

The economic value of decarbonising the Pilbara

Context

- WA miners are investing in decarbonisation to varying extents (with Fortescue the leader in terms of level of investment and ambition¹). However, this investment is being limited due to the unintended distortionary effects of the Fuel Tax Credit (FTC).
- In today's environment, the FTC provides a ~A\$0.53/L rebate to miners for diesel use, degrading the business case for decarbonisation investment. Under current policy settings, widespread industry adoption is delayed until ~2035.
- To understand the economic opportunity of decarbonising the Pilbara if the FTC distortion were addressed through a A\$50m FTC cap, Cyan Ventures was commissioned by Fortescue to evaluate:
 - a. The **economic value from decarbonisation investment** induced when a \$50m FTC cap is applied; and
 - b. The incremental **economic value if decarbonisation was pursued in tandem with Common-User Transmission Infrastructure (CUTI)**.

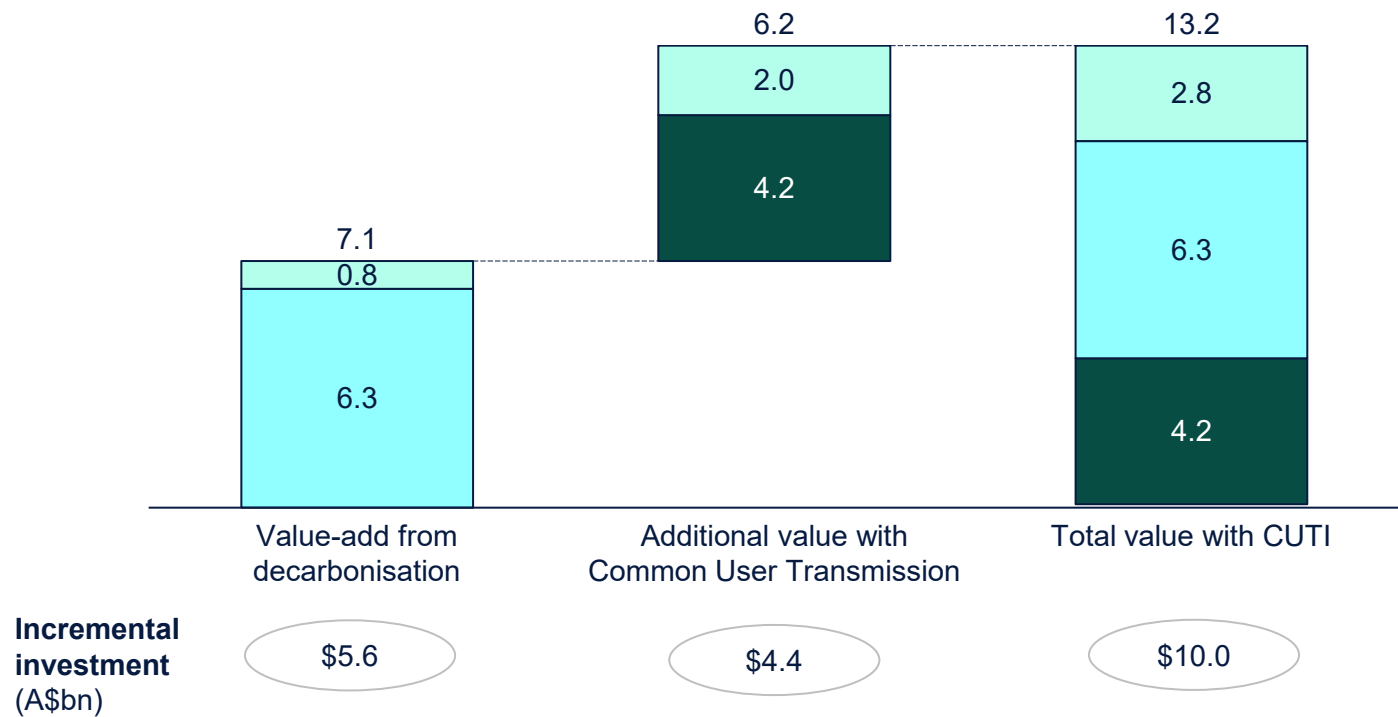


Notes: 1. Fortescue targets real zero Scope 1 and 2 emissions by 2030 with no carbon offsets, roughly 20 years ahead of both BHP (30% reduction by 2030, net zero by 2050) and Rio Tinto (50% reduction by 2030, net zero by 2050).

Executive summary: A\$7.1bn-A\$13.2bn of WA economic value could be created through Pilbara decarbonisation under a A\$50m FTC cap

WA economic value from decarbonisation and common-user transmission infrastructure induced by a A\$50m FTC cap¹ (A\$bn over BEV asset life and 25-year CUTI period; first scaled deployment 2029)

■ Spend-driven value-added ■ BEV operating savings ■ Avoided duplicated transmission costs

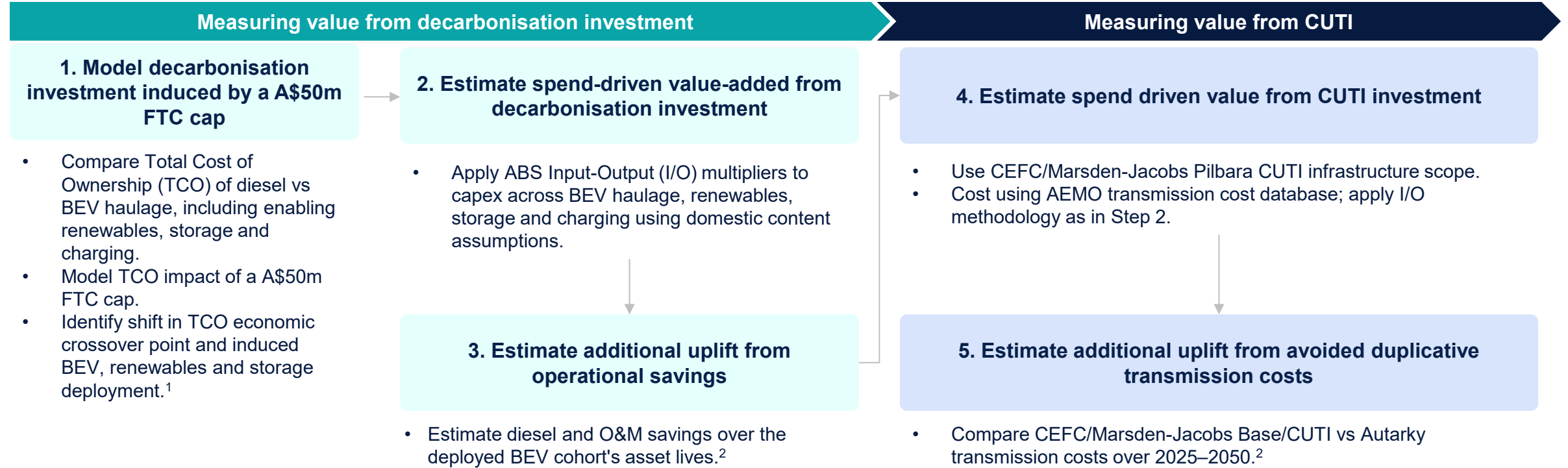


- Under a A\$50m FTC cap, an additional A\$5.6bn could be invested as BEV haulage becomes lower cost excluding Fortescue's already in-train investment², bringing on ~290 BEV trucks by 2035 (~46% of the industry-wide cohort fleet).
- This drives A\$7.1bn of value throughout the economy, flowing from the initial capital investment and ongoing operating savings from BEV haulage.
- With CUTI in place as well, the total uplift rises to A\$13.2bn, an additional A\$6.2bn on top of the A\$7.1bn decarbonisation value, driven by the flow-on effects of the initial capital investment in transmission and the overall savings from a lower transmission cost buildout.
- In addition, this could support ~16,800 cumulative investment-phase FTE-years (with CUTI) and drive ~3.1 MtCO₂e of cumulative abatement between 2026–2035 and ~13.1 MtCO₂e across the remaining BEV asset life, with annual abatement reaching ~0.8 MtCO₂e by 2035.^{3,4}
- Overall, a A\$50m FTC cap strengthens the investment case for electrified haulage, while CUTI could amplify the economic benefits by reducing duplicated transmission build-out.

Notes: 1. Induced decarbonisation investment under a A\$50m FTC cap is assumed to be directed towards BEV haulage, with first nonzero deployment in 2029, reflecting residual procurement and operational readiness lead time. CUTI focuses on transmission investment and savings only. Savings from reduced generation needs have not been included and would require additional analysis to understand miner capacity for shared generation dependent on their electricity usage profiles. Value-added is presented within the 10-year investment window (2026–2035) and across the remaining useful life of assets deployed during that window; BEV cohort assumed ~17-year asset life, with ~13-year cohort-weighted remaining life post-2035. CUTI transmission is assessed over a 25-year period per MJA / CEFC (2025). Beyond-window benefits reflect the asset base built up to 2035 continuing to operate; they are not an extension of the investment programme itself. 2. Fortescue's investment is considered already in-train regardless of FTC settings. 3. FTE-years are cumulative investment-phase employment effects, not permanent ongoing jobs or headcount; one FTE-year equals one full-time-equivalent job for one year. 4. Abatement is presented as physical emissions reduction and is not separately monetised in WA economic value.



Methodology: We size induced decarbonisation investment, its WA flow-on value, and CUTI's additive contribution



Overarching assumptions:

- **BEV haulage focus:** A\$50m FTC cap induces diesel-switching investment. Renewables and storage sized to support BEV haulage demand only.
- **Average industry-wide cohort:** Fortescue's decarbonisation occurs regardless of FTC settings; we measure the BEV adoption the cap induces across the rest of the industry.

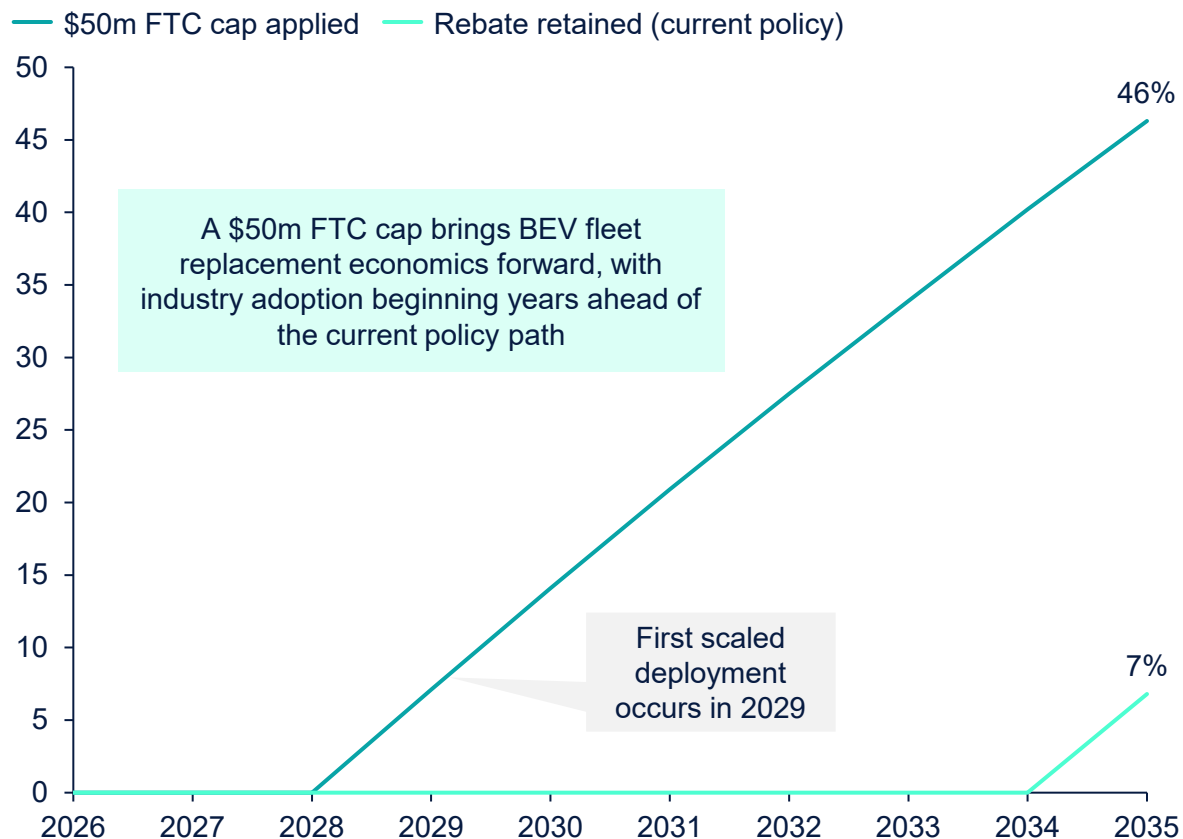


Notes: 1. We assume miners deploy BEV haulage from 2029. A foreseeable economic crossover under the A\$50m cap allows procurement, FID and operational readiness to run in parallel. Fleet replacement assumes an annualised replacement rate (~1/17-year asset life ≈ 5.83% p.a. of the fleet) and any incremental fleet growth is also BEV. 2. Operational savings are considered additional operating income which does not flow to other parts of the economy as payments for the entities production (i.e., its operating costs) and is not put into I/O tables. 3. Additional renewables to decarbonise stationary energy would likely come online with the BEV induced renewables; therefore, the modelled value is conservative. Sources: MJA / CEFC (2025).

A \$50m FTC cap accelerates industry-wide BEV adoption by bringing forward fleet-replacement economics by ~6 years

Industry electrification accelerates under a \$50m FTC cap

(Annualised BEV fleet penetration, % of Industry-wide cohort fleet)¹



There are many reasons why first movers are already deploying BEVs:

- Strategic decarbonisation commitments
- Learning curve and capability advantages
- Lower future transition risk
- OEM partnerships and technology influence
- Access to proprietary energy infrastructure
- Earlier fuel and operating cost reductions

These advantages are concentrated among first-mover operators, whose economics already sit ahead of the modelled cohort curve. A \$50m FTC cap improves relative economics for the broader cohort, accelerating adoption that first movers are already pursuing.

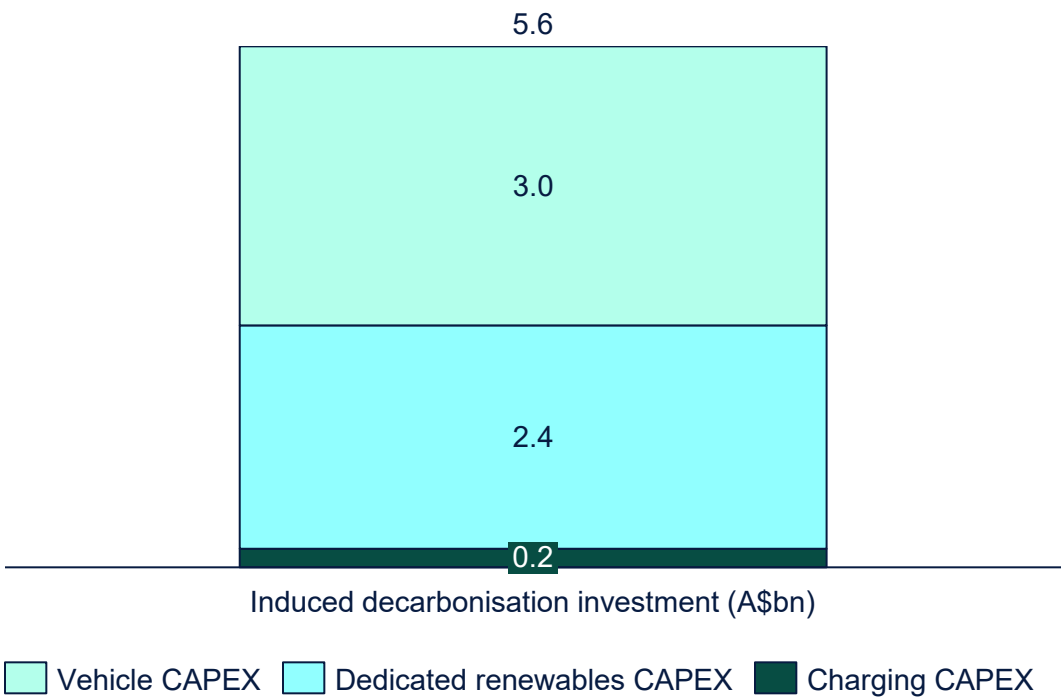
For the average industry-wide fleet, a \$50m FTC cap improves the relative economics of BEVs over 2027/2028. First scaled deployment is estimated from 2029, with preparation (procurement, FID, readiness) running in parallel as the economics become more attractive. Under current policy settings, widespread industry adoption is delayed until approximately 2035.



Notes: 1. Analysis covers the industry-wide Pilbara iron ore cohort (e.g., BHP, Rio Tinto, Mitsui, Hancock, MinRes and below-cap miners). Adoption curve shows annualised cumulative BEV penetration of the industry-wide cohort fleet under a \$50m FTC cap vs rebate-retained. Annualised uptake is shown to provide an industry-wide average view of uptake, as each mine/mine site will operate on an individualised replacement cycle with discrete, regular replacement periods. Cap-applied uptake begins 2029 (7.1%), reaching 46.3% by 2035 vs 6.8% if the rebate is retained. First scaled deployment occurs in 2029; procurement, FID and operational readiness assumed to run in parallel ahead of the economic crossover.

The investment in BEV haulage totals A\$5.6bn, consisting of vehicles, charging infrastructure and dedicated renewables

The decarbonisation investment package extends beyond truck replacement (A\$bn, 2026–2035)



Component	Build-up	Capex
Vehicles	~290 cumulative BEVs x ~A\$10.5m average per truck (US\$6.0m diesel baseline in 2025 x 1.40 BEV premium = US\$8.4m, declining 2.5% p.a. over deployment ramp)	A\$3.0bn
Dedicated renewables	~648 MW renewable generation equivalent, plus supporting BESS, sized to BEV haulage demand using Pilbara cost curves with ~2x East Coast premium	A\$2.4bn
Charging	~290 BEVs / 7 BEVs per charger x A\$5m per charger	A\$0.2bn
Total	Capex base for spend-driven WA economic value	A\$5.6bn

The induced investment package is broader than BEV trucks alone and includes owned renewables sized to support electrified haulage:

- We model induced average industry-wide investment under a \$50m FTC cap, with ~290 BEV trucks deployed by 2035.
- Dedicated renewables are sized only to BEV haulage demand.



Notes: Induced decarbonisation investment is focused on the average industry-wide cohort. Renewables are sized to BEV operating power demand and apportioned to BEV fleet only. See appendix for full investment package build-up.

A\$5.6bn of decarbonisation investment creates A\$0.8bn of spend-driven WA economic value

WA value capture varies by stream, with import-heavy vehicles retaining less value locally than renewables, civil works and services
(full per-stream details available in appendix)

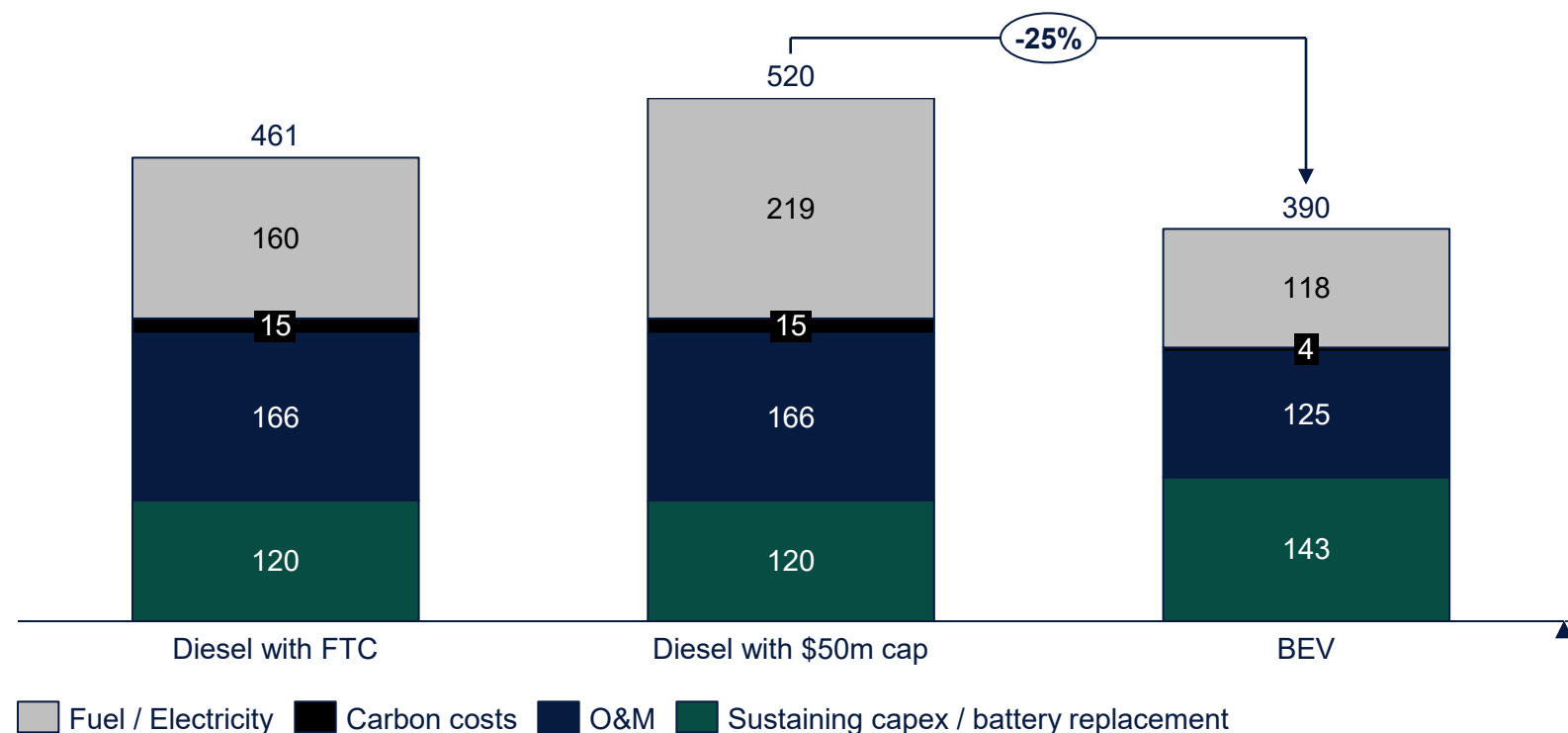
Spend stream	Capex (A\$m)	Effective WA value coefficient	WA economic value (A\$m)	Commentary
Vehicle CAPEX	A\$3,046	3.4%	103	Vehicle capex is large but import-heavy, so only a small share is retained in WA.
Renewables and storage CAPEX	A\$2,382	27.1%	647	Renewables and storage create most spend-driven value because they include local civil works, construction and services.
Charging CAPEX	A\$207	8.4%	17	Mostly imported electrical equipment with a small share of local civils and installation.
Total spend-driven core decarbonisation investment	A\$5,635	13.6%	767	Across the total A\$5.6bn package, the blended WA value coefficient is 13.6%, creating ~A\$0.8bn of spend-driven WA economic value.



Notes: Capex is mapped by spend stream to WA input-output channels. Domestic content assumptions are applied before WA Type I value-added multipliers to estimate WA value retained per dollar of spend. Effective coefficient means the final blended share of capex converted into WA economic value after domestic content and multiplier assumptions. See appendix for detailed industry mapping and multiplier assumptions.

BEV haulage creates operating savings by removing diesel fuel and carbon cost exposure

In 2026, estimated BEV haulage operating costs are ~25% lower than diesel under a \$50m FTC cap
(A\$/hr, cash operating-cost basis, excludes upfront vehicle/renewables/charging capex; comparison year 2026)



Estimated BEV operating savings are driven by the recurring cost gap versus diesel, excluding upfront capex already captured in spend-driven WA economic value:

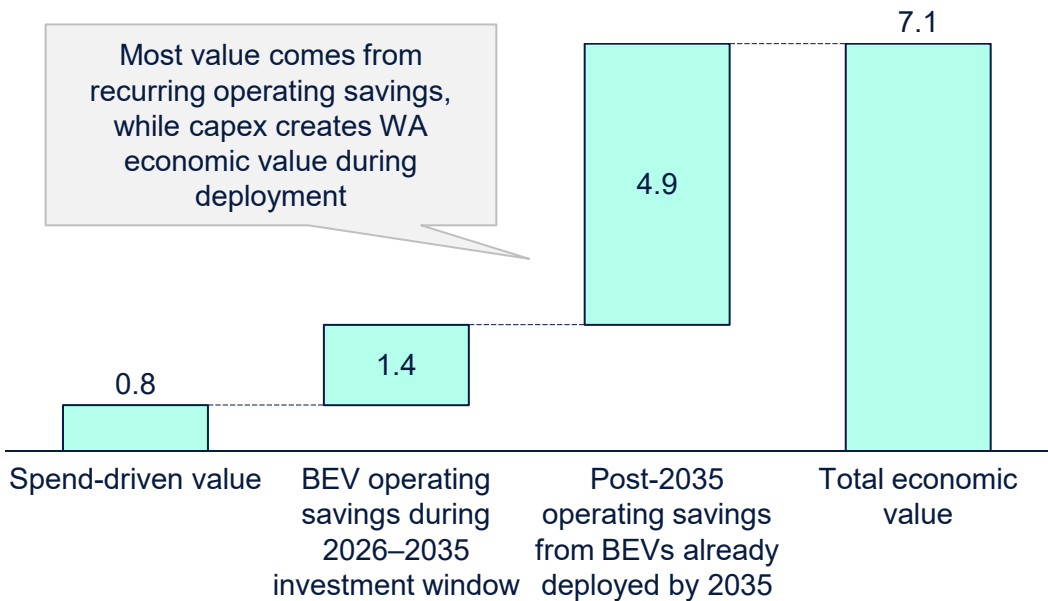
- Recurring operating benefits are calculated using the annual BEV-versus-diesel cash-basis OPEX gap, applied to 7,000 operating hours and active BEV truck-years.
- In 2026, BEV haulage operating costs are ~A\$130/hr (~25%) lower than diesel under a \$50m FTC cap. By 2035, this rises to ~A\$186/hr.



Notes: Chart shows the estimated cash operating-cost comparison for 2026, with our central case assumptions – this includes a pre-Iran crisis diesel price based on ACCC disclosures from September quarter 2025. Operating savings would be expected to be higher under crisis diesel prices. The cash operating-cost comparison includes sustaining capex/battery, O&M, carbon and fuel/electricity per operating hour. It excludes upfront vehicle, renewables and charging capex (captured separately in spend-driven WA economic value) and is distinct from the NPV-annuitised TCO.

Decarbonisation induced by a \$50m FTC cap creates A\$7.1bn of WA economic value from the initial investment and ongoing operating savings

WA economic value from decarbonisation investment
(A\$bn, undiscounted; includes 2026–2035 investment window plus remaining life of BEVs deployed by 2035)



BEV uptake also supports jobs and abatement as deployment ramps

~4,600 cumulative investment-phase FTE-years are supported through BEV haulage, charging, and dedicated renewables and storage deployment (without CUTI)

~3.1 MtCO₂e of cumulative abatement within the 2026–2035 investment window, rising to **~13.1 MtCO₂e** over the full deployed asset life of the BEV cohort already deployed by 2035

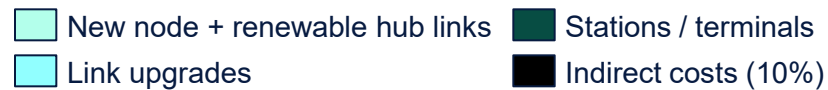
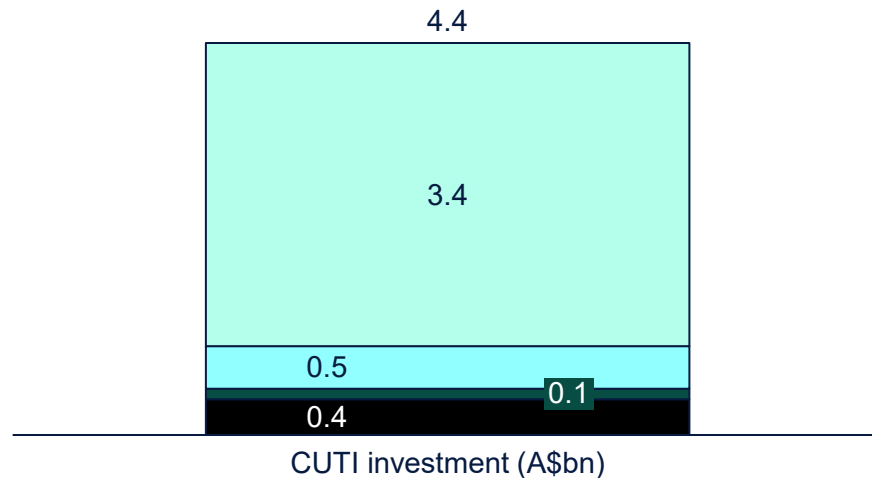
Annual abatement reaches **~0.8 MtCO₂e** p.a. by 2035, once BEVs are deployed across ~46% of the average industry-wide fleet

The 2026–2035 investment window understates the full value of electrification because BEVs deployed by 2035 continue generating operating savings over their remaining useful life:

- Within-window savings capture operating benefits from active BEV truck-years during 2026–2035.
- Post-2035 savings only capture the remaining useful life of BEVs already deployed by 2035 (not taking into consideration additional BEV deployment after 2035).
- The 2035 BEV fleet of ~290 trucks is assumed to operate for an average ~13 years beyond 2035, creating the largest value pool.

Investment in common-user transmission infrastructure in the Pilbara is estimated at A\$4.4bn

CUTI capex investment profile
(A\$bn)



Component	Build-up	Capex
New node + renewable generation hub links	511 km new node links + 779 km renewable generation hub links x A\$2.63m/km direct line capex (plant + civils + electrical + design / project management, 220 kV HVAC overhead)	A\$3.4bn
Link upgrades	1,072 km existing x A\$0.45M/km (subset of cost categories)	A\$0.5bn
Stations / terminals	38 switchbays x A\$1.78m + 5 new air-insulated switchyard sites x A\$10m	A\$0.1bn
Indirect costs	10% markup x A\$3,985m direct network capex	A\$0.4bn
Total CUTI capex	AEMO Transmission Cost bottom-up estimate	A\$4.4bn

CUTI is modelled as an additive infrastructure investment that supports coordinated Pilbara electrification:

- CUTI is added on top of decarbonisation investment induced by a \$50m FTC cap as an incremental layer on the BEV case; it does not substitute the dedicated renewables, storage or BEV investments already captured.
- Most capex is driven by new transmission links and renewable generation hub links, with additional investment in link upgrades, stations, terminals and indirect delivery costs.

Notes: CUTI network scope and link requirements are based on MJA / CEFC (2025) common-user transmission analysis; capex is estimated using the AEMO Transmission Cost Database building blocks. Easements, property and offset transfer payments are included in total CUTI capex but excluded from spend-driven WA economic value. CUTI is assessed here as an investment incremental to the BEV decarbonisation case, not as a standalone whole-of-system case. CUTI benefits are valued on a transmission-only basis (MJA / CEFC Table 9); the larger system-wide generation CAPEX and OPEX savings the MJA / CEFC report attributes to coordinated build are excluded from headline results, as they are whole-of-system benefits driven principally by electrifying LNG, chemicals and the broader NWIS.



A\$4.4bn of common-user transmission investment creates A\$2.0bn of spend-driven WA economic value

CUTI is more WA-retentive than equipment-heavy decarbonisation spend because most capex is local civil, electrical works and professional services (full per-stream details available in appendix)

Spend stream	Capex (A\$m)	Effective WA value coefficient	WA economic value (A\$m)	Commentary
Equipment-heavy CUTI components	A\$1,150	4.0%	46	Equipment-heavy CUTI components are import-exposed, so only a small share is retained in WA.
Local delivery services / works	A\$2,375	81.7%	1,940	Most CUTI value comes from local civil works, electrical installation, construction services and professional services.
Easements / property / offsets	A\$858	0%	0	Easements, property and offsets are included in total capex but excluded from WA economic value because they are treated as transfer / land-access payments.
Total CUTI CAPEX, incl. transfer categories	A\$4,383	Effective CUTI coefficient: 45.3%	1,986	Across the total A\$4.4bn CUTI package, the blended WA value coefficient is 45.3%, creating A\$2.0bn of spend-driven WA economic value.

Notes: CUTI capex is mapped by spend stream to WA input-output channels. Domestic content assumptions are applied before WA Type I value-added multipliers to estimate WA value retained per dollar of spend. Equipment-heavy categories are treated as import-exposed, while local civil works, electrical installation, construction and professional services are treated as 100% domestic. Easements, property and offsets are included in total CUTI capex but excluded from spend-driven WA economic value because they are treated as transfer / land-access payments rather than direct purchases of goods and services. See appendix for detailed industry mapping and multiplier assumptions.



CUTI avoids A\$4.2bn of duplicated transmission costs over 25 years

Calculation step	Value (A\$bn)	Commentary
Within-window benefit	0.6	Autarky transmission cost of A\$14.7bn less Base / CUTI transmission cost of A\$10.5bn over 2025–2050, allocated to 2026–2035 as CUTI is progressively commissioned
Post-2035 benefit	3.6	Remaining transmission saving to the end of the 25-year period
Total avoided duplicated transmission cost	4.2	A\$0.6bn included in within-window headline; full A\$4.2bn included in with-extension headline

The CUTI benefit is deliberately narrow and transmission-only:

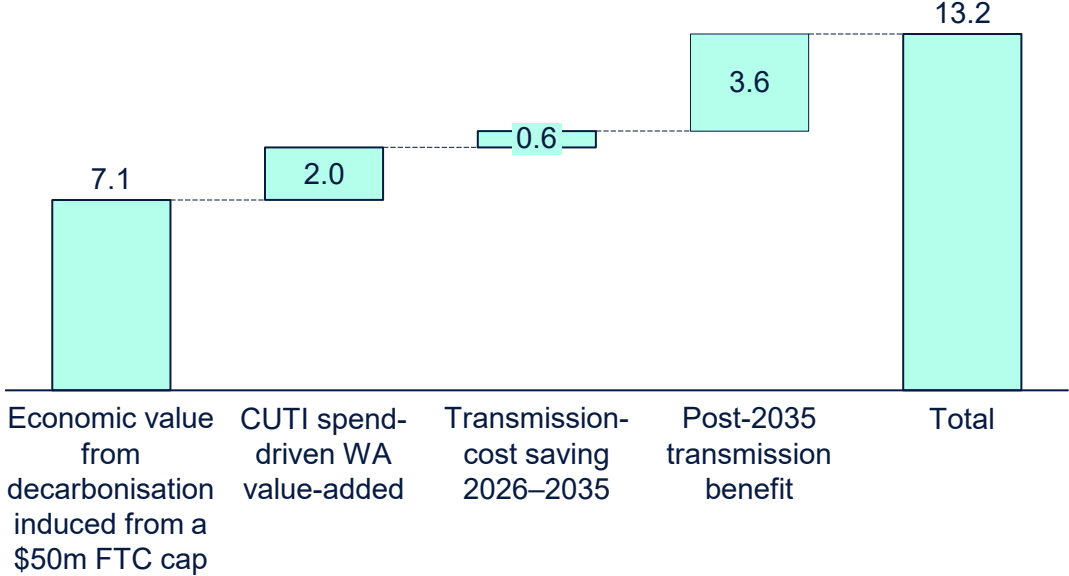
- **Included:** A\$4.2bn of avoided duplicated transmission costs, comparing Autarky with Base/CUTI.
- **Timing:** A\$0.6bn is recognised within the 2026–2035 investment window as CUTI is commissioned; A\$3.6bn is realised after 2035 across the balance of the 25-year study period.
- **Excluded:** avoided diesel, BEV operating savings, emissions value and generation/storage savings, to avoid overlap with the core decarbonisation case.

Notes: 1. MJA / CEFC (2025). Transmission-only saving is calculated from MJA / CEFC Table 9 as Autarky transmission cost of A\$14.726bn less Base/CUTI transmission cost of A\$10.537bn over 2025–2050, giving A\$4.189bn. The 2026–2035 portion is allocated using the CUTI operational-share ramp, with the remaining saving treated as post-2035 benefit to the end of the 25-year period. Avoided diesel, BEV operating savings, emissions value and generation/storage savings are excluded from headline CUTI benefits to avoid overlap with the core decarbonisation case. The MJA / CEFC report also attributes generation CAPEX and OPEX savings to coordinated build, but these are excluded from the CUTI headline: they are whole-of-system benefits driven principally by electrifying LNG, chemicals and the broader NWIS.



With CUTI in place, total WA economic value from Pilbara decarbonisation rises to A\$13.2bn

CUTI adds A\$6.2bn to the core decarbonisation case through value capture and transmission-only savings (A\$bn)



CUTI increases economic value and jobs, while abatement is reported from BEV uptake

Total WA economic value rises to A\$13.2bn, with CUTI adding A\$6.2bn through construction value and avoided duplicated transmission costs

Total cumulative investment-phase employment rises to ~16,800 FTE-years, including ~12,200 incremental FTE-years from CUTI

~3.1 MtCO₂e of cumulative abatement to 2035, rising to ~13.1 MtCO₂e across the remaining useful life of the BEV cohort, is retained from the core BEV uptake case

CUTI adds A\$6.2bn to the core decarbonisation case, driven by CUTI construction value and avoided duplicated transmission costs:

- CUTI spend creates A\$2.0bn of WA economic value because most spend is mapped to local civil, electrical works and professional services.
- Transmission-only savings add A\$4.2bn over 25 years, based on MJA / CEFC's Base / CUTI versus Autarky transmission-cost difference.



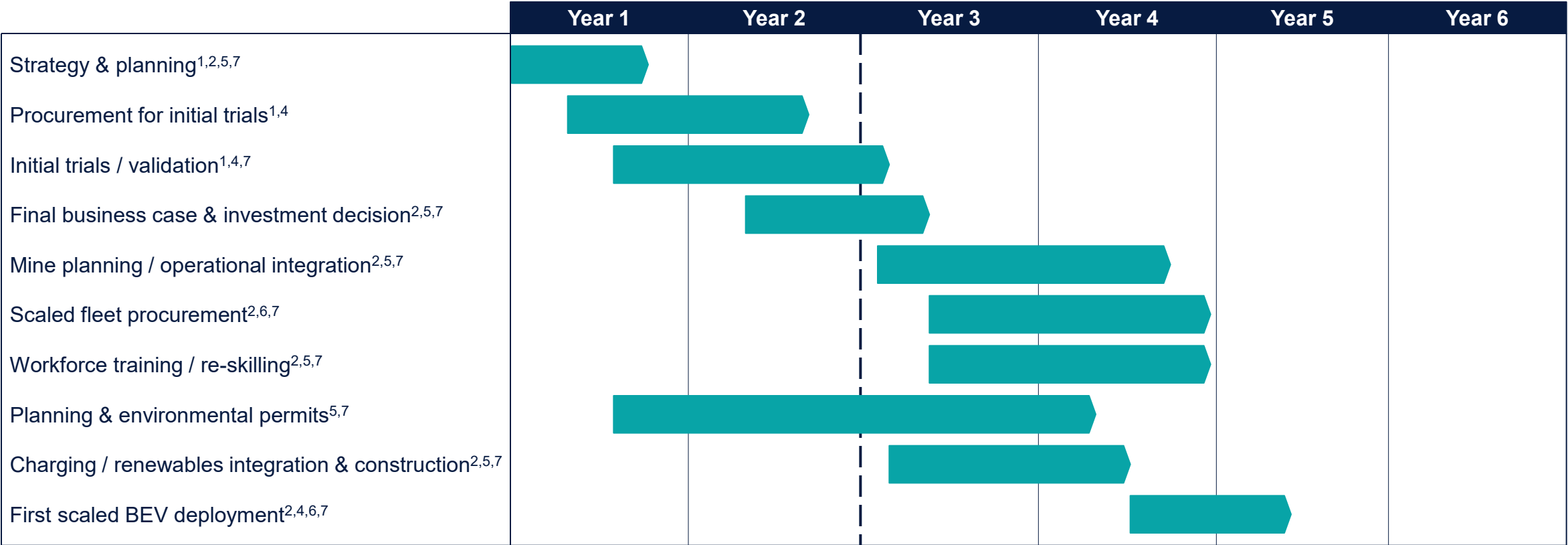
Notes: CUTI includes the induced decarbonisation case plus CUTI spend-driven WA economic value and transmission-only savings. CUTI spend-driven WA economic value is calculated as A\$4.383bn CUTI capex x 45.3% input-output multiplier = A\$1.986bn. Transmission-only saving is based on MJA / CEFC Table 9: Autarky transmission cost A\$14.726bn less Base/CUTI transmission cost A\$10.537bn = A\$4.189bn over 2025–50. The 2026–2035 portion is allocated using the CUTI operational-share ramp, with the remaining saving treated as the post-2035 benefit to the end of the 25-year period. Avoided diesel, BEV operating savings, emissions value and generation/storage savings are excluded from CUTI headline benefits. Figures may not sum due to rounding. FTE-years are cumulative investment-phase employment effects, not permanent ongoing jobs. Abatement is physical emissions reduction and is not separately monetised in WA economic value.

Appendix

Methodology

Indicative industry-wide BEV deployment activities duration

The below is an indicative timeline for the activities required to plan, procure and deploy BEV haulage. This is an assessment of activity duration only. It is not a deployment forecast.



Industry-wide cohort broadly here today:
 BHP / Rio remain in first-stage trials, but BHP's conditional FY2028 fleet-adoption pathway likely supports first scaled industry-wide uptake from 2029, while broader haulage electrification remains post-2030

Sources: 1. BHP / Rio Tinto (2024). 2. BHP (2024). 3. Fortescue (2024). 4. BHP / Rio Tinto (2025). 5. Cyan Ventures analysis. 6. IEEFA (2026). 7. Climate Change Authority Sector Pathways Review: Resources (2024). Notes: Model assumes first average industry-wide scaled BEV uptake from 2029 (Year 4, Year 1 = 2026). With cap breakeven foreseeable, procurement, FID and deployment readiness run in parallel; assume residual readiness lag separates breakeven from first scaled deployment. The deployment-readiness sequence draws on (a) BHP's conditional FY2028 fleet-adoption pathway; (b) BHP / Rio first-stage trial evidence, including Cat trucks originally planned from H2 2024 and Komatsu trucks from 2026; (c) public-policy / statutory advice that broader electric mining haulage adoption remains closer to 2030–2035; and (d) BHP / Rio pre-2030 spend changes.



Roll-up to headline figures

Component	\$50m cap only (A\$m)	\$50m cap + CUTI (A\$m)	Difference (A\$m)
Vehicle CAPEX → spend-driven WA economic value	103	103	—
Renewables CAPEX → spend-driven WA economic value	647	647	—
Charging CAPEX → spend-driven WA economic value	17	17	—
CUTI CAPEX → spend-driven WA economic value (CUTI only)	—	1,986	1,986
Sub-total: Spend-driven WA economic value	767	2,753	1,986
BEV operating savings, within window 2026–2035	1,402	1,402	—
Transmission-cost saving, within window 2026–2035 (CUTI only)	—	586	586
Sub-total: Recurring benefits within window	1,402	1,989	586
Within-window TOTAL (spend-driven + recurring)	2,170	4,742	2,573
BEV operating savings after 2035 over remaining useful life	4,899	4,899	—
Post-2035 transmission benefit to end of 25-year study period (CUTI only)	—	3,603	3,603
Post-2035 / remaining-life benefits	4,899	8,501	3,603
TOTAL including post-2035 benefits	7,069	13,244	6,175

- **Spend-driven WA economic value:** WA economic value created by capex deployment. Calculated as capex x domestic content x WA Type I input-output value-added multiplier, including direct and industrial flow-on effects.
- **BEV operating savings:** Net BEV-versus-diesel recurring OPEX savings applied to deployed BEV truck-years and accumulated on a year-by-year cash basis; OPEX-only basis (sustaining capex, non-fuel OPEX, diesel fuel + carbon, and BEV owned-renewables O&M), excluding initial vehicle, renewables and charging CAPEX, which are counted once in spend-driven WA economic value.
- **Transmission-cost savings:** CUTI uses only the MJA / CEFC (2025) transmission-cost difference between Autarky and Base / CUTI. Avoided diesel, BEV operating savings, emissions value and generation/storage savings are excluded from CUTI transmission benefits.
- **Within-window:** Captures benefits realised during the 2026–2035 model period.
- **Post-2035 benefits:** Captures benefits from assets deployed by 2035 that continue to accrue after the 10-year model window; BEV savings reflect remaining useful life, while CUTI transmission benefits are the residual required to cap total recognised transmission savings at A\$4.189bn over the 25-year study period.



Cross-cutting assumptions

Assumption	Value	Unit	Source	Notes
Time period	2026–2035	10 years	Scoping decision	\$50m FTC cap investment window; 2026 baseline
Geography	Western Australia	—	Scoping decision	WA-wide scope; uses WA-specific IO multipliers
FX rate	0.67	USD/AUD	Internal assumption	Fixed rate; USD source inputs converted to AUD
Average industry-wide fleet 2026	553	haul trucks	Internal estimates; cap-scaled	Cap-effective industry-wide fleet (unscaled census ~676)
Average industry-wide fleet 2035	636	haul trucks	Internal estimates (1.39% p.a. growth + below-cap addition)	Cap-effective fleet; Fortescue excluded from induced uptake
BEV uptake terminal (2035)	46.30%	% of average industry-wide fleet	Internal assumption; industry-wide pace benchmark	Applied to cap-effective fleet by 2035 (Fortescue excluded)
Cumulative BEVs deployed	~290	trucks	Model output	Cap-scaled active fleet 2035; first nonzero uptake 2029
Effective BEV hours/year	7,000	hours	Operational assumption	Applied to every active BEV year; no utilisation ramp applied
Effective diesel fuel price under \$50m FTC cap	A\$1.564 → A\$1.670	A\$/L effective diesel price, excl. GST; partial FTC add-back	Internal TCO model	Partial FTC add-back under the cap escalates 2026–2035; carbon cost applied separately via the ACCU price row
Carbon price (ACCU)	A\$35 → A\$80	A\$/t CO ₂ -e	Internal assumption informed by ACCU market data / Clean Energy Regulator context	Applied to diesel emissions intensity; market context informed by CER / ACCU data
Diesel OPEX (ex-fuel)	13% of diesel truck CAPEX = A\$1.16m/yr/truck	A\$/truck/yr	Cummins , stakeholder conversations	Sustaining + consumables + maintenance + labour, ex-fuel
Renewables / owned-power O&M	A\$76,480/truck/yr (= A\$10.93/hr)	A\$/yr; A\$/hr	Internal TCO model	Owned-power O&M input; basis for BEV energy cost (purchased-electricity basis superseded)
WA economic value basis	Direct + Industrial Flow-On	Type I IO multiplier	Internal I-O model	Excludes Consumption Flow-On (Type II); WA-specific
BEV asset life	12-17	years	Internal ranged assumption from stakeholder conversations	Captures BEV operating savings continuing beyond the 2026–2035 window for trucks deployed by 2035
Renewables asset life	25	years	Internal assumption; industry convention (PV/wind)	Used for renewables sizing / cost assumptions. CUTI transmission-only savings capped to 25-year MJA/CEFC period
NPV discount rates	3%, 7%, 10%	real discount rate	Treasury CBA Guidance (2025)	7% central case; 3% and 10% are sensitivities (NPV values discounted to 2026)



Vehicle CAPEX: spend-driven WA economic value

Calculation chain

- **Step 1 - Per-truck capex:** Diesel truck capex of US\$6.0m x A\$/USD 1.49 x 1.40 BEV premium = A\$12.5m/truck in 2025; A\$12.2m/truck in 2026 after 2.5% cost decline.
- **Step 2 - Aggregate over deployment ramp:** Σ (annual new BEVs x per-truck capex declining over time) = A\$3,046m total Vehicle CAPEX. Implied average ~A\$10.5m/truck across ~290 deployments.
- **Step 3 - IOIG channel allocation:** 100% to IOIG 2405 (Specialised & other machinery and equipment manufacturing).
- **Step 4 - Domestic content:** 5.11% (HS basket weighted average from WITS).
- **Step 5 - WA Type I VA multiplier:** 0.6623 (Direct + Industrial Flow-On for IOIG 2405, from Internal I-O model).

Worked example: A\$3,046m x 5.11% domestic content x 0.6623 Pilbara WA Type I VA multiplier = **A\$103m** spend-driven WA economic value.

Key assumptions used

Assumption	Value	Unit	Source	Notes
BEV truck capex	1.40 x diesel truck capex = A\$12.5m in 2025; A\$12.2m in 2026	per truck	Internal modelling and desktop research; IEEFA Mining Diesel Briefing (Jan 2026)	OEM list price; assume declines 2.5% p.a.
Cost decline rate	2.5%	p.a.	Internal assumption informed by BNEF / industry learning rates	Applied year-on-year over deployment
Cumulative BEVs deployed	~290	trucks	Model output	~290 induced BEV deployments within the 2026–2035 model window; first nonzero deployment in 2029
IOIG channel allocation	100% to IOIG 2405	—	Internal assumption: vehicle hardware only	Charging and civil works captured separately in charging CAPEX slide
Domestic content	5.11%	%	WITS specialised machinery bucket (HS 870410 / HS 8429 / HS 8430)	Trade-exposure proxy: weighted average of relevant off-highway truck and mining equipment HS codes
WA Type I VA multiplier (IOIG 2405)	0.6623	—	Internal I-O model	Direct + Industrial Flow-On



Renewables and storage CAPEX: spend-driven WA economic value

Calculation chain

- **Step 1 - Sizing:** BEV power demand of ~0.667 MWh/hr per truck x 7,000 hrs/yr = 4,669 MWh/yr per truck → 0.533 MW average load. With blended renewables capacity factor of 25.2% and modelled capacity uplift factor of 1.058, required capacity = $0.533 / 0.252 \times 1.058 = 2.23$ MW per truck.
- **Step 2 - Aggregate capex:** Solar A\$1,621 → A\$947/kW + wind A\$3,248 → A\$2,239/kW + BESS A\$470 → A\$378/kW + A\$290 → A\$233/kWh, applied with ~2x Pilbara premium and cumulative deployment ramp = A\$2,382m total Renewables CAPEX.
- **Step 3 - IOIG allocation:** 70% IOIG 2403 electrical equipment + 10% IOIG 3101 heavy & civil construction + 10% IOIG 3201 construction services / installation + 10% IOIG 6901 professional / project management.
- **Step 4 - Domestic content:** Equipment 5.89% using WITS electrical equipment basket; service channels 100% domestic for civils / installation / project management.
- **Step 5 - WA Type I VA per channel:** Equipment 0.6623, civils 0.8197, installation 0.7686, project management 0.8537.

- **Equipment:** A\$2,382m (70%) x 5.89% x 0.6623 = A\$65m
- **Civils:** A\$238m (10%) x 100% x 0.8197 = A\$195m
- **Installation:** A\$238m (10%) x 100% x 0.7686 = A\$183m
- **Project management:** A\$238m (10%) x 100% x 0.8537 = A\$203m
- **Total:** A\$65m + A\$195m + A\$183m + A\$203m = A\$647m
- **Economic value coefficient:** A\$647m / A\$2,382m = 27.1%

Key assumptions used

Assumption	Value	Unit	Source	Notes
BEV power demand	~0.667	MWh/hr per truck	Internal TCO model	Equivalent to ~2.4 GJ/hr per truck
Pilbara renewables premium	~2.0x	ratio	Rio Tinto Pilbara Renewables (2022)	Internal model assumption informed by Rio Tinto renewables benchmark; applied to CSIRO GenCost figures to reflect delivery premium
Solar / wind generation mix	68% / 32%	%	Internal TCO model	Applied to renewables sizing and cost build
BESS sizing	2-hour duration	hr	Internal TCO model	Applied as battery energy capacity per truck
Capacity uplift factor	1.058	= 0.92 x 1.15	Internal assumption	Reflects modelled availability/losses and reserve margin.
Allocation: equip / civils / install / PM	70 / 10 / 10 / 10	%	Internal project cost split	Used to route spend through WA IOIG channels
Domestic content (electrical equip 2403)	5.89%	%	WITS HS 854140 / 850780 / 850440	WITS electrical equipment basket; includes electrical-equipment HS-code proxies
WA Type I VA multipliers by channel	0.6623 / 0.8197 / 0.7686 / 0.8537	—	Internal I-O model	Equipment / civils / installation / project management; Direct + Industrial Flow-On

Charging CAPEX: spend-driven WA economic value

Calculation chain

- **Step 1 - Charger requirement:** ~290 industry-wide BEVs / 7 BEVs per charger = ~41 chargers.
- **Step 2 - Charger capex:** ~41 chargers x A\$5m per charger = ~A\$207m charging capex.
- **Step 3 - IOIG allocation:** 94% IOIG 2403 charger equipment + 3% IOIG 3101 civils + 3% IOIG 3201 installation.
- **Step 4 - Domestic content:** Equipment 5.89%; civils and installation 100% domestic.
- **Step 5 - WA Type I VA per channel:** Equipment 0.6623; civils 0.8197; install 0.7686.

- **Equipment:** A\$207m (94%) x 5.89% x 0.6623 = A\$8m
- **Civils:** A\$207m (3%) x 100% x 0.8197 = A\$5m
- **Installation:** A\$207m (3%) x 100% x 0.7686 = A\$5m
- **Total:** A\$8m + A\$5m + A\$5m = A\$17m spend-driven WA economic value

Key assumptions used

Assumption	Value	Unit	Source	Notes
Charger ratio	1 charger per 7 BEVs	ratio	Internal model assumption; ITK Research (Apr 2026)	Based on 6-8 truck-per-charger benchmark
Industry-wide BEVs deployed	~290	trucks	Model output	~290 induced BEV deployments within the 2026–2035 model window.
Chargers required	~41	chargers	Model derivation	~290 BEVs / 7 = ~41 chargers
Charger unit cost	A\$5m	each	Internal model assumption; ITK Research (Apr 2026)	A\$5m model assumption, informed by ITK benchmark range for high-capacity mine charging infrastructure
Domestic content, charger equipment	5.89%	%	WITS HS 850440 / 853720	WITS HS 850440 / 853720 proxy; broader charger equipment basket includes transformers, switchgear and HV cable
Allocation: equipment / civils / installation	94% / 3% / 3%	%	Internal project cost split	Used to route charging CAPEX through WA IOIG channels



CUTI CAPEX: spend-driven WA economic value

Calculation chain: Physical build-up of CUTI CAPEX

- **Physical scope:** 511 km new node-link + 779 km renewable generation hub links + 1,072 km existing-link upgrade, based on MJA / CEFC Base case scope and AEMO 2025 Transmission Cost Database unit costs. Switchbays: 38 = 12 new node + 10 renewable generation hub + 16 upgrade. Stations: 5 new AIS sites.
- **Direct capex:** A\$3,867m line-related capex, comprising plant A\$1,032m, civils A\$723m, electrical works A\$744m, design / PM A\$509m and line easements A\$92m, plus A\$118m stations = A\$3,985m direct capex. Easements, property and offsets across the full programme total ~A\$858m (19.6%) and are excluded from spend-driven WA economic value as transfer payments.
- **Indirect costs:** 10% x A\$3,985m = A\$398m.
- **Total CUTI CAPEX** = A\$3,985m + A\$398m = A\$4,383m.

Per-channel breakdown

AEMO cost line	Capex (A\$m)	IOIG / HS proxy	Domestic %	Multiplier	WA value (A\$m)
Line plant / equipment	1,032 = 855 new + 178 upgrade	2403; HS 854460	5.89%	0.6623	40
Civil / structural works	723 = 723 new	3101 (heavy & civil construction; service)	100%	0.8197	593
Electrical works	744 = 526 new + 219 upgrade	3201 (construction services; service)	100%	0.7686	572
Design / survey / PM	509 = 99 design + 411 PM/OH	6901 (professional services; service)	100%	0.8537	434
Stations / switchbays	118 = 38 x 1.78 + 5 x 10.0	2605 (transmission); HS 853720	5.89%	0.8441	6
Easements / property / offsets	858	Excluded transfer category	0%	N/A	0
Indirect costs (10% of all direct incl. easements)	398 = 10% x 3,985 direct	6901 (professional services)	100%	0.8537	341
TOTAL	4,383	—	—	—	1,986



Notes: Physical scope from MJA / CEFC (2025) Base case: 511 km new node-link, 779 km renewable-generation-hub link and 1,072 km existing-link upgrade. Cost proxies from AEMO Transmission Cost Database (2025), (2026). New and RGH links costed as new 220 kV overhead line; upgrades costed as 220 kV line upgrade with unit-rate switches; AIS sites costed using AEMO station cost lines. WA economic value multipliers are from internal model. Easements, property and offsets are included in total CUTI capex but excluded from spend-driven WA economic value because they are treated as land-access / transfer payments rather than direct purchases of goods or services that create additional value-added activity.

BEV operating savings: within-window 2026–2035

Step 1: 2035 recurring cost comparison (A\$/hr)

Component	Diesel	BEV	BEV - Diesel
Sustaining / lifecycle replacement	120	129	+9
OPEX ex-fuel	166	125	-42
Diesel fuel + carbon	264	—	-264
Renewables / owned-power O&M	—	11	+11
Total A\$/hr (OPEX-only advantage basis)	550	365	-186

Diesel sustaining derivation: A\$3.36m diesel rebuild / 4-year cycle / 7,000 hrs = A\$119.9/hr.
Note: Diff is BEV minus diesel; negative values indicate BEV cost advantage.

Key assumptions used

Assumption	Value	Source	Notes
Diesel fuel burn	120-200 L/hr per truck	Internal Assumption from stakeholder consultations	Industry range
Effective diesel fuel price under \$50m FTC cap	A\$1.564/L → A\$1.670/L	Internal TCO model	A\$/L effective diesel price, excl. GST; partial FTC add-back under the cap, escalating
BEV OPEX ex-fuel (vs diesel)	75% of diesel OPEX	Internal Assumption from stakeholder consultations	>25% reduction in maintenance / consumables
Renewables O&M	A\$76,480/truck/yr (= A\$10.93/hr)	Internal TCO model	Owned-power O&M input retained in BEV operating cost build-up

Step 2: Year-by-year aggregation (model output, operating cash basis)

Year	A\$/hr advantage	Active BEVs	Hrs/yr	Annual savings (A\$m)	Cumulative (A\$m)
2026	131	0	7,000	0	0
2027	137	0	7,000	0	0
2028	143	0	7,000	0	0
2029	149	41	7,000	43	43
2030	155	82	7,000	89	132
2031	161	124	7,000	139	271
2032	167	165	7,000	193	464
2033	173	206	7,000	250	715
2034	179	248	7,000	312	1,026
2035	186	290	7,000	377	1,402



Notes: A\$/hr advantage is based on the BEV-versus-diesel recurring OPEX comparison, including sustaining / lifecycle replacement, OPEX ex-fuel, diesel fuel plus carbon, and BEV renewables / owned-power O&M. Operating savings are accumulated on a year-by-year cash basis by applying the annual BEV-versus-diesel cost advantage to active BEV truck-years. Initial vehicle, renewables and charging capex are excluded from recurring benefits to avoid double-counting with spend-driven WA economic value. Active BEV truck-years reflect the industry-wide deployment ramp, with first non-zero uptake from 2029. The effective diesel price reflects partial FTC add-back under the \$50m cap.

Transmission-cost saving: within-window 2026–2035 (CUTI only)

Calculation chain

- **Step 1 - Transmission-only saving:** MJA / CEFC Table 9 compares Autarky transmission cost of A\$14.726bn with Base/CUTI transmission cost of A\$10.537bn over 2025–2050, giving a A\$4.189bn transmission-cost difference. This excludes generation / storage savings, avoided diesel and emissions value.
- **Step 2 - Average annual saving:** A\$4.189bn / 25 years = A\$167.6m/yr.
- **Step 3 - Within-window phasing:** Apply CUTI active-share ramp across 2026–2035, with a one-year commissioning lag, so capex spent in year Y enables transmission savings from year Y+1.
- **Step 4 - Within-window benefit:** A\$167.6m/yr x ~3.5 full-year equivalents = A\$586m cumulative within-window saving.

Key assumptions used

Assumption	Value	Source	Notes
Autarky transmission cost	A\$14.726bn	MJA / CEFC report (Table 9)	Represents transmission cost under miner-led / go-it-alone network build
Base/CUTI transmission cost	A\$10.537bn	MJA / CEFC report (Table 9)	Represents coordinated common-user transmission case
Transmission-only saving	A\$4.189bn	Derived from MJA / CEFC report (Table 9)	Autarky transmission cost minus Base/CUTI transmission cost over 2025-50
Annualised transmission saving	A\$167.6m/yr	Model calculation	A\$4.189bn / 25-year period
CUTI operational-share ramp	0% → 95%, ramping from 2029	Internal phasing assumption	Reflects share of CUTI assumed to be commissioned and delivering savings each year
Within-window full-year equivalents	~3.5 years	Model calculation	Sum of annual CUTI operational shares across 2026–2035
Within-window transmission saving	A\$586m	Model calculation	A\$167.6m/yr x ~3.5 full-year equivalents



Notes: The A\$586m within-window benefit is a partial-period allocation of the A\$4.189bn MJA / CEFC Table 9 transmission-cost difference, based on the modelled CUTI active-share ramp and one-year commissioning lag across 2026–2035.

Post-2035 benefits: counting savings beyond the 2026–2035 window

Explanation

BEVs deployed by 2035 continue operating beyond the 2026–2035 investment window, so the model counts remaining-life operating savings after 2035. CUTI transmission savings are also allocated beyond 2035 to cap total recognised savings at the MJA / CEFC Table 9 transmission-only saving of A\$4.189bn. Conservative: no further BEV uptake is assumed post-2035.

BEV remaining-life savings build

A "truck-year" = one truck operating for one year:

Example	Truck-years
1 truck x 1 year	1
10 trucks x 5 years	50
290 trucks x 1 year (= 2035 BEV fleet)	290

Building A\$4,899m post-2035 remaining-life savings:

Step	Operation	Result
Saving per operating hour, 2035	A\$550/hr diesel opex – A\$365/hr BEV opex	A\$186/hr
x Operating hours per truck per year	x 7,000	A\$1.30m/truck-yr
x 2035 BEV fleet size	x 290 trucks	A\$377m/yr run-rate
x Remaining cohort life	x ~13.0 yr	A\$4,899m post-2035 remaining-life savings

Post-2035 transmission benefit build (CUTI only)

CUTI transmission savings are based only on the MJA / CEFC Table 9 transmission-cost difference between Autarky and Base / CUTI. The post-2035 benefit is the residual after allocating A\$586m to the 2026–2035 window.

Step	Operation	Result
Total transmission-only saving	Autarky transmission cost A\$14.726bn – Base/CUTI transmission cost A\$10.537bn	A\$4,189m
Less within-window allocation	A\$167.6m/yr x CUTI operational-share ramp	A\$586m
Post-2035 transmission benefit	A\$4,189m – A\$586m	A\$3,603m

Summary: BEV operating savings and CUTI transmission-only savings

Bucket	What it counts	\$50m FTC cap only (A\$m)	\$50m FTC cap + CUTI (A\$m)
BEV within-window savings	2026–2035 staged uptake, 0 → 290 trucks, 7,000 hrs/year	1,402	1,402
BEV post-2035 remaining-life savings	Post-2035: 290 trucks x ~A\$1.30m/truck-yr x ~13.0 yr	4,899	4,899
Transmission-cost savings, CUTI only	A\$586m within-window + A\$3,603m post-2035	—	4,189
TOTAL savings over recognised period	BEV operating savings + CUTI transmission-only savings	7,069	13,244

Jobs and abatement: physical outputs from induced BEV deployment

Calculation chain

- **Step 1 - Employment method:** Capex x domestic content x WA Type I FTE/\$M multiplier by IOIG channel, summed across capex streams.
- **Step 2 - Employment output:** Vehicle + renewables + charging = ~4,623 FTE-years; CUTI adds 12,181 FTE-years, taking the total to ~16,804 FTE-years.
- **Step 3 - FTE-year interpretation:** One FTE-year equals one full-time-equivalent job sustained for one year.
- **Step 4 - Abatement method:** Active BEV trucks x 7,000 hrs/year x 0.3794 tCO₂e/hr avoided diesel emissions.
- **Step 5 - Recognised period:** Count 2026–2035 within-window abatement, plus post-2035 remaining-life abatement from BEVs deployed by 2035.

Employment build-up (construction FTE-years; effective coefficients after domestic content and IOIG routing):

- **Vehicle:** A\$3,046m x ~0.192 FTE-yr/A\$m = ~584
- **Renewables:** A\$2,382m x 1.652 FTE-yr/A\$m = ~3,936
- **Charging:** A\$207m x 0.498 FTE-yr/A\$m = ~103
- **\$50m FTC cap only total** = ~4,623 FTE-years
- **CUTI:** A\$4,383m x 2.779 FTE-yr/A\$m = 12,181; total with CUTI = ~16,804

Abatement build-up (physical Mt CO₂e):

- **Per truck-year:** 7,000 hrs x 0.3794 tCO₂e/hr = 2,655.8 tCO₂e
- **Within-window:** ~1,156 active BEV truck-years x 2,655.8 tCO₂e = ~3.07 MtCO₂e
- **2035 peak run-rate:** 290 BEVs x 2,655.8 tCO₂e = ~0.77 MtCO₂e/yr
- **Post-2035:** 290 BEVs x 2,655.8 tCO₂e x ~13.0 yrs = ~10.01 MtCO₂e
- **Total abatement:** ~3.07 + ~10.01 = ~13.1 MtCO₂e

Key assumptions used

Assumption	Value	Unit	Source	Notes
FTE-years definition	1 FTE job for 1 year	FTE-year	Model convention	Construction-phase employment accumulated over deployment years; not a permanent ongoing job count.
Employment basis	Type I only	—	Internal I-O model	Direct + Industrial Flow-On; Type II consumption jobs excluded.
Employment outputs	4,623 / 16,804	FTE-year	Model output	\$50m FTC cap only / \$50m FTC cap + CUTI
Abatement method	Active BEVs x 7,000 x 0.3794	tCO ₂ e	Internal assumption	0.3794 tCO ₂ e/hr = 140 L/hr x 0.00271 tCO ₂ e/L assumed diesel emissions factor
Abatement outputs	3.07 + 10.01 = 13.1	Mt CO ₂ e	Model output	Within-window + post-2035 remaining-life abatement
BEV post-2035 remaining life	~13	years	Model output	Cohort-weighted remaining life for BEVs deployed by 2035; 17-year useful life, less average years already counted in the 2026–2035 window
Treatment	Physical only	—	Model convention	Jobs and abatement are not monetised or added to A\$ economic value



Notes: Employment multipliers are WA Type I FTE/\$M from the internal I/O model. Abatement is gross avoided diesel emissions from the induced industry-wide Pilbara iron ore BEV fleet; Fortescue baseline excluded.

Total cost of ownership

Cost stack

(A\$/hr, central case; NPV-annuitised, 2026–2035)

Component	Diesel (rebate retained)	Diesel (\$50m cap)	BEV
Vehicle CAPEX	A\$129	A\$129	A\$140–A\$177
Renewables generation CAPEX	—	—	A\$106–A\$127
Sustaining CAPEX	A\$95	A\$95	A\$93–A\$103
OPEX (ex-fuel)	A\$166	A\$166	A\$125
Renewables O&M	—	—	A\$11
Other costs (incl. fuel / electricity / carbon)	A\$184–A\$190	A\$243–A\$264	A\$100–A\$105
Total (NPV-annuitised)	A\$574–A\$581	A\$634–A\$655	A\$576–A\$647

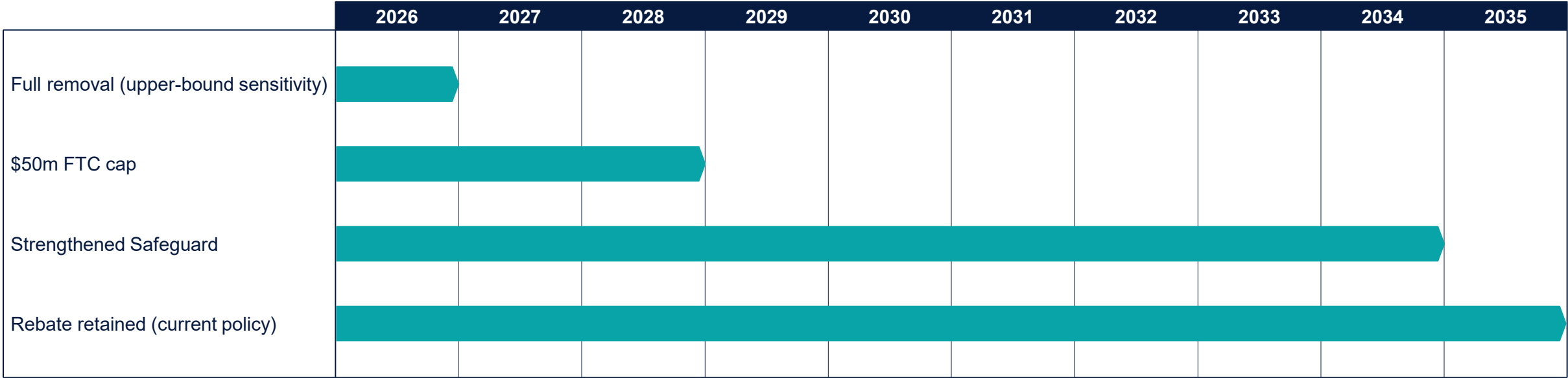
The BEV stack reflects the full enabling-system cost (vehicles, renewable generation, storage, charging) not vehicle cost alone. The enabling investment and its timing poses a barrier to adoption. Adoption timing additionally reflects procurement, operational-readiness and fleet-replacement lags, modelled separately from the per-hour TCO.



Notes: Analysis covers the average industry-wide Pilbara iron ore cohort (BHP, Rio Tinto, Mitsui, Hancock, MinRes and below-cap miners). The BEV TCO reflects the full enabling system: vehicles, renewable generation, storage, charging; the comparison is of complete cost of ownership, not technology readiness. Adoption timing additionally reflects procurement, operational-readiness and fleet-replacement lags, modelled separately. Other costs (incl. fuel / electricity / carbon) captures recurring costs outside vehicle capex, sustaining capex, OPEX (ex-fuel), and renewables O&M, including transitional bought-power during BEV build-out, grid connection and use-of-system charges, energy management systems, operational costs from fleet management changes, and carbon costs on residual transition emissions.

Crossover timing depends on assumptions; a \$50m FTC cap compresses it toward today

Year BEV haulage TCO falls below diesel
(range across diesel-price and battery learning-rate assumptions)



A \$50m FTC cap (anchor scenario) narrows breakeven to 2026–2028. Full removal is shown only as an upper-bound sensitivity to bound the range; it is not the modelled intervention.



Notes: The first year BEV haulage reaches TCO breakeven (BEV TCO falls below diesel) varies materially across the average industry-wide cohort depending on diesel price, battery learning rate and FTC policy. Breakeven is assumption-dependent: economic today for some operators under favourable settings, not until the mid-2030s for others under current policy. First-mover operators, on stronger firm-specific assumptions, reach breakeven earlier than the cohort average. Diesel price (all net of FTC at 52.6 cpl and GST): Case 1 low A\$1.14/L (ACCC average retail diesel, Sep Q 2025); Case 2 medium A\$1.43/L (~25% above low, within ITK Research range under normal market conditions); Case 3 high A\$2.28/L (recorded price 30 Mar 2026). Battery learning rate: ~4.1% p.a. is the implied rate from BNEF (2025 actual US\$99/kWh → forecast US\$65/kWh by 2035; 2026–2035 linearly interpolated); 2.5% and 8% p.a. are assumed low / high sensitivities. FTC policy: rebate retained = status quo; \$50m cap = FTC capped at A\$50m per consolidated group (sub-cap haulage remains rebated); full removal = no rebate. Strengthened Safeguard: A\$80/t carbon price by 2035 (baseline), with a 50% price-elasticity effect on demand-driven scenarios. Sources: ACCC Australian Petroleum Market Report, September Quarter (2025); AIP terminal gate prices (accessed 30 Mar 2026); BNEF clean-transport battery outlook (2025); David Leitch / ITK Research (2026).

Crossover sensitivity by FTC scenario

Rebate retained (current policy)

	Low diesel price (A\$1.14/L)	Medium diesel price (A\$1.43/L)	High diesel price (A\$2.28/L)
2.5% learning rate on batteries	2035	2030	2026
4.1% learning rate on batteries	2032	2029	2026
8.0% learning rate on batteries	2030	2028	2026

Strengthened Safeguard

	Low diesel price (A\$1.14/L)	Medium diesel price (A\$1.43/L)	High diesel price (A\$2.28/L)
2.5% learning rate on batteries	2034	2029	2026
4.1% learning rate on batteries	2032	2028	2026
8.0% learning rate on batteries	2030	2027	2026

\$50m FTC cap

	Low diesel price (A\$1.14/L)	Medium diesel price (A\$1.43/L)	High diesel price (A\$2.28/L)
2.5% learning rate on batteries	2028	2026	2026
4.1% learning rate on batteries	2027	2026	2026
8.0% learning rate on batteries	2027	2026	2026

Full removal (upper-bound sensitivity)

	Low diesel price (A\$1.14/L)	Medium diesel price (A\$1.43/L)	High diesel price (A\$2.28/L)
2.5% learning rate on batteries	2026	2026	2026
4.1% learning rate on batteries	2026	2026	2026
8.0% learning rate on batteries	2026	2026	2026

Breakeven varies with diesel price and learning rate. The near-uniform green in the \$50m FTC cap and full-removal panels suggests that rebate reform compresses breakeven to ~2026–2028 across most assumptions. Full removal included only as an upper-bound sensitivity; the \$50m cap is the modelled intervention. Under current policy with slow learning, breakeven slips to the mid-2030s.

Notes: Each table holds the FTC scenario fixed; cells show the first year BEV haulage TCO falls below diesel, varying by diesel price (columns) and battery learning rate (rows). Battery learning rates assumed linear. Greener = earlier breakeven. Diesel price cases (all net of FTC at 52.6 cpl and GST): low A\$1.14/L (ACCC average retail diesel, Sep Q 2025); medium A\$1.43/L (~25% above low, within ITK Research range under normal market conditions); high A\$2.28/L (recorded 30 Mar 2026). Battery learning rate: ~4.1% p.a. is the implied rate from BNEF (2025 actual US\$99/kWh → forecast US\$65/kWh by 2035, linearly interpolated 2026–2035); 2.5% and 8% p.a. are assumed low / high sensitivities. FTC scenarios: rebate retained = status quo; \$50m cap = FTC capped at A\$50m per consolidated group (sub-cap haulage remains rebated); full removal = no rebate. Strengthened Safeguard: A\$80/t carbon price by 2035 baseline, with a 50% price-elasticity effect on demand-driven scenarios. Source: ACCC Australian Petroleum Market Report, September Quarter (2025); AIP terminal gate prices (accessed 30 Mar 2026); BNEF clean-transport battery outlook (2025); David Leitch / ITK Research (2026).

