Federation aspirational target of net carbon zero by 2050

Wine Australian emissions reduction roadmap 42% reduction by 2030

CN30 Aust Red Meat Industry Aspirational target

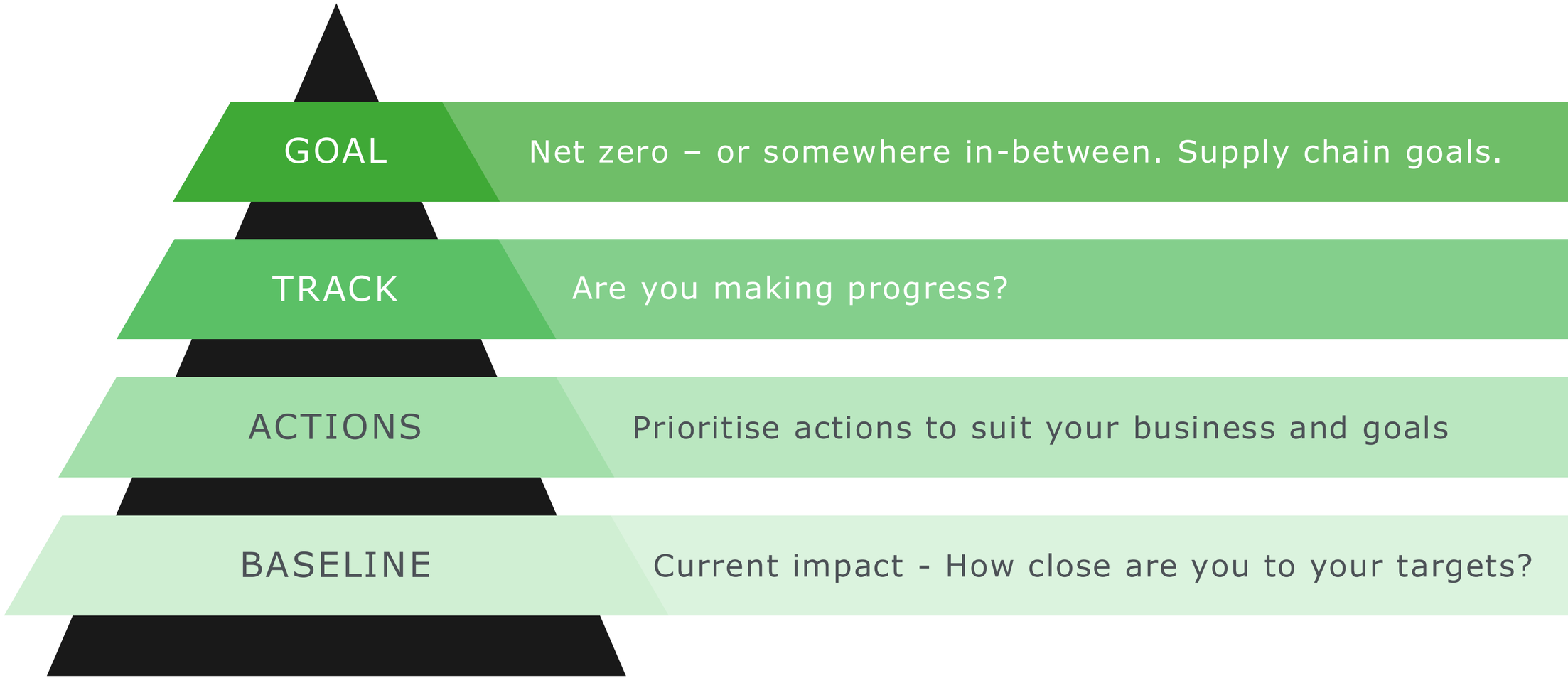
CN30 | Carbon Neutral 2030

GrainGrowers Australia:
Net zero carbon by 2050 for Australia.
15% reduction in grains emissions intensity by 2030.
Halve embedded emissions in inputs by 2040.



pinion
ADVISORY

Why should I do a carbon account?



GRAIN PRODUCERS SA
The voice of South Australian growers

+

pinion
ADVISORY

EMISSIONS BASELINING Project

About this project

- Innovative project to address data gaps while also engaging growers
- In response to pressure to know and show emissions data for South Australian grain production
- Will gather information to inform an emissions baseline for South Australian grain production.
- Aimed at getting on the front foot, meeting the changing needs of international markets and building the case on behalf of growers.

The project is jointly funded by the Australian Government’s Future Drought Fund and the Government of South Australia, PIRSA.

GPSA greenhouse gas baselining project:

What's involved?

58 growers across the State.

Data analysed over a three-year production period.

Individualised report to growers (grain) and producers (livestock)

Statewide aggregated dataset.

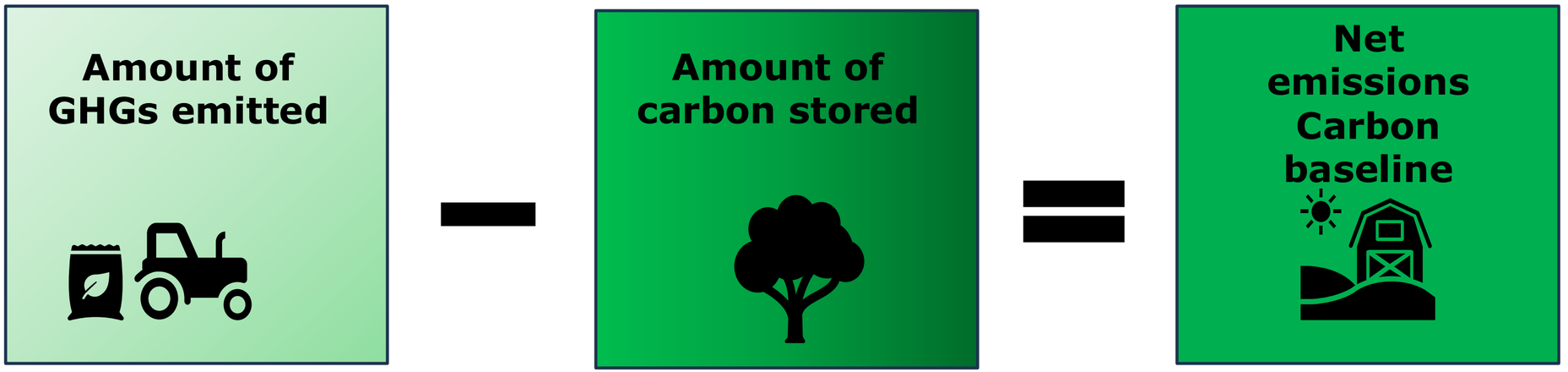
Support the industry through regional workshops.

Impart learnings and explain results.

Calculations via the greenhouse accounting framework tools GAF.

Calculating on-farm GHG emissions

Net Emissions = total t CO_2e across the farm



Net impact of the whole operations of the farm.

pinion ADVISORY

Calculating on-farm GHG emissions

Emissions intensity = amount CO_2e per unit of product

How much GHG is emitted per unit of production

Amount of GHGs emitted

kg CO_2e

/
per

tonne of grain

pinion
ADVISORY

Australian Grains GHG Baseline

The GHG emissions baseline for the Australian grain sector uses the 2005 baseline for Nationally Determined Contributions under the Paris Agreement (COP 21)

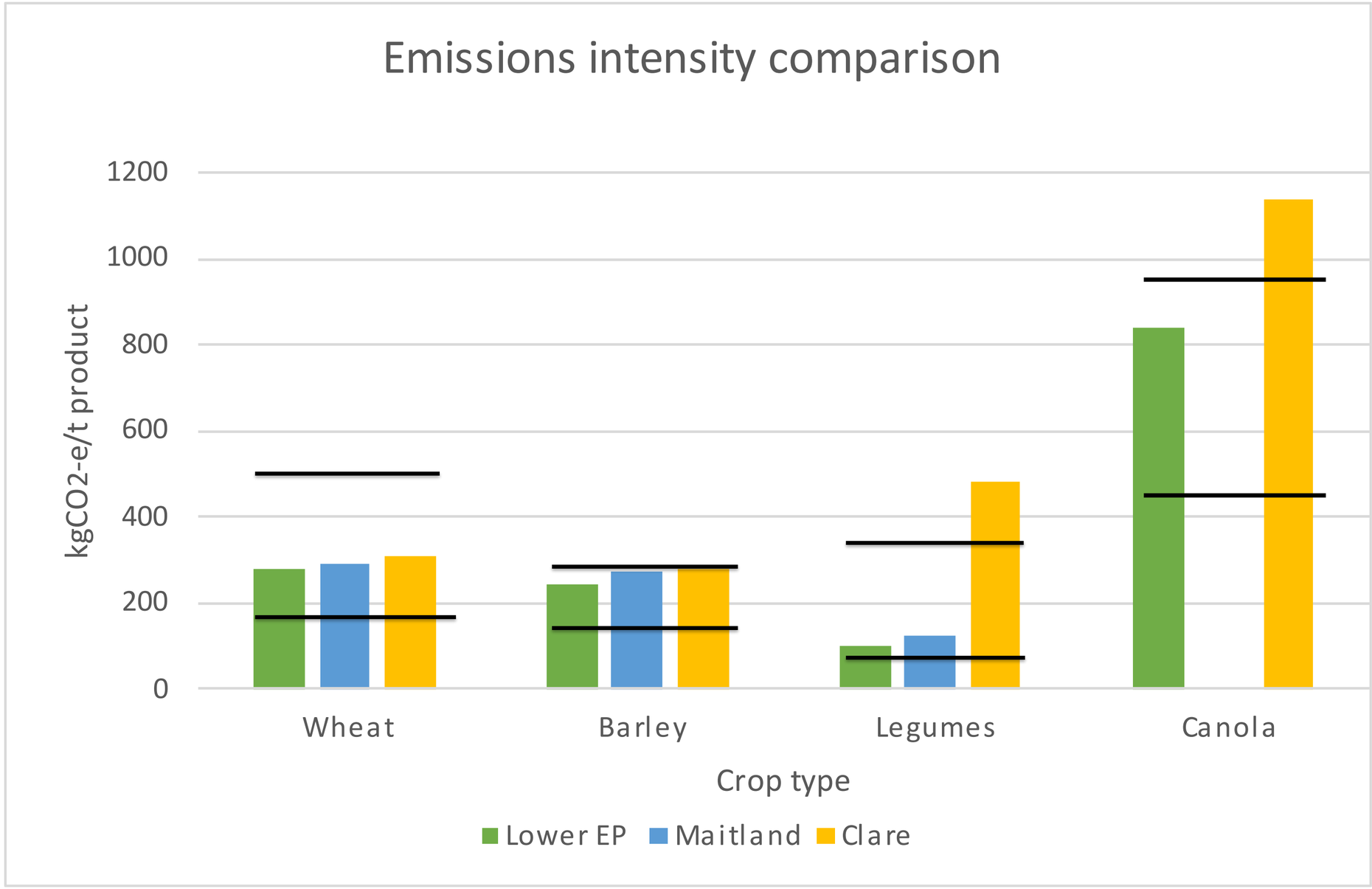
- 2005 GHG gas emissions: **315 kg of CO2~e** per tonne of grain.
- On-farm emissions from Australian grain accounted for **1.7%** of all of Australia's national emissions reported in 2005-06.

pinion ADVISORY

Carbon Accounting

OPPORTUNITIES

Emissions profile – mixed farm



Environmental Certification Programs

Leading Harvest to bring ag sustainability standard to Australia

BY RACHEL ALEMBAKIS | THURSDAY, 3 FEB 2022 6:49PM

Warakirri Asset Management and Kilter Rural will take part in a pilot program that will bring an agriculture and food production sustainability assurance program to Australia.

Greenham SUSTAINABILITY STANDARD

ISCC International Sustainability & Carbon Certification

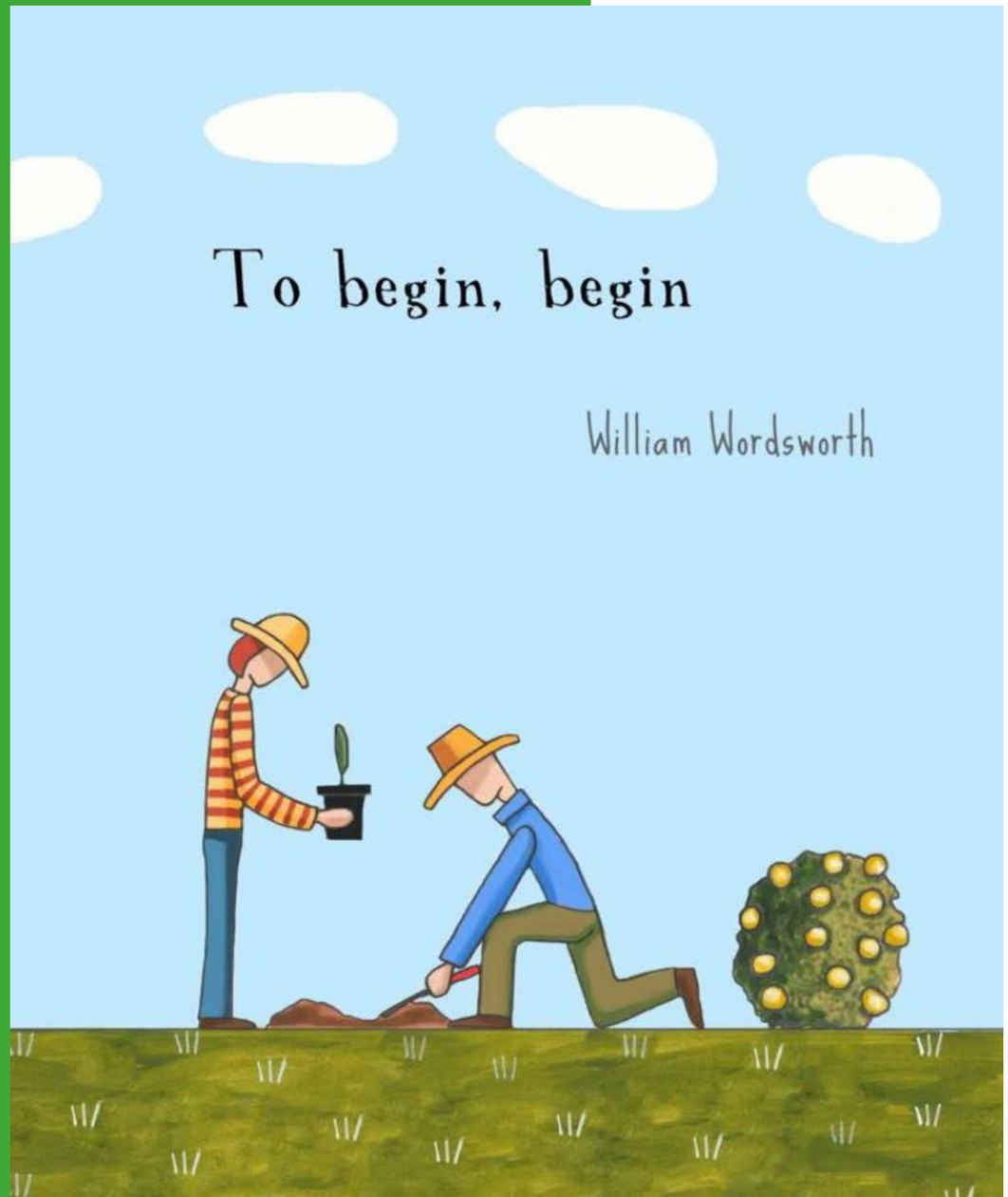
Cargill

Cargill SustainConnect™

LEADING HARVEST™

GREEN TICK SUSTAINABLE CERTIFIED

PINION ADVISORY



Reducing emissions

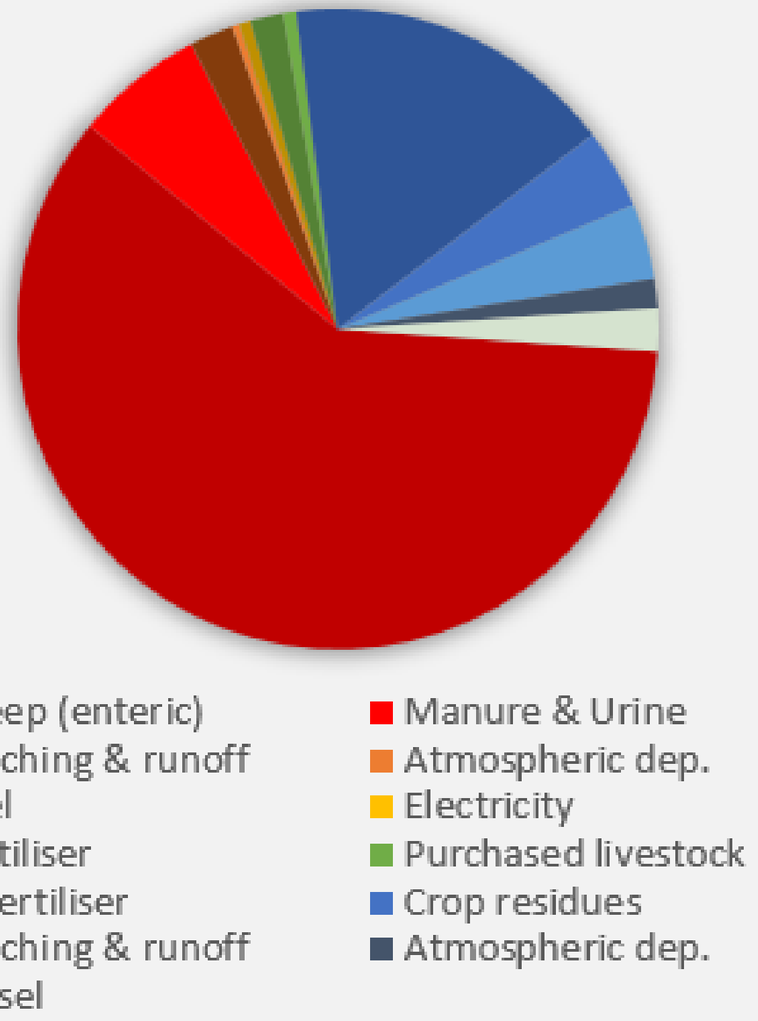
What can growers do?

pinion ADVISORY

Emissions profile – mixed farm

EMISSIONS

			T/Co2-e
Livestock	Sheep (enteric)	10910 HEAD	2324
	Manure & Urine	→	254
	Leaching & runoff	→	86
	Atmospheric dep.	→	14
	Fuel	8000 Litres	23
	Electricity	0 KWh	0
	Fertiliser	65 tonnes	64
	Purchased livestock	25 HEAD	26
Cropping	N Fertiliser	122 kg/ha	649
	Crop residues	→	157
	Leaching & runoff	→	148
	Atmospheric dep.	→	57
	Diesel	31000 Litres	84

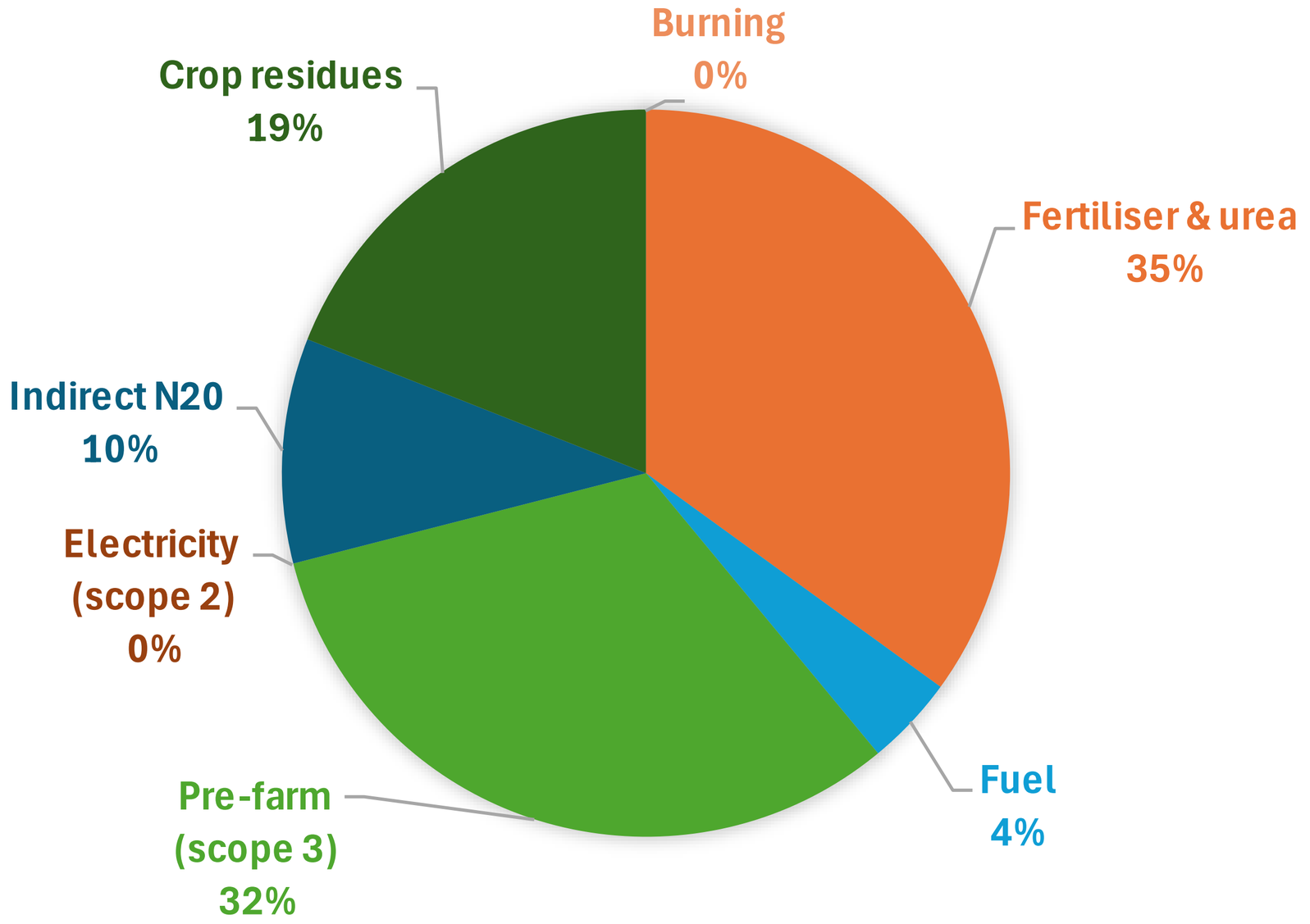


Scope 1 2 3 livestock emissions

pinion ADVISORY

Maitland cropping example

- Fertiliser & urea 35%
- Pre-farm (scope 3) 32%
- Crop residues 19%
- Indirect N_2O 10%
- 0%
  - Electricity
  - Burning



Blue sky thinking

Supporting roles

Ease apprehension

State-wide data sets for benchmarking.

Take the carbon blinkers off – what about natural capital?

Trial low emissions farming systems.

Tell or sustainability stories: Champion SA based businesses buying SA based products.

Low emissions product manufacture.

Landscape scale revegetation projects.

NORTHERN AND YORKE REGIONAL DROUGHT RESILIENCE PLAN.

Report for Northern and Yorke (South Australia) Regional Alliance.

THEME #1 RESILIENT FARM ENTERPRISES

FORESIGHT CAPABILITIES

CURRENT PROGRESS:

- CSIRO, ABARES and BOM have developed a suite of resources to better forecast the impact of future drought and weather conditions.
- The IPCC and other global bodies have developed a range of tools that demonstrate the impact of climate change.
- Climate Change in Australia Climate Analogues and Climate Explorer Tools.
- ABARES has developed a future mega-trends analysis for the future of agriculture in Australia.
- DEW, SARDI and other state government agencies have a range of resources outlining the projected impacts of climate change for agriculture and regions.

PRIORITIES GOING FORWARD:

- Boost the number and use of agronomists, specialist farm advisors and direct training to address current and future gaps.
- Increase ability of soils to store moisture through directing funding for further research and extension.
- Increase access to localised, timely and accurate weather predictions.
- Increase communication of projected climate risks and key messages related to adaptation and transformation.
- Buffer heat and evaporation through the development of a region-wide greening masterplan.
- Target forms of agriculture proven to work in low-rainfall environments.

ACTIONS:

- Current and projected future skills gaps exist in the farm advisory industry (animal nutrition specialists, pasture research and development, crop frost protection). Direct funding towards or provide incentives for education and encouraging specialisation, mentorships and master/apprentice relationships to build critical skills shortage.
- Decreased rainfall and increased evaporation will create the need for greater water efficiency use and the need to increase water soil infiltration and storage. Conduct extensive demonstration trials across the region, including (where feasible) on public land to showcase the benefits of water retention. Combine this with effective communication and messaging regarding projected future climate and the urgent need to plan and act now.
- ABARES projects that the average farm profits will reduce by more than 20% by 2030 because of climate change (Department of Agriculture, Water and Environment, 2020). Develop case studies outlining the benefits of on-farm and off-farm rainfall independent income streams.
- Liaise directly with BOM and CSIRO to ensure more accurate weather predictions for locations across the region.
- Adopt smart irrigation technology within horticulture and viticulture systems.
- Liaise with communications specialists to better communicate the projected impacts of near-term climate change and provide avenues of change.
- Develop a region-wide greening masterplan, utilising mapping of potential greening sites, incorporate carbon offsetting and biodiversity offsetting projects.
- Promote the region as a climate adaptation case study, utilising broad-scale revegetation of low rainfall tolerant native plant species to buffer the impacts of heat and drought.
- Target the expansion of reticulated water closed systems and vertical farming for horticulture through the Northern Adelaide Plains. Similar to Sundrop Farms, near Port Augusta.


Ahrens
Ahrens
Ahrens
Ahrens
Ahrens
Ahrens

THANK YOU,
ANY QUESTIONS?

pinion
ADVISORY

PANEL DISCUSSION

How do industries collaborate on carbon opportunities and challenges?

An Australian Government Initiative

Government of South Australia

Local Government Association of South Australia

Regional Development Australia

Regional Development South Australia

CAROLINE RHODES

CEO, Primary Producers SA

SARAH BARRETT

Lead Consultant- Sustainability Strategy, Pinion Advisory

PROF ANDREW BEER

Executive Dean, University of South Australia Business

CATE HART

Executive Director, Environment Heritage and Sustainability

An Australian Government Initiative

Government of South Australia

Local Government Association of South Australia

Regional Development Australia

Regional Development South Australia

Re-skilling our workforce for the renewable energy sector

MANDY Masters

Local Coordinator – New Energy Apprentices Mentoring Program, MGA Group

MGA INSURANCE GROUP STANDING BY YOU

The New Energy Apprenticeships Mentoring Program

Australian
Renewables Academy

Australian Renewables Academy acknowledges Traditional Custodians of the Country of which we live and work and recognises the continuing connection to lands, waters and communities. We pay our respect to Elders past, present and emerging

Australian
Renewables Academy

The Australian Renewables Academy is a New Energy Apprenticeship Mentoring Provider (NEAM) delivering Australian Apprentices services, funded by the Australian Government Department of Employment and Workplace Relation.

This funding is set to establish and deliver the innovative New Energy Apprenticeships Mentoring Program

With a goal to empower apprentices with the tools and connections they need to thrive in the renewable energy industry.

About the Australian Renewables Academy (ARA)

ARA provides an industry led approach to creating skills, training and workforce development for our renewable energy future and new energy workforce. We understand the importance of supporting the retention of apprentices in the new energy sector and assisting them in building exciting new careers.

Australia’s Renewable Energy developments are happening in regional, rural and remote areas.

Creating substantial opportunities for apprentices in the clean energy sector.

Australian
Renewables Academy

The New Energy Apprenticeships Mentoring Program

- **The Mentoring Program** provides incentives and support to encourage more people into the New Energy sectors.
- The Apprenticeships Program covers 40 different occupations and
- A New Energy Apprentice Support Payment worth up to $10,000 to apprentices working or training in priority occupations.

The New Energy Apprenticeships Mentoring Program

- Matches apprentices with an experienced and skilled industry mentors,
- Provides individualised guidance and advice,
- Supports apprentices and mentors to meet at least once a month,
- Provides access to local peer networking events focussed on the new energy industry revolution and emerging career opportunities.

New energy careers include

HVAC Technicians | Security Systems | Solar | Electrical Fitter | Shutdown & Maintenance Electrician | Industrial Electrician | Signal Maintenance Technician | Electrical Inspector | Instrumentation and Control Technician | Fire Systems | Powerline Tradesperson | Telecommunications Technician | Cable Jointer | Agritech Technician | Automotive Electrician | Civil Engineering | Electronics Equipment Trade worker | Electro Plater | Engineering Pattern Maker | Fitter & Turner | Fitter Welder | Gas Fitter | Glazier | Joiner & Carpenter | Mechanical Engineer Draftsperson | Aerospace | Automotive | Medical | Metal Fabricator | Metal Machinist | Metallurgical | Plastics Technician | Plumber | Pressure Welder | Roof Plumber | Sheetmetal Trades

Mentors

- Volunteer mentors are drawn from growing extensive Clean Energy Industry networks
- Local business's, Industry specialists, Suppliers, Community members
- Industry Experts
- Mentors are adequately trained/supported, and carefully paired with Apprentices to maximize mutual learning, growth, and support.

Mentors

- You will be invited to all ARA events and access to up-to-date information of the New Energy Industry
- Expand your professional and social networks
- Gain new perspectives
- Build a solid pipeline of talents for your organisation
- Contribute to the development of Australia’ s new energy workforce
- Make a difference to the lives and careers of young people.

If you are interested in joining the program as a New Energy Mentor, or know of someone, we welcome you to connect with us, please see me or contact us

Australian
Renewables Academy

Thank You
Connect with NEAM

South Australia – Mandy Masters
Mob: 0455 628 563
Please email info@australianrenewablesacademy.com.aus
www. www.renewablesacademy.com.au

Trends and movements in regional South Australia's economy.

KEENAN JACKSON

Economic Development Specialist, id Informed Decisions

.id informed decisions

An Australian Government Initiative

Government of South Australia

Local Government Association of South Australia

Regional Development Australia

Regional Development South Australia

Regional SA Trends

Keenan Jackson
2 October 2024

Regional Development
South Australia
Summit 2024

.id informed decisions

Overview

Every year .id releases annual estimates of economic activity occurring in Australia's many diverse regions. We call this the State of the Regions Economic Dataset.

It is a time to take stock of what trends and events shaped local economies in the previous year and also an opportunity to reflect on the year ahead.

- **The National Story**
- **State of the Regions**
- **Spotlight on Regional South Australia**
- **Outlook**

These local insights are presented on economy.id so you can:

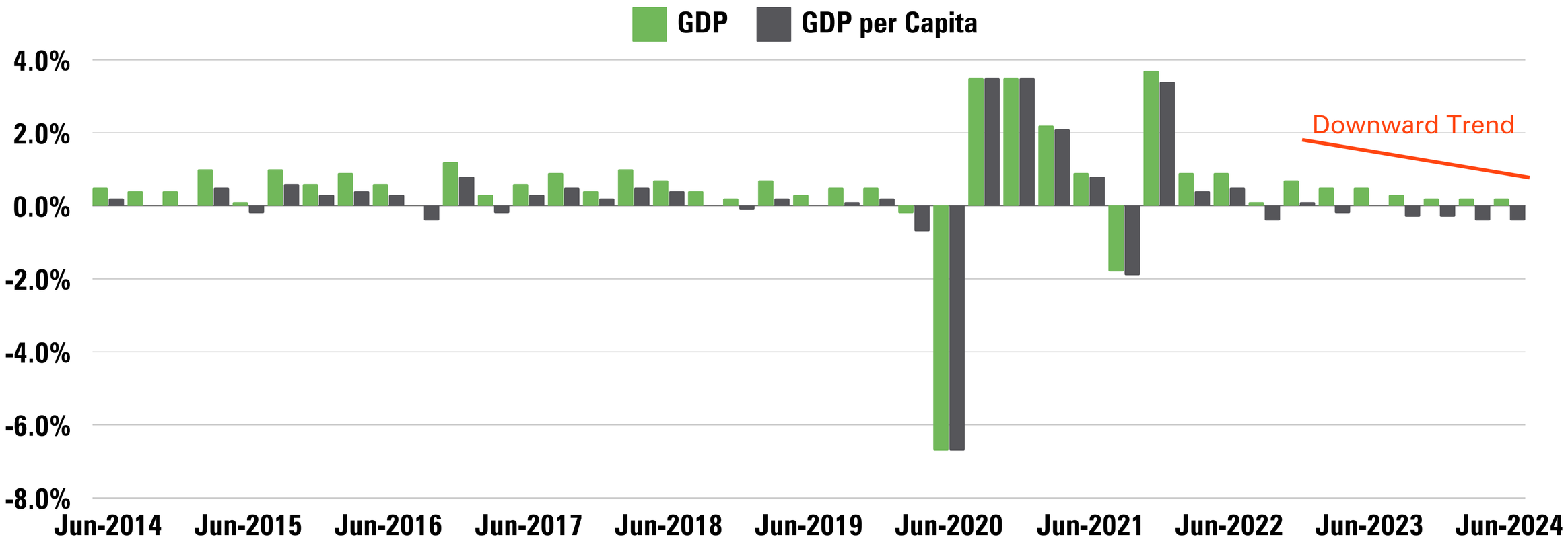
- Develop effective economic strategies
- Promote the economy and attract investment
- Support funding submissions with powerful evidence for essential infrastructure
- Share economic information with local businesses
- Educate council staff and councillors about their local economy

Explore the rich data available on a region in your state

The National Story

GDP growth is slowing and we have actually had 4 quarters of negative GDP per Capita changes

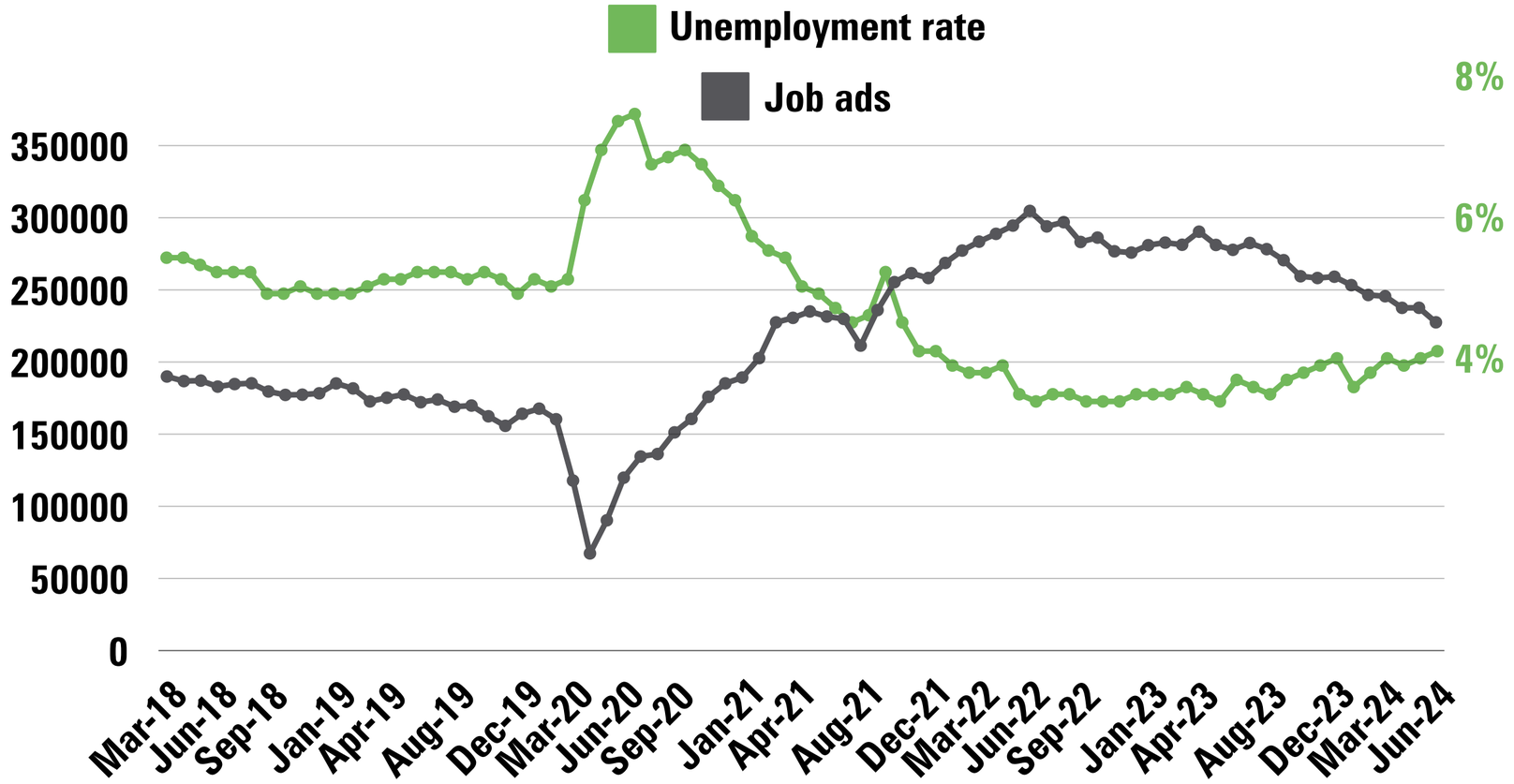
Change in Australia's GDP - Quarter compared to previous year's quarter



Source: ABS, Australian National Accounts, ABS National, state and territory population

The Unemployment Rate is still low hovering around 4%. However, job ads have eased

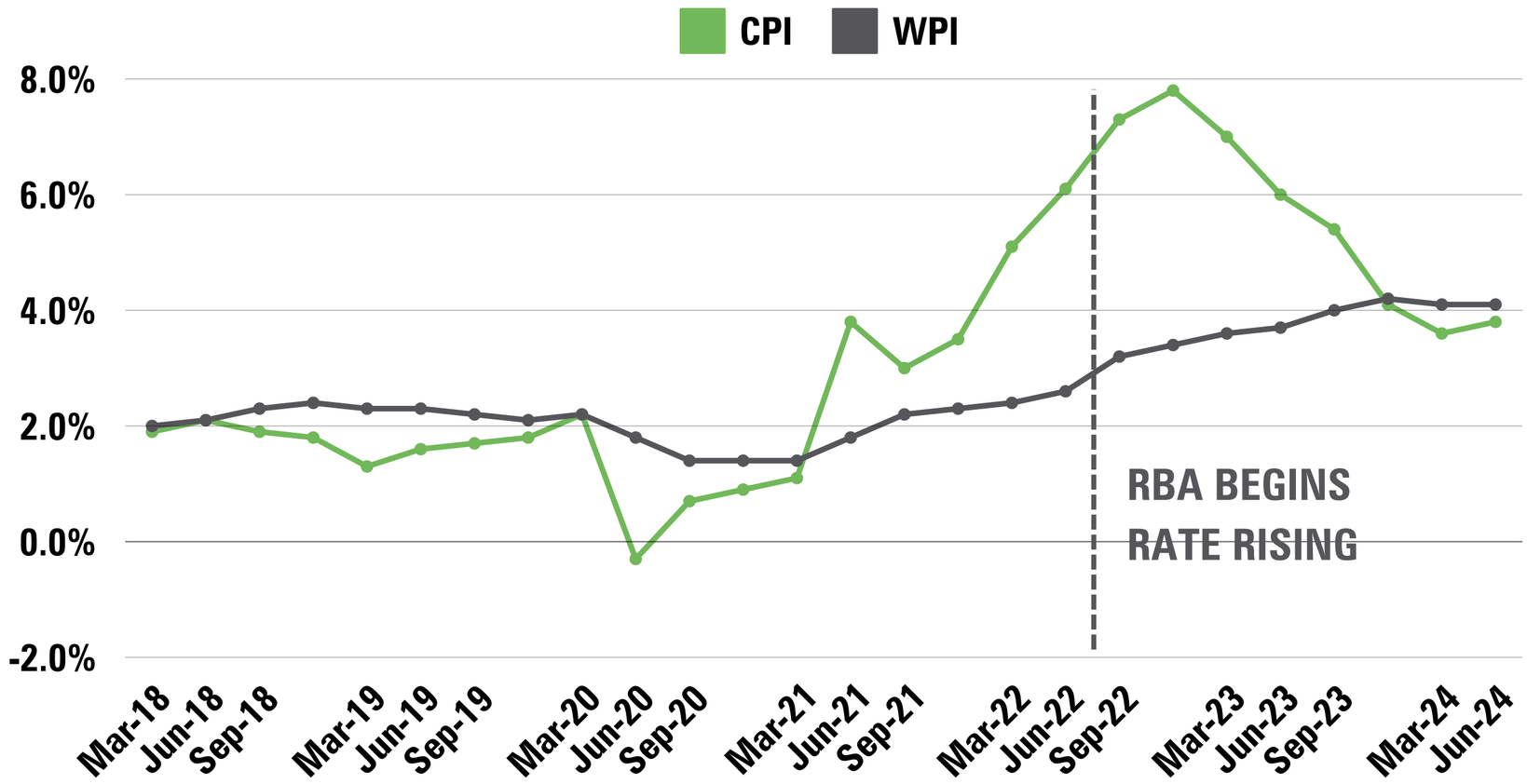
Australia's Unemployment Rate - Rolling 3 month Average



Source: ABS, Labour Force

The Inflation Rate continued to fall in 2023 and has now dropped below 4% YoY

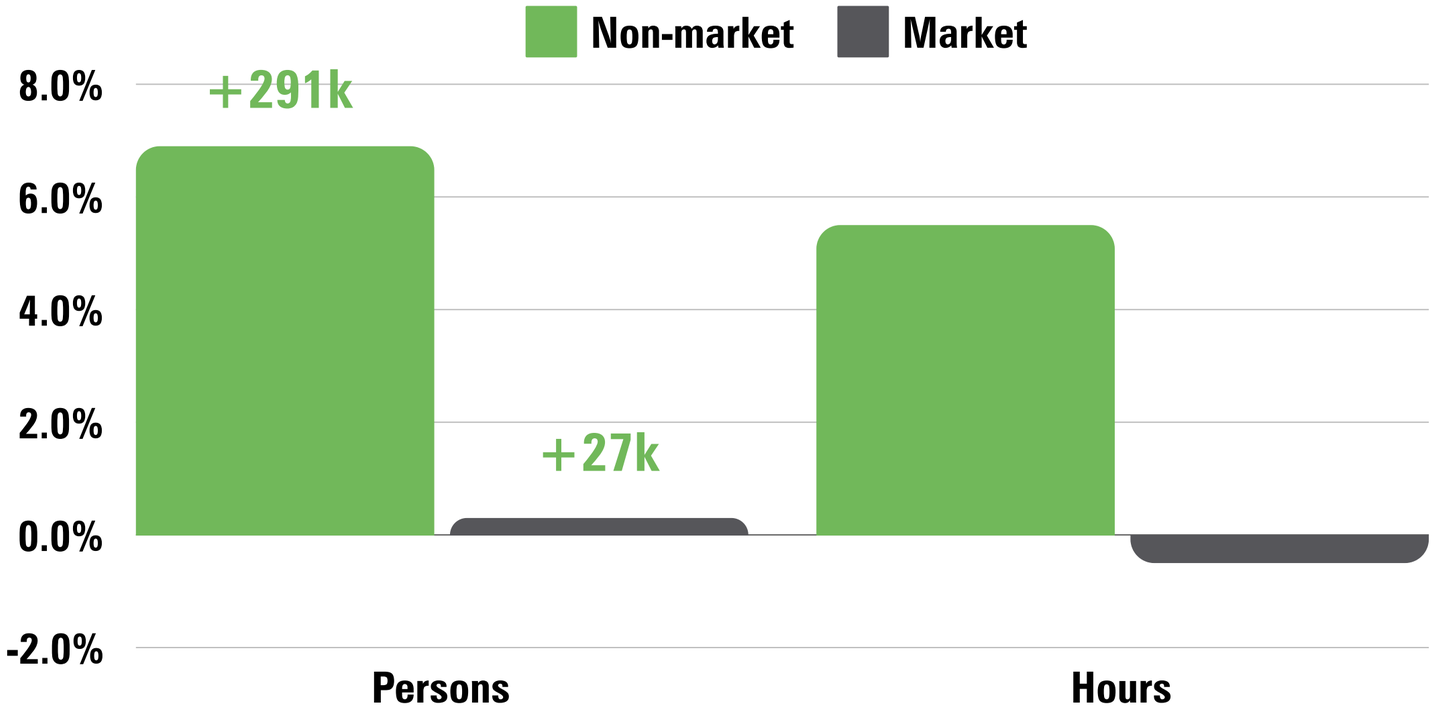
Australia's Inflation Rate - % Change from Corresponding Quarter of Previous Year



Source: ABS, Consumer Price Index

Employment growth has been driven by the non-market sector - Health, Education and Government

Change in employed people and hours, by sector, seasonally adjusted, March 2023 to March 2024



Non-market jobs defined as Health Care and Social Assistance, Education and Training and Public Administration and Safety

Source: ABS Labour Account

In the year to March 2023, growth of Market Sector was 3.2% (315k)

State of the Regions

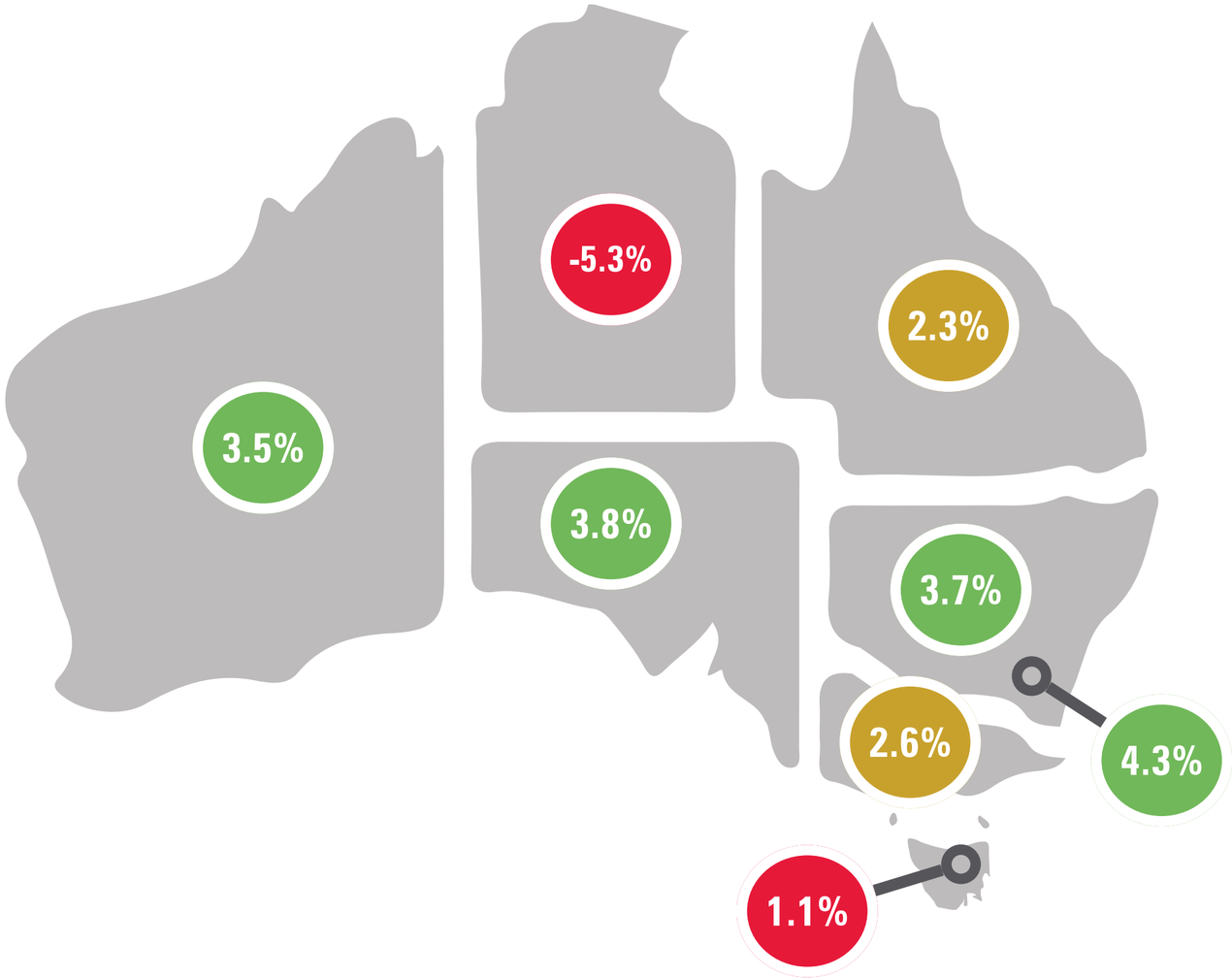
ACT LED GROWTH IN 22/23

Australia's states and territories have very distinct economies dependent on their size and access to resources, infrastructure and human capital.

The ACT grew the strongest in the 2022/23 FY, driven by large growth in Public Administration and Safety expenditure.

The NT experienced a fall in economic activity influenced by weaker production volume in the Oil and Gas industry.

Annual Change in Gross State Product, 2022/23 FY



Source: ABS, Australian National Accounts: State Accounts, 2022-23

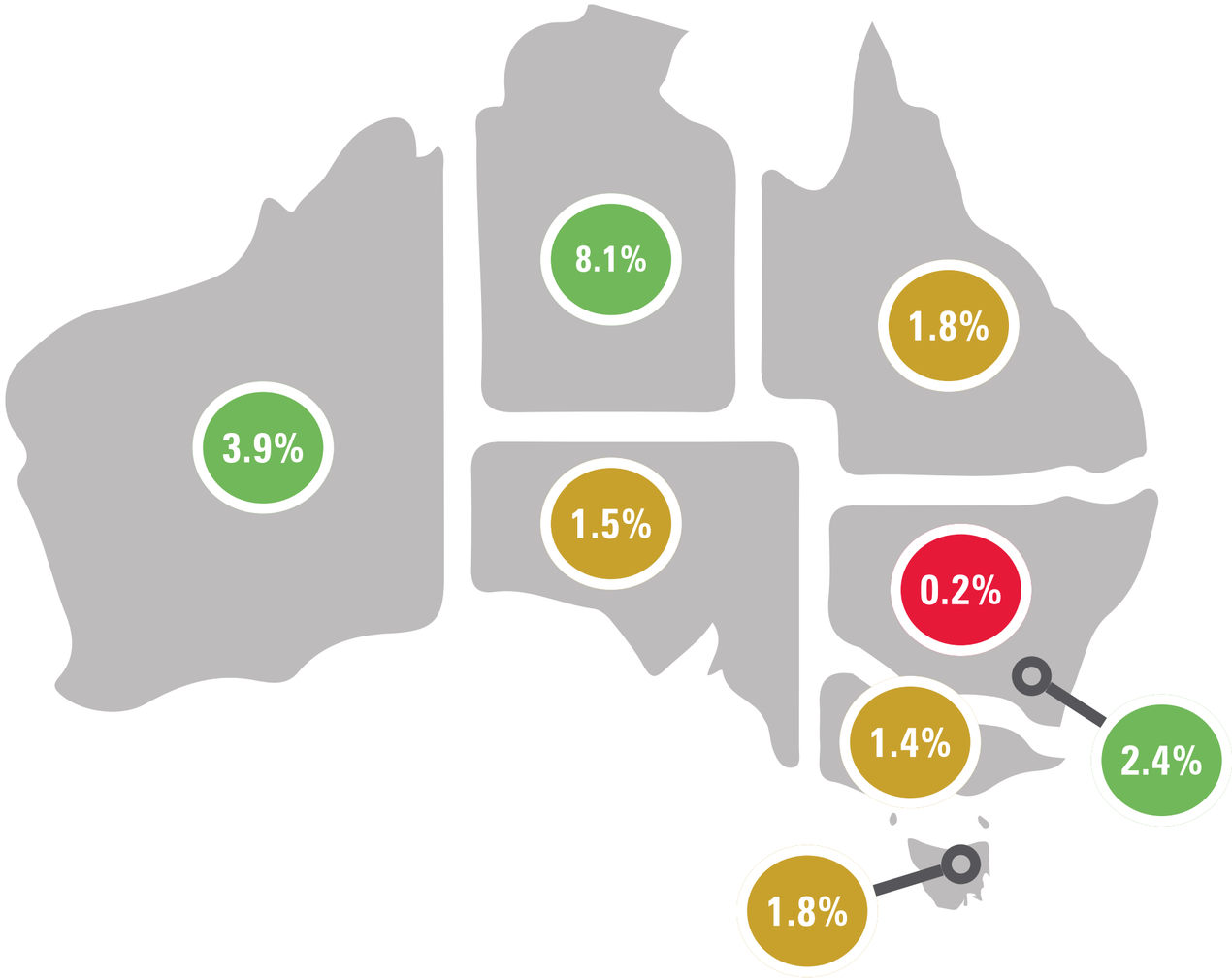
RESOURCES BOOM IS DRIVING GROWTH IN WA IN 2023/24

Australia's two largest states have slowed.

NT has recovered, while SA coming off the boil.

QLD has consistent growth supported by population growth and resources.

Change in State Final Demand, 4 Quarters to June 2024



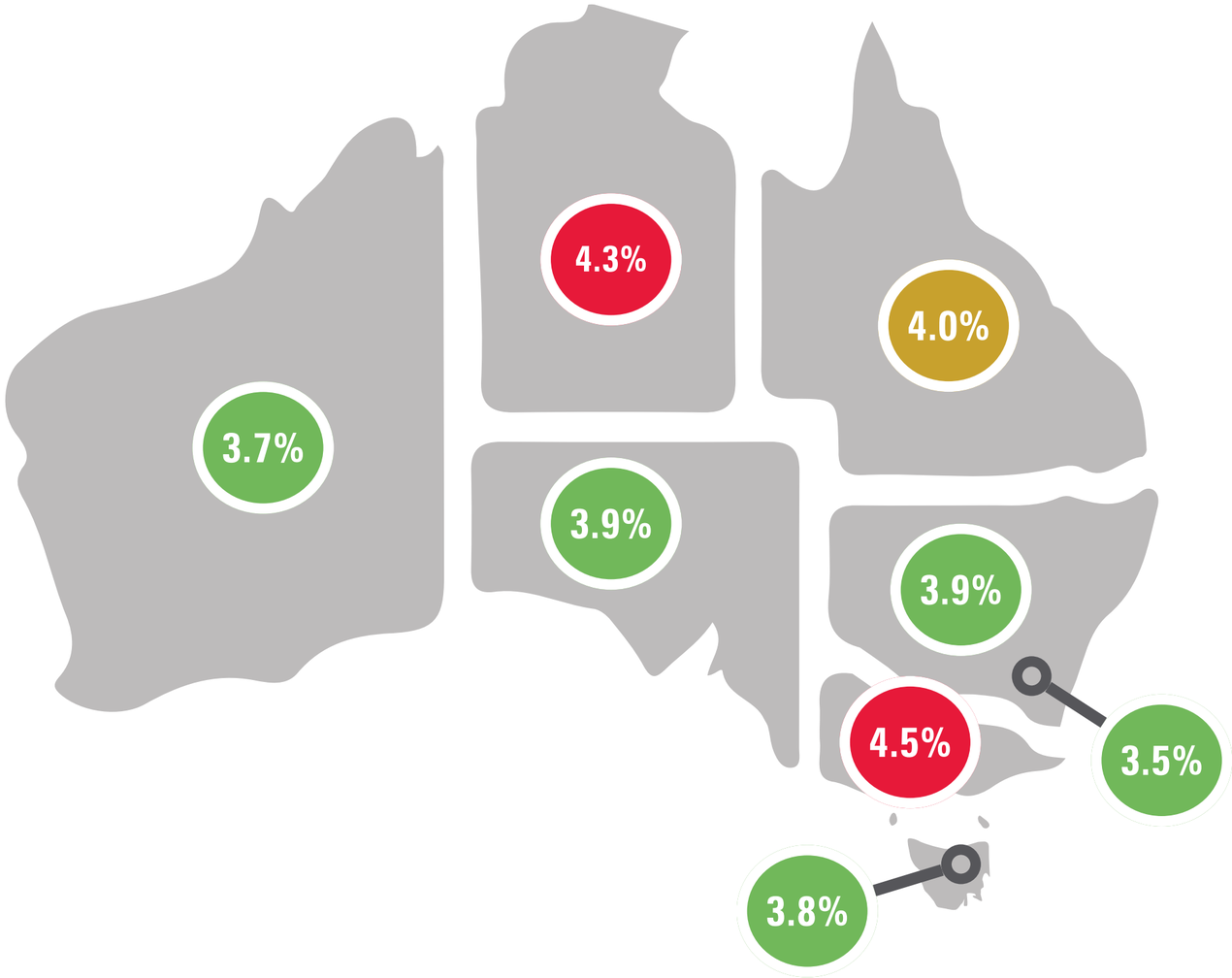
Source: ABS, Australian National Accounts: National Income, Expenditure and Product

ACT LOWEST U/E; NT & VIC HIGHEST

The Unemployment Rate rose in the largest states in 2022/23:

- Victoria +0.70%
- New South Wales +0.60%
- Australia +0.40%
- Western Australia +0.10%
- Australian Capital Territory +0.1%
- Queensland 0.00%
- South Australia -0.00%
- Northern Territory -0.20%
- Tasmania -0.30%

Unemployment Rate June 2024 (TREND)

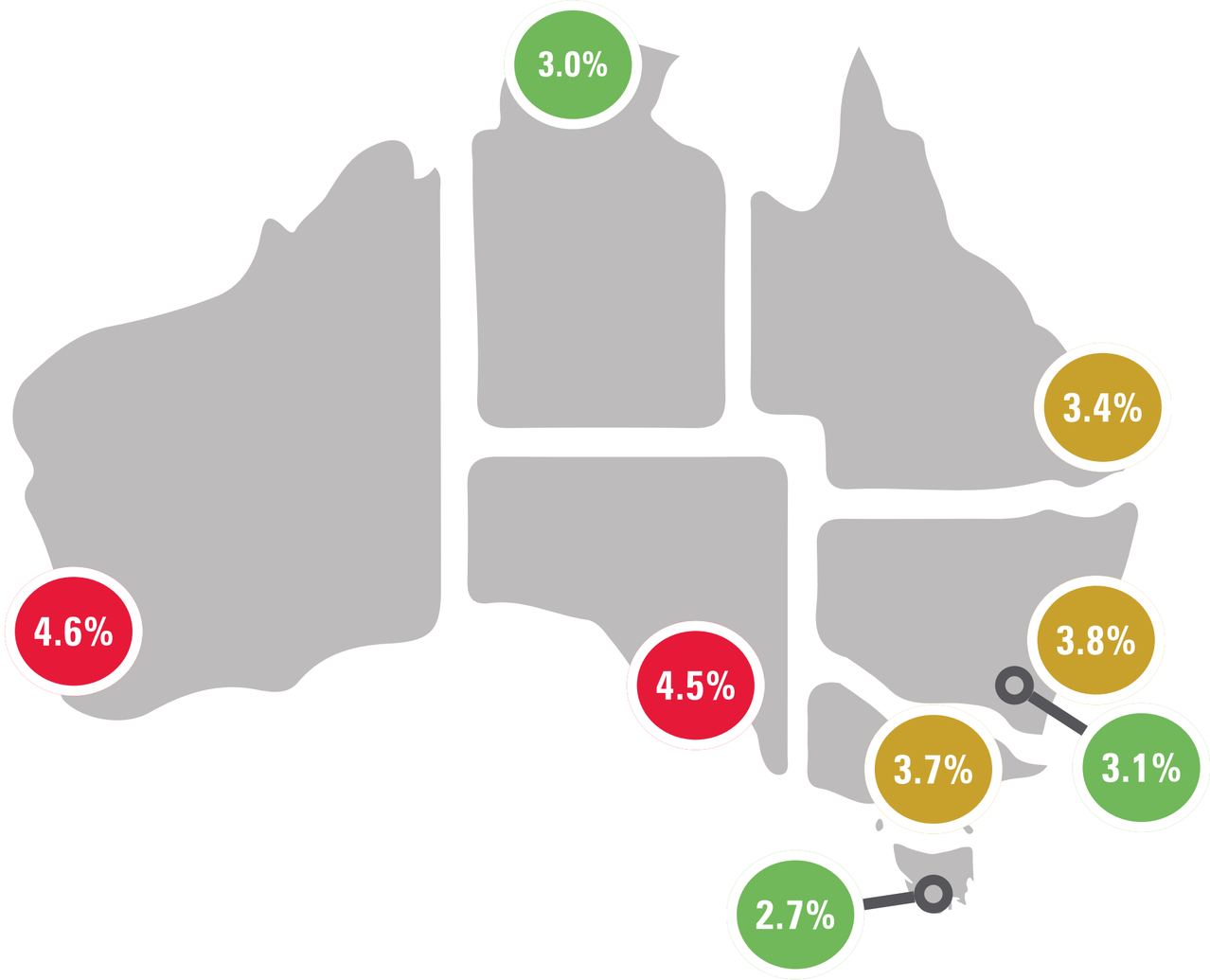


Source: ABS, Labour Force

PERTH NOW HIGHEST INFLATION; TAS THE LOWEST

Nearly all metro cities CPI trending downwards except Perth which rose the last quarter. Adelaide also remains elevated.

Annual Inflation Rate to June 2024



Source: ABS, Consumer Price Index, Australia

14 OF THE TOP 25 PERFORMING LGAS* WERE LOCATED IN REGIONAL AUSTRALIA

*Population greater than 10k

LGA	State	Region	2023 GRP $M	1 yr change
Yorke Peninsula (DC)	SA	Regional SA	947	34.3%
Brighton (M)	TAS	Greater Hobart	822	30.7%
Port Augusta (C)	SA	Regional SA	898	17.8%
Liverpool (C)	NSW	Greater Sydney	16,616	14.2%
Southern Downs (R)	QLD	Regional QLD	2,346	13.9%
Golden Plains (S)	VIC	Regional VIC	1,122	13.6%
Belmont (C)	WA	Greater Perth	11,084	13.0%
Camden (A)	NSW	Greater Sydney	7,439	10.3%
Queanbeyan-Palerang (A)	NSW	Regional NSW	3,649	9.5%
Gunnedah (A)	NSW	Regional NSW	1,068	9.4%
Bayside (A)	NSW	Greater Sydney	14,939	9.0%
Melton (C)	VIC	Greater Melbourne	7,961	9.0%
Dardanup (S)	WA	Regional WA	762	8.9%
Mansfield (S)	VIC	Regional VIC	683	8.8%
Hume (C)	VIC	Greater Melbourne	18,280	8.8%
Newcastle (C)	NSW	Regional NSW	21,065	8.6%
Harvey (S)	WA	Regional WA	2,985	8.4%
Cessnock (C)	NSW	Regional NSW	3,323	8.2%
Goulburn Mulwaree (A)	NSW	Regional NSW	2,256	8.2%
Western Plains Regional (A)	NSW	Regional NSW	4,160	8.1%
Lithgow (C)	NSW	Regional NSW	1,748	7.9%
Banyule (C)	VIC	Greater Melbourne	7,617	7.8%
Wyndham (C)	VIC	Greater Melbourne	16,603	7.8%
Maitland (C)	NSW	Regional NSW	6,603	7.7%
East Gippsland (S)	VIC	Regional VIC	2,729	7.7%

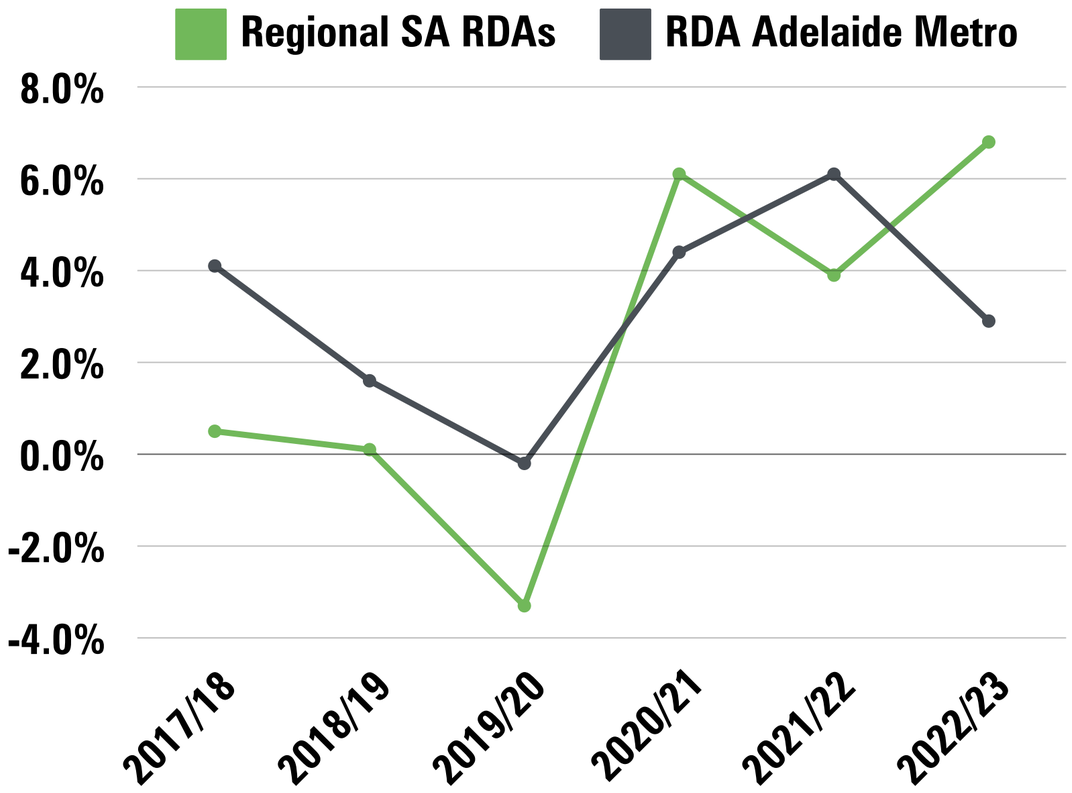
Source: NIEIR, State of the Regions Data 2024

Spotlight on Regional South Australia

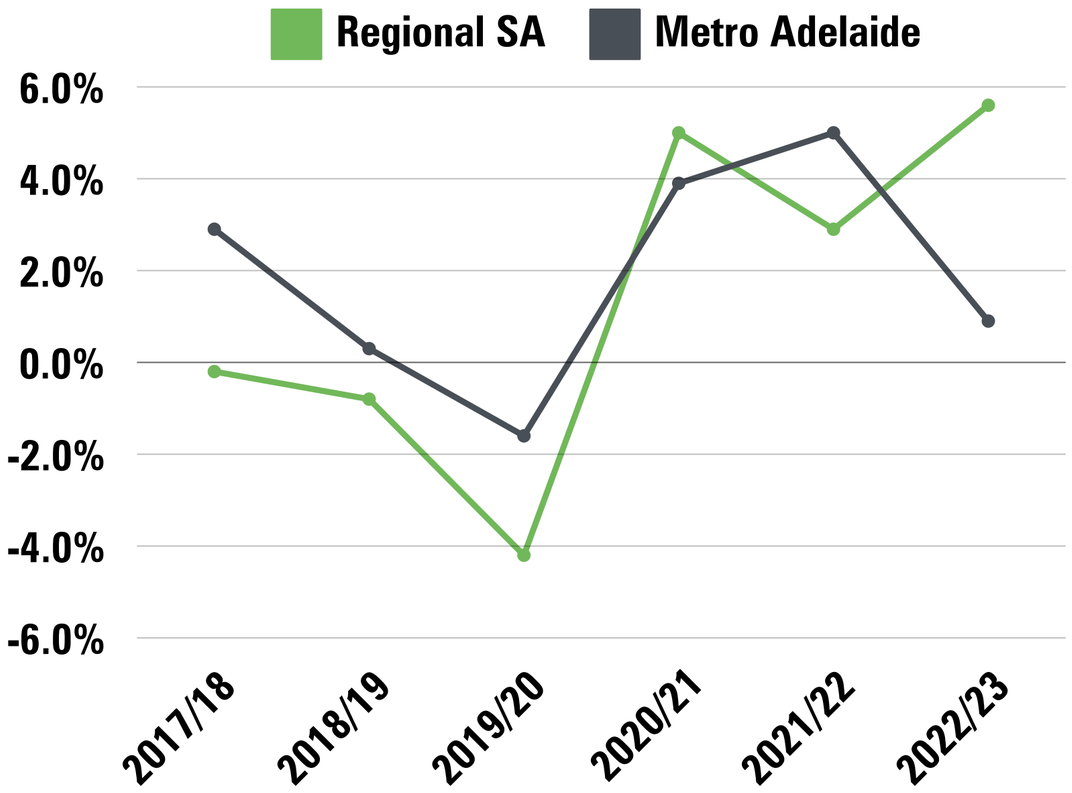
REGIONAL SA EXCEPTIONAL PERFORMANCE

GRP per capita growth above three times the Regional Australia average

Annual % Change in GRP



Annual % Change in GRP per Capita



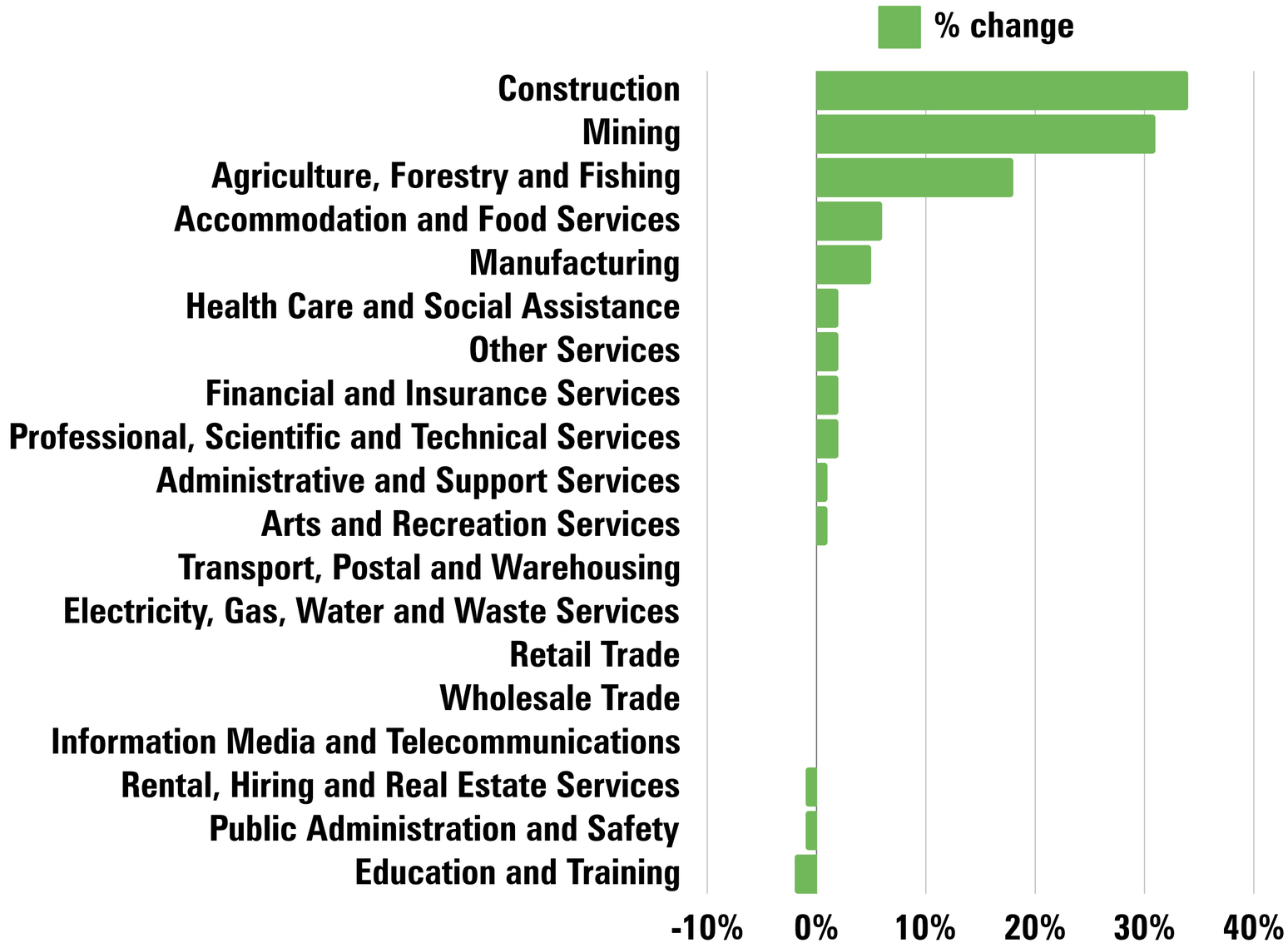
Source: NIEIR, State of the Regions Data 2024

BOOM IN CONSTRUCTION AND PRIMARY INDUSTRIES DRIVING GROWTH

- Strong building activity in both residential and infrastructure investment contributed to a rise in construction.
- Mining related grew across the state with increased production of key commodities such as copper.
- Agriculture grew off favourable production conditions.
- Hospitality and Arts and Recreation services growth driven by strong household discretionary spending and tourism.
- Mining, construction and Agriculture led to a flow on increase in manufacturing/processing.

Regional South Australia

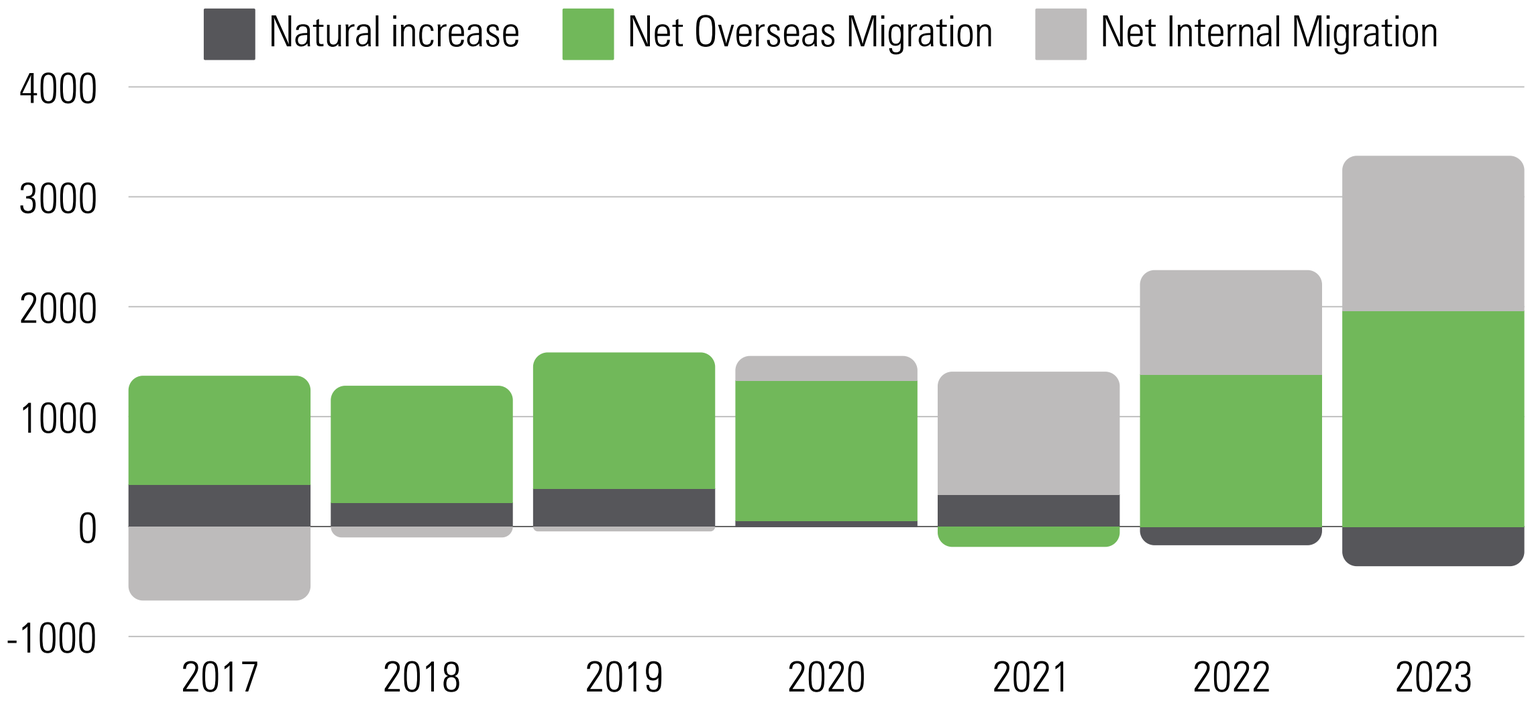
Contribution to annual growth in industry value added, 2022-23



Source: NIEIR, State of the Regions Data 2024

SURGE IN INTERNAL MIGRATION

Components of population change - Regional SA



Net Internal Migration in 2022-23 - Top 5 LGAs in Regional SA:

- Alexandrina +500
- Adelaide Plains +350
- Copper Coast +330
- Barossa +310
- Victor Harbour +240

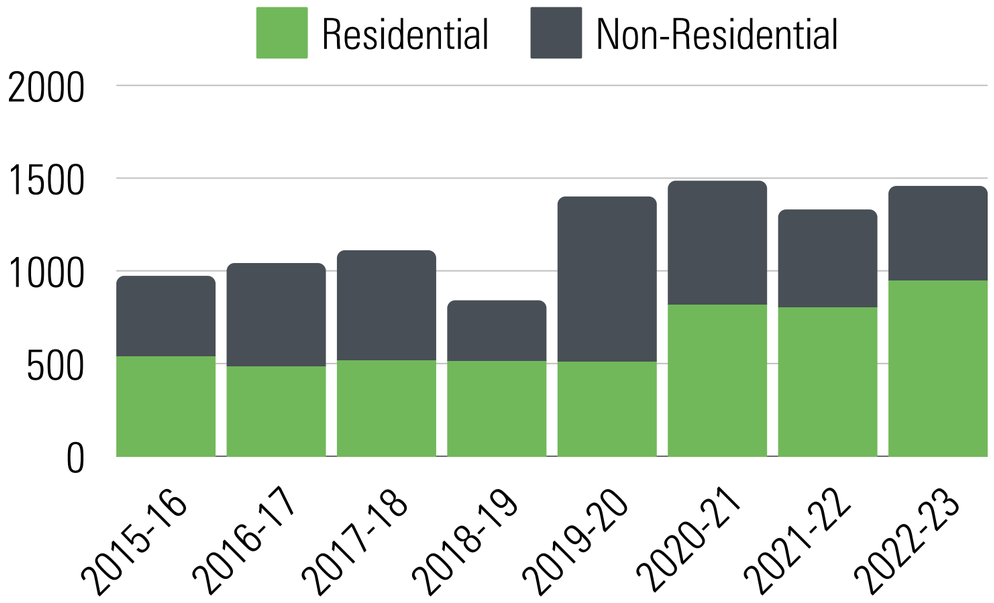
Net Overseas Migration in 2022-23 - Top 5 LGAs in Regional SA:

- Murray Bridge +300
- Renmark Paringa +130
- Mount Gambier +130
- Alexandrina +130
- Barossa +130

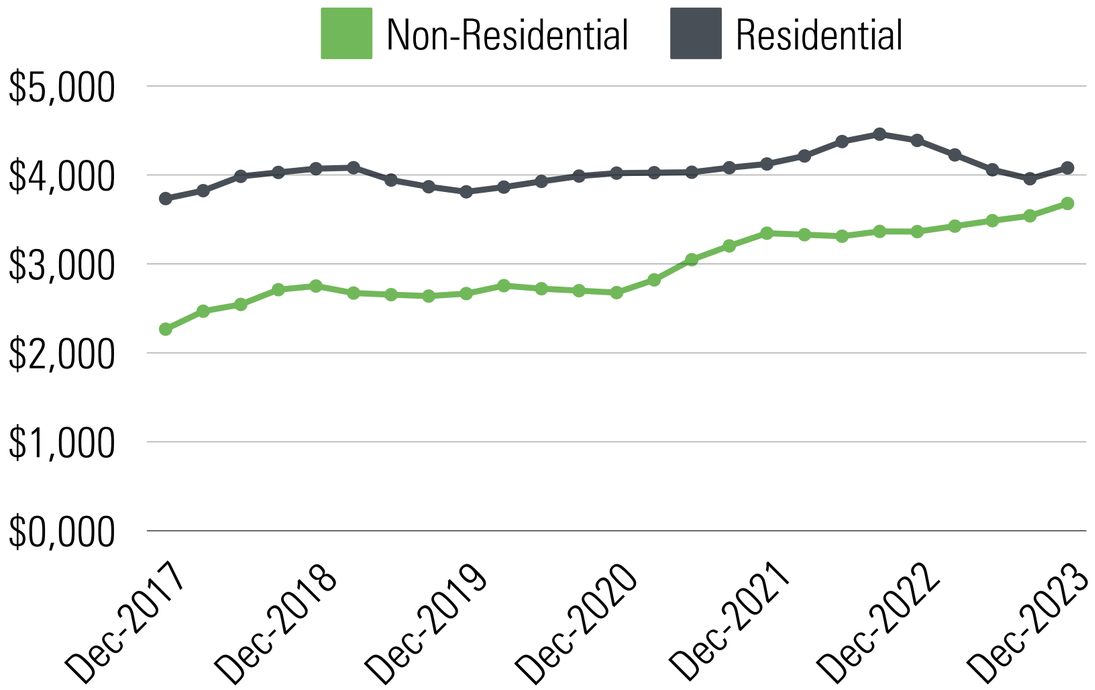
Source: ABS, National, state and territory population

STEP UP GROWTH IN RESIDENTIAL BUILDING APPROVALS; HOWEVER COMPLETION REMAINED FLAT

Regional SA- Approvals $M



Value of building work done, rolling 4 quarter sum, chain volume ($M) - South Australia



Source: ABS, Building Approvals & Building Activity

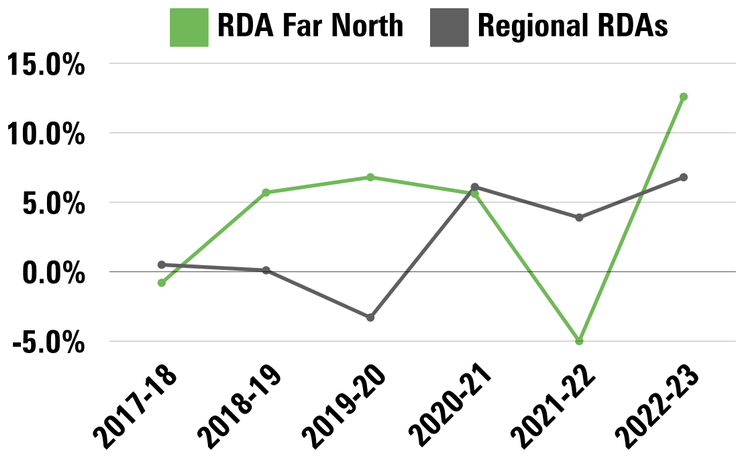
RDA Far North

$6.6B
Gross Regional Product

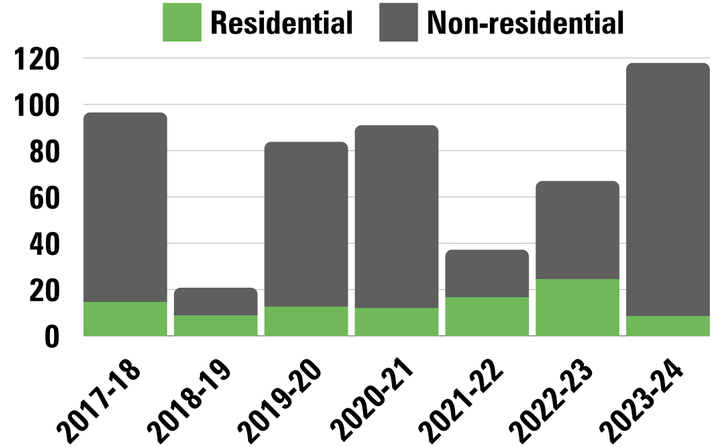
27,403
Population

20,337
Local Workers

Economic growth



Building Approvals $M



Source: economy.id (including NIEIR and ABS)

Largest industries in 2022-23

Mining
$4,343M

Agriculture, Forestry and Fishing
$1,049M

Construction
$646M

Growth driven by resources (Copper), major projects and Agriculture (Livestock, Wool, Grapes)

Port Augusta Technical College will open in 2025 and will be co-located with the Port Augusta Secondary School - $50M+

A major upgrade at Fregon Anangu School in the APY Lands - $20M

RDA Far North

$6.6B
Gross Regional Product

27,403
Population

20,337
Local Workers

Outlook

- Partnership between BHP and the State Government to deliver critical industry skills at the Technical College at Port Augusta.
- BHP is looking to potentially expand its copper smelter and refinery at Olympic Dam.
- Prominent Hill Wira shaft mine expansion project set to come online in 25/26.
- Uranium demand set to increase as new reactors built in Asia.
- Livestock exports have been boosted by growing demand in the US.
- Proposal for a 30 MW Concentrating Solar Power (CSP) plant located in Port Augusta along with a battery energy storage system

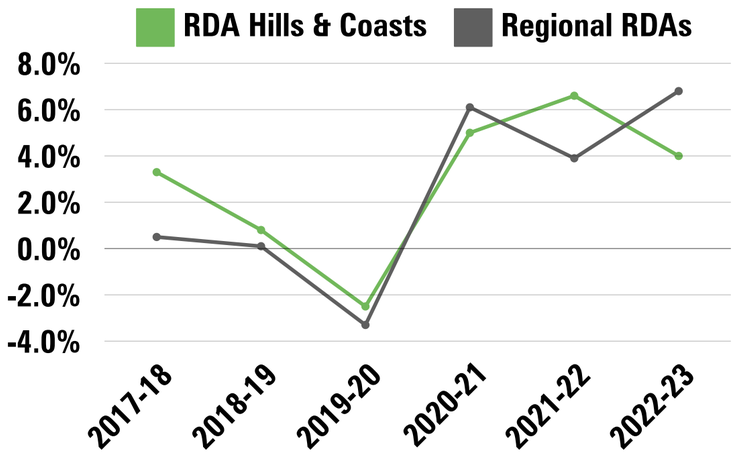
RDA Hills & Coasts

$6.7B
Gross Regional Product

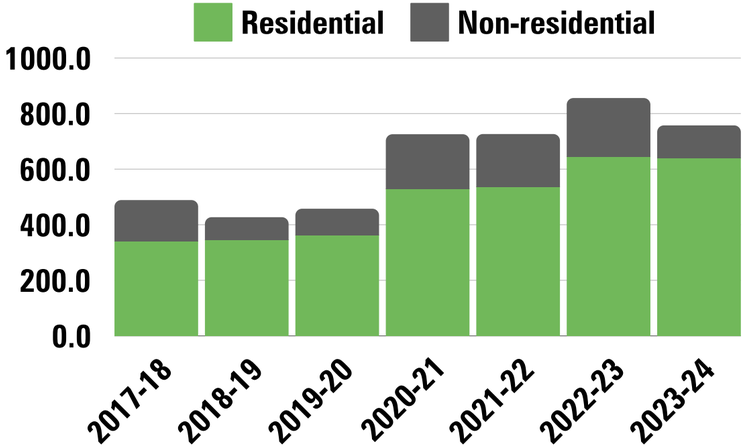
142,556
Population

48,527
Local Workers

Economic growth



Building Approvals $M



Largest industries in 2022-23

Agriculture, Forestry and Fishing
$701M

Healthcare
$643M

Construction
$562M

Growth driven by population growth and Agriculture (Livestock, Fruit & Veg., Grapes)

$321M committed for the New Mount Barker Hospital
$63M new primary school
$52M Regional Indoor Aquatic and Leisure Centre

Source: economy.id (including NIEIR and ABS)

RDA Hills & Coasts

$6.7B
Gross Regional Product

142,556
Population

48,527
Local Workers

Outlook

- Substantial population growth in Mount Barker expected to continue to support new residential developments and population servicing facilities. If it wasnt included in ‘Greater Adelaide’, it would be Australia’s 39th largest city.
- Mount Barker City Centre Project would boost non-residential development if approved.
- Wine exports are forecast to fall/be flat due to decreased global consumption even in spite of China removing tariffs.
- Tourism to continue to grow steadily as AUD remains depreciated and new accommodation facilities (e.g. Kangaroo island) come on board.

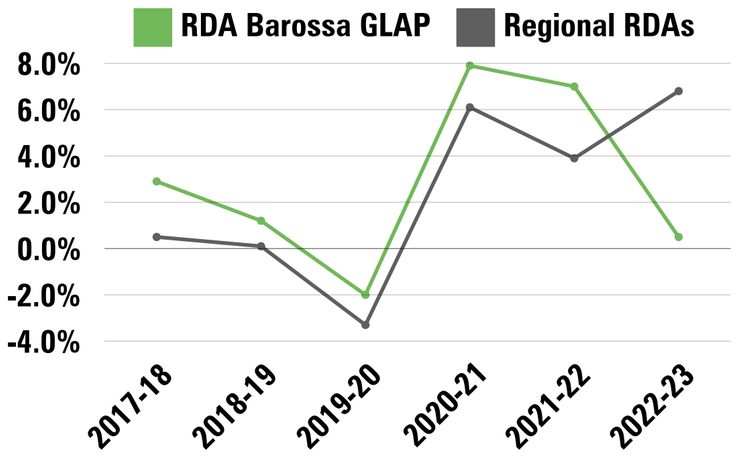
RDA Barossa GLAP

$4.1B
Gross Regional Product

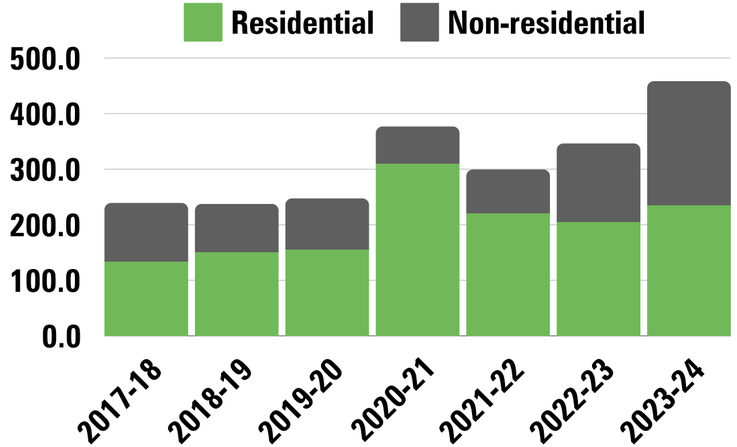
80,605
Population

29,311
Local Workers

Economic growth



Building Approvals $M



Largest industries in 2022-23

Agriculture, Forestry and Fishing
$629M

Manufacturing
$436M

Healthcare
$365M

Growth driven by population growth and Agriculture (Crops, Livestock, Fruit & Veg., Grapes)

Xavier College expansion - $38M
Lyndoch's Recreation Park redevelopment - $42M
Warehouse in Nuriootpa - $50M

Source: economy.id (including NIEIR and ABS)

RDA Barossa GLAP

$4.1B
Gross Regional Product

80,605
Population

29,311
Local Workers

Outlook

- Population growth expected to continue to support new residential developments and population servicing facilities. Contingent on ongoing development of land e.g. Concordia Growth Area.
- Wine exports are forecast to fall/be flat due to decreased global consumption even in spite of China removing tariffs.
- Crop production to be potentially impacted by drier conditions.
- Construction is expected to commence in late 2025 on the $100M+ development plan for the new Two Wells town centre
- Commonwealth and State funding has been given to develop the Barossa Creative Industries Centre.
- Fruit and Veg production growth tied to future stages of the Northern Adelaide Irrigation Scheme

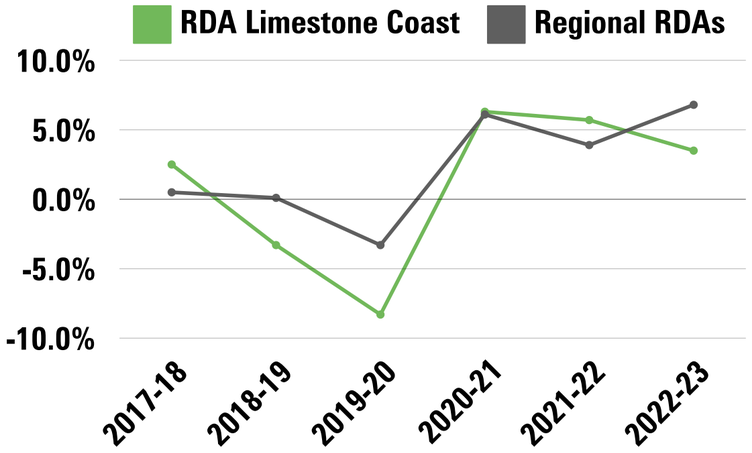
RDA Limestone Coast

$4.7B
Gross Regional Product

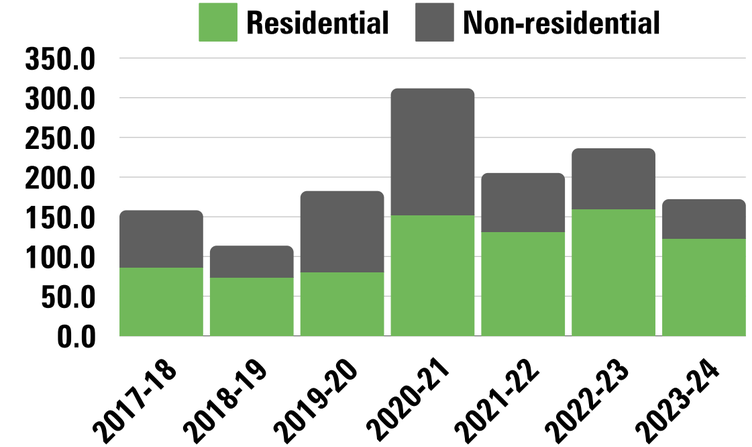
69,137
Population

34,316
Local Workers

Economic growth



Building Approvals $M



Source: economy.id (including NIEIR and ABS)

Largest industries in 2022-23

Agriculture, Forestry and Fishing
$1,417M

Manufacturing
$468M

Healthcare
$350M

Growth driven by mainly Agriculture (Livestock, Dairy, Wool, Fruit & Veg., Grapes), Forestry and Manufacturing

Wulanda Recreation and Convention Centre - $60M+ completed in late 22
Mount Gambier High school upgrades and $35M Technical College
$100M+ in industrial buildings approved last 3 years

RDA Limestone Coast

$4.7B
Gross Regional Product

69,137
Population

34,316
Local Workers

Outlook

- New Technical College crucial for supporting long term skills development.
- Projects like the Green Triangle Pellet Mill may generate support near term construction jobs and provide ongoing boost to employment while demonstrating the potential of green energy driven industry.
- A number of timber manufacturing upgrade projects will help boost productivity in the industry. Demand expected to grow steadily despite recent falling residential building approvals.
- Pacific Green has won approval to build South Australia's largest battery storage project near Mount Gambier.

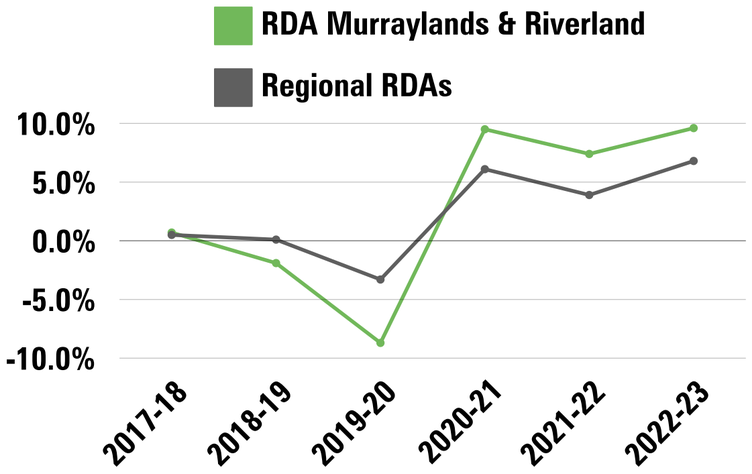
RDA Murraylands & Riverland

$4.8B
Gross Regional Product

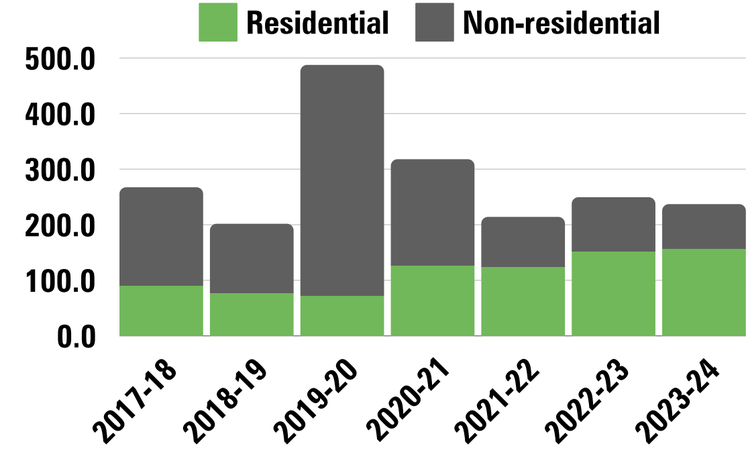
73,771
Population

32,137
Local Workers

Economic growth



Building Approvals $M



Source: economy.id (including NIEIR and ABS)

Largest industries in 2022-23

Agriculture, Forestry and Fishing
$1,357M

Construction
$609M

Healthcare
$357M

Growth driven by mainly Agriculture (Citrus, Livestock, Fruit & Veg., Grapes)

Thomas Foods International Processing Plant - $300M was one of regional SA's largest projects and completed in 2023

$88M in industiral buildings

$42M in education facilities last 3 years

RDA Murraylands & Riverland

$4.8B
Gross Regional Product

73,771
Population

32,137
Local Workers

Outlook

- Thomas Foods International has struck major deal with Shanghai Paradise Garden Healthy Food Company for $30 million worth of locally produced red meat to be exported to China by the end of 2024.
- Water supply capacity at some locations (e.g. Bordertown) are preventing further development.
- Drought and flood resilience plans as well as flow regulation in the upper Murray system will continue to be crucial to the region's social and economic future.

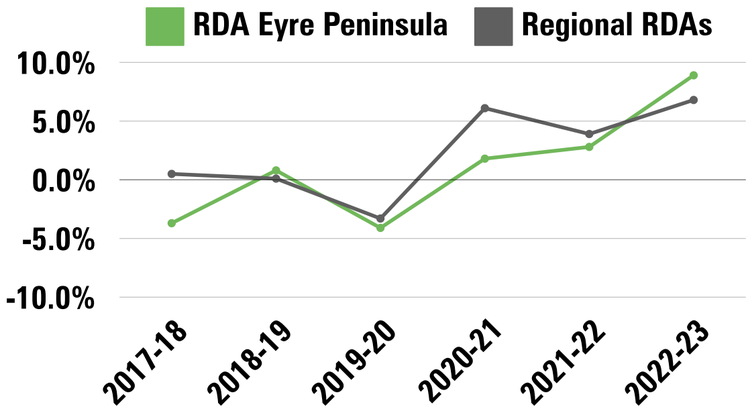
RDA Eyre Peninsula

$4.5B
Gross Regional Product

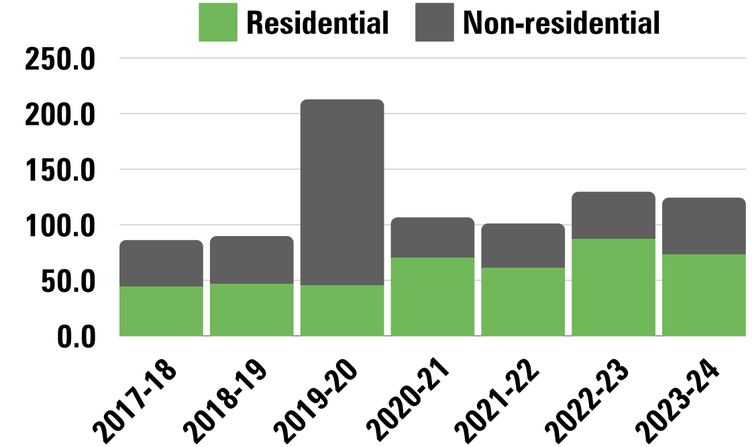
59,207
Population

26,554
Local Workers

Economic growth



Building Approvals $M



Largest industries in 2022-23

Agriculture, Forestry and Fishing
$735M

Mining
$445M

Construction
$386M

Growth driven by mainly Agriculture (Broadacre Crops), Mining (Iron Ore), Metal Manufacturing (Steel works)

$100M Whyalla Secondary College completed in late 2021
$28M in industiral buildings
$28M in education facilities last 3 years

Source: economy.id (including NIEIR and ABS)

RDA Eyre Peninsula

$4.5B
Gross Regional Product

59,207
Population

26,554
Local Workers

Outlook

- Main focus is on potential of hydrogen projects:
- The $500M committed by the Government of South Australia to a hydrogen power plant, electrolyser and storage facility expected to create around 1000 jobs during construction.
- Government also looking at Port Bonython to become South Australia's first large-scale export terminal for green and blue hydrogen.
- Crop production to be potentially impacted by drier conditions.
- The Northern Water seawater desalination plant in the Spencer Gulf at Cape Hardy would general considerable jobs and ensure security of supply in dry conditions.

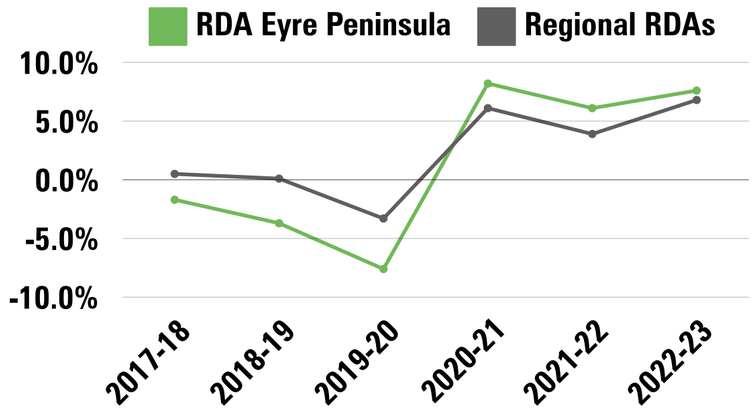
RDA Yorke & Mid North

$4.5B
Gross Regional Product

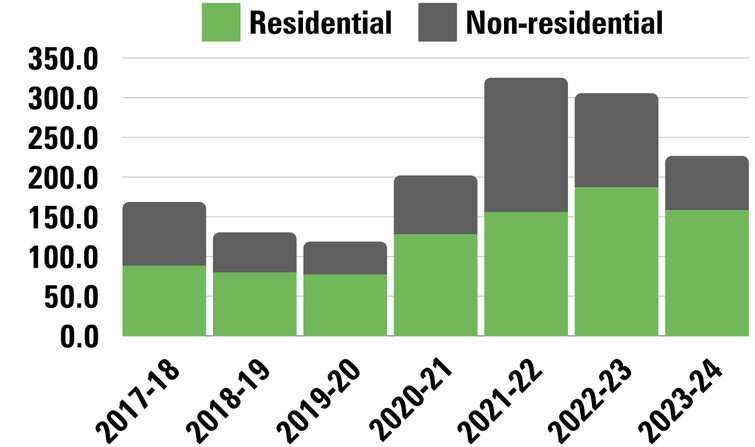
78,904
Population

29,308
Local Workers

Economic growth



Building Approvals $M



Source: economy.id (including NIEIR and ABS)

Largest industries in 2022-23

Agriculture, Forestry and Fishing
$982M

Construction
$742M

Healthcare
$337M

Growth driven by mainly Agriculture (Broadacre Crops), Metal Manufacturing, major projects

New grains export terminal opened for 2022-23, T-Ports Wallaroo $200M+ Wallaroo Shores hotel and residential project proposed to restart in late 2024 after a few challenging years

RDA Yorke & Mid North

$4.5B
Gross Regional Product

78,904
Population

29,308
Local Workers

Outlook

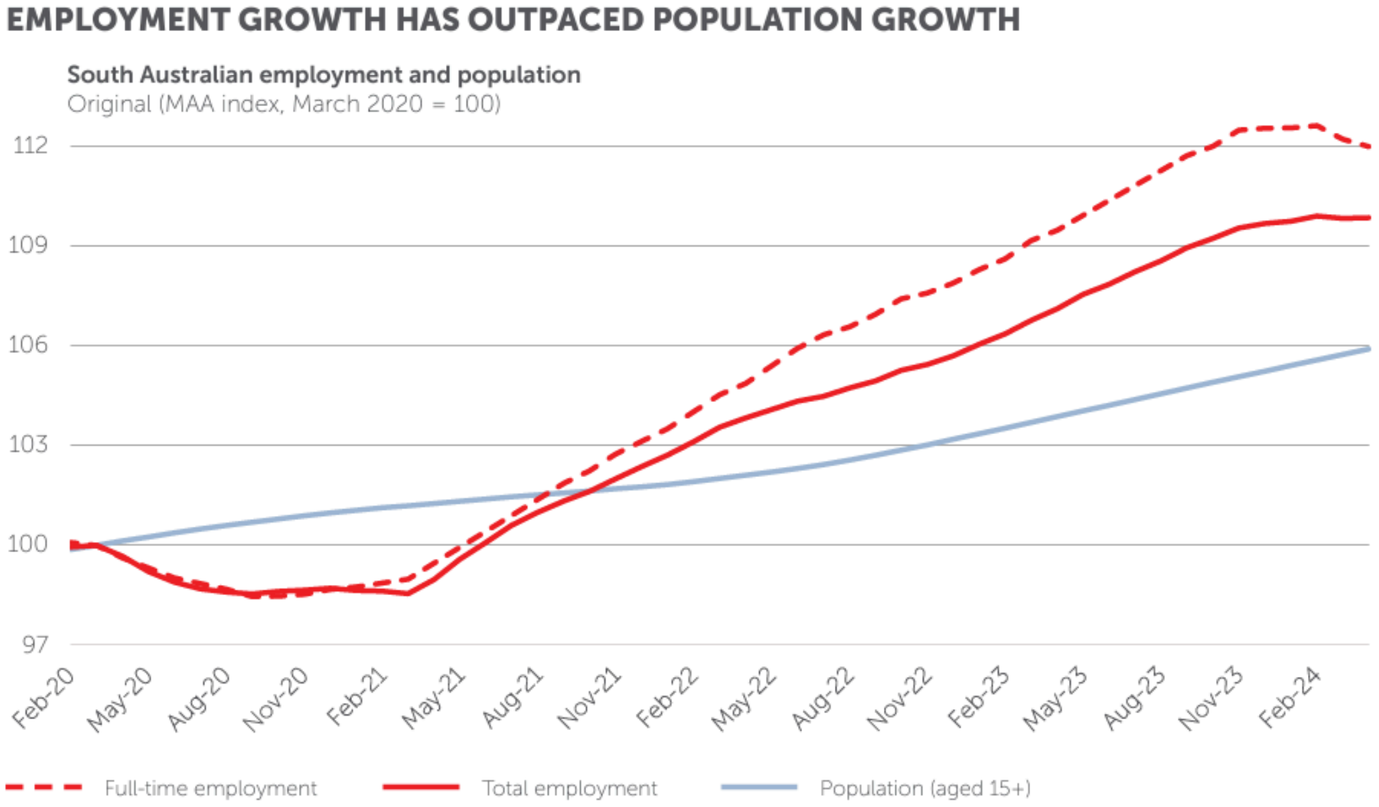
- Renewables set to grow with Neoen's Goyder Renewables Zone wind farm development. Projects are underpinned by a 70 MW renewable energy baseload contract with BHP to power its Olympic Dam mine in South Australia.
- Construction of the second tranche of Goyder South Stage 1 and Blyth Battery are underway, and both are expected to be operational by mid-2025.
- Potential for green iron production in Port Pirie.

Outlook and emerging forces

ECONOMIC OUTLOOK IN THE SOUTH AUSTRALIAN BUDGET

SA Govt expect:

- The South Australian economy is expected to slow due to global challenges but will improve gradually
- Inflation is projected to decrease, aiming for the Reserve Bank's target range by 2025-26
- Record low unemployment and at capacity. But growth will be supported by population growth and investments in skills training
- Significant infrastructure investment will drive economic growth and development



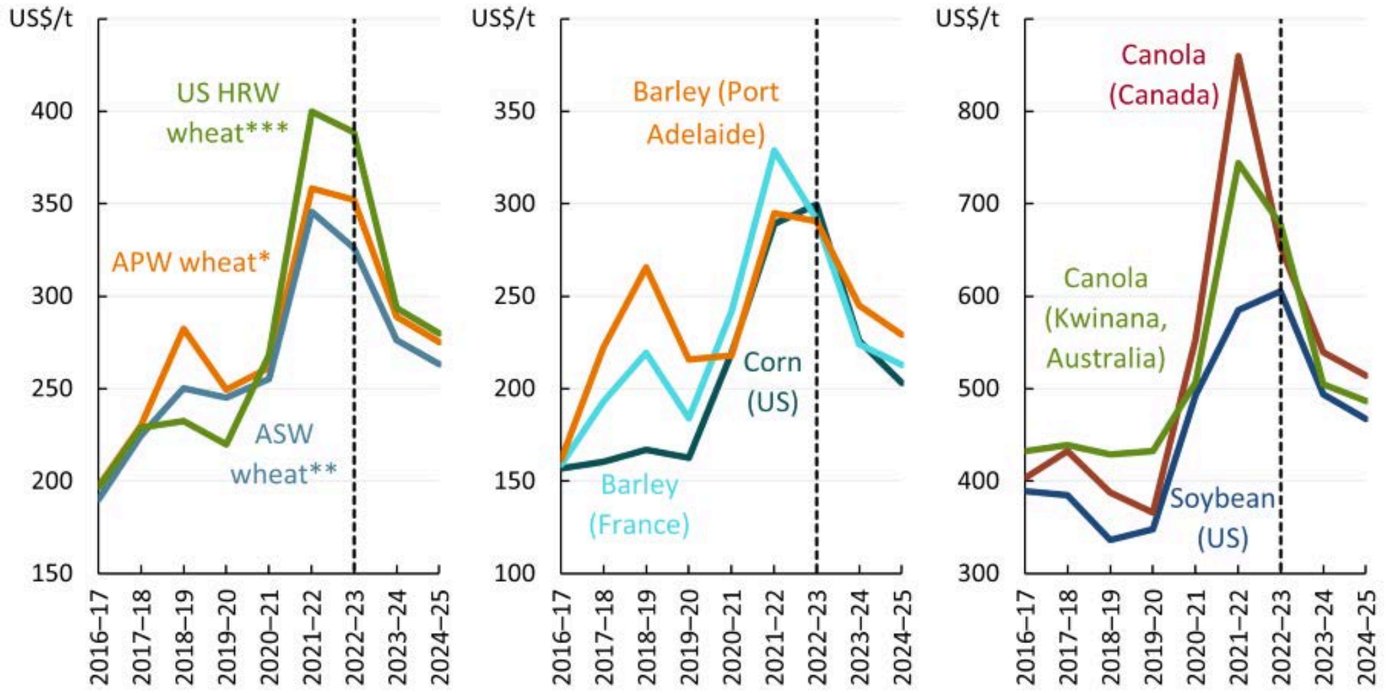
South Australia economic forecasts

	2023-24	2024-25	2025-26	2026-27	2027-28
Real gross state product	1.25	1.5	1.75	2.0	2.0
Employment	2.0	0.5	0.75	1.0	1.0
Consumer price index (CPI)	4.75	3.5	2.75	2.5	2.5
Population	2.8	1.8	1.7	1.7	1.7

Source: South Australian Government, 2024-25 State Budget

FORECAST WEAKER CROP PRODUCTION DUE TO DRIER CONDITIONS; PRICES CONTINUE TO FALL

Annual grain and oilseed prices

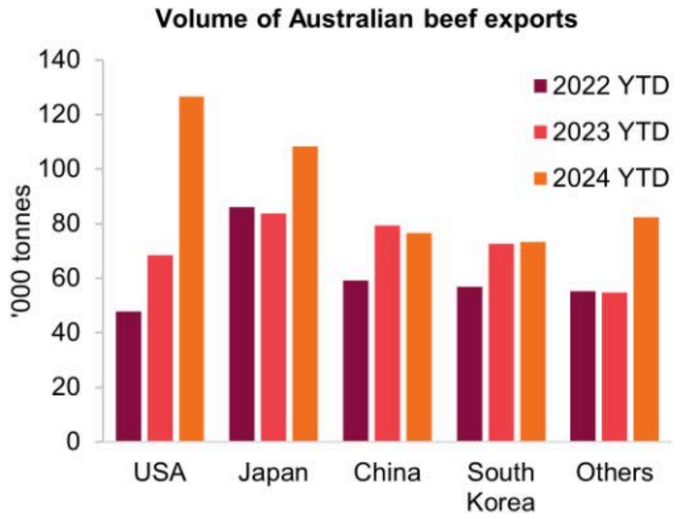


Note: Data to the right of the dotted line indicate estimates and forecasts. *Australian premium white wheat, **Australian standard white wheat, *** US no.2 hard red winter wheat, fob Gulf.

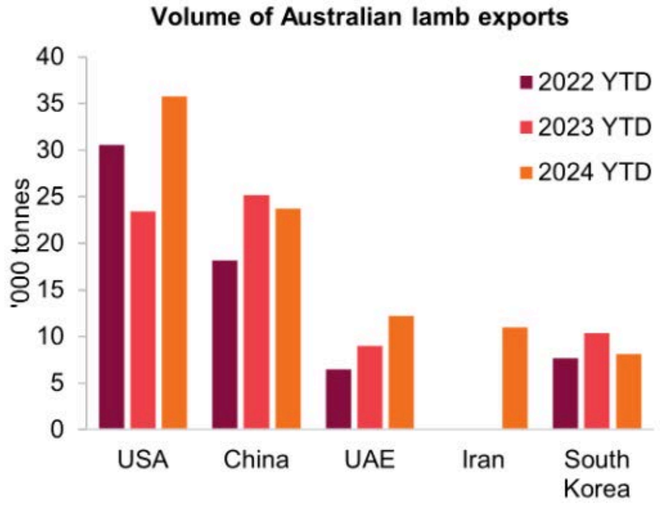
Source: ABARES; International Grains Council

- Winter crop production in South Australia is forecast to fall by 9% in 2024– 25, reflecting persistent dry conditions.
- World wheat prices continue easing, reflecting high global supply and subdued demand.
- In Rabobank's second Rural Confidence Survey survey for 2024 South Australia reporting the lowest rural confidence levels in the country.

GROWTH IN LIVESTOCK EXPORTS DRIVEN BY US DEMAND



Source: Department of Agriculture, Fisheries and Forestry



Source: Department of Agriculture, Fisheries and Forestry

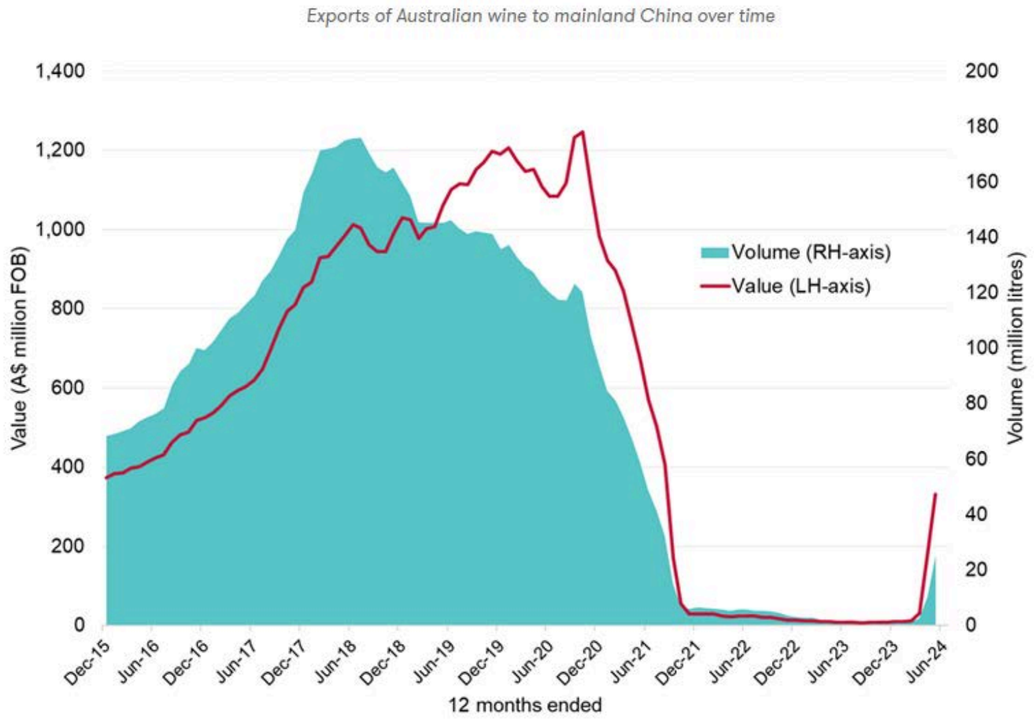
- **Export demand is likely to continue strengthening throughout the second half of the year. This is largely due to reduced US production driving strong import demand from the US**
- **Growth has been led by resurgent demand from the Middle East and the US. Exports to the Middle East for the year-to-date have more than doubled, up 113 per cent.**

Source: Rural Bank.com.au

WINE INDUSTRY FACING HEADWINDS FROM CHINA ECONOMIC SLOWDOWN AND DECLINING CONSUMPTION GLOBALLY

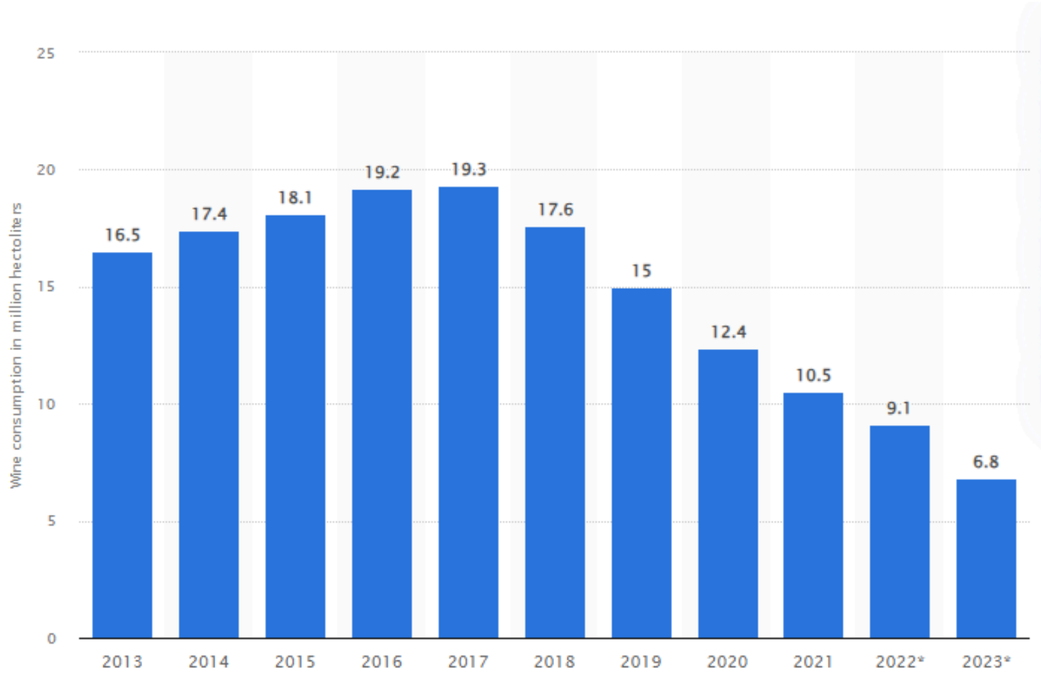
China wine consumption in 2023 is 1/3 of the peak in 2017

Australia Wine Exports to China



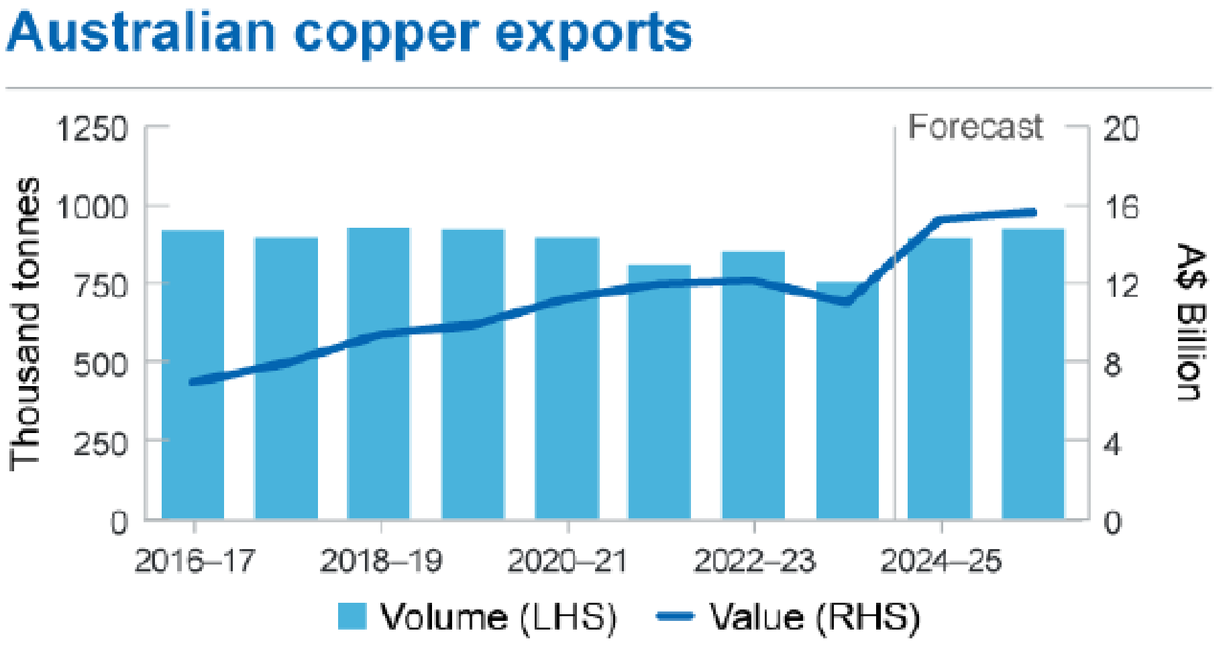
Source: Wine Australia 2024

Wine consumption volume in China



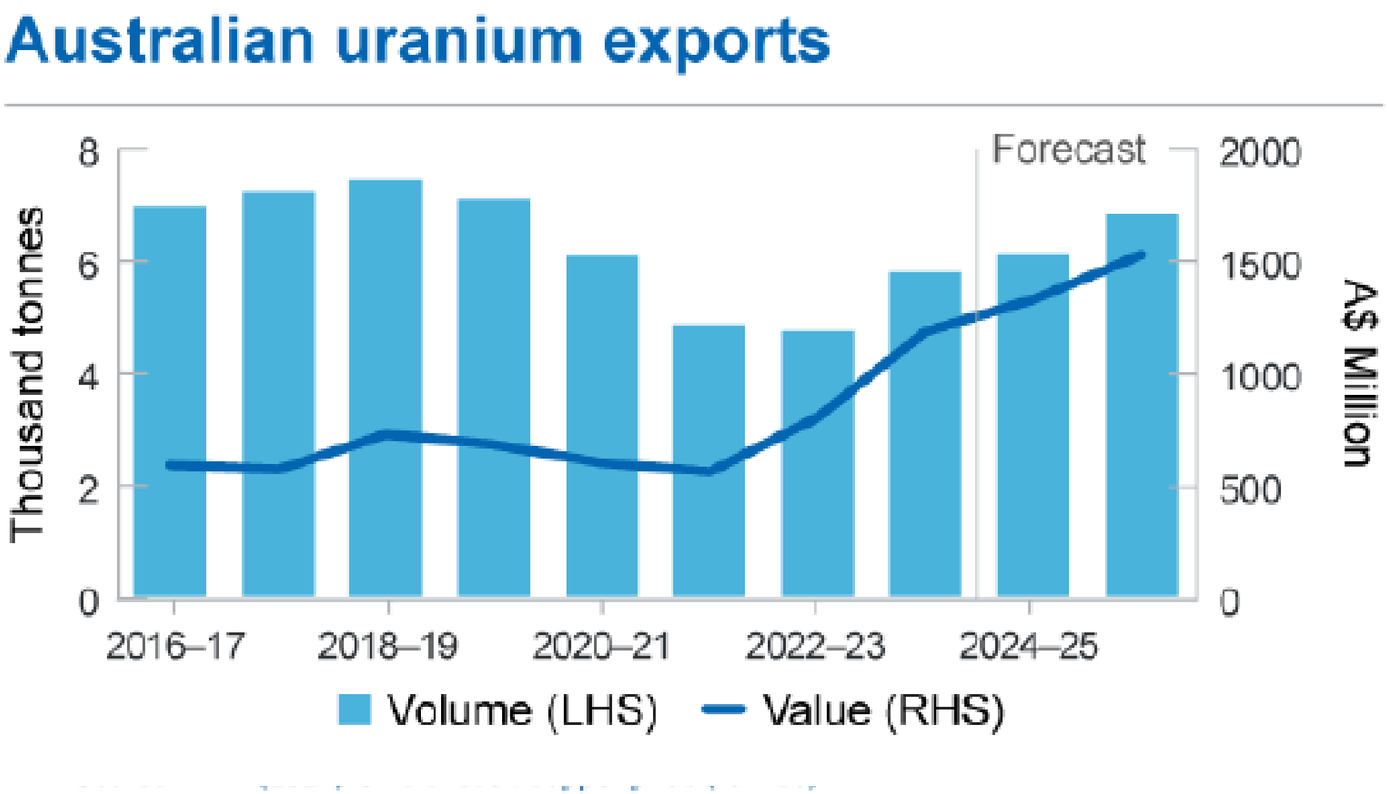
Source: Statistica 2024

COPPER DEMAND EXPETED TO CONTINUE AS A RESULT OF THE CLEAN ENERGY TRANSITION



- **Copper export value and volume forecast to increase**
- **The transition towards green energy, the rise of electric cars, and the AI boom have all contributed to a surge in demand for copper.**

URANIUM DEMAND EXPETED TO GROW AND SA EXPORTS TO RISE



- **New reactors being built in China and India set to increase demand**

For more information regarding the State of the Regions dataset, access:

economy@id.com.au

.id informed decisions

WILDCARD TOPIC

The Run Home- Upper Spencer Gulf RDAs

An Australian Government Initiative

Government of South Australia

Local Government Association of South Australia

Regional Development Australia

Regional Development South Australia

CLAIRE WISEMAN

CEO, RDA Far North

RYAN VINEY

CEO, RDA Eyre Peninsula

DANIEL WILLSON

CEO, RDA Yorke & Mid North

An Australian Government Initiative

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Regional Development South Australia

An Australian Government Initiative

Regional Development Australia

Wildcard Topic

The Run Home- Upper Spencer Gulf RDAs

Claire Wiseman - CEO, RDA Far North

Ryan Viney - CEO, RDA Eyre Peninsula

Daniel Willson - CEO, RDA Yorke & Mid North

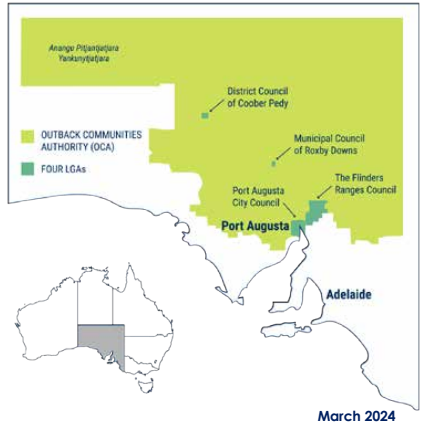
- **800,000** square kilometers
- Population of **26555**
- **1600** children aged 0 – 4 years
- Childcare places = **380**
- **1** Childcare place per **4.2** Children

Region is a "Childcare Desert" – Victoria University Study on Childcare – Childcare Deserts and Oases: How Accessible is childcare in Australia

RDA FAR NORTH

Childcare Services Development Report

SUMMARY



March 2024

KEY CHALLENGES

Workforce Supply

- Facilities unable to operate at full capacity due to the lack of qualified staff.
- Most Centres in Far North SA region have rolling vacancy advertisement seeking qualified childcare workers.

Waiting Periods

- Some families are on waiting lists for up to two years almost all are on a waiting list for some period of time.
- Some communities in Far North SA have no childcare services for their residents.

NEGATIVE SOCIAL + ECONOMIC IMPACT

Due to a lack of access to childcare…

63% Of survey respondents indicated they are unable to work the number of hours they could or would like to

43% Of survey respondents indicated they are unable to return to work when they are ready to do so.

37% Of survey respondents indicated a negative impact on mental health for them as parents.

50% Of survey respondents questioned their decision to stay in the region or move elsewhere where childcare is available.

56% Of survey respondents indicated they and their families experienced added stress.

Program logic for investing in childcare:

Outcome(s)

- Children's development & safety
- Women's participation in the workforce
- ***Liveability of our communities***

Problems

- Lack of providers
- Low financial returns + public programs
- ***Small, sparse catchment population***

Changes required

- Catchment-level planning
- Service models to suit catchment populations
- ***Funding + financing to lift access in under-serviced areas***

Options for meeting the need for childcare:

Family day care

- Four children per family carer
- Delivered in-home or in-situ
- Small communities with catchment <20 children

Rural care

- 16 children per service
- Delivered from an education service setting
- Small rural towns with catchments of 20 - 30

Centre-based care

- Purpose-built (or repurposed facilities)
- Can be delivered in conjunction with an education program
- Suitable for catchments >30

The economics of childcare:

0.005 – 0.013 per cent

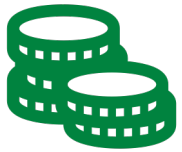
Productivity gains from participating in quality ECEC programs

21.8 hours

Average number of hours of care accessed

1.7 jobs per licensed place

Workers enabled by access to childcare, based on average hours of service accessed



$16,556 per annum

Average net increase in household income per licensed place made available

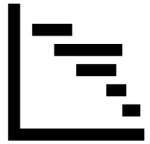
BCR - 1.40 to 1.66

Benefit cost ratio (BCR) of investing in a new childcare centre

Policy changes required:

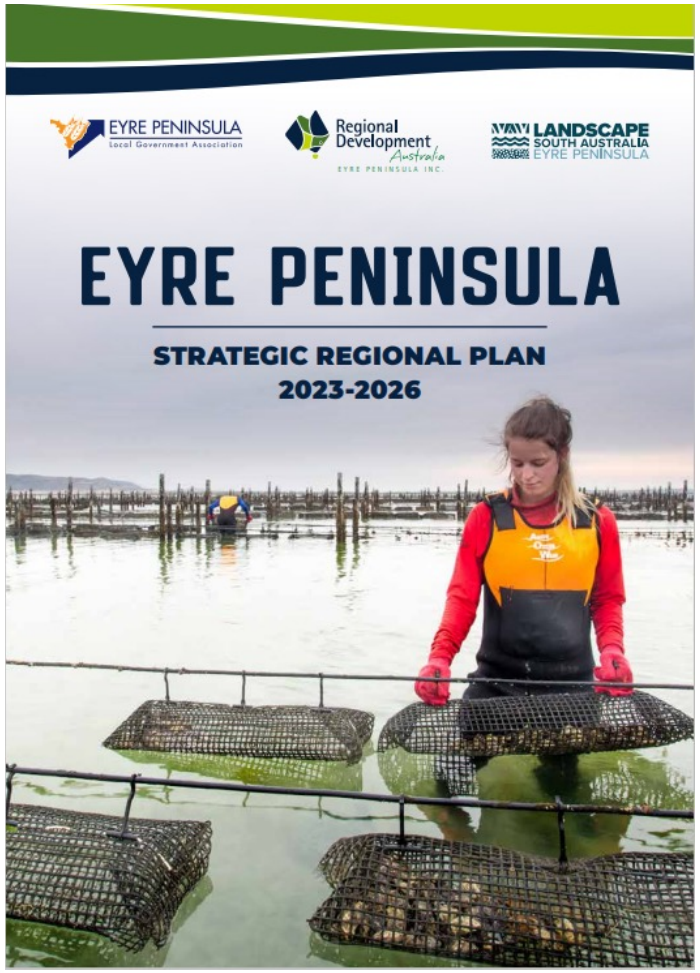
Service planning at the catchment level while capturing local nuances

Flexible service models to meet local requirements



Funding models to meet capital requirements

Strategic Rationale:



SOCIAL CAPACITY

GOAL **Workforce attraction, retention, training and support**

Strategy	Role	Lead	Strategic Partners
Facilitate greater access to aged and childcare services to drive workforce participation in the region.	**Advocator**	**RDAEP**	· Councils · Public and Private Schools · Service providers

Future Actions

1.	Facilitate and/or participate in the establishment of a taskforce to quantify the demand for aged, disability and childcare services, factors limiting further expansion as well as develop a business attraction focused prospectus.
2.	Work with State Government, Local Government, Schools and independent childcare operators to identify and remove barriers to facilitate investment in childcare centres.
3.	Collaborate with Local Government and the Department for Education to encourage adaptive reuse of buildings for aged and childcare, and other innovative service delivery models.
4.	Support aged care providers and disability support servicesto to improve the provision of facilities, allowing people to remain part of their broader community.
5.	Promote opportunities for a tree/sea change to attract the significant number of nurses and childcare workers that left their industry through the COVID pandemic.

RDAEP Action:

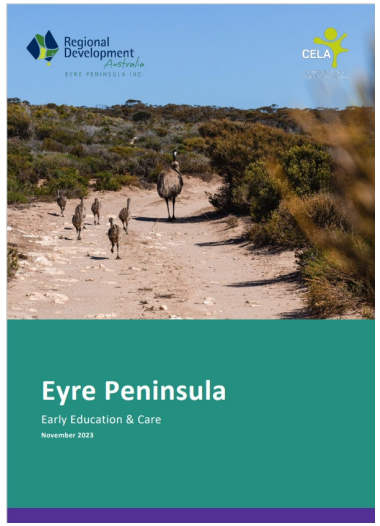
CELA
COMMUNITY EARLY LEARNING AUSTRALIA

RDAEP sought to provide a **coordinated** approach across the region to both **quantify and aggregate** the unmet demand for childcare so that it can be presented to the government and the private sector to **attract investment**.

To progress this issue Regional Development Australia Eyre Peninsula (RDAEP) held a **Childcare Forum** with local government and other stakeholders in late 2023 that resulted in the establishment of a **Regional Childcare Taskforce** to quantify current and projected requirements.

RDAEP **co-funded** a consultancy with support from the State Government's Office for the Early Years to create a **comprehensive business case** on behalf of participating member councils and their respective communities as a region, **to advocate for investment in early childhood education** to meet parent's capacity to work, meet industry needs and to address children's developmental needs.

Business Case for Investment:



- Demand for **598 places**
- Need for **10 long daycare centres**
- **$55 million** of investment required
- **1,000 parents** per annum to work full time

The cost of providing these centres is estimated to be $55 million, which pays for itself with a 100% return on investment in the first year.

$44.1m additional earnings as 598 parents can undertake full time work

+

$11.1m additional earnings due to expansion of childcare industry

=

$55.1m additional earnings per annum

Delegation to Canberra:

The Hon. Kristy McBain
Minister for Regional Development, Local Government and Territories

The Hon. Dr Anne Aly
Minister for Early Childhood Education

Launch of RDSA Regional Blueprint & Closing Remarks

KELLY-ANNE SAFFIN
CEO,
Regional Development Australia Adelaide

HON ROB KERIN
Executive Chair,
Regional Development South Australia

An Australian Government Initiative

Government of South Australia

Local Government Association of South Australia

Regional Development Australia

Regional Development South Australia

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Regional Development Australia

Regional Investment Pipeline and 2024 Regional Blueprint

Presented by Kelly-Anne Saffin | Primary Industry & Regional Development Forum | 2 October 2024

Regional Investment Pipeline

$65.431B
2024

Eyre Peninsula	$30.671B
Far North	$10.832B
Yorke & Mid North	$12.933B
Adelaide Hills, Fleurieu & Kangaroo Island	$2.725B

Barossa, Light, Gawler & Adelaide Plains	$3.761B
Limestone Coast	$1.719B
Murraylands & Riverland	$2.790B
TOTAL	$65.431B

An Australian Government Initiative

Government of South Australia

Local Government Association of South Australia

Regional Development Australia

Regional Investment Pipeline

Regional Projects by Industry ANZSIC Code	Number	Value
A – Agriculture, Forestry and Fishing	32	$0.4624
B – Mining	13	$4.4090
C – Manufacturing	105	$18.6657
D – Electricity, Gas and Water and Waste Services	106	$30.8251
E – Construction	238	$3.8390
F – Wholesale Trade	6	$0.0427
G – Retail Trade	23	$0.2237
H – Accommodation and Food Services	146	$1.6104
I – Transport, Postal and Warehousing and Storage	50	$1.2171
J – Information Media and Telecommunications	15	$0.0034
K – Finance and Insurance Services	0	$0.0000
L – Rental, Hiring and Real Estate Services	3	$0.0177
M – Professional, Scientific and Technical Services	12	$0.1387
N – Administrative and Support Services	2	$0.0002
O – Public Administration and Safety	34	$2.1338
P – Education and Training	19	$0.1328
Q – Health Care and Social Assistance	55	$0.7059
R – Arts and Recreational Services	111	$0.8995
S – Other Services	9	$0.00964
Z – Not specified	9	$0.6504
TOTAL	**989**	$65.4314

2023 Infrastructure Prioritisation

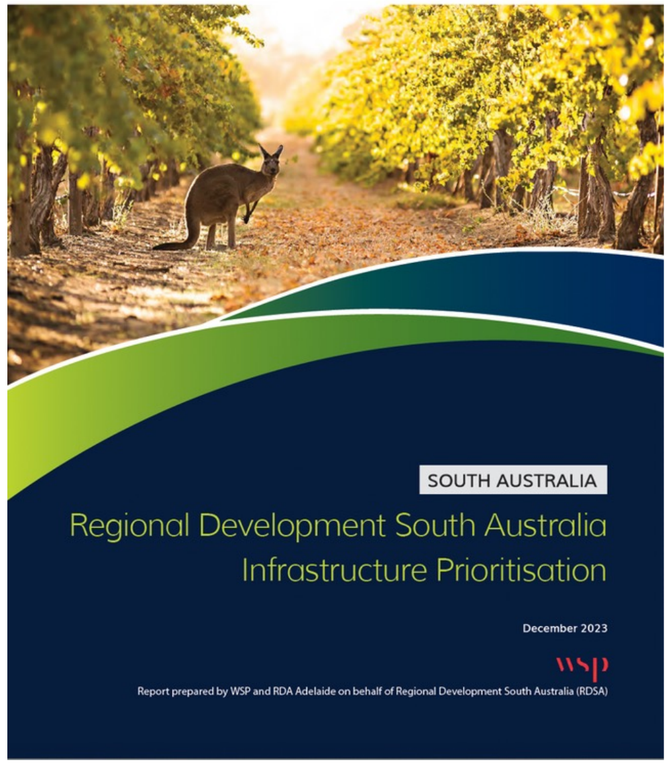
Taking a holistic view: applying a program lens to major challenges:

- Housing
- Childcare
- Jetty Infrastructure
- Telecommunications and digital infrastructure

Statewide opportunities: key infrastructure sectors offering a suite of interconnected projects across the state:

- Water
- Freight Connectivity
- Social and community infrastructure
- Tourism Infrastructure
- Circular Economy

Full report available https://regionaldevelopmentsa.com.au/resources/



Current RDA Projects

Projects	Description
Regional Development Leadership Program	• Regional Development Leadership Program which has been refunded from 1 January 2024 by PIRSA for years. From June 2022- December 2023: • Over 1318 people participated in Regional Leadership Training across the RDSA network • Over 14888 hours of training was delivered across the 7 RDA networks. • Training was delivered in 72 regional towns across SA.
Regional Drought Resilience Planning Program	• Pilots undertaken with PIRSA and published in Yorke & Mid North and Murraylands & Riverland- led by RDAs in partnership with ROCs and Landscape Boards.
Specialised Business Programs in concert with Office of Small and Family Business	• A free mental health and wellbeing service for all small and family businesses in the Murraylands and Riverland region. Users can select preferred engagement timing, subject matter, delivery method (e.g. face-to-face or online). • In addition, RDAs across regional SA are also delivering the following Business Programs: Yorke & Mid North- B2B Program, Far North- Business Planning for Success, Limestone Coast- Business Support Program and Eyre Peninsula- Small Business First Program.