Queensland Renewable Energy Expert Panel

Draft Report – Credible pathways to a 50% renewable energy target for Queensland

Summary of key findings and recommendations

Short term opportunities – pre 2020

The Panel has identified short term actions and longer-term pathways to meeting the target

- The Government can leverage existing Federal funding under the national Large Scale Renewable Energy Target to attract projects to Queensland in the period up to 2020.
- This could occur via a competitive reverse auction process similar to Solar 150, with the Panel recommending an indicative target of up to 400 megawatts (MW) prior to 2020 with the target to be reviewed based on the level of renewables delivered by the market.

Longer-term credible pathways – post 2020

- Significant Government policy action will likely be required to reach a 50% target, with 4,000–5,500 MW of new large scale capacity needed between 2020 and 2030.
- In terms of longer-term planning, the Panel has assessed three alternative post-2020 pathways to meeting a 50% target:
  - Linear pathway: Assumes a uniform rate of renewables build from 2020-2030.
  - Ramp pathway: Features a ramp up in effort later in the period to capitalise on falling technology costs later in the period.
  - Stronger National Action pathway: Assesses what additional Queensland Government action would be required to reach a 50% target if a stronger national emissions reduction scheme is put in place from 2020 to achieve a 45% reduction in electricity sector emissions on 2005 levels by 2030.
- The Panel has not recommended a preferred pathway but has emphasised the importance of flexibility in designing Queensland's longer-term policy given the rapidly changing electricity market and national policy context.

Renewable energy project pipeline

There is a significant pipeline of renewable energy projects in Queensland

- Queensland has strong potential to grow its renewable energy industry, with falling technology costs, market dynamics and a current project pipeline of around 2,500 MW of large scale renewable projects, primarily in regional Queensland.

Electricity pricing outcomes

Electricity price effects are projected to be cost-neutral

- Under all three pathways, policy action required by the Queensland Government to achieve the Queensland 50% target is projected to be broadly cost neutral to electricity consumers where the cost of funding the policy action is recovered through electricity market mechanisms.
- This occurs as a result of increased renewable generation placing downward pressure on wholesale electricity prices, which is projected in the modelling to offset the payments to renewables. While this is consistent with other recent market modelling, the pricing outcome is not guaranteed and could differ, for example, if existing generation capacity is withdrawn from the market, especially coal-fired generation.

Economic outcomes are primarily driven by investment in renewable energy

Economic outcomes

- The benefits to the Queensland economy would be largely driven by the additional $6.7 billion (NPV) investment in renewable energy for the development of up to 5,500 MW of new large scale generation plant in Queensland, with a significant, ongoing pipeline of renewable energy projects, particularly in regional Queensland.
- The modelling projects a net increase in employment in Queensland under the 50% target, with an increase of around 6,400-6,700 full-time equivalent (FTE) employees on average between 2020 and 2030 under the Linear and Ramp pathways.

Modelling projects reliability can be maintained in Qld under a 50% target

Security and reliability of supply

- Modelling indicates the 50% renewable energy target for Queensland can be met while maintaining the required reliability standard in Queensland. Coal-fired generation is expected to continue to play a significant, but reduced role in Queensland to 2030 under a 50% target.
- The Panel recommends that the Queensland Government works proactively with the Council of Australian Governments (COAG) Energy Council, Australian Energy Market Operator AEMO and the Australian Energy Regulator (AER) in monitoring developments that may affect power system reliability and security and in assessing the need for changes or enhancements in the operation of the National Electricity Market (NEM).

Environmental outcomes

- Annual Queensland electricity sector emissions are 25% lower in 2030 relative to 2016 under the Linear and Ramp pathways, and 31% lower under Stronger National Action.

The Queensland Government should work to support integrated national policies

Policy mechanisms

- The Queensland Government should encourage the market to contract and deliver the requisite renewable energy capacity to meet the 50% target wherever possible.
- The Panel supports the Queensland Government working at a national level to develop and implement nationally integrated climate change and energy policies to maximise efficiencies in emissions reduction and uptake of renewable energy.
- Where additional incentives are required, reverse auctions for Contracts for Differences (CFDs) appear to be the most effective policy mechanism to incentivise renewables.
- The Panel recommends the Queensland Government should not independently pursue the implementation of broader state-based economic policy mechanisms, such as carbon pricing, for the purpose of meeting the 50% renewable energy target, noting the Queensland Government has already committed to no new taxes, fees or charges, including a fossil fuel levy.

The different pathways highlight the benefits, costs and policy relativities

Summary of projected modelling outcomes – state-based pathways

Indicator	Linear pathway	Ramp pathway
New large scale renewables	up to 5,500 MW	up to 5,500 MW
QLD investment	$6.7 billion NPV	$6.1 billion NPV
Residential electricity price effects (average)	Broadly neutral	Broadly neutral
QLD electricity sector emissions reduction in 2030	10 Mt CO2-e (20% reduction)	10 Mt CO2-e (20% reduction)
Cumulative emissions reductions (NEM)	81 Mt CO2-e	59 Mt CO2-e
Subsidy payments to renewables	$0.9 billion NPV	$0.5 billion NPV
Increase in resource costs	$3.0 billion NPV	$2.5 billion NPV
Increase in QLD Gross State Product	$5.4 billion NPV	$5.2 billion NPV
Net average annual QLD employment, 2020-2030	6,400 FTE	6,700 FTE
Closure of coal-fired plant	Zero MW	Zero MW