

The Climate Institute

No Plan for Net Zero Emissions = No Plan

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Net zero emissions has growing acceptance

“Paris is...a step along the way to achieving a net zero-emissions world.” – **Prime Minister Malcolm Turnbull**

“The first, long-term objective Labor pledges itself to today, is for Australia to achieve net zero pollution by 2050.” – **Opposition Leader Bill Shorten**

“[<2°C] will require ... most countries including Australia eventually reducing net greenhouse gas emissions to zero or below.” – **Australian Climate Roundtable**





Paris commits to net zero energy emissions by ~2050

Paris Agreement

1. 5-yearly cycle to strengthen targets
2. Net zero 2nd half of century
3. Achieve <2C, pursue <1.5C

	Net zero energy CO ₂ emissions	Net zero GHG emissions
<2°C (>66% probability)	2060-2075	2080-2100
<1.5°C (>50% probability, >75% of avoiding 2°C)	2045-2055	2060-2080

Source: Climate Analytics, 2015



What is <math><1.5-2^{\circ}\text{C}</math> transformation of electricity supply, and how do we make it happen?

Strong carbon price consistent with long-term goals best in theory, unlikely in practice

How can second-best policies reduce gap between goal and current pathway?

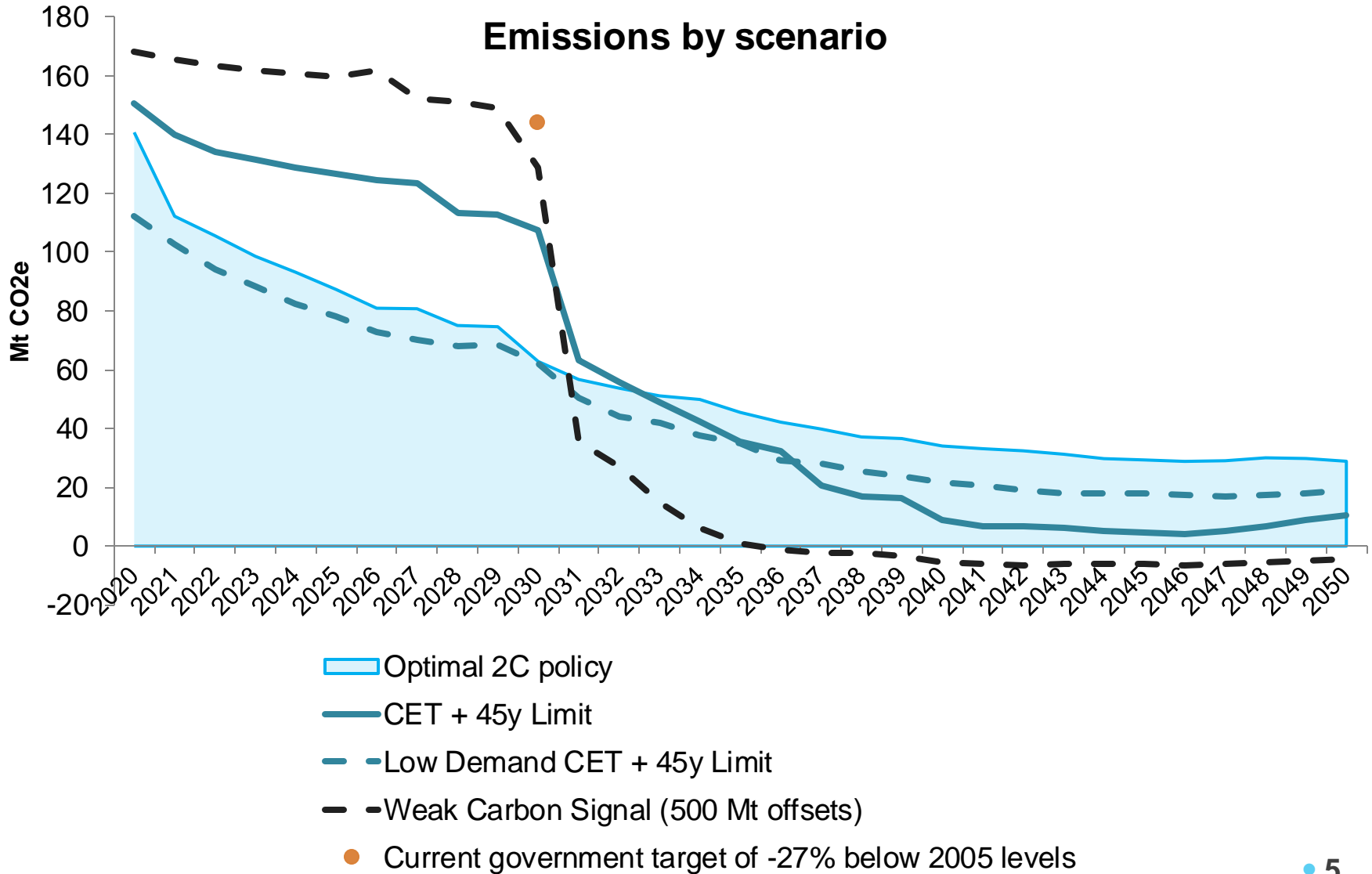
Base case 1 - *Optimal 2C Policy* – 2°C carbon price sets standard

Base case 2 - *Weak Carbon Signal* (carbon price $<\$40$ to 2030)

- + plus *Clean Energy Target* of 50% by 2030
- + or *45-year Limit* on operating life of existing coal stations
- + or both
- + Sensitivities

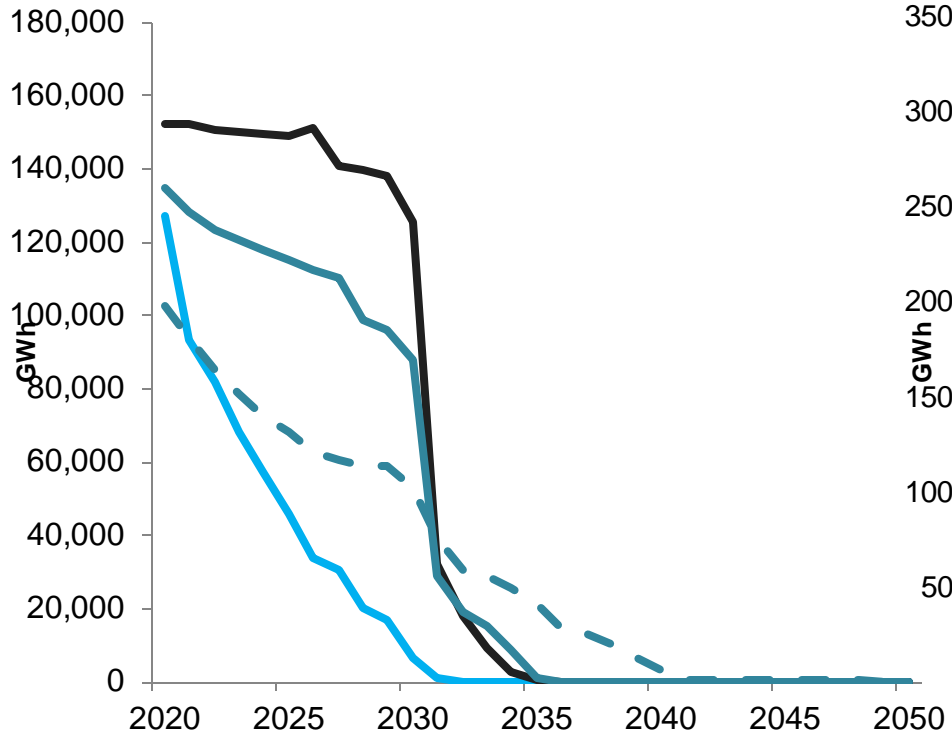
Base case 2 + scenarios – investors assume weak carbon signal continues to 2050. But carbon price is recalibrated after 2030 to drive action to achieve carbon budget.

Two approaches to net zero by 2050: hard or harder

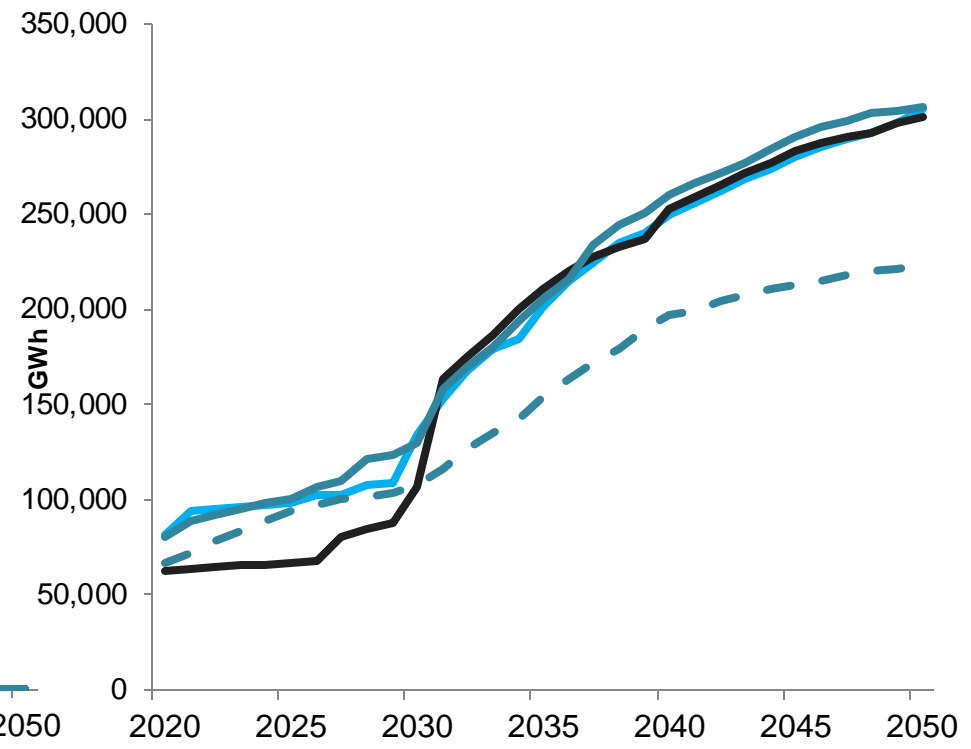


Key challenges – derisk clean energy, exit traditional coal

Coal generation



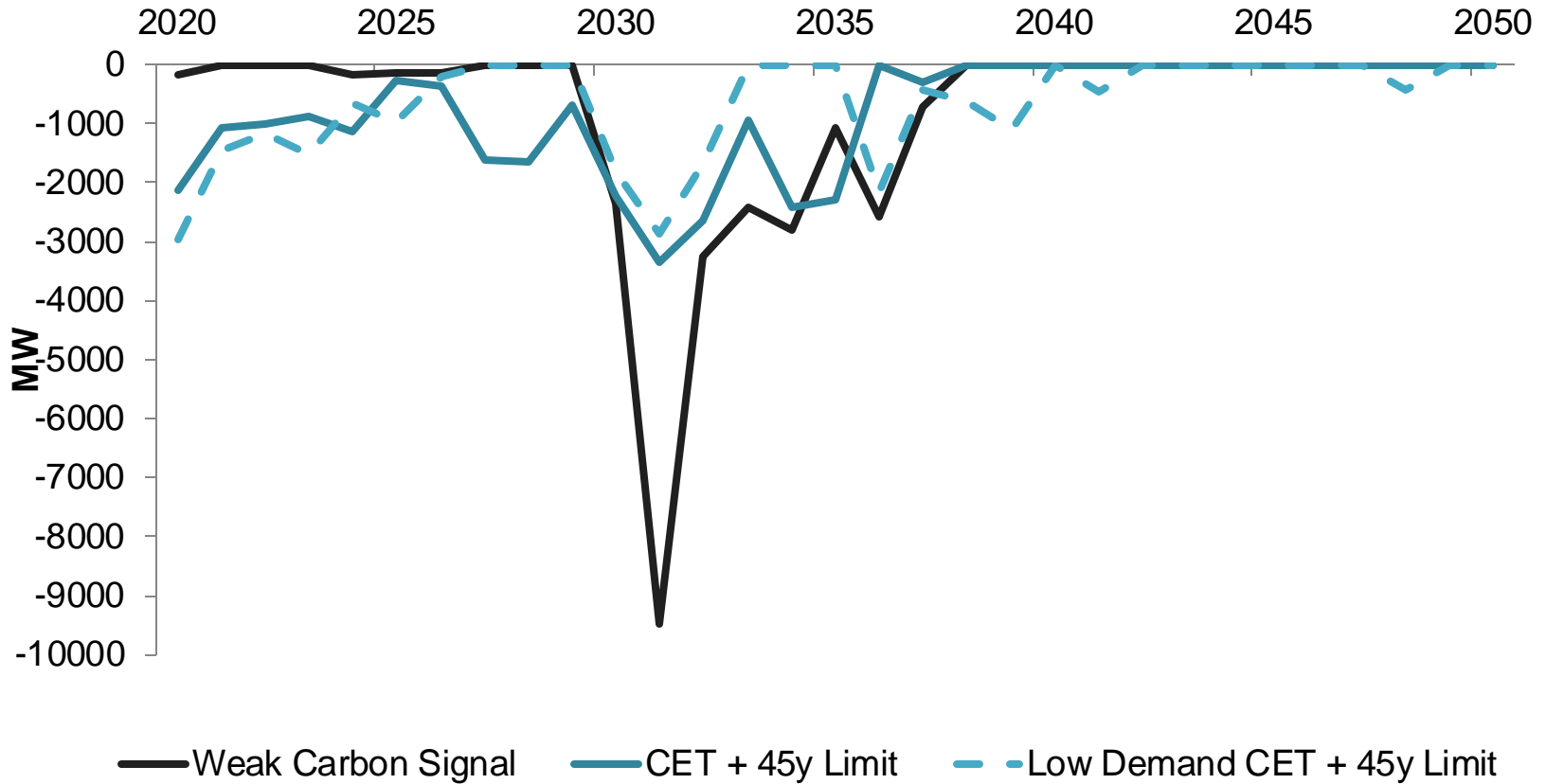
Clean energy generation



- Optimal 2C Policy
- Weak Carbon Signal
- 50% CET + 45-year Limit
- - Low Demand CET+ 45-year Limit

Manage rather than put off generator retirements

Coal generation retirement



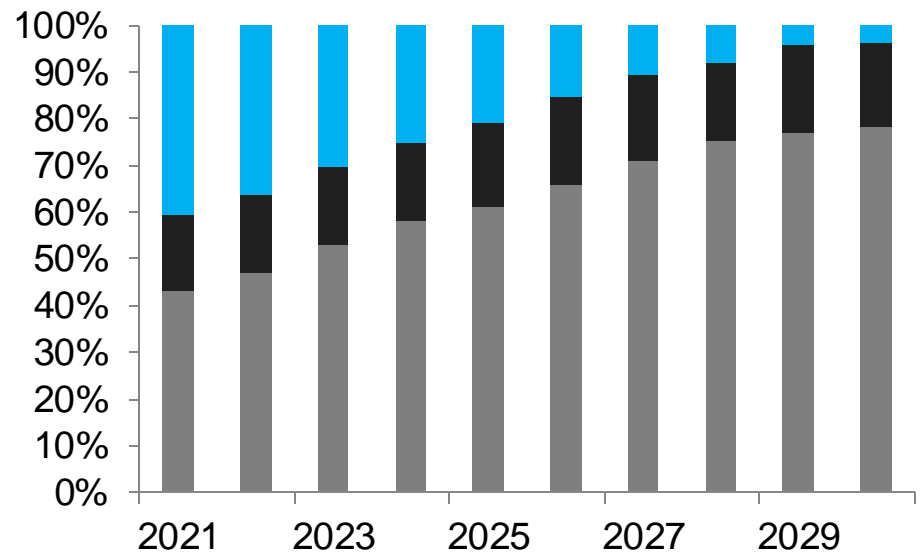
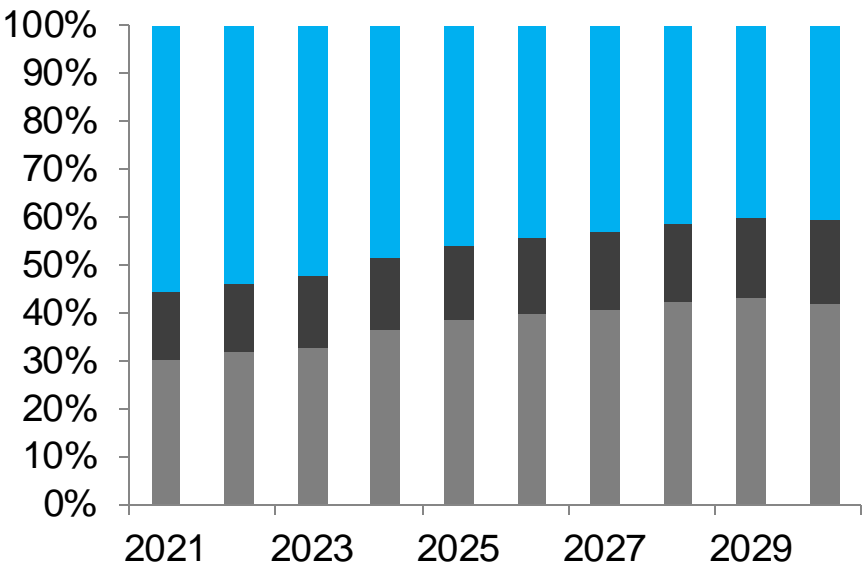


Phase out old high-carbon capacity reduces subsidy, risk

Breakdown of revenue per MWh

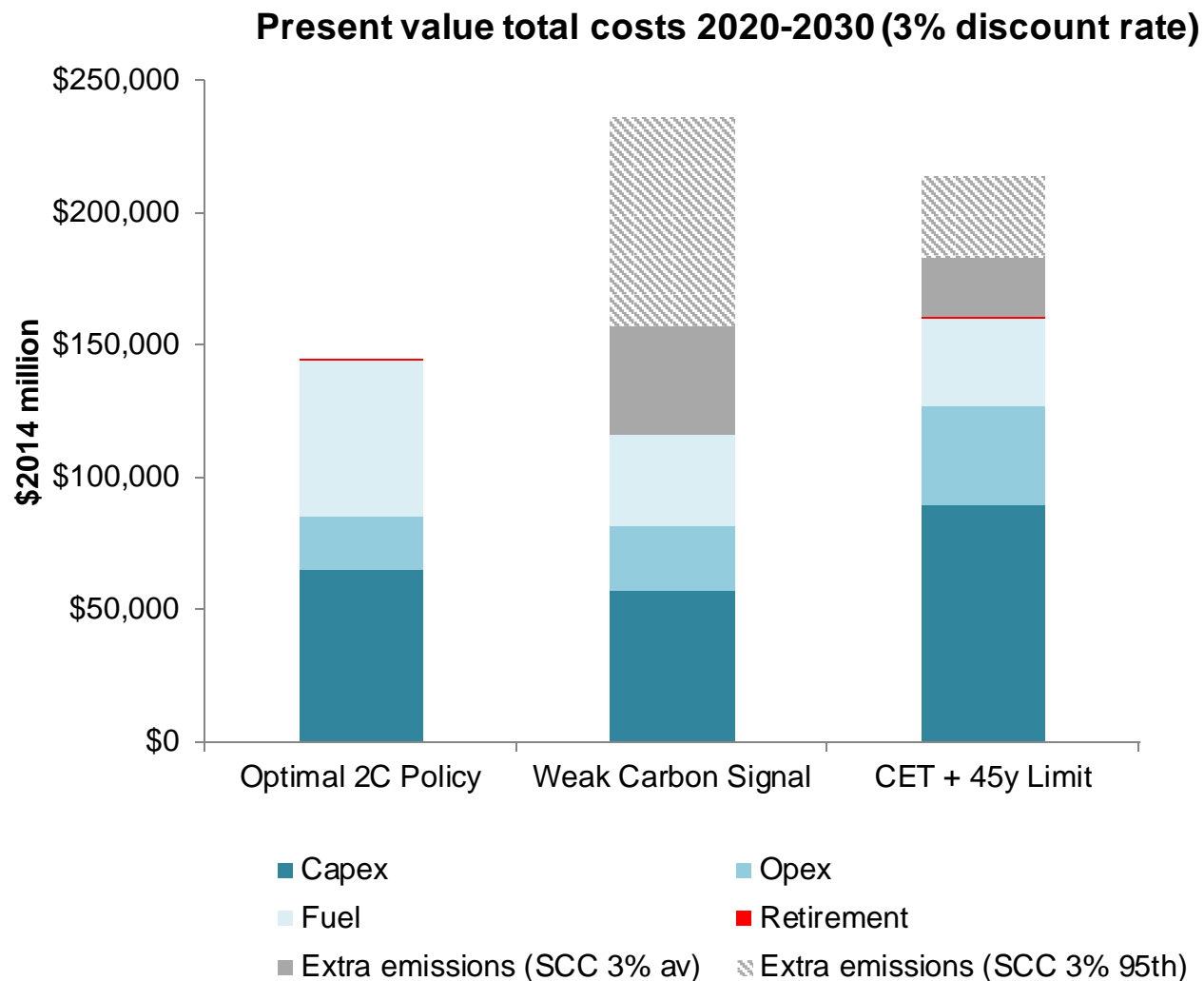
50% by 2030 Clean Energy Target

50% CET + 45-year limit on coal



■ Wholesale (exclcarbon) ■ Carbon ■ Certificate

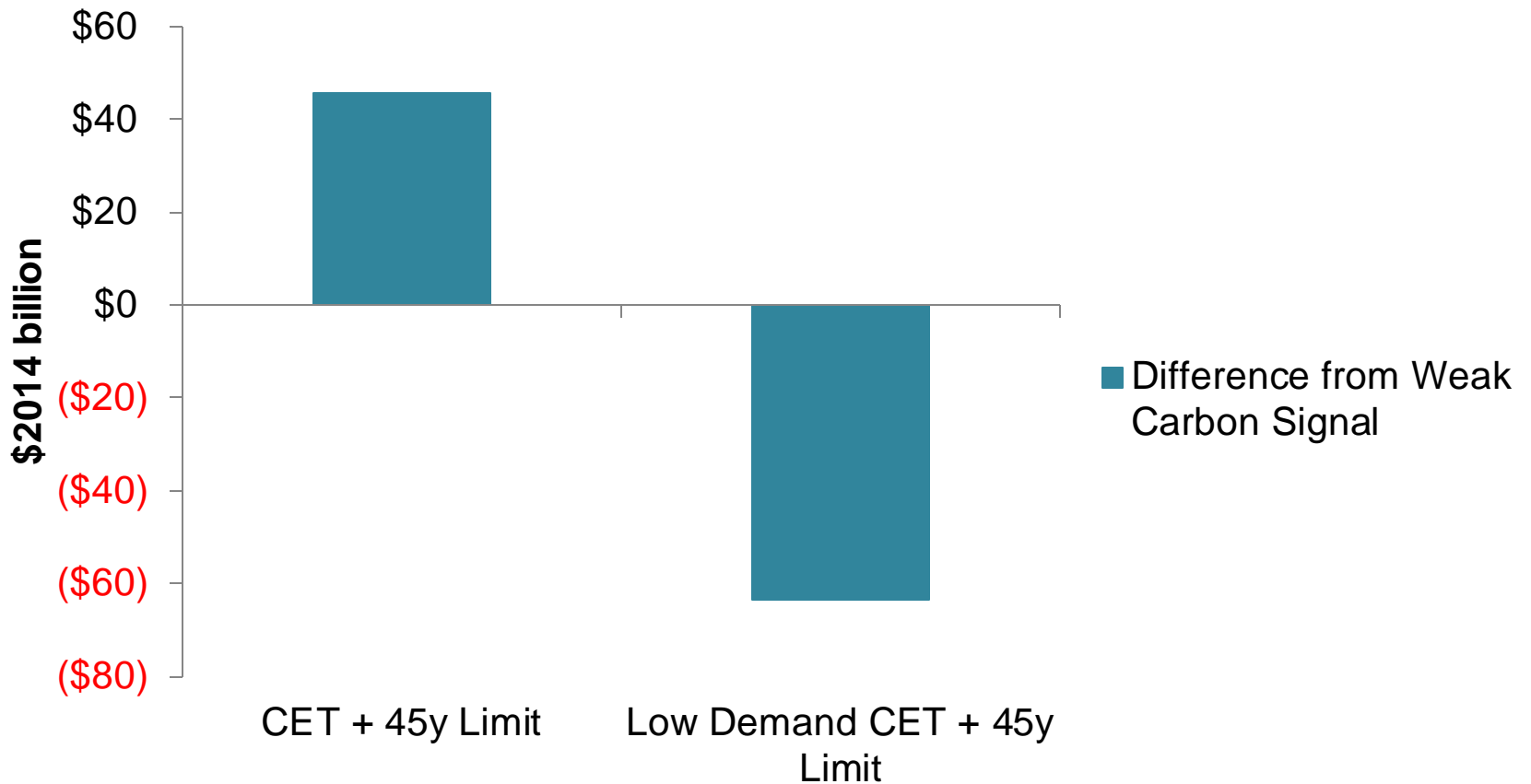
Comparing all the costs of action to 2030





Cost of insuring against future shock

NPV resource costs to 2050 excl carbon - difference from Weak Carbon scenario





Another band-aid solution is no solution

1. Next 5 years are critical because the next 15 years are critical
2. No single policy is sufficient to
 1. Achieve the $<2^{\circ}\text{C}$ outcome
 2. Provide policy stability
 3. Manage community impacts of transition
3. Policy mix needs to include a) exit for coal stations and b) de-risking of new clean energy investment
4. Energy efficiency an underappreciated lever – but poses risk to wholesale prices if not strategically applied

Short term policy = unstable policy = higher risks & costs



For more information

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