

Changing Energy Market

Australia's energy market is in transition.

Clean, renewable sources of energy are being harnessed to meet electricity demand and reduce carbon emissions to mitigate the impacts of climate change.

Whole-of-system planning for the National Electricity Market (NEM) is managed by the Australian Energy Market Operator (AEMO) and outlined in its Integrated System Plan (ISP), which is updated every two years.

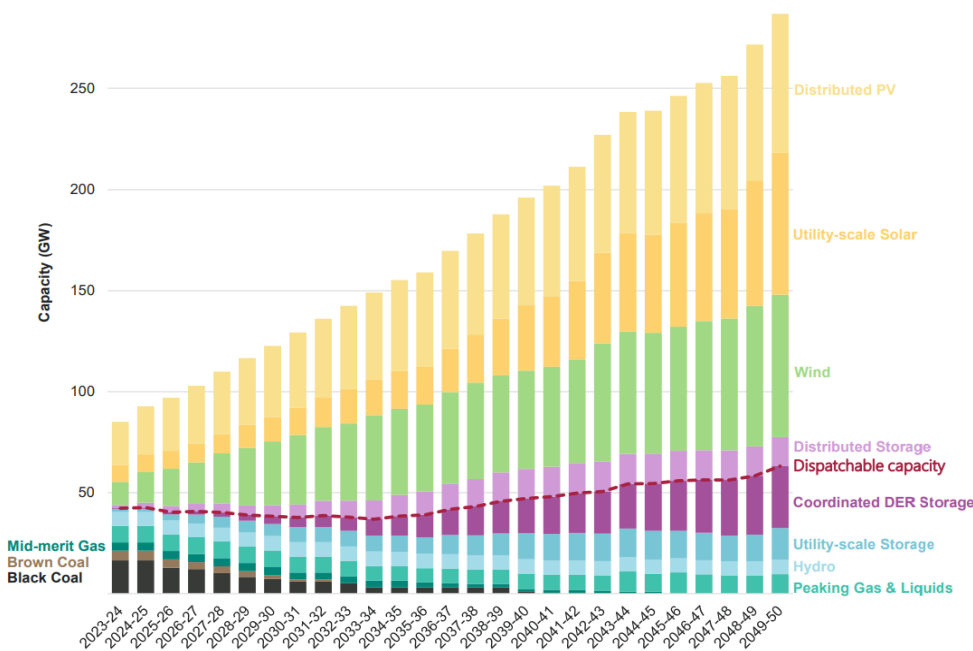
The ISP's objective is to: *maximise value to end consumers by designing the lowest cost, secure and reliable energy system capable of meeting any emissions trajectory determined by policy makers at an acceptable level of risk.*

The last ISP, published in 2022, considers the most likely scenario for the NEM is a 'Step-change'. This forecasts that by 2050: electricity demand will double, coal-fired generation will be retired much faster than originally anticipated, and Australia will require a nine-fold increase in grid-scale wind and solar (variable utility-scale renewable energy), with 50 GW of that predicted to come from Queensland.

In 2022, 36% of Australia's and 23% of Queensland's electricity was generated from renewable sources (source: Clean Energy Council, *Clean Energy Australia Report 2023*). The Australian Government has set a national target of 82% renewables in the NEM by 2030, and in the *Climate Change Act 2022* has legislated a national emissions reduction target of 43% by 2030 (compared to 2005 levels) on the way to net zero by 2050.

In September 2022 the Queensland Government also released its *Queensland Energy and Jobs Plan* with updated renewable energy targets for the state of 50% by 2030, 70% by 2032 and 80% by 2035 including 25 GW new large-scale wind and solar – to ultimately achieve net zero by 2050.

Figure 1 Forecast NEM capacity to 2050, Step Change scenario



Source: AEMO, 2022 Integrated System Plan

" My Government has a long standing commitment of 50 per cent renewable energy by 2030, and now we are accelerating our progress. We are committing an extra \$4 billion to our energy transformation and setting two new renewable energy targets of 70 per cent renewable energy by 2032 and 80 per cent by 2035. We will showcase our clean energy credentials to the world as we prepare to deliver a climate positive Olympic and Paralympic Games in 2032. "

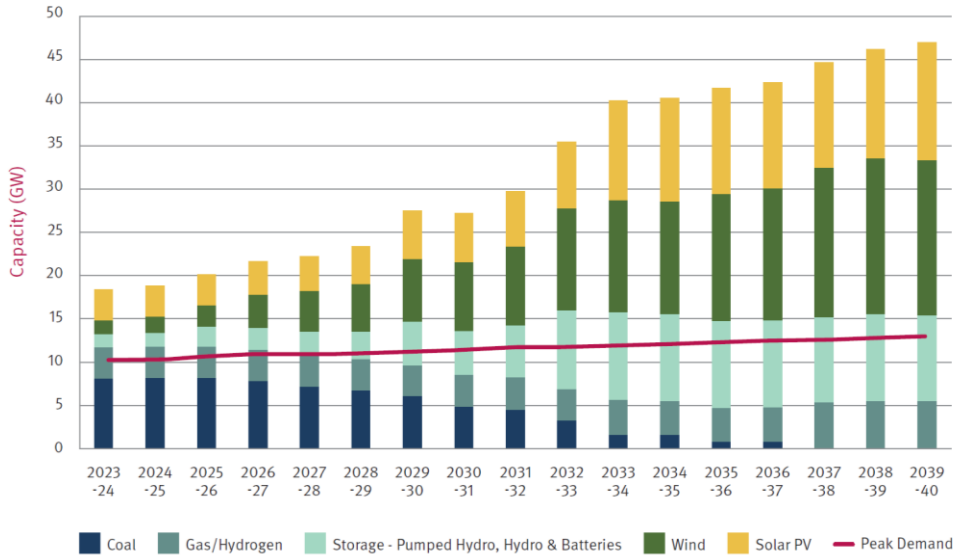
Annastacia Palaszczuk
Premier of Queensland and
Minister for the Olympics

" Cleaner energy will enable exciting new industries like renewable hydrogen which could represent billions in exports and thousands of new clean energy jobs, mostly in our regions. "

Steven Miles
Deputy Premier, Minister for State
Development, Infrastructure, Local
Government and Planning and
Minister Assisting the Premier on
Olympics Infrastructure.



Proposed transition of Queensland's energy market, 2023-2040.



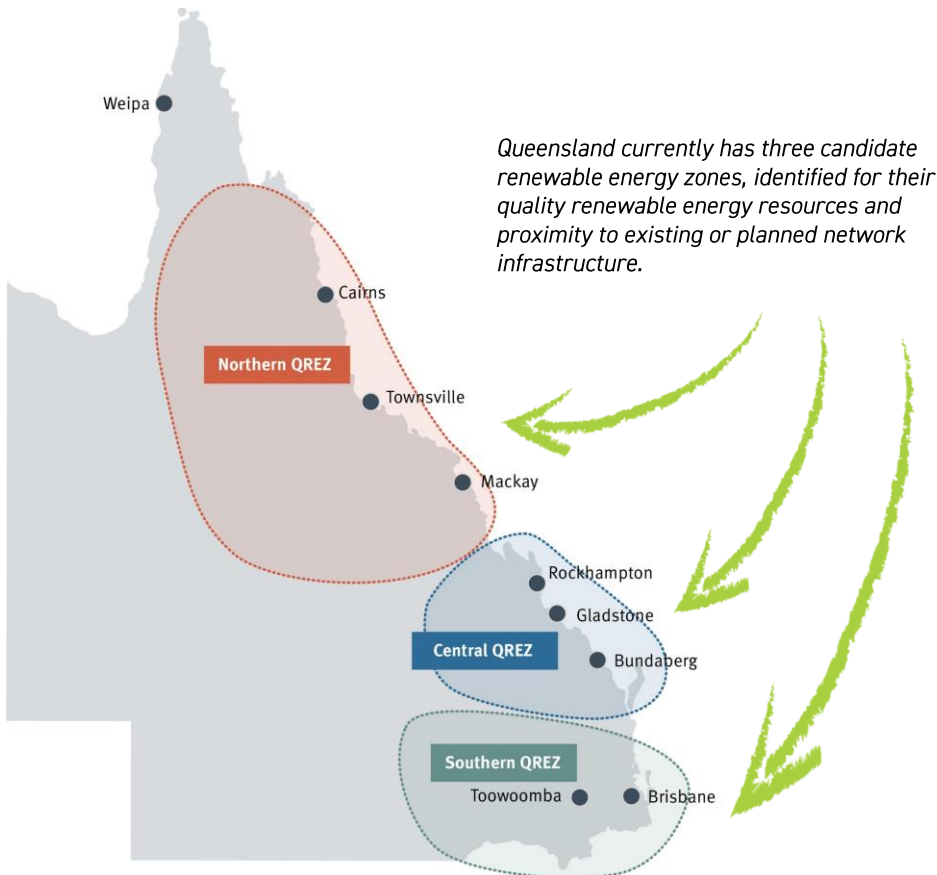
Based on independent modelling

Source: Queensland Energy and Jobs Plan, 2022

Achieving Australia's and Queensland's emissions reduction and renewable energy targets will require harnessing Queensland's renewable energy potential as quickly as possible.

AEMO has identified optimal renewable energy zones with high-quality renewable energy resources and proximity to existing or planned network infrastructure.

The Queensland Government has committed to establishing three Queensland Renewable Energy Zones (QREZ) – Northern, Central and Southern - through strategic network investments, streamlining the development of new renewable energy projects and working to match new and existing industrial energy demand with cheap, clean renewable energy.



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Australian Energy Market Operator - aemo.com.au



AEMO 2022 Integrated System Plan



Queensland Government – Queensland Energy and Jobs Plan (PDF)



Queensland Department of Energy and Public Works – Queensland's Renewable Energy Target



Queensland Department of Energy and Public Works – Queensland Renewable Energy Zones



Queensland Government – Queensland Renewable Energy Zones - Video



The National Electricity Market Fact Sheet (PDF)

