Please note that this webinar will be recorded and published online

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

2023 Inputs, Assumptions and Scenarios Report (IASR)

Scenarios & sensitivities update webinar

15 June 2023

We acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters and culture.

We pay respect to their Elders past and present.

Today's agenda

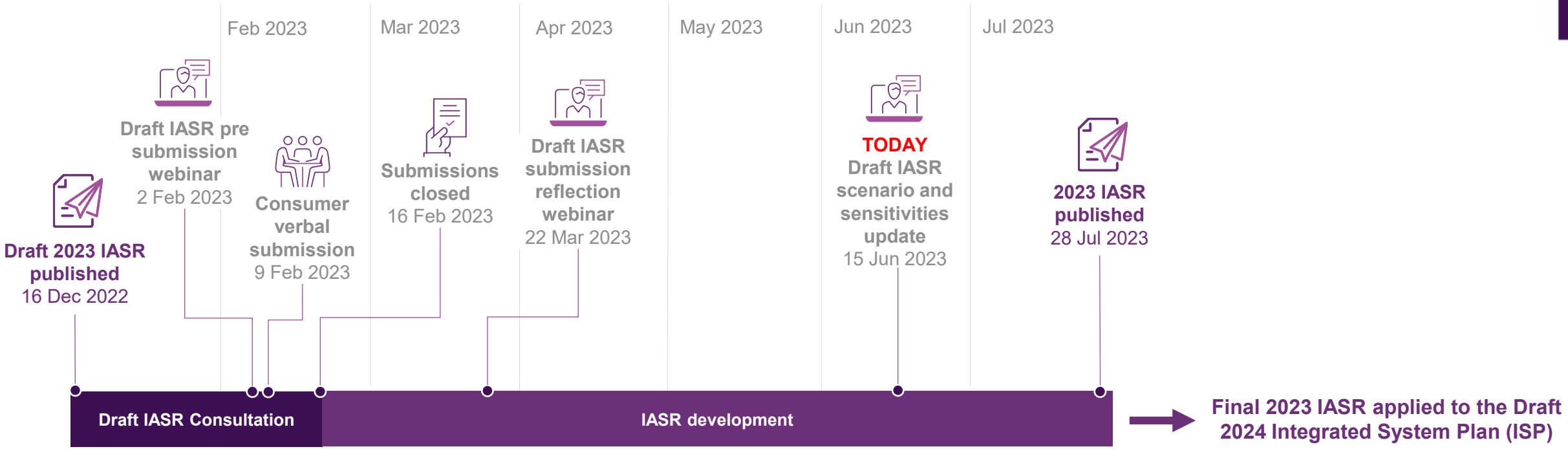
1. Welcome (5 min)
2. Session objective (5 min)
3. Scenarios and sensitivities update (30 min)
4. Clarifications (15 min)
5. Next steps (5 min)

Ask your questions at www.Sli.do
Meeting identifier: #AEMO

Sign in with your name

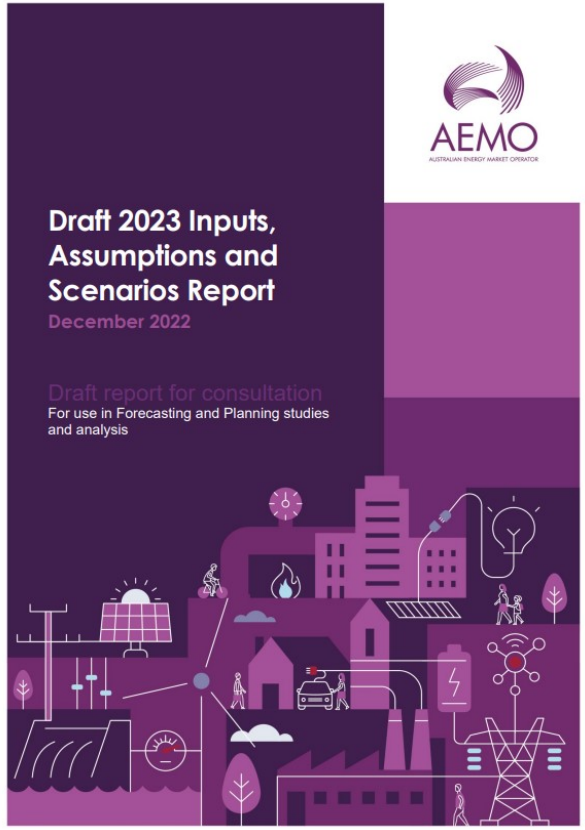
IASR in development

Draft 2023 IASR Consultation website, containing consultation documents, supporting materials and stakeholder submissions:
https://aemo.com.au/consultations/current-and-closed-consultations/2023-inputs-assumptions-and-scenarios-consultation



Webinar objectives

- To summarise stakeholder feedback on scenarios and sensitivities, and inform how they have evolved.
- Share how key sensitivities will provide further insights on the investment needs and risks for the energy transition.
- Provide an update on supporting engagement activities ahead of finalisation and application in the 2024 Integrated System Plan.

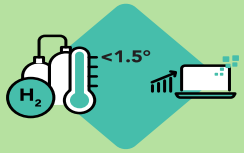


The draft report and its supporting materials are available here

Scenarios

Recap of feedback received on the Draft 2023 IASR scenarios, and reflecting on the scenarios moving forward

Scenarios – recap on feedback



1.5°C Green Energy Export

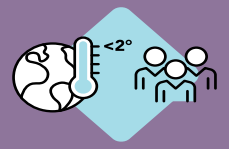
Mixed views on the scale of hydrogen, with more doubting than supporting.

Concerns that consumers would bear the scenario's infrastructure costs to support hydrogen export industries.

Many submissions sought a non-hydrogen *1.5°C* scenario.

Many submissions were concerned with the cost and technical feasibility of hydrogen blending.

Some confusion over biomethane's role in the scenario, and some concerns over fugitive emissions from hydrogen.



1.8°C Orchestrated Step Change

General support, with range of views on consumer appetite for orchestration.

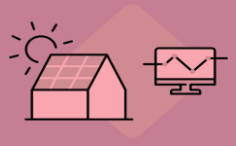
Some enthusiasm for inclusion of tariff reform and DSP.

Some concern about grid interactions (i.e., DNSP hosting capacity).

1.8°C Diverse Step Change

Mixed views, including more/less CER and VPP.

Some dislike of the gas and biomethane components of the scenario. Some considered government support for gas as implausible, but in contrast, some commented that more social licence was required to move away from existing gas use.



2.6°C Progressive Change

Frequent concern that the scenario was inconsistent with Paris Agreement commitments, some proposed removing the scenario.

Mixed views on other scenario settings, but more wanted further downside exploration.

A wide spread of scenarios
Consideration of resilience, especially to climate change

Provide pathways to a 1.5˚C-compatible transition
Inform policy, not just respond to it

Why the scenarios exist, and how they are used

Scenarios support planning in an uncertain environment, and assess future risks, opportunities, and development needs. Scenarios capture the key uncertainties and drivers of the many possible futures.

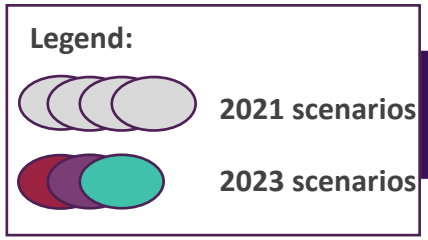
Principles of scenario design:

- Broad
- Distinct
- Internally consistent
- Plausible
- Relevant
- Developed with consideration of the AER's cost benefit analysis (CBA) guidelines, in particular to test the risk of over, under, premature or overdue investment.

Applied consistently to plan the energy transition

Sensitivities are deployed to test key areas of uncertainty around key assumptions, identify critical influences on future investments needs or impacts, or provide deeper analysis on specific areas of interest.

Since 2022, policy change shift the scenarios



Policy change increases the pace of decarbonisation

Scale of Change

ABANDONED SCENARIO::
Significant policy movement has led to an abandonment of Slow Change.

All scenarios will meet Australia's 43% emissions target

Slow Change

Progressive Change

Progressive Change

Progressive Change (2.6°C)
Technological and economic investments target only the current domestic and international ambition, leading to lower economic outcomes as more barriers than solutions exist that are not overcome.

Step Cha

Step Change

Step Change (1.8°C)
Electrification is the primary method for meeting decarbonisation ambitions, including in high-heat industrial processes following technology improvements

Hydrogen Superpower

Green Energy Export

Green Energy Exports (1.5°C)
Fast decarbonisation relies on all available technologies, decarbonising the power sector rapidly, and leading to development of domestic and export energy-intensive processes

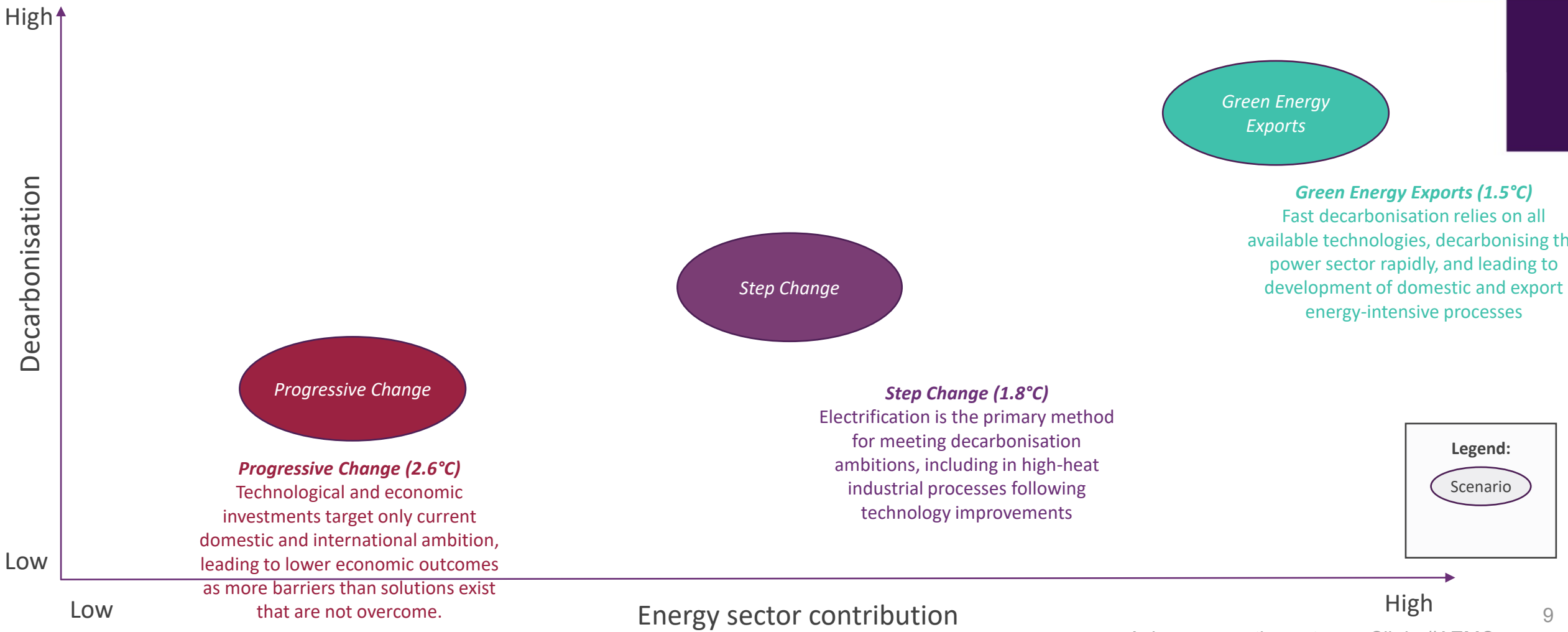
Slow

Pace of decarbonisation

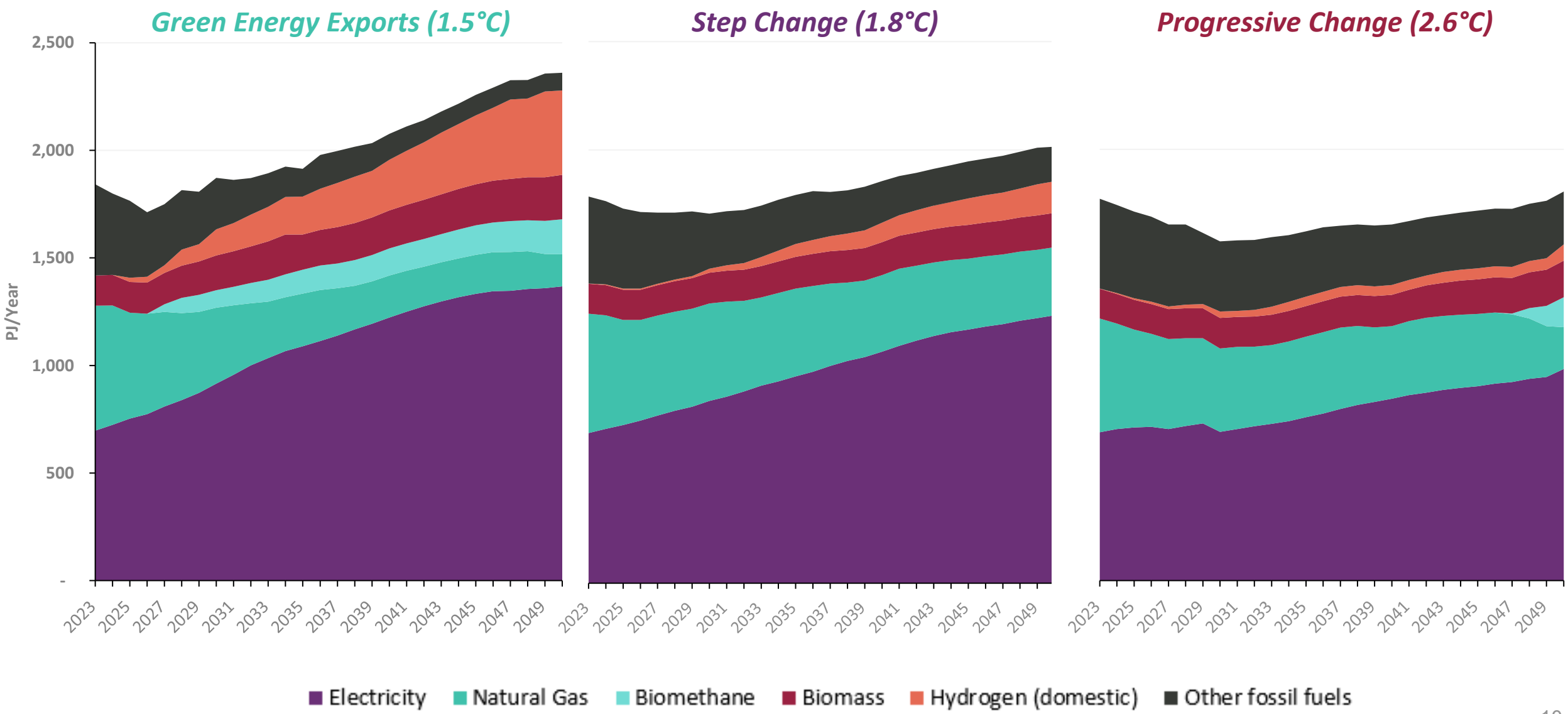
Fast

Adapting the draft scenarios given feedback

***Note the change in axes**



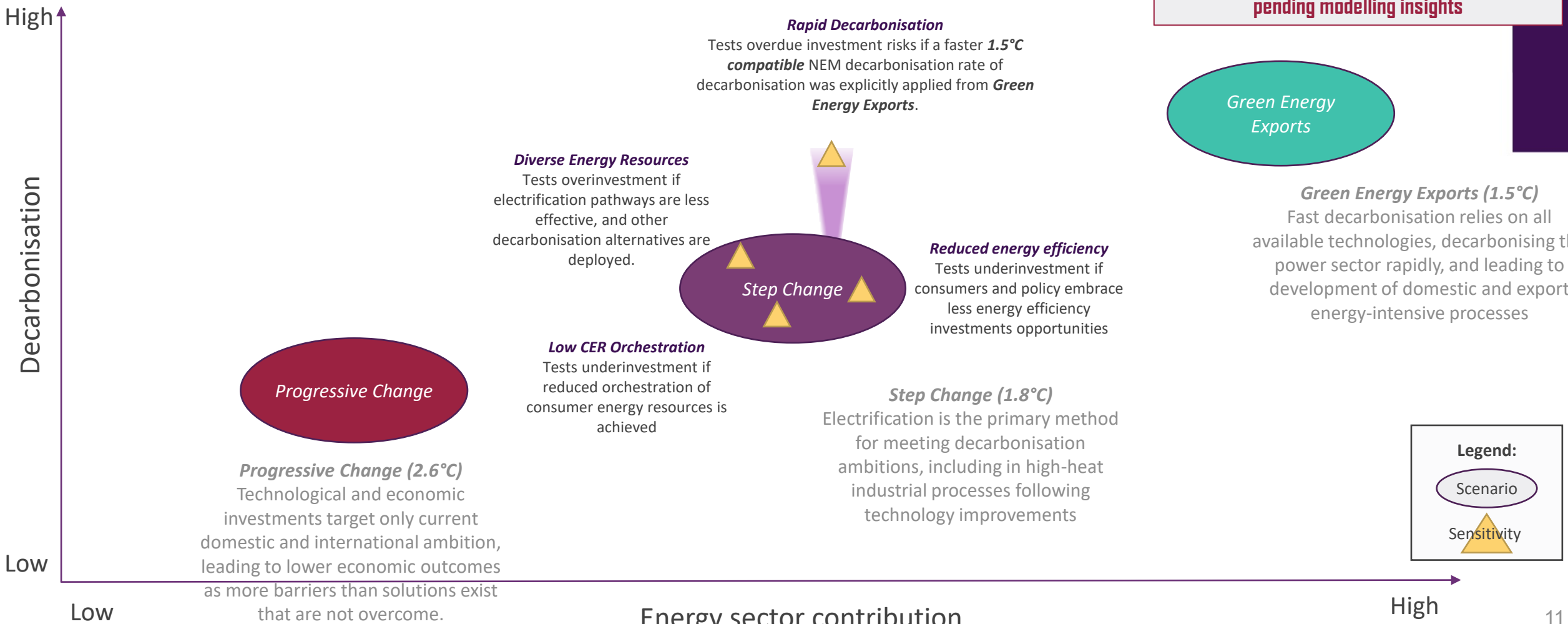
Energy usage per scenario, by fuel type



Adapting the draft scenarios given feedback, including key sensitivities

***Note the change in axes**

Other sensitivities will be examined within the Draft 2024 ISP, pending modelling insights



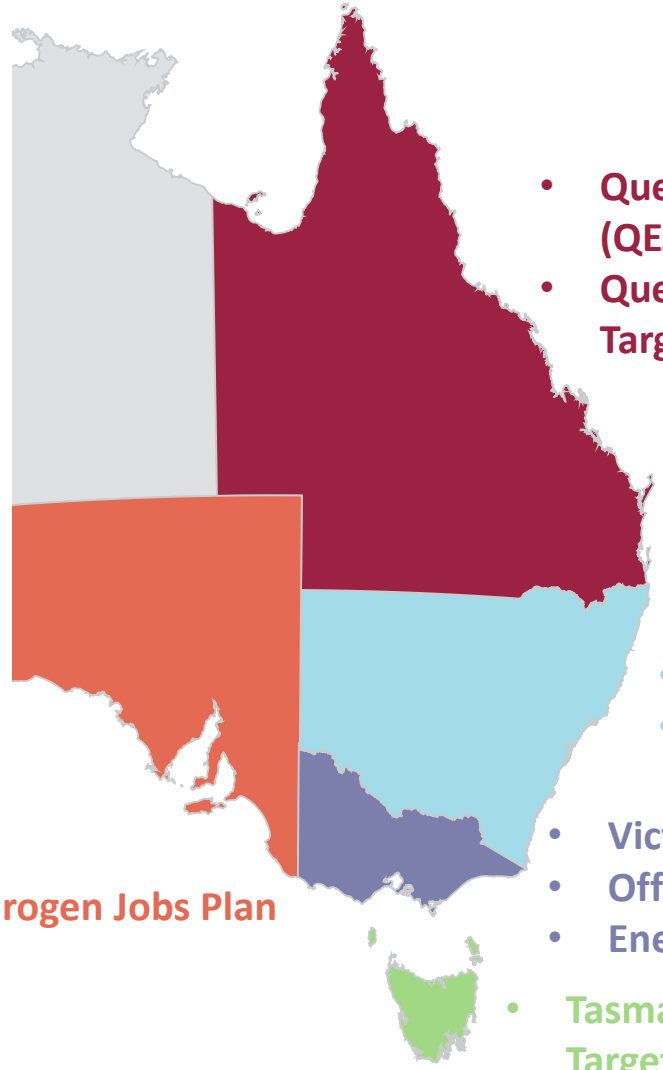
Sensitivities will be deployed to explore key assumptions

In addition to the key sensitivities labelled previously, the following are key assumptions, the effect of which may be examined through sensitivity analysis:

- Supply chains
- Social licence
- Discount rates
- Investment impacts of specific policy and/or infrastructure developments, for example:
  - Pumped hydro energy storage developments
  - Offshore wind developments

Policy inclusion

All scenarios include policies that meet the policy criteria of NER 5.22.3(b), which includes those that are **legislated**, or have **material funding** allocated in a jurisdictional budget. Additional emissions reduction policies will be included to meet the intent of the amended **National Energy Objectives**. Key policies considered include:



- **Queensland Energy and Jobs Plan (QEJP)**
- **Queensland Renewable Energy Target (QRET)**

- **NSW electricity infrastructure roadmap**
- **Renewable Fuel Scheme**

- **Victorian Renewable Energy Target (VRET)**
- **Offshore wind target**
- **Energy Storage Target**

- **Hydrogen Jobs Plan**

- **Tasmanian Renewable Energy Target (TRET)**

Commonwealth government policies

- Australia's current commitments to the Paris Agreement, as legislated through the Climate Change Act
  - 43% emissions reduction by 2030
  - Net zero by 2050
- Large Scale Renewable Energy Target (LRET)
- Safeguard Mechanism
- Rewiring the Nation

Discussion & next steps

Questions and comments

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Additional relevant activities to the IASR and ISP

- **June:**
  - **2024 ISP Methodology** will be published.

- **July:**
  - **2024 ISP Methodology webinar** will be held in mid-July.

  - **2023 Transmission Expansion Options Report (TEOR)** will be published.
  - **2023 GenCost Report** (CSIRO) will be published.
  - **2023 IASR** will be published.

- **August and beyond:**
  - Electricity Statement of Opportunities (ESOO) will be published.
  - Modelling commences on the 2024 Integrated System Plan.
    - Draft 2024 ISP to be published in December.

Thank you for your engagement

Please provide feedback on today's webinar

For more information visit

aemo.com.au