



Tilt Renewables

New Zealand's Energy Transition & Innovation

01 May 2019

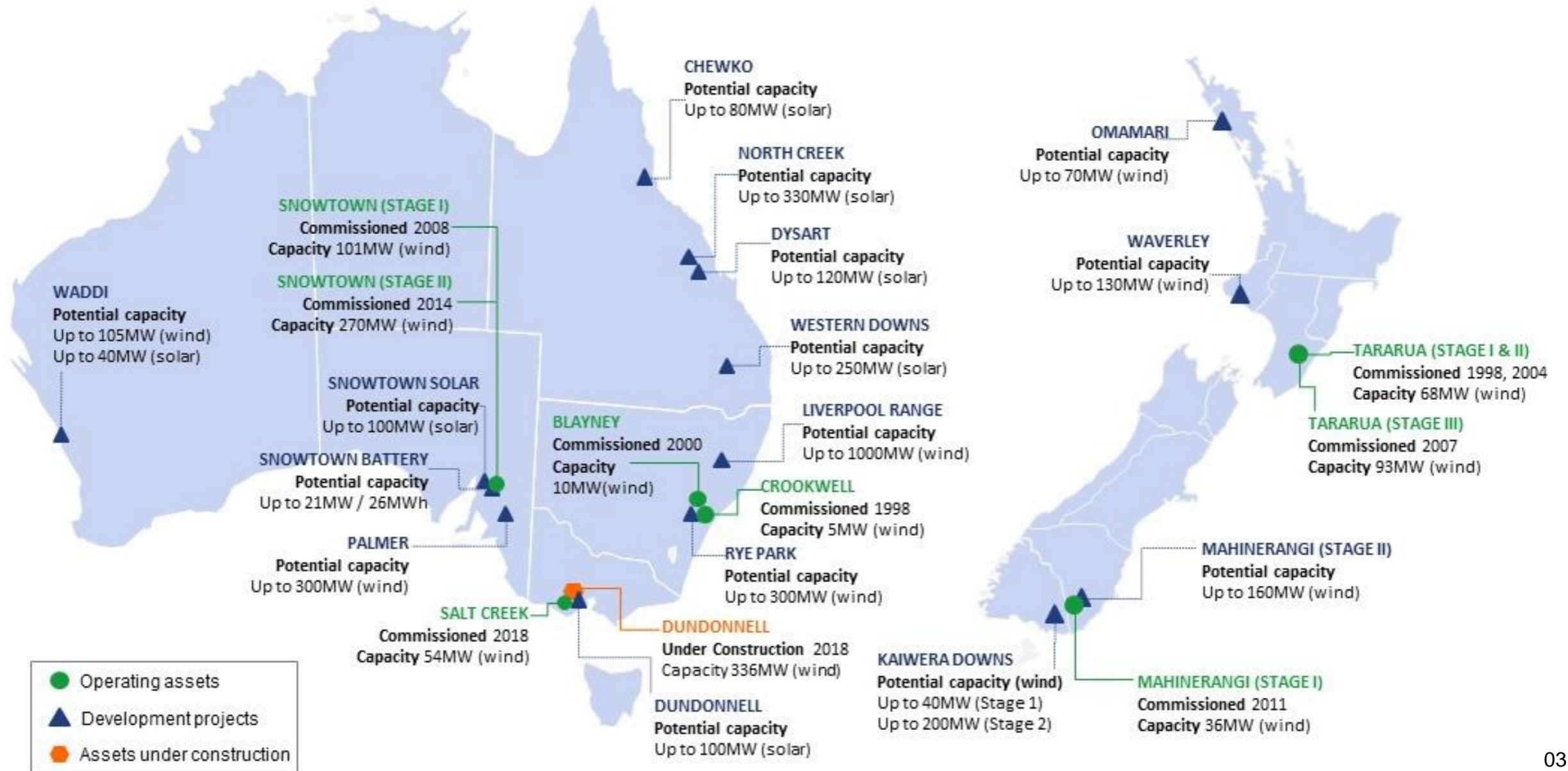


AGENDA

- **TLT overview and update**
- **Lessons from across the ditch**
- **Challenges and opportunities for NZ**

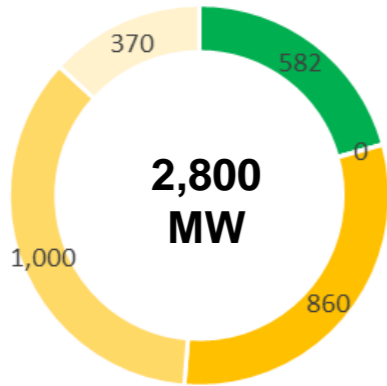
Operational and Development Projects - Geographical View

636 MW operational across 322 turbines → 973 MW with Dundonnell across 402 turbines



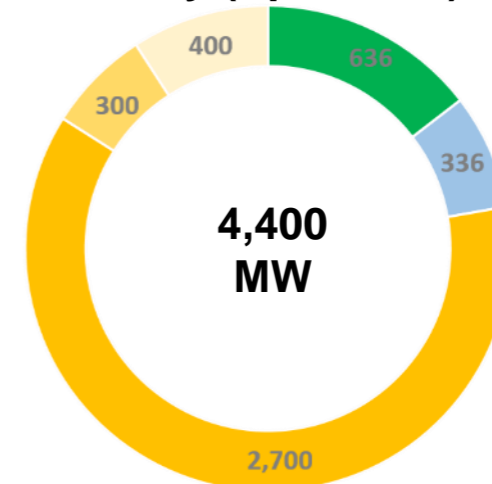
Summarised Company Update – At Demerger vs Today

Demerger (October 2016)



2.5 years
A\$660M new
investment
committed

Today (April 2019)

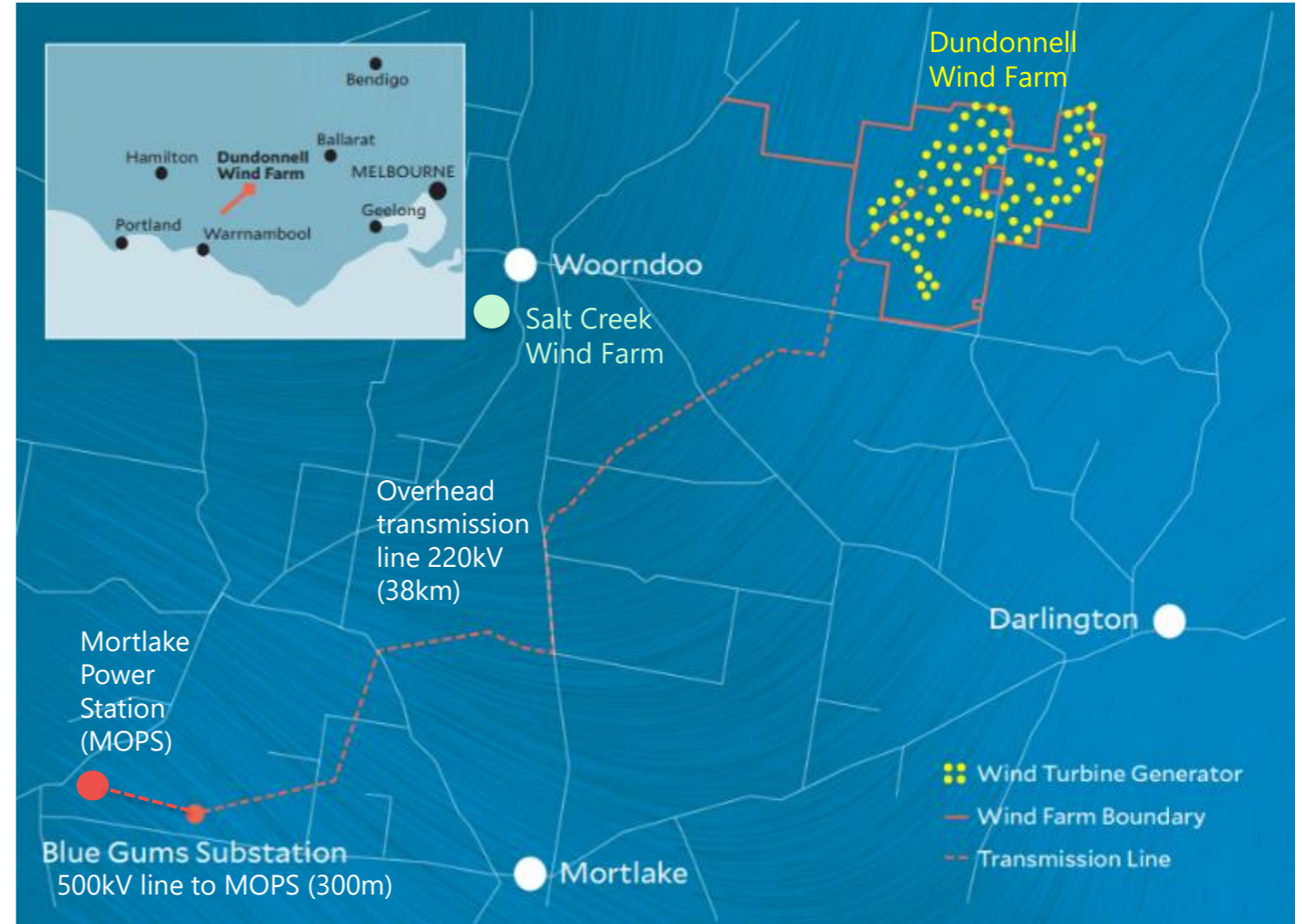


■ Operational
 ■ Construction
 ■ Approved
 ■ Seeking Approval
 ■ Feasibility

| Renewables capacity MW | Demerger (October 2016) | Today (April 2019) | Key progress |
|---------------------------------|-------------------------|--------------------|------------------------------------|
| Operational | 582 | 636 | Salt Creek WF delivered |
| Construction | - | 336 | Dundonnell WF under construction |
| Committed Portfolio | 582 | 972 | +390MW (+67%) |
| Approved | ~860 | ~2,700 | NEW Solar / battery options |
| Seeking Approval | ~1,000 | ~300 | Medium-term options progressed |
| Feasibility | ~370 | ~440 | NEW QLD and NSW focus |
| Development Pipeline MW | ~2,230 | ~3,440 | +1,210MW |
| TLT Portfolio + Pipeline | ~2,800 | ~4,400 | +1,600MW |

DDWF Project Overview

| Project stats | Dundonnell Wind Farm |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Capital cost | ~A\$560 million ^ |
| Turbines | 80 x Vestas V150-4.2MW turbines |
| Project Structure | Engineering Procurement and Construction (EPC) contract with Vestas for Wind Farm; and Build, Own Operate contract with AusNet Services to deliver connection assets |
| Revenue contracting | <ul style="list-style-type: none"> - VRET portion (29 turbines)* - Snowy Hydro portion (40 turbines) - Merchant portion (11 turbines) |
| Capacity | 336 MW |
| Turbine tip height / Hub height | 189m / 114m |
| P50 GWh | ~1,200 GWh/yr |
| FID ⁽¹⁾ Date | Board approved 30 October 2018 |
| Construction Commencement | January 2019 |
| Target COD ⁽²⁾ | End of Q3 calendar 2020 |
| Capex per MW | A\$1.7M per MW ^ |



^ New connection assets will be constructed and owned by AusNet and services provided under a lease arrangement (not included in project capital costs)

Victorian Renewable Energy Target ("VRET") Support Agreement with Victorian Government for 100% of electricity and LGC output from 29 VRET turbines (121.8MW) secured on 11 Sep 18

(1) Final Investment Decision, (2) Commercial Operations Date

Development pipeline – near term NZ opportunity with Waverley Wind Farm

Tilt Renewables has made good progress advancing the development of Waverley Wind Farm

- Obtained all development and environmental approvals
- Finalising design, procurement and connection workstreams
- Advanced discussions for long-term offtake with Genesis Energy

Project Highlights


- Expected capacity of ~130 MW wind turbine tip height up to 160 meters
- Cost effective network connection suitable for scale of project
- Excellent location from an environmental perspective – highly modified site with positive ecological benefits from project due to rehabilitation commitments



- Legend**
- Site Boundary
 - EBZ Constraint
 - Coastal Protection Area
 - Proposed Transmission Line

Source: Tilt Renewables,

| Key project stats | Waverley Wind Farm |
|---------------------|---------------------------------------------------|
| Installed capacity | Approval for up to 48 wind turbines, up to 130 MW |
| Annual production | ~455 GWh lifetime average (130MW layout) |
| Energy produced | Sufficient to power approximately 48,000 homes |
| Capacity factor | ~40% average |
| Construction period | ~18 months |
| Anticipated timing | Final investment decision Q4 2019 |



Lessons from across the ditch - a developers perspective

RENE



30,000
25,000
20,000
15,000
10,000
5,000
-

RENEWABLE ENERGY PENETRATION

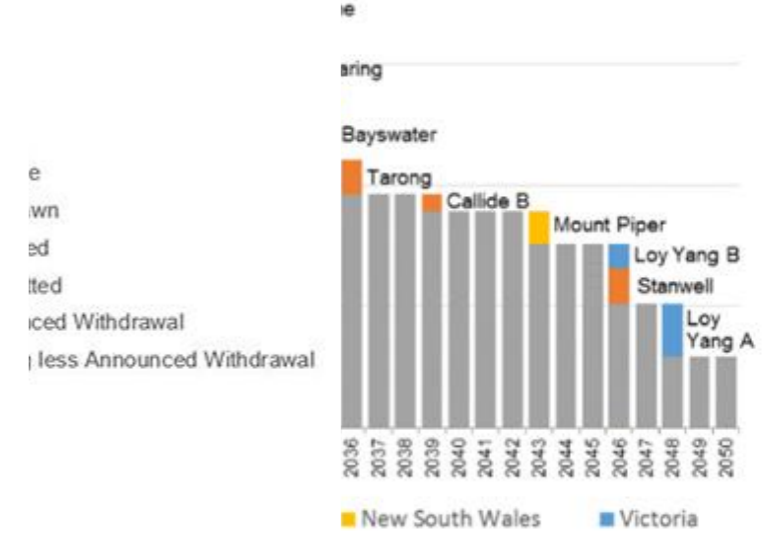
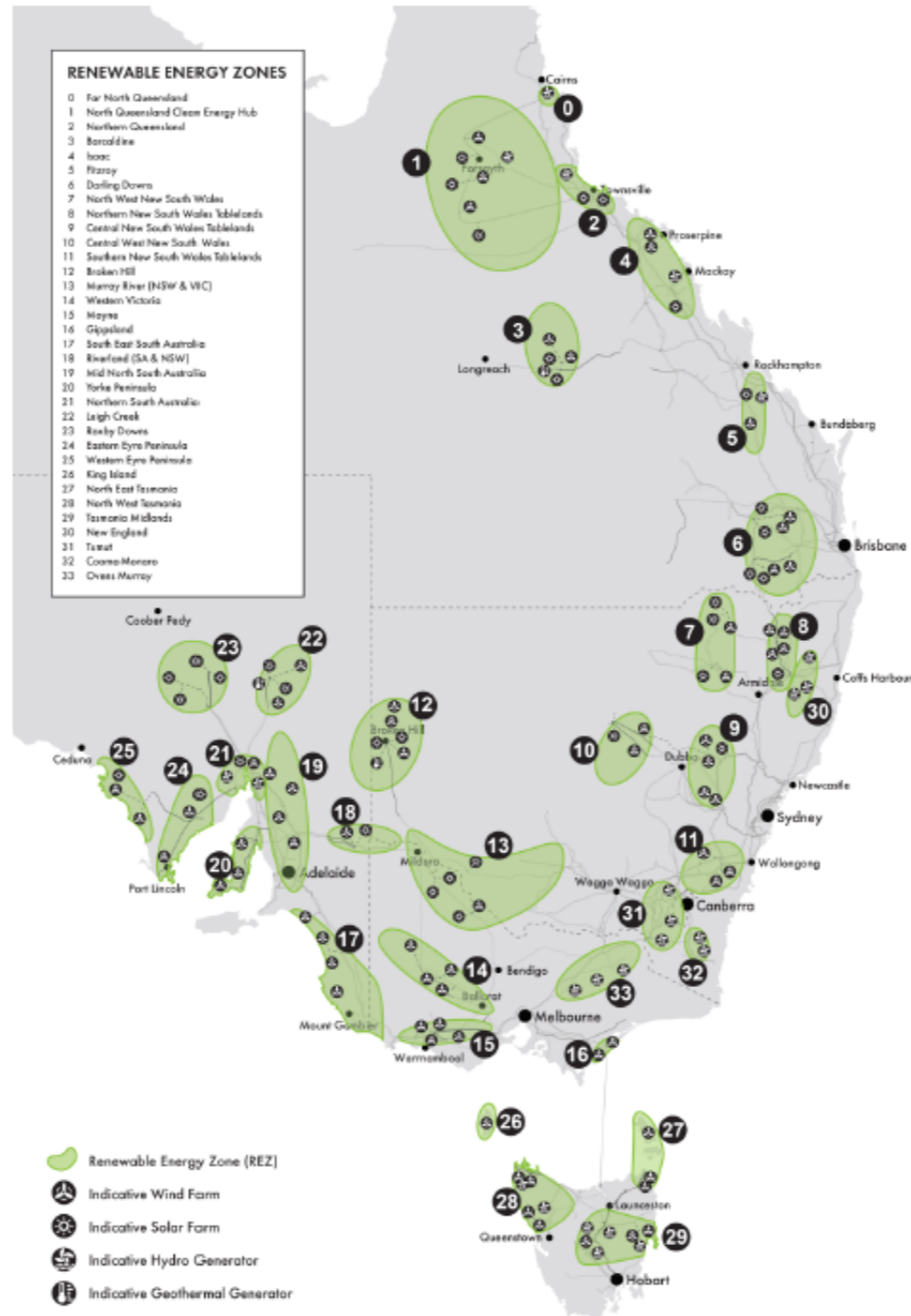
| STATE | TOTAL GENE (GWh) |
|-----------------|------------------|
| TAS | 12,083 |
| SA | 13,506 |
| VIC | 48,014 |
| WA | 18,950 |
| NSW | 69,085 |
| QLD | 65,066 |
| NATIONAL | 226,703 |



Note: Existing QLD(04-Feb-1)
* Solar exclude 58,73

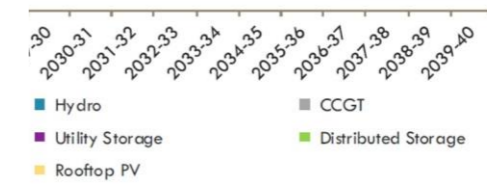
Source: CEC Clean Energy Austrc

Figure 24 Renewable Energy Zone candidates



| Category | Battery Storage | Other | Total |
|----------|-----------------|-------|--------|
| 65 | 155 | 185 | 50,645 |
| 65 | - | - | 2,722 |
| 65 | 155 | 185 | 47,923 |
| - | - | - | 180 |
| 24 | 77 | - | 7,201 |
| 85 | 3,700 | 29 | 51,568 |
| - | - | - | 3 |

Using data files:



Source: AEMO Integrated System Plan – Generation mix forecasts – neutral case

~35 GW 'Grid Scale' Renewables Opportunity

Australian Market - Short Term Pain is Real

Policy

Energy & Climate will be Federal election issues

COP21 reductions remain committed to

Policy change and market intervention risk

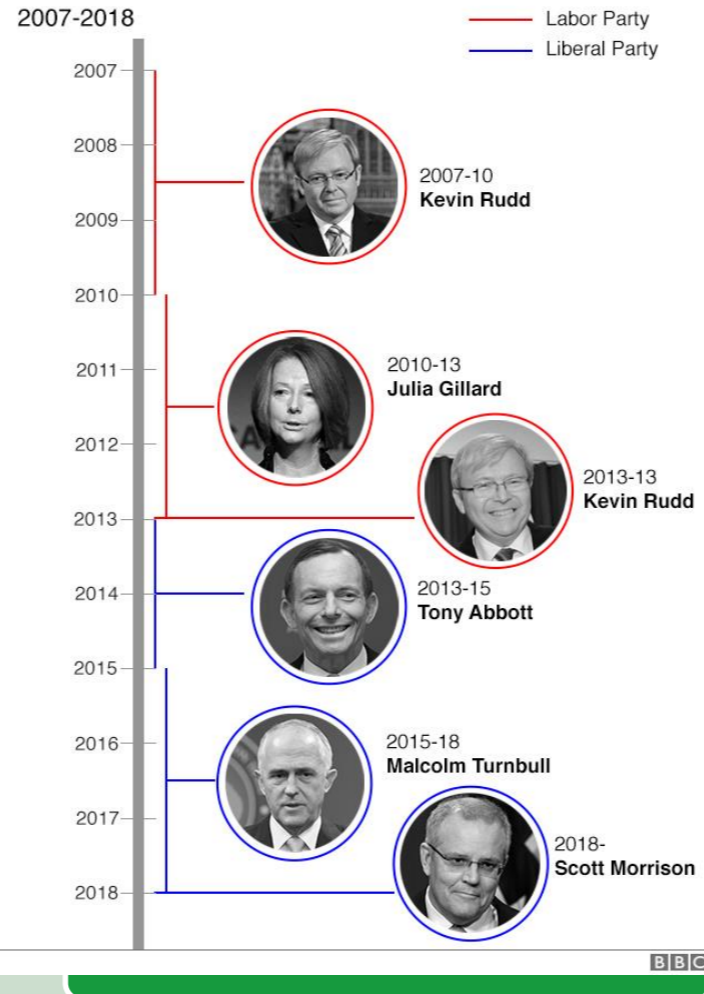
QLD, VIC and ACT have renewables targets

Govt owned renewables platforms (Snowy, Clean Co)

Increasing ARENA and CEFC funding

Potential for transmission investment could be helpful

Australia's Prime Ministers



Market capacity to deliver is under stress

Commercial

Traditional PPA market is fairly stagnant, tenors tightening

Government CfDs are likely future option.

Potential for market over-supply

LCOE remains key focus

Connection costs and time

Curtailment and loss factors

Banks are more curious about projects after some set backs

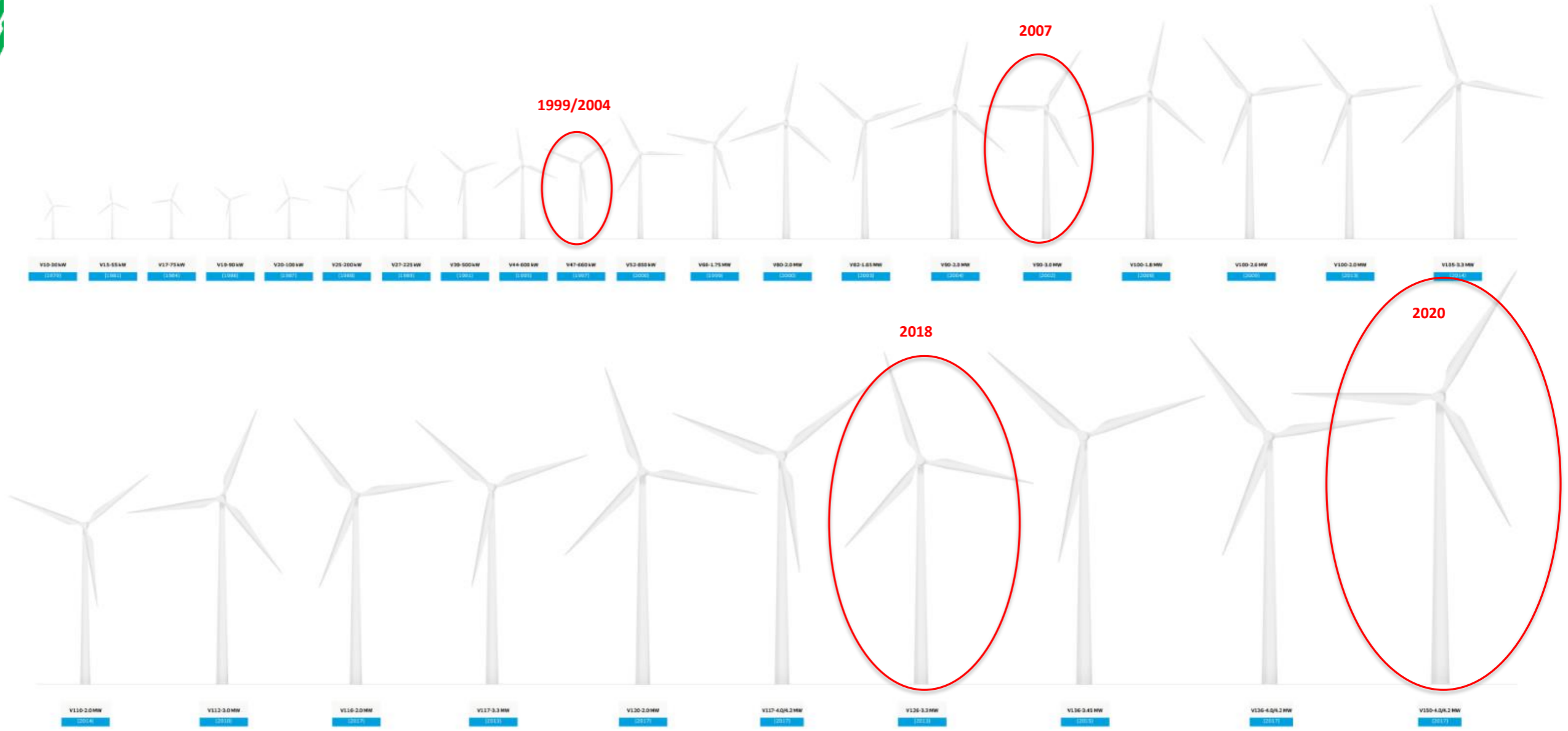


Challenges and opportunities for New Zealand

Challenges & Opportunities

- Technology improvements as always remain a key driver of reduced LCOE
- However - significantly larger WTGs are not necessarily the solution at every potential NZ site due to access/topography/visual amenity/wind conditions etc.
- Repowering – TWF Stage 1 approaching 20yrs operation:
 - Still achieving availability levels of >96% (5yr avg)
 - Environmental/planning hurdles to repowering
- Streamlining amendment and extension of existing resource consents (where appropriate) to utilise latest tech
 - RMA & NPS-REG amendments
- Geographic diversity is important – transmission considerations and captured price (highly correlated output)
- Storage/firming options?





Challenges & Opportunities

- Long term off-takes of any significant volume and tenor are rare – being an IPP in NZ is tough
- C&I / “corporate PPAs”? Can be complex, load following/firming, retail sleeving arrangements etc.
 - Seeing alternative products such as proxy revenue swaps (PRS) and parametric weather insurance – comes at a price
 - Aggregation to get sufficient volume likely required
- Opportunities to improve market structure?
- Build on wide-spread acceptance of renewables and generally favourable view of wind energy – developers need to continue to maintain high standards wrt consultation and stakeholder engagement
- NZ will placed to continue growth in the wind sector – keep an eye on relevant developments in Australia!

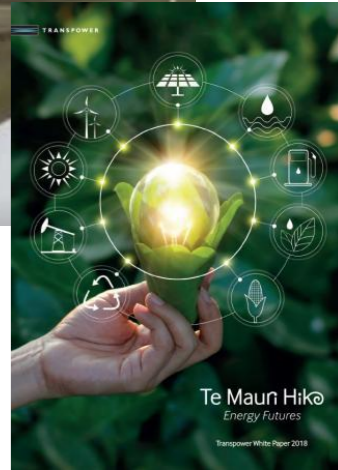
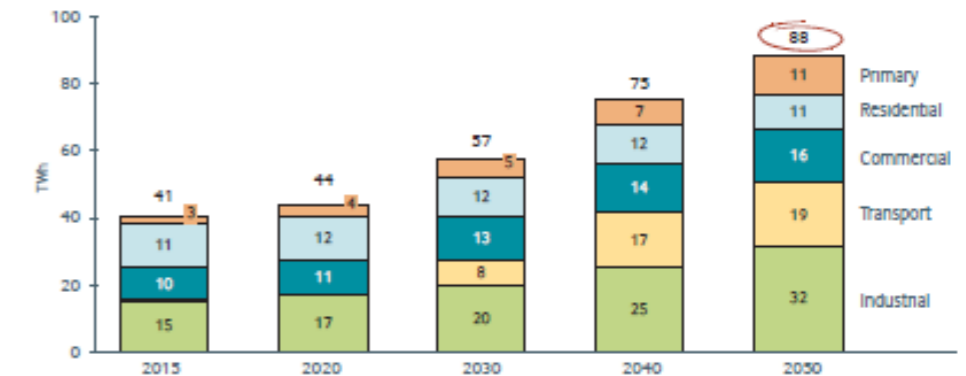


Exhibit 3: Estimated delivered electricity demand by sector





Thank you