2019-20 Forecasting & Planning Scenarios

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Agenda

1. Outline of AEMO's 2019-20 Forecasting and Planning scenarios
2. Implications for the gas sector on scenarios and decarbonisation
3. FRG discussion on scenario settings

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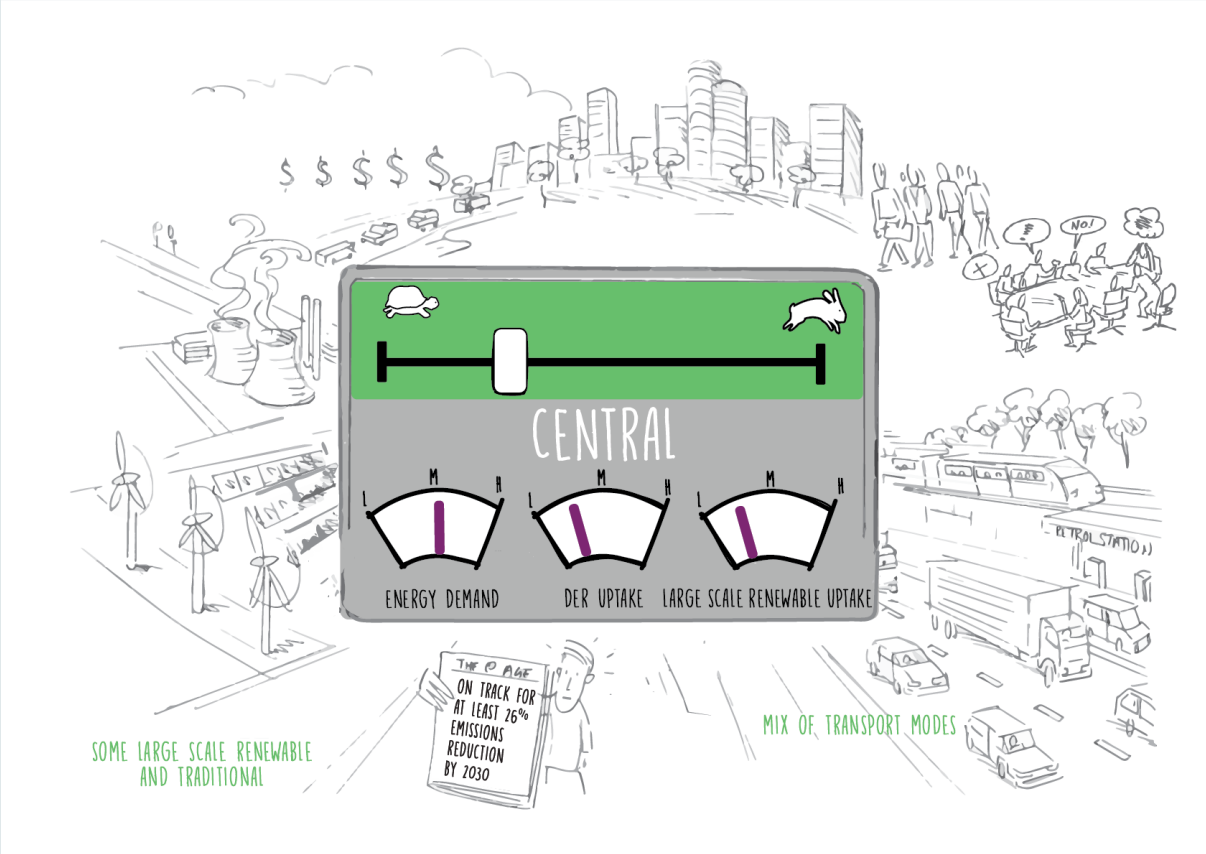
Central scenario

This scenario includes current federal and state energy policies



- Global economic growth is in line with 'central' estimates.
- Gradual improvement in technology – innovation and cost reductions in renewable and consumer technologies
- Adoption of EVs is slow as vehicle prices are slow to reduce, and vehicle model availability is limited in the short/medium term
- Moderate uptake of consumer DER, with consumers selecting DER to manage energy more affordability
- Economics, rather than policy, is driving industry change. Global commitments to climate change do not lead to strong increases in commitments to meet Paris Agreement goals (with countries not wishing to 'go it alone').
- Coal generation is being retired on schedule, rather than forced to close from policy measures. Energy sector change is evolutionary and gradual
- Climate change leads to higher temperatures and more extreme weather conditions, leading potentially to greater frequency of extreme or peakier demands

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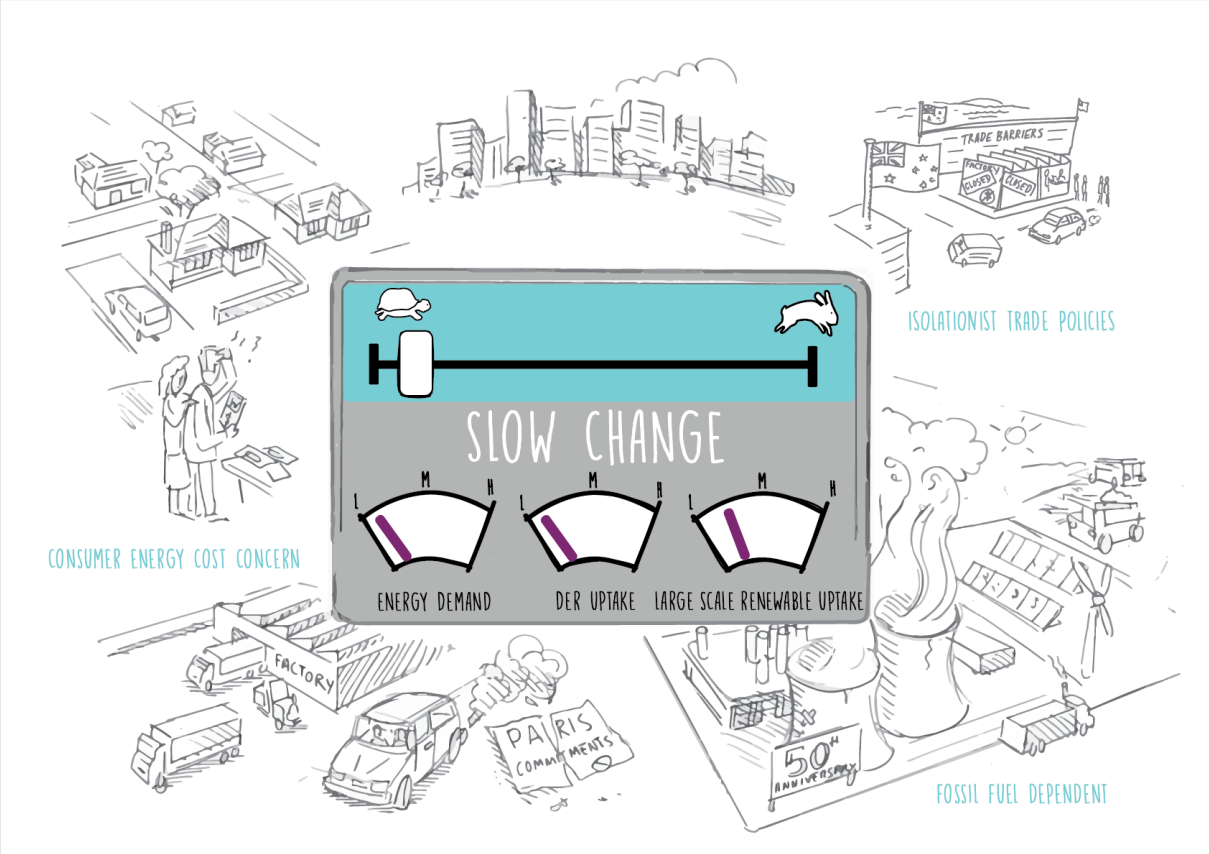
Slow Change



- Challenging global and local economic conditions lead to greater focus on domestic economic growth, with less international trade.
- International innovation is lower, leading to slower cost reductions of renewable energy / energy storage devices
- Weak economic conditions lead to higher project financing costs and closure of some industry
- Less capacity for and interest from consumers to control energy bills resulting in lower Distributed Energy Resources (DER) investment with no forthcoming policy support to compensate
- Adoption of electric vehicles (EVs) is limited as vehicle prices remain high and Australia does not strategically promote manufacturers to deliver models suitable for Australian conditions
- Generation technology transition is limited. Renewable investment slows. Thermal fleet is maintained at least to technical life based on positive economic case for continued operation. Limited political, commercial and social support for taking action on climate change.
- Climate change leads to higher temperatures and more extreme weather conditions, leading potentially to greater frequency of extreme or peakier demands

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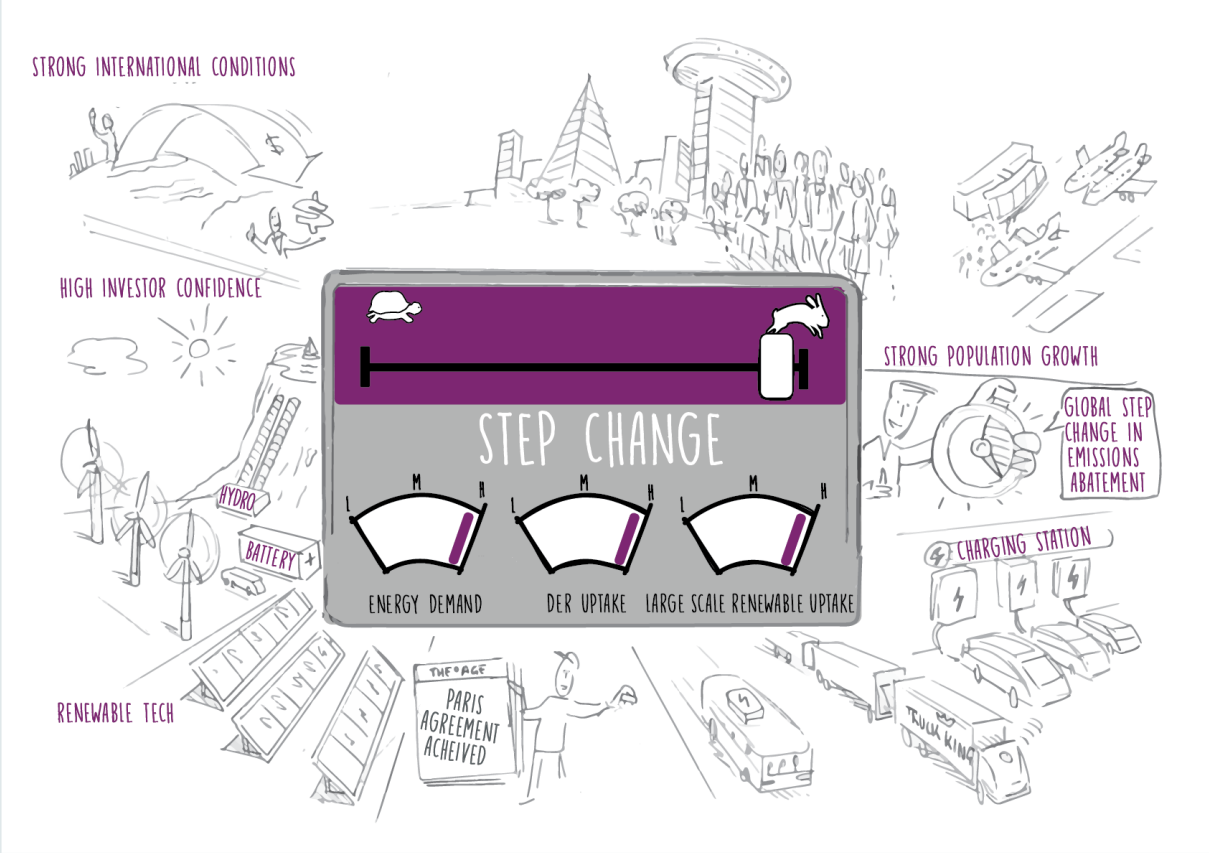
Step Change

This scenario represents strong climate action, with a step change in approach triggered by a major climate, political or social event.



- Strong population growth from increased quality and duration of life, and migration. Australia's resources, manufacturing and service industries all profit from this growth and a greater digital economy.
- Very strong international coordination of climate action, with rapid increases of climate commitments to avoid critical climate change
- Greater innovation in digital trends and consumer cost structures lead to stronger consumer energy management
- Technology innovation leads to lower solution costs for large and small scale technologies. Fast rate of development of renewable generation and higher economic growth enables increased DER investments
- Strong electric vehicle penetration and intelligent transport systems are widely adopted, and integrated into the electricity grid. Hydrogen-fuelled vehicles are also part of the mix.
- Strong bipartisanship towards clean energy solutions, with accelerated coal retirements both a function of economic rational behaviour and policy settings to decarbonise

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2020 GSOO scenarios consistent with the settings forecast in 2019

Driver	Slow Change	Central	Step Change
Population growth	Low	Medium	High
Economy	Weak global and domestic demand	Neutral global and domestic demand	Strong global and domestic demand
Energy efficiency	Weak energy efficiency measures adopted	Moderate energy efficiency measures adopted	Aggressive energy efficiency measures adopted
Fuel switching	Weak economic case for fuel switching	Average economic case for fuel switching	Strong economic case for fuel switching
Gas price	Low gas prices	Medium gas prices	Medium gas prices[A]
Commodity price	Low	Medium	Medium
Foreign Exchange Rate – AUD to USD	Weak	Medium	Strong
Large-scale renewable generation uptake	Medium	Medium	High

[A] In 2019, AEMO identified that high gas prices may lead to price-driven demand destruction, particularly for vulnerable large industrial loads.

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Questions to FRG

- Which of the gas drivers are consumers of gas most sensitive to?
- Are any additional parameters or variables unique to the gas sector that are consistent with the scenario descriptions and warrant explicit inclusion?
- The **Step Change** scenario incorporates broad economy decarbonisation. The energy sector, particularly electricity generation, is expected to provide a significant contribution. What decarbonisation efforts are sensible / reasonable for the gas sector?

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