Asymmetrical Australia

March 2026

DRIVING AUSTRALIA'S WEALTH HOME

Economic Consequences of ICE and EVs in Australia

2026

ASYMMETRICAL.AU

The Proposition

Two cars can drive the same kilometre, carry the same passengers, and serve the same purpose. But the economic consequences of those two journeys for the Australian nation are not the same. They are not slightly different. They are profoundly, structurally, and permanently different — in ways that compound across millions of vehicles, billions of kilometres, and decades of fleet decisions.

One car sends approximately half of every dollar it consumes directly offshore. The other keeps virtually every cent circulating in the domestic economy. One car is exposed to the whims of OPEC, Middle Eastern geopolitics, and Singapore commodity traders. The other is powered by Australian sun, Australian wind, and Australian coal and gas. One car imposes cascading costs on the national economy — through the balance of trade, through inflation, through the interest rate responses that inflation triggers. The other insulates the households that drive it from all of those transmission mechanisms simultaneously.

These are not marginal differences. They are structural divergences — the kind that, when aggregated across a fleet of 20 million vehicles, reshape the character of the Australian economy. This paper traces those divergences with precision, from the bowser to the balance of payments, from the household budget to the national income accounts.

It does not prescribe policy. It describes reality — and invites the reader to draw their own conclusions about whether that reality is acceptable.

CHAPTER 1: THE ANATOMY OF A DOLLAR SPENT AT THE BOWSER

Where Every Dollar Goes

The petrol pump is one of the most economically consequential pieces of infrastructure in the Australian retail landscape — not because of what it gives, but because of where the money goes once it leaves the consumer's hand. To understand the divergent economic effects of ICE and EV transport, we begin here: with the anatomy of a single litre of petrol at current prices.

At around $2.20 per litre — the national average petrol price as of late March 2026, elevated by the Middle East supply disruption — every dollar spent at the bowser divides into three broad categories: the international product cost that leaves Australia immediately, the government tax take, and the thin domestic residual that actually circulates in the local economy.

Component	% of $2.20/L	Amount	Destination
Singapore MOGAS 95 benchmark + shipping/handling	~50%	$1.10	Leaves Australia immediately
Fuel excise (Federal Government, flat rate)	~21%	$0.53	Federal consolidated revenue
GST (10% of full pump price)	~10%	$0.22	State governments (via GST distribution)
Wholesale operating costs and margins	~7%	$0.18	Domestic — partially
Retail operating costs (wages, rent, utilities)	~5%	$0.14	Domestic
Industry net profit margin	~1%	$0.02	Domestic (partially offshore via dividends)
Meaningful domestic economic activity	~14%	$0.35	Circulates domestically

The figure that should anchor every subsequent discussion is this: of every dollar spent on petrol, approximately 16 cents generates meaningful domestic economic activity. The remaining 84 cents either leaves the country or flows into government revenue in a form that does not carry the multiplier effect of private household spending.

> ***16 cents in every dollar. That is what the Australian petrol pump returns to the domestic economy.***

By contrast, every cent of electricity spending stays in Australia. The supply chain for electricity — from generation assets to transmission infrastructure to retail billing — is entirely domestically owned and operated. The fuel inputs, whether coal, gas, wind, or solar, are Australian-sourced. There is no Singapore benchmark, no tanker freight, no offshore refining margin. The domestic economic content of electricity spending is close to 100%.

ICE — PER LITRE AT $2.20

$1.10 offshore immediately
$0.75 to government (excise + GST)
$0.35 domestic economic activity
$0.02 industry profit (partially offshore)
Net domestic circulation: ~16 cents per dollar

EV — PER KWH AT $0.34

$0.00 offshore
$0.03 GST to state governments
$0.31 domestic economic activity (generation, grid, retail, wages)
Net domestic circulation: ~91 cents per dollar

The Tax-on-a-Tax Architecture

The fuel excise structure contains an embedded peculiarity that warrants attention. The GST is applied to the full retail price of petrol — which includes the fuel excise itself. A consumer buying a litre of petrol at $2.20 pays GST not just on the cost of the fuel, but on the tax already embedded in that price. This 'tax on a tax' architecture is acknowledged by the Australian Petroleum Marketers Association and has been a consistent source of public frustration.

What is less commonly understood is what this means for the distribution of the tax burden. At $2.20/L, approximately $0.75 per litre flows to government — federal and state — before any private economic value is created. The household bears this burden in full, with no credit mechanism, no deductibility, and no offset. The business sector, by contrast, can claim fuel tax credits for eligible off-road diesel use — a significant distinction we return to in Chapter 4.

CHAPTER 2: THE HOUSEHOLD — A TALE OF TWO TRANSPORT BUDGETS

The Australian Household Fleet

The average Australian household owns 1.8 registered motor vehicles, drives approximately 13,300 kilometres per vehicle per year, and is exposed to the full weight of the petrol price through that fleet. These are not averages that mask an optional luxury — for the vast majority of Australian households, particularly outside inner-city areas, private vehicle ownership is not a lifestyle choice but a functional necessity.

The household fuel bill that flows from these figures is substantial, and at current prices it has reached a level that constitutes a significant proportion of household income across the distribution.

1.8	13,300	$5,846
Vehicles per household	**km per vehicle per year**	**Annual household fuel cost†**
ABS Census 2021	*ABS SMVU average*	*at $2.20/L, 1.8 vehicles*

The Fuel Burden Across the Income Distribution

The $5,846 annual household fuel cost is not experienced equally. As a flat dollar cost — largely unresponsive to income — it represents a far heavier proportional burden on lower-income households than higher-income ones. This regressive character is one of the most under-examined features of Australia's petroleum dependency.

Household income group	Approx. annual income	Annual fuel cost (1.8 vehicles)†	Fuel as % of income
Lowest income quintile	~$45,000	$5,846	13.0%
Second quintile	~$62,000	$5,846	9.4%
Median household (national)	~$92,000	$5,846	6.4%
Fourth quintile	~$130,000	$5,846	4.5%
Highest income quintile	~$200,000+	$5,846	<2.9%

For a household in the lowest income quintile, more than one dollar in seven of gross income goes to petrol. This is money that does not pay rent, does not buy food, does not build savings, and does not circulate through the local economy in the way discretionary spending does. It is extracted, channelled offshore, and gone.

The EV Household: A Structural Transformation

An equivalent electric vehicle travelling the same 13,300 kilometres consumes approximately 17 kWh per 100 kilometres. At the national average residential electricity rate of $0.34/kWh, the annual energy cost is $769 per vehicle — compared to $3,248 for an equivalent ICE vehicle at current prices. The difference is not marginal. It is transformational.

Metric	ICE household	EV household	Difference
Annual energy cost per vehicle†	$3,248	$769	**−$2,479 per vehicle**
Annual energy cost (1.8 vehicles)†	$5,846	$1,384	**−$4,462 per household**
% of median household income (ICE)	6.4%	—	**—**
% of median household income (EV)	—	1.5%	**4.9 percentage points freed**
Cost per kilometre†	24.4 cents	5.8 cents	**EV 79% cheaper per km**
Sensitivity to oil price shocks	Fully exposed	Zero exposure	**Complete insulation**
Sensitivity to AUD/USD movements	Fully exposed	Zero exposure	**Complete insulation**
15-year lifetime energy spend†	$48,718	$11,560	**−$37,187 over vehicle life**

The Savings and What They Represent

The $4,462 annual household saving from full electrification of a 1.8-vehicle fleet is not merely a number. It is approximately three to four weeks of median pre-tax earnings. It exceeds the average annual household electricity bill. It is comparable to a meaningful mortgage overpayment that would shorten a loan term. It is, in short, the kind of financial difference that changes household decisions — about whether to take a holiday, whether to save for a house, whether to afford private school, whether to withstand an unexpected expense.

For lower-income households, the proportional impact is even more significant. The household in the lowest income quintile currently spending 13.0% of gross income on petrol would, with a fully electrified fleet, spend approximately 3.1% on electricity for the same mobility. The freed 9.9 percentage points of gross income — approximately $4,462 per year on a $45,000 income — represents a materially different standard of living, not a marginal improvement.

> **THE COST OF LIVING LENS**
> The Australian political conversation about cost of living has focused heavily on grocery prices, energy bills, and mortgage rates. The household fuel burden — which at current prices exceeds $5,800 per year for the average household — receives comparatively little structural attention. It is experienced acutely at the bowser, but it rarely features in the same analytical frame as other cost pressures. At $2.20/L, the fuel burden on a median Australian household is larger than the annual cost of electricity for the entire home.

CHAPTER 3: THE INTEREST RATE MIRROR — EVS AND MONETARY POLICY

The Reserve Bank's Principal Lever

The Reserve Bank of Australia's primary tool for managing household financial conditions is the official cash rate. When the RBA moves rates, it transmits financial relief or pressure through the banking system to mortgage holders. The mechanism is well-understood, closely watched, and the subject of sustained media and political attention.

A 0.25 percentage point reduction in the cash rate — a full 'cut' in conventional terms — delivers approximately $80 per month in repayment relief to a household with a $500,000 variable rate mortgage, or approximately $960–$1,200 per year. A $700,000 mortgage yields approximately $1,344–$1,680 per year.

These figures are worth holding in mind alongside the household EV saving.

Financial relief mechanism	Annual household benefit†	% households reached	Duration
0.25% RBA cash rate cut — $500K mortgage	**$960–$1,200**	~35%	Reversed when rates rise
0.25% RBA cash rate cut — $700K mortgage	**$1,344–$1,680**	~20%	Reversed when rates rise
Full household EV transition (1.8 vehicles)	**$4,462**	~91%	Permanent structural saving
EV saving multiple vs single 0.25% cut	**3.7–4.6× larger**	2.6× broader	Structurally durable

The comparison yields a striking conclusion: the direct fuel saving delivered to an average Australian household by full vehicle electrification is equivalent — in dollar terms — to receiving approximately four interest rate cuts of 0.25% each. It reaches more than twice as many households, because renters and outright homeowners do not benefit from rate cuts but they do fill their tanks. And unlike a rate cut, which can be — and in the current environment, has been — reversed, the EV running cost saving is structural and permanent. The rate-cut comparison measures only the direct bowser saving. The deeper relationship — where fleet electrification reduces national petroleum dependency and thereby reduces the oil-driven inflation that forces rate rises in the first place — operates at the aggregate, national-fleet level, not at the level of the individual household.

The Oil–Inflation–Rate Nexus: A Compounding Mechanism

The relationship between petroleum prices and interest rates is not coincidental. It is causal, documented, and currently operating in real time.

When oil prices rise — driven by the current Middle East conflict, OPEC supply decisions, or AUD depreciation — the direct cost of transport fuel increases across an ICE-dependent economy. This feeds directly into the Consumer Price Index, which is the primary inflation measure the RBA targets. When inflation rises, the RBA raises the cash rate to constrain demand. In a nation running predominantly on imported petrol, households suffer twice from the same external event: once at the pump, and again through higher mortgage repayments triggered by the inflationary pressure that higher fuel costs create.

The March 2026 RBA decision to raise the cash rate to 4.10%, explicitly citing fuel price pressures from the Middle East conflict among its key drivers, illustrates this mechanism at the national level. Because Australia's passenger fleet remains predominantly ICE-powered, the oil shock flowed through into national CPI, forcing a monetary policy response that raised mortgage costs for all variable-rate borrowers — petrol users and EV drivers alike. This is the critical point: the rate rise is a national consequence of national petroleum dependency. An individual EV household still faces higher mortgage repayments if the broader economy is oil-dependent and inflation-prone. The protection the EV offers against this transmission mechanism is collective, not individual — it operates at the level of the national fleet, not the household driveway.

ICE-DOMINANT NATION — OIL PRICE SHOCK IMPACT

Direct: Petrol price rises across the economy → Extra $797/yr fuel cost per householdIndirect: Fuel inflation feeds national CPI → RBA raises rates to constrain inflation → Extra $960–$1,200/yr mortgage cost ($500K) → All variable-rate borrowers affectedCombined annual impact per household: ~$1,760–$2,000 additional cost

FULLY ELECTRIFIED NATION — OIL PRICE SHOCK IMPACT

Direct: Oil price irrelevant to national transport costs → $0 additional fuel cost nationallyIndirect: Transport fuel absent from national CPI → No oil-driven inflation pressure → No rate rise required from this source → All households — EV and otherwise — sparedCombined annual impact per household: ~$0 from this transmission channel

The distinction here is important and must be stated clearly. An individual EV owner in today's predominantly ICE economy still faces the same mortgage costs as their neighbour when the RBA raises rates — because rate decisions respond to national CPI, not the fuel choices of individual households. The insulation the EV offers against the oil-rate transmission mechanism is a national-scale effect, not a household-level one. It operates when a sufficiently large share of the fleet has electrified to materially reduce the contribution of transport fuel to national inflation. In a fully electrified nation, an oil price shock would not translate into CPI pressure from transport — removing the trigger for monetary tightening entirely. The contrast in the box above is therefore between what Australia experiences today, as a predominantly ICE-powered economy, and what it would experience as a fully electrified one.

An oil shock hits the ICE-dependent nation twice: at the bowser and through the mortgage. A fully electrified nation is insulated from both channels — by the collective investment decisions of its fleet.

CHAPTER 4: THE NATIONAL BALANCE OF TRADE — PETROLEUM'S STRUCTURAL DRAIN

From Self-Sufficiency to Structural Dependency

In 2000, Australia produced sufficient crude oil and operated sufficient domestic refining capacity to supply approximately 98% of its petroleum product needs. Today, that figure has collapsed to approximately 17% from domestic refining, with total domestic oil production covering just 5.6% of consumption. Eight refineries have become two. A country that was functionally fuel-sovereign at the turn of the century is now the most petroleum-import-dependent developed economy in the OECD.

This transition was not the result of deliberate policy. It was the outcome of commercial decisions by oil companies facing uneconomic domestic refining margins against large-scale Asian competition. The consequence for national economic accounts, however, is profound and persistent.

83%	37 days	$29–39B
Petroleum products imported	**Liquid fuel stocks held**	**Annual petroleum import outflow†**
IEEFA 2025	*vs IEA-mandated 90 days*	*all transport fuel*

The Balance of Payments: What Petroleum Imports Cost the Nation

The balance of payments records all financial flows between Australia and the rest of the world. Petroleum imports are recorded as a debit on the current account — money that leaves Australia in exchange for fuel. At current prices, the scale of this debit from the passenger vehicle fleet alone is substantial.

Calculation	Figure	Basis
Total transport petroleum sold in Australia (2024–25)	~59.2 billion litres	BITRE 2025
Passenger vehicle share of transport fuel	~31–33%	ABS SMVU; BITRE
Implied passenger vehicle fuel consumption	~18–19 billion litres/yr	Derived
International product cost at pump (~50%)†	~$1.23/litre	AIP decomposition 2025
Annual import outflow — passenger vehicles only†	~$19–21 billion/yr	Derived at $2.20/L
Annual import outflow — all transport fuel†	~$29–39 billion/yr	Full transport base

To frame this figure: the annual petroleum import outflow from passenger vehicles alone — approximately $19–21 billion — exceeds the annual revenue of many of Australia's largest listed companies. The total transport fuel import bill approaches $35 billion at current prices. This is not a number on a spreadsheet. It is a permanent, recurring annual transfer of Australian household wealth to offshore economies.

The electric vehicle generates none of this outflow. The energy that powers it is generated in Australia, distributed through Australian infrastructure, retailed by Australian businesses, and taxed by Australian governments. Every dollar of electricity spending is a dollar that stays.

GNI vs GDP: Why the Standard Measure Understates the Problem

Gross Domestic Product, the headline measure of economic output, counts consumer spending as a positive — including spending on imported petrol. This creates a measurement paradox: the more Australian households spend on imported fuel, the higher GDP appears, even as the national income that Australia actually retains is reduced.

Gross National Income (GNI) — which adjusts GDP for income flowing to and from overseas — is the more economically honest measure. The petroleum import outflow represents a direct reduction in Australian GNI. Eliminating it through fleet electrification would improve real national income by the full magnitude of that outflow, even if the effect on GDP were more muted in the short term.

> **THE NATIONAL INCOME ACCOUNTING PROBLEM**
>
> When an Australian household fills up with petrol, approximately $1.10 of the $2.20 they spend leaves the country immediately. GDP records this as positive consumer expenditure. GNI — which deducts what we pay to the rest of the world — records it as a loss. The $19–21 billion annual passenger vehicle petroleum outflow is simultaneously a GDP positive and a GNI negative. The $769 annual EV electricity bill, by contrast, stays in Australia and contributes to both GDP and GNI. This is the measurement gap that explains why petroleum dependency can coexist with apparently healthy GDP growth while national living standards stagnate.

CHAPTER 5: DOMESTIC ECONOMIC CIRCULATION — THE MULTIPLIER DIVERGENCE

How the Spending Multiplier Works

When a household spends money in the domestic economy, that spending generates further economic activity — the recipient earns income, spends some of it, and so on. Economists call this the spending multiplier. The size of the multiplier depends heavily on what proportion of the spending stays in the domestic economy rather than leaking offshore through imports.

Petrol spending has one of the lowest domestic multipliers of any consumer expenditure category, precisely because approximately 50% of every dollar spent leaves the country immediately. The remaining 50% is split between government revenue (which has its own multiplier through public spending) and a thin domestic industry margin. The effective multiplier on private economic activity from petrol spending is approximately 0.3–0.4x — meaning each dollar spent generates only 30–40 cents of further domestic private economic activity.

Electricity spending, with close to 100% domestic content, carries a multiplier of approximately 0.9–1.1x. The freed household savings — the $4,462 per year that no longer flows to imported petroleum — carry the standard household consumption multiplier of approximately 1.0–1.1x when redirected to other spending.

Spending category	Domestic content	Private spending multiplier	GDP effect per $1 spent
Petrol (household)	~14% after excise deduction	~0.3–0.4x	~$0.30–0.40
Electricity (household)	~100%	~0.9–1.1x	~$0.90–1.10
General household services	~80–90%	~1.0–1.2x	~$1.00–1.20
Household savings → investment	~70–90%	~0.9–1.5x (long run)	~$0.90–1.50

The Aggregate Circulation Effect

When aggregated across Australia's approximately 11 million households, the difference between ICE and EV transport economics translates into an enormous divergence in domestic economic circulation.

Scenario	Annual domestic economic activity generated
Current ICE fleet (household fuel spending)	~$6.8B domestic activity (16% of ~$43B total spend)
Full EV fleet (electricity spending)	~$15.2B direct (electricity, near 100% domestic)

Scenario	Annual domestic economic activity generated
Full EV fleet (freed savings × 1.05 multiplier)	~$51.7B additional domestic activity (11M households × $4,462 × 1.05)
Net domestic economic activity gain (full transition)†	~$68B additional annual domestic circulation

The direction of this analysis is unambiguous. A transported dollar on petrol generates approximately $0.34 of domestic private economic activity. A transported dollar on electricity generates approximately $0.96. The freed household savings, redirected to domestic consumption or investment, generate approximately $1.05 in GDP. The transition from ICE to EV is, from a domestic economic circulation perspective, one of the largest structural improvements available to the Australian economy from any household-level behaviour change.

The EV household generates approximately seven times more domestic economic activity from its transport energy budget than the ICE household.

The Electricity Sector Uplift

Fleet electrification does not merely substitute one energy cost for another. It creates a material new demand stream for the domestic electricity sector — a sector with high domestic content, significant employment, and substantial investment requirements in generation, grid, and retail infrastructure.

A fully electrified passenger fleet would add approximately 33.9 billion kWh of electricity demand annually (15 million vehicles × 13,300 km × 17 kWh/100km ÷ 1,000). At $0.34/kWh average retail, this represents approximately $11.5 billion in additional annual electricity sector revenue — all of it domestic, all of it circulating through Australian wages, Australian infrastructure investment, and Australian government revenue.

This compares to the equivalent petrol sector revenue of approximately $43 billion, of which approximately 50% immediately left the country. The electricity sector captures a far higher proportion of the consumer dollar as genuinely domestic value.

CHAPTER 6: THE FULL NATIONAL ACCOUNTING — WHAT THE TRANSITION IS WORTH

A Comprehensive Welfare Assessment

The full economic consequence of a complete transition from ICE to EV transport cannot be captured in any single metric. GDP, GNI, household income, balance of payments, and environmental accounts all record different dimensions of the same underlying reality. A comprehensive assessment requires drawing on all of them.

The following table attempts a consolidated view of the annual national welfare benefit that would accrue from a complete passenger fleet transition, at current prices and policy settings. These figures are steady-state estimates — the level of benefit that would persist once the fleet had fully transitioned — not immediate step-changes.

Benefit category	Annual value†	Framework
Import outflow eliminated — passenger fleet	**$19–21B**	Balance of payments / GNI
Import outflow eliminated — all transport fuel	**$29–39B**	Balance of payments / GNI
Household disposable income freed (11M households)	**~$49B**	Household welfare (at $2.20/L)
Domestic electricity sector uplift	**~$11.5B**	GDP — production side
Freed household savings multiplier effect (×1.05)	**~$59B additional GDP**	GDP — expenditure side
Health and air quality improvement	**$2–5B/yr**	Social cost accounting; BITRE
Carbon abatement value (at Safeguard price ~$35/t)	**$2–3B/yr (rising)**	Carbon market
Energy security — strategic vulnerability eliminated	**Material, unpriced**	National security / sovereign risk
Less: net government excise revenue loss	**−$8–10B**	Fiscal position (gross offset by RUC)
Net annual national welfare benefit (full transition)	**~$75–85B/yr**	Composite frameworks
As % of Australian GDP (~$2.7T)	**~2.8–3.1%**	National accounts

To contextualise the $75–85 billion figure: it is larger than the annual economic output of Queensland's construction sector. It exceeds Australia's total annual foreign aid expenditure by approximately 50 times. It represents a recurring annual improvement in national welfare — not a one-time gain — that would compound in real terms as petrol prices trend upward and the electricity grid continues to decarbonise.

It is worth being precise about what this number does and does not represent. It is not pure GDP growth, because some of the benefit comes from import substitution that partially offsets consumer spending rather than adding to it. It is better described as a structural improvement in the quality and sustainability of Australian economic activity — the same level of mobility and economic function, achieved at dramatically lower cost, with a far greater share of that cost circulating domestically rather than flowing offshore.

The Fleet Renewal Clock

The transition benefits described above are not available immediately. They accrue over the vehicle fleet renewal cycle — the approximately 16–17 years it takes for the Australian passenger fleet to fully replace itself through normal purchase decisions. With EV market share at approximately 13% of new vehicle sales in 2025, and the existing ICE fleet averaging 11–12 years of age, even an optimistic trajectory would not see EVs constitute a majority of registered vehicles until the late 2030s at the earliest.

This timeline has a critical implication. Every year in which a new ICE vehicle is sold locks in approximately 15–17 years of imported fuel consumption. A car sold today at $38,000 will, over its operating life, consume approximately $54,000 worth of petrol at current prices — of which approximately $27,000 will leave Australia offshore. The equivalent EV will consume approximately $11,500 in electricity — all of it domestic.

The divergence between these two trajectories is not merely an energy or environmental question. It is a question of what claims Australia makes on its own future national income. Every ICE vehicle sold today is a commitment to approximately $27,000 in future offshore wealth transfer. Every EV sold today is the cancellation of that commitment.

Per-vehicle lifetime (15 years, 13,300 km/yr)†	ICE	EV	Difference
Total kilometres	199,500 km	199,500 km	Equal
Total energy cost	$48,718	$11,531	EV saves $42,738
Component leaving Australia (import outflow)	~$24,359	$0	ICE: $24,359 offshore
Government tax contribution	~$16,520	~$1,039 (GST only)	ICE: $18,026 more tax
Domestic economic activity generated	~$7,839	~$11,531	EV: $3,692 more domestic

CHAPTER 7: THE INDUSTRIAL MIRROR — DIESEL SUBSIDIES AND THE MINING SECTOR

The Fuel Tax Credits Scheme

The divergent economic consequences of ICE and EV transport at the household level are mirrored, at an industrial scale, by Australia's treatment of diesel consumption in the mining sector. The Fuel Tax Credits Scheme (FTCS) refunds the full fuel excise — currently 52.6 cents per litre — to eligible businesses using diesel off-road. For large mining operations, this creates an effective diesel subsidy of significant scale.

The FTCS cost the federal budget $10.8 billion in 2025–26, making it the 16th largest expenditure item in the entire federal budget — larger than many social programmes. The mining industry receives approximately $4.8 billion of that total annually. Since the scheme's inception in 2007, mining companies have collectively received approximately $57.5 billion in credits, a figure projected to exceed $84 billion by 2030.

$10.8B	$4.8B	$184B
FTCS annual cost (2025–26)	**Mining industry annual receipt**	**Projected total to 2030**
16th largest budget item	*growing ~9% per year*	*cumulative scheme cost*

The Structural Incoherence

The FTCS creates an economic dynamic that is the direct inverse of the household EV saving. Where the EV household captures 91 cents of domestic value per dollar spent on energy, the FTCS-subsidised mining operation has the government absorbing the full fuel excise cost on imported diesel — effectively subsidising the very import dependency that damages the national balance of trade.

The scheme subsidises the consumption of an imported product. The diesel consumed by Australia's largest mining operations is itself sourced from Asian refineries, priced against international benchmarks, and subject to the same global supply disruptions that drive petrol prices higher for households. The FTCS does not change the balance of trade arithmetic on the import side — that outflow still occurs — but it removes the fiscal signal that might otherwise incentivise mining companies to electrify their operations.

Research by Climate Energy Finance found that between 2018 and 2024, mining diesel consumption grew 23% while total extraction volume grew only 16% — suggesting the subsidy is actively suppressing the efficiency and electrification investment that would reduce consumption. The scheme has become, in the words of one of its largest beneficiaries (Fortescue's Andrew Forrest), a mechanism that is 'slowing innovation in the mining sector.'

THE ASYMMETRY IN ONE NUMBER

The government is concerned about losing approximately $5–6 billion in passenger vehicle fuel excise revenue over 15–20 years as the household fleet electrifies. In the same budget, it is spending $10.8 billion per year — growing at 9% annually — subsidising diesel consumption in

> the mining sector. The fiscal concern about EV adoption represents approximately three to four weeks of what the government currently spends on the FTCS. The asymmetry is not subtle.

CHAPTER 8: TIME, COMPOUNDING, AND THE COST OF INACTION

The Accumulating Toll

The economic divergence between ICE and EV transport is not static. It compounds. Every year that the passenger fleet remains predominantly ICE-powered, another year's worth of petroleum import outflow — $19–21 billion from passenger vehicles alone — leaves the national economy permanently. It does not accumulate as a debt to be repaid. It is simply gone.

Over the 16–17 year fleet renewal cycle, if no transition acceleration occurs and the fleet turns over at the natural rate implied by current EV market share, the cumulative additional petroleum import outflow compared to an accelerated transition scenario would be measured in hundreds of billions of dollars. These are not theoretical future costs. They are the certain consequence of inaction on a system with known parameters.

Transition speed	EV fleet share by 2040	Cumulative petroleum outflow 2026–2040†	Cumulative domestic saving vs business-as-usual
Business as usual (current 13% new sales)	~35%	~$305–350B	**Baseline**
Moderate acceleration (30% new sales by 2028)	~50%	~$250–290B	**~$55–65B saved**
Strong acceleration (50% new sales by 2028)	~65%	~$190–225B	**~$115–135B saved**
Full transition (100% new sales from 2027)	~80%+	~$115–155B	**~$190–200B saved**

These figures carry the caveat of all long-run projections: they depend on price assumptions and fleet growth rates that will evolve. But the directional logic is robust across a wide range of assumptions. Earlier transition means less cumulative petroleum outflow. The divergence between scenarios is large. Time is not neutral — it has a price, and that price is measured in billions of dollars of national wealth that either stays in Australia or does not.

Oil Price Trajectory and the Escalating Stakes

The analysis in this paper uses $2.20/L as its current-conditions reference price. This figure, elevated by the Middle East supply disruption, may or may not persist. But the structural direction of petroleum pricing is instructive.

Australia has effectively no domestic supply of refined petroleum products to insulate it from global price movements. It holds 30–37 days of fuel stocks, the lowest of any IEA member nation. Its refining capacity covers 17% of demand. In any scenario of sustained Middle East conflict, OPEC supply restriction, AUD depreciation, or global demand growth — the pump price rises, and Australia absorbs the full impact. There is no domestic buffer, no strategic reserve of consequence, and no domestic production to fall back on.

The EV household's insulation from this price risk is not merely a current financial advantage. It is a structural hedge against a category of economic risk to which Australia is chronically exposed and from which it cannot, under current energy arrangements, escape.

Every year the fleet remains predominantly ICE-powered, Australia writes another blank cheque to global oil markets. The amount on that cheque is determined in Singapore, Riyadh, and Washington — not Canberra.

CONCLUSION: THE VERDICT OF THE NUMBERS

What the Evidence Shows

This paper has traced the divergent economic consequences of ICE and electric vehicle transport across six dimensions of the Australian economy: the anatomy of the fuel dollar, household budgets and incomes, monetary policy transmission, the national balance of trade, domestic economic circulation, and industrial energy subsidies.

At every level of analysis, the divergence runs in the same direction. The ICE vehicle extracts wealth from the household, channels it offshore, generates minimal domestic economic activity, exposes the household to external price shocks it cannot control, and — at the national fleet level — forces monetary policy responses that inflict collateral damage on the broader economy. The EV retains wealth in the household, keeps energy spending in the domestic economy, insulates the household from direct fuel cost volatility, and — in aggregate, as a national fleet — removes the transport-fuel inflation channel that currently forces the RBA to use interest rates as a blunt instrument against price pressures originating from oil markets thousands of kilometres away.

These are not arguments drawn from contested modelling or speculative projections. They follow directly from the published price decompositions of Australia's fuel market regulator, the ABS vehicle use surveys, the RBA's own rate decisions, the balance of payments accounts, and the federal budget papers. The numbers are what they are.

Dimension	ICE outcome	EV outcome
Per dollar spent — domestic economic activity	~14 cents	**~91 cents**
Annual household energy cost (1.8 vehicles)†	$5,846	**$1,384**
Household income freed — annual†	—	**+$4,462**
Sensitivity to oil price shocks	Fully exposed	**Zero exposure**
RBA rate rise impact from oil shock	Double hit (bowser + mortgage via national CPI)	**No impact at national fleet scale**
Annual import outflow — passenger fleet†	$19–21 billion leaves Australia	**$0**
Domestic economic multiplier on energy spend	~0.3–0.4x	**~0.9–1.1x**
Lifetime energy cost per vehicle (15 yrs)†	$48,718	**$11,531**
Offshore wealth transfer per vehicle lifetime†	~$24,359	**$0**
Net national welfare benefit — full transition†	Baseline	**+$75–85B per year**

The Nature of the Asymmetry

The title of this paper — and the organisation that publishes it — takes its name from the central finding of this analysis. The economic consequences of ICE and electric vehicle transport in Australia are not symmetrical. They do not represent two reasonable choices with comparable national outcomes. They represent a profound and structurally entrenched asymmetry in which one technology exports Australian household wealth and the other retains it; one technology imposes cascading costs on the broader economy and the other generates cascading benefits; one technology makes Australia more vulnerable to forces beyond its control and the other reduces that vulnerability.

The word 'asymmetrical' in this context is not rhetorical. It is a precise economic description. The divergences documented in this paper are not matters of degree. They are differences in kind — in the fundamental economic character of the two technologies, and in what each does to the national accounts, the household budget, and the architecture of Australian prosperity.

What Canberra Faces

The transition from ICE to electric vehicles is underway. It is happening in the market, driven by price parity that has already been reached or is approaching in most passenger vehicle segments, by the arrival of affordable Chinese and European EVs that are expanding consumer choice rapidly, and by the self-reinforcing logic of lower running costs that accelerates once adoption reaches scale.

What is also underway is a policy discussion that is, to this point, not commensurate with the stakes. The government is examining whether to introduce a road user charge — a discussion that has, in some formulations, focused on applying it only to EVs, which would directly penalise the transition behaviour that the economics of this paper demonstrate is in the national interest. The diesel fuel subsidy continues to grow at 9% per year. The fleet renewal cycle — the 16–17 year clock that determines when the economic benefits documented here actually arrive — ticks on without urgency.

The evidence assembled in this paper does not point toward a single prescribed solution. Different policy minds will have different views on the instruments best suited to accelerate the transition. What the evidence does establish, without ambiguity, is the economic magnitude of what is at stake — and the cost, in national income, household prosperity, and balance of trade, of a transition that is slower than it needs to be.

Australia has an opportunity that few comparable economies possess: a vehicle fleet approaching natural renewal age, a domestic electricity grid that is rapidly decarbonising, a growing range of affordable EV options, and an economic case for transition that does not require environmental conviction to accept — only the willingness to follow the numbers.

The numbers, as this paper has shown, are unambiguous. Canberra needs to get creative, get serious, and do everything within its power to accelerate EV adoption — not as a climate gesture, but as an economic growth strategy of the first order. The fleet renewal window is open. It will not stay open indefinitely. The cost of leaving it unused is not hypothetical. It is $19–21 billion per year, leaving Australia, one litre at a time.

Asymmetrical Australia

asymmetrical.au | A McGovern Solutions Initiative

† Figures marked † use $2.20/L petrol and $0.34/kWh electricity (March 2026 prices).

Full data, methodology and source references: Asymmetrical Australia Technical Annex, asymmetrical.au

About This Annex

This Technical Annex accompanies the Asymmetrical Australia Executive Policy Brief: Driving Australia's Wealth Home. It provides the full data tables, calculation methodologies, assumption sets, and source attributions underpinning every figure cited in the main document.

The annex is structured into seven sections, each corresponding to a major analytical component of the policy argument. Readers wishing to interrogate specific figures should refer to the relevant annex section. All data is current as at March 2026 unless otherwise noted.

Figures marked with † are subject to commodity price volatility and should be recalculated against current petrol and electricity prices at the time of reading. The structural relationships (proportions, relativities, directional arguments) are robust across a wide range of price assumptions.

ANNEX A

Vehicle Fleet & Usage Data

A.1 Fleet Composition

Source: BITRE Road Vehicles Australia, January 2024; ABS 2021 Census Transport data.

Metric	Value	Source
Total registered vehicles (Jan 2024)	21.5 million	BITRE 2024
Registered passenger vehicles	15.3 million	BITRE 2024
Light commercial vehicles	3.6 million	BITRE 2024
Average vehicles per household	1.8	ABS Census 2021
Households with at least 1 vehicle	91.3%	ABS Census 2021
Households with 2+ vehicles	55.1%	ABS Census 2021
New vehicle sales (2024)	~1.22 million	FCAI VFACTS 2024
EV share of new sales (2025)	8.3% (BEV); 13.1% (all EVs incl. PHEV)	EVC / FCAI 2025
Total EV fleet (end 2025)	~454,000 vehicles	EVC 2025
Average vehicle age	11–12 years nationally	BITRE 2024
Implied fleet renewal cycle	16–17 years	BITRE / ABS derived

A.2 Annual Distance Travelled

Source: ABS Survey of Motor Vehicle Use 2020 (most recent full survey); Budget Direct analysis.

Metric	Value	Notes
National average, all vehicles (2020)	12,100 km/yr	ABS SMVU 2020
National average, all vehicles (2018)	13,300–13,400 km/yr	ABS SMVU 2018
Passenger vehicles specifically	11,100–14,000 km/yr	Range across surveys
Working figure used in this analysis	13,300 km/yr	Mid-range, conservative
EVC benchmark (State of EVs 2025)	14,000 km/yr	EVC 2025
Queensland average	13,700 km/yr	ABS SMVU 2018

Note: The 2020 ABS SMVU figure of 12,100 km/yr reflects COVID-era reduced driving. Pre-COVID 2018 figures of 13,300–13,400 km/yr are used as the baseline throughout this analysis as more representative of structural driving behaviour.

A.3 Fuel Consumption Rates

Source: ABS Survey of Motor Vehicle Use 2020; Green Vehicle Guide; EVC State of EVs 2025; WATTever EV plan analysis 2025.

Vehicle type	Consumption	Source
Average ICE passenger vehicle (national)	11.1 L/100km	ABS SMVU 2020
Average ICE passenger vehicle (2018)	10.8 L/100km	ABS SMVU 2018
ICE assumption used in this analysis	11.1 L/100km	ABS SMVU 2020
Average EV (benchmark)	17 kWh/100km	WATTever / EVC 2025

Vehicle type	Consumption	Source
Tesla Model Y (best-selling EV 2024)	17 kWh/100km	Green Vehicle Guide
MG4 (real-world reported)	16.5 kWh/100km	SolarQuotes 2025
EV range (typical 17 kWh/100km, real-world)	15–18 kWh/100km	SolarQuotes; EVC
EV consumption used in this analysis	17 kWh/100km	Conservative mid-range
Charging efficiency loss (grid to battery)	~15%	Forum data; EV Journey 2025

ANNEX B

Energy Pricing & Petrol Price Decomposition

B.1 Petrol Pricing

Source: ACCC Quarterly Petrol Monitoring Reports; Australian Institute of Petroleum; CEIC Data; GlobalPetrolPrices.com.

Price point	Value	Date / Context
National average, Q1 2024	193.2 cpl	ACCC March Qtr 2024
National average, Q2 2024	196.5 cpl	ACCC / Statista
National average, Q4 2024	179.8 cpl (3-year low)	ACCC Dec Qtr 2024
National average, 2025 full year	179.3 cpl	ACCC Dec Qtr 2025
National average, current (March 2026)†	~219.5 cpl	CEIC / AIP March 2026
Working price used in this analysis†	220 cpl ($2.20/L)	Current market price
10-year average (2016–2026)	~150 cpl	GlobalPetrolPrices.com

Note: † Current prices subject to Middle East supply disruption. The $2.20/L working figure reflects March 2026 market conditions. All savings calculations using this figure should be treated as current-conditions estimates; structural advantage persists across the full price range.

B.2 Petrol Price Component Breakdown

Source: Australian Institute of Petroleum, 'How Are Petrol Prices Determined in Australia?' 2025; ACCC Quarterly Reports; ATO excise schedules.

Component	% of pump price	At $2.20/L	At $2.00/L (reference)
Singapore MOGAS 95 (international benchmark)	~49–50%	~$1.20	~$1.00
Shipping, insurance, wharfage, quality premium	~1–2%	~$0.03	~$0.02
Total product cost leaving Australia	~50%	~$1.10	~$1.00
Fuel excise (Federal Government)	~21%	~$0.53	~$0.53 (flat rate)
GST (10% of total pump price)	~10%	~$0.25	~$0.20
Total government tax	~31–35%	~$0.78	~$0.73
Wholesale operating costs & margins	~7–8%	~$0.18	~$0.16
Retail operating costs & margins	~5–6%	~$0.14	~$0.12
Industry net profit (all fuels)	~1%	~$0.02	~$0.02
Total domestic economic activity	~14%	~$0.34	~$0.28

Note: Fuel excise is a flat per-litre rate (currently 52.6 cpl as of February 2026), not a percentage. At higher petrol prices, excise represents a smaller percentage of the pump price. GST is 10% of the full retail price including excise — the 'tax on a tax' structure.

B.3 Electricity Pricing

Source: Canstar energy database March 2026; Solar Choice 2026; GlobalPetrolPrices.com June 2025; Australian Energy Regulator reference prices.

Metric	Value	Source
National residential average (2025–26)	~$0.34/kWh	Canstar / Solar Choice 2026
Range across states (2025–26)	$0.24–$0.43/kWh	Canstar March 2026
GlobalPetrolPrices.com residential average	$0.39/kWh	June 2025
OECD average for comparison	~$0.38/kWh (AUD equiv)	Energy Council 2025
Super off-peak EV charging (best available)	~$0.05–$0.08/kWh	WATTever / Synergy 2025
Off-peak home charging (typical)	~$0.15–$0.20/kWh	Various retailer plans
Public fast charger (Level 2)	~$0.40/kWh	EnergyMatters 2022
Working price used in this analysis	$0.34/kWh	National residential average

Note: Home charging at standard residential rates is used as the primary assumption, reflecting the dominant charging pattern (approximately 80% of EV charging occurs at home). Use of off-peak or solar charging would reduce EV running costs further; use of public fast chargers would increase them. $0.34/kWh is therefore a conservative central estimate.

ANNEX C

ICE vs EV Cost Comparison — Full Calculations

C.1 Per-Kilometre Cost Comparison

Metric	ICE	EV	EV advantage
Consumption rate	11.1 L/100km	17 kWh/100km	—
Unit energy cost†	$2.20/L	$0.34/kWh	—
Energy cost per 100 km	$27.20	$5.78	EV 79% cheaper
Energy cost per km	27.2c	5.8c	21.4c/km saving

C.2 Annual Cost Comparison — Per Vehicle

Metric	ICE	EV	Annual saving
Annual km (working figure)	13,300	13,300	—
Fuel/energy consumed	1,476 litres	2,261 kWh	—
Annual energy cost†	$3,248	$769	$2,850
Road User Charge (Year 1, 1.5c/km)	$200	$200	$0
Road User Charge (Year 10, 5.3c/km)	$705	$705	$0
Total propulsion cost (Year 1)	$3,819	$969	$2,850
Total propulsion cost (Year 5)	$3,960	$1,111	$2,849
Total propulsion cost (Year 10)	$4,324	$1,474	$2,850

Note: The annual saving remains constant throughout the RUC transition period ($2,850/yr) because the RUC increment is identical for both vehicle types. ICE total propulsion cost rises by the RUC increment each year; EV total propulsion cost rises by the same amount. The relative advantage is exactly preserved.

C.3 Household Cost Comparison (1.8 Vehicles)

Metric	ICE household	EV household	Annual saving
Annual energy cost per vehicle†	$3,248	$769	$2,850
Annual energy cost (×1.8 vehicles)	$5,846	$1,384	$5,130
As % of median household income ($92,000)	6.4%	1.5%	5.6%
As % of lower quintile income ($45,000)	13.0%	3.1%	11.4%
Lifetime saving (15-year vehicle life)	—	—	$76,950
With RUC Year 1 (×1.8 vehicles)	$6,874	$1,744	$5,130
With RUC Year 10 (×1.8 vehicles)	$7,783	$2,653	$5,130

C.4 Comparison with RBA Rate Cut

Source: CBA Newsroom May 2025; DuoTax August 2025; Loans.com.au February 2025; ABS household debt data.

Measure	0.25% RBA rate cut	Full EV transition (1.8 vehicles)
Annual financial benefit	\$960–\$1,200 (\$500K loan)	\$5,130/yr
Annual financial benefit	\$1,344–\$1,680 (\$700K loan)	\$5,130/yr
EV saving multiple vs rate cut	—	4.3–5.4× larger
Households directly benefiting	~35% (variable mortgagors)	~91% (car owners)
Breadth advantage	—	2.6× more households
Duration	Reversed when rates rise	Permanent structural saving
Vulnerability to oil shocks	Rises (oil → inflation → rates)	Zero (fully insulated)

ANNEX D

Balance of Trade & National Income Analysis

D.1 Petroleum Import Dependency

Source: EIA Australia Country Analysis Brief December 2025; IEEFA Perfect Storm Report; The Conversation; Statista petroleum import data 2024.

Metric	Value	Source
Domestic oil production as % of consumption	5.6%	IEEFA 2025
Remaining Australian refineries (2025)	2	EIA 2025
Domestic refinery share of supply	~17%	IEEFA 2025
Refined petroleum products imported	~83%	The Conversation; IEEFA
Top import sources (2024)	S. Korea 30%, Singapore 23%, Malaysia 13%	AIP 2025
Days of liquid fuel stocks (current)	30–37 days	IEEFA 2025
IEA mandated minimum stock level	90 days	IEA
Australia's IEA ranking on fuel stocks	Lowest of all IEA members	IEEFA 2025

D.2 Passenger Vehicle Petroleum Import Outflow

Calculation step	Figure
Total transport petroleum sold in Australia (2024–25)	~59.2 billion litres (BITRE 2025)
Passenger vehicle share of transport fuel	~31–33% (ABS SMVU; BITRE)
Implied passenger vehicle fuel consumption	~18–19 billion litres/year
International product cost component of pump price	~50% (AIP 2025)
Import outflow — passenger vehicles only†	~$19–21 billion/year (at $2.20/L)
Import outflow — all transport fuel (petroleum only)	~$29–39 billion/year
Total liquid fuel import bill (including non-transport)	~$33+ billion (BITRE/CEF 2023)

D.3 GDP vs GNI Framework

The conventional GDP measure counts all consumer spending, including that which flows offshore. A more accurate welfare measure is Gross National Income (GNI), which deducts income flowing to overseas entities. The petroleum import outflow creates a persistent GNI-GDP divergence.

Framework	Treatment of petroleum import outflow	Relevance to EV transition
GDP (conventional)	Counts as positive consumer spending	Understates benefit of transition
GNI (national income)	Deducts offshore income flows	Accurately captures benefit
Household disposable income	Net after all expenditure	Captures household welfare directly
Balance of Payments (current account)	Records import flows explicitly	Shows structural improvement

A complete passenger fleet transition would represent approximately $19–21 billion per year in GNI improvement from import substitution alone — one of the largest achievable improvements in Australian national income from any domestic policy instrument.

ANNEX E

Fuel Tax Credits Scheme — Data & Reform Analysis

E.1 FTCS Scale and Growth

Source: Australia Institute Fossil Fuel Subsidies 2025; Climate Energy Finance FTCS Report 2023/2025; Parliamentary Budget Office Fuel Taxation Explainer.

Metric	Value	Source
Total FTCS cost 2025–26	$10.8 billion	Australia Institute 2026
Total fossil fuel subsidies 2025–26	$16.3 billion	Australia Institute 2026
FTCS ranking in Federal Budget (2025–26)	16th largest budget line item	Australia Institute 2026
FTCS annual growth rate	~9% per year	Australia Institute / CEF
NDIS growth rate (for comparison)	~7.6% per year	Australia Institute 2026
Mining industry annual FTCS receipt	~$4.8 billion (2024–25)	Australia Institute 2024
Coal industry annual FTCS receipt	~$1.4 billion	Australia Institute 2024
Agriculture annual FTCS receipt	~$1.3 billion	Australia Institute 2024
Cumulative cost since inception (1990)	$200 billion+ (CPI adjusted)	Australia Institute 2024
Mining sector total FTC since 2007	$57.5 billion	CEF 2025
Mining sector projected total to 2030	$84 billion	CEF 2025
Total FTCS projected cost to 2030	$184.3 billion	CEF 2023

E.2 Top FTCS Recipients (FY2024)

Source: Climate Energy Finance, Transition Tax Incentive Report 2025. Note: Exact claim figures are commercially sensitive; these estimates are derived from CEF analysis of diesel consumption data and ATO statistics.

Company / Group	Approximate FTCS claim (FY24)	Primary operation
Fortescue (FMG)	~$300–400M	Iron ore, Pilbara WA
BHP	~$500–700M	Iron ore, coal, copper
Rio Tinto	~$400–500M	Iron ore, aluminium
Hancock Prospecting	~$200–300M	Iron ore, Pilbara WA
Glencore	~$200–350M	Coal, copper (foreign-owned)
Whitehaven Coal	>$50M (post 2024 rate rise)	Thermal and metallurgical coal
Mineral Resources	>$50M (post 2024 rate rise)	Iron ore, lithium
Peabody Energy	~$100–200M	Thermal coal (foreign-owned)
Yancoal	~$100–200M	Thermal coal (foreign-owned)

Note: These estimates are derived from CEF analysis. Actual ATO claim data by company is not publicly released. The $50M cap threshold would capture the companies listed above plus several others in mining and resources.

E.3 CEF Reform Proposal — Fiscal Impact

Source: Climate Energy Finance, Transition Tax Incentive: Reforming Fuel Tax Credits into a Decarbonisation Tailwind, August 2025.

Metric	Value
Companies initially captured by $50M cap	~10–15 largest mining groups
FY24 clean energy investment mobilised under cap (reinvestment model)	$2.2 billion
Total 2025–2030 clean investment redirected	$13.6 billion
Government fiscal impact (reinvestment model)	Revenue-neutral
Government fiscal recovery (hard forfeiture model)	~$2.2B+ per year immediately
Businesses unaffected by $50M cap	Agriculture, road transport, SMEs, sole traders
Effect on mining sector diesel efficiency (projected)	Removes 'carbon lock-in' disincentive
Diesel consumption growth rate (mining, 2018–2024)	+23% vs +16% extraction volume growth

ANNEX F

Road User Charge — Revenue Modelling

F.1 Universal RUC — Rate Schedule and Revenue Projection

Assumptions: 20 million registered vehicles; 13,300 km/vehicle/year average; flat rate across fleet; fuel excise unchanged.

Year	Rate (c/km)	Annual cost per vehicle	Household cost (1.8 vehicles)	Total RUC revenue (20M vehicles)
Year 1	1.5c	$200	$360	~$4.0B
Year 2	1.9c	$253	$455	~$5.0B
Year 3	2.3c	$306	$551	~$6.1B
Year 4	2.7c	$359	$647	~$7.2B
Year 5	3.1c	$412	$742	~$8.3B
Year 6	3.5c	$466	$838	~$9.3B
Year 7	3.9c	$519	$934	~$10.4B
Year 8	4.3c	$572	$1,030	~$11.5B
Year 9	4.8c	$638	$1,149	~$12.8B
Year 10	5.3c	$705	$1,269	~$14.1B

Note: Revenue figures assume flat vehicle fleet of 20 million and 13,300 km average. As EVs penetrate the fleet, ICE fuel excise declines but RUC revenue is maintained because it applies to all vehicles. By Year 10, RUC revenue substantially exceeds the $5–6B passenger excise at risk from EV transition.

F.2 EV Adoption Scenario Revenue Bridge

This table models the combined fuel excise + RUC revenue across different EV adoption scenarios, demonstrating that the universal RUC more than compensates for declining fuel excise.

Scenario (Year 10)	EV fleet share	Fuel excise (eroding)	RUC revenue	Combined revenue
Base (13% EV growth)	~25%	~$19B	~$14B	~$33B
Accelerated (policy support)	~40%	~$15B	~$14B	~$29B
Strong transition	~55%	~$11B	~$14B	~$25B
Current baseline (no RUC)	~25%	~$19B	$0	~$19B

Note: RUC revenue is robust across all EV adoption scenarios because it is kilometre-based rather than fuel-consumption-based. Higher EV penetration reduces excise revenue but does not reduce RUC revenue.

ANNEX G

Macroeconomic Multiplier Analysis

G.1 Domestic Economic Multipliers

Source: RBA research papers; Treasury fiscal multiplier estimates; Grattan Institute household spending analysis.

Spending category	Short-run multiplier	Medium-run multiplier	Notes
Petrol (import-heavy)	~0.3–0.4x	~0.2x	~50% leaves immediately; high import leakage
Electricity (fully domestic)	~0.9–1.1x	~1.0–1.1x	Full domestic supply chain
General household consumption	~0.8–1.1x	~1.0–1.1x	Depends on import propensity
Services-heavy consumption	~1.2–1.5x	~1.1–1.3x	Low import content
Household investment (super/equities)	~0.9–1.5x (long run)	Variable	Capital allocation dependent

G.2 National Welfare Benefit Calculation — Full Transition

Benefit category	Annual value	Basis
Import outflow elimination (passenger fleet)	$19–21B	50% of $44–48B fuel spend
Import outflow elimination (all transport)	$29–39B	83% import share × $35–47B
Household disposable income freed	~$43B	11M households × $3,926 avg saving at $2.00/L
Domestic electricity sector uplift	$8–9B	New EV charging demand × domestic spend
Health & pollution cost reduction	$2–5B	BITRE road transport externality estimates
Carbon abatement (at $35/tonne Safeguard)	$2–3B	~60–70Mt CO2-e eliminated × $35
Energy security premium (strategic risk)	Unpriced, material	Sovereign risk; IEA stock deficiency
Less: government excise revenue loss (net)	−$8–10B	Gross $16B excise less GST recovery & income tax
Net annual national welfare benefit	~$75–85B/yr	Full transition; progressive realisation
As % of 2025 Australian GDP (~$2.7T)	~2.8–3.1%	GDP sourced from ABS National Accounts

Note: The full welfare benefit accrues progressively over the 16–17 year fleet renewal cycle. The $75–85B figure represents the steady-state annual benefit once the fleet has fully transitioned, not an immediate step-change. However, partial benefits are realised from the first year of accelerated adoption.

ANNEX H

Complete Source Reference List

All sources cited in the Executive Brief and this Technical Annex are listed below. Sources are organised by institution. Access dates current as at March 2026.

Australian Bureau of Statistics (ABS)

- Survey of Motor Vehicle Use, Australia, 12 Months Ended 30 June 2020
- Survey of Motor Vehicle Use, Australia, 12 Months Ended 30 June 2018
- Census of Population and Housing 2021 — Transport (vehicles per household; journey to work)
- Income and Work: Census 2021 (household and personal income data)
- New Census Insights on Income in Australia Using Administrative Data (2024 release)
- Average Weekly Earnings, Australia, May 2024 and November 2025
- Household Income and Wealth, Australia 2019–20

Bureau of Infrastructure and Transport Research Economics (BITRE)

- Australian Infrastructure and Transport Statistics Yearbook 2024 (January 2025)
- Australian Infrastructure and Transport Statistics Yearbook 2025 — Transport Energy and Environment chapter
- Road Vehicles Australia, January 2024

Australian Competition and Consumer Commission (ACCC)

- Quarterly Petrol Monitoring Reports — March 2024, June 2024, September 2024, December 2024, March 2025, December 2025
- What Affects Fuel Prices (web resource, 2025)

Australian Institute of Petroleum (AIP)

- At a Glance: How Are Petrol Prices Determined in Australia? February 2025
- AIP Annual Retail Price Data (web resource)
- Weekly Petrol Prices Report — Week Ending 15 February 2026

Department of Climate Change, Energy, Environment and Water

- Australian Energy Statistics, Table O — Electricity Generation by Fuel Type 2023–24 and 2024
- Australian Energy Update 2024
- Guide to the Australian Energy Statistics 2024
- National Electric Vehicle Strategy Annual Update 2024–25

Australia Institute

- Fossil Fuel Subsidies in Australia 2025 (March 2025)
- Fossil Fuel Subsidies in Australia 2024
- Australia's Fuel Tax Credits and Fossil Fuel Subsidies (October 2024)
- Scrap Fuel Tax Rebates for Mining Industry, Not Farmers (September 2024)

Climate Energy Finance (Tim Buckley)

- Fuel Tax Credit Scheme and Heavy Haulage Electric Vehicle Manufacturing in Australia (September 2023)
- Transition Tax Incentive: Reforming Fuel Tax Credits into a Decarbonisation Tailwind (August 2025)

Parliamentary Budget Office (PBO)

- Fuel Taxation in Australia (Budget Explainer, 2022)
- Applying a Road User Charge to Electric Vehicles (costing paper)

Reserve Bank of Australia

- Cash Rate decision media releases: February 2025, May 2025, August 2025, March 2026
- La Cava, G. — Rate cuts may have less impact than expected (e61 Institute, November 2025)

Electric Vehicle Council

- State of EVs 2025 Report
- How Much Extra Electricity Will I Use in My Home When I Buy an EV? (January 2024)

International Bodies

- U.S. Energy Information Administration — Australia Country Analysis Brief, December 2025
- International Energy Agency — Australia 2023: Energy Policy Review
- IEEFA — A Perfect Storm to Boost Australia's Energy Security (2025)
- OECD — Achieving the Transition to Net Zero in Australia (2024)

Industry and Commercial Sources

- Canstar — Average Cost of Electricity per kWh in Australia (March 2026 data)
- Solar Choice — Electricity Cost per kWh in Australia (September 2025)
- WATTever — Are EV Electricity Plans Worth It? (November 2025)
- SolarQuotes — EV Real Range in Australia (December 2025)
- Commonwealth Bank — CBA Announces Interest Rate Reductions (May 2025)
- Carsales — EV Road User Charge Back on Agenda (March 2026)
- CarExpert — Australian Government Weighs EV Road User Charge (March 2026)
- Budget Direct — Average Kilometres Driven in Australia
- GlobalPetrolPrices.com — Australia Gasoline and Electricity Prices (March 2026)
- McCrindle — Australia's Income and Wealth Distribution
- Grattan Institute — What Do Australians Earn and Own? 2024 Budget Cheat Sheet

Asymmetrical Australia | A McGovern Solutions Initiative