



31 January 2023

Attachment 5.10.b - Light commercial vehicles program

Ausgrid's 2024-29 Regulatory Proposal

Empowering communities for a resilient,
affordable and net-zero future.



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1. Document governance

1.1. Purpose of this document

The purpose of this document is to outline a business case for Ausgrid's light commercial vehicle replacement program that may, subject to investment governance processes, form part of Ausgrid's 2024-29 regulatory proposal.

Related documents

Document	Version	Author
Fleet Strategy – 2024-29 Regulatory Proposal Support Document	V1.0	Tim Kynoch
Fleet Capital Expenditure Strategy – Benefits Assessment Approach	V1.0	Craig Calder
Ausgrid Fleet NPV Model	Final	Ernst & Young

Document history

Date	Version	Comment	Person
15/2/2022	V0.1	Initial draft	Damon Taylor
29/4/2022	V0.2	Second draft	Damon Taylor
2/7/2022	V0.3	Third draft	Damon Taylor
13/9/2022	V1.0	First version	Damon Taylor
12/10/2022	V1.1	Minor amendments	Damon Taylor

Approval(s)

Name	Position	Date
Kelly Wood	EGM Network Delivery Services	

2. Executive summary

The table below provides a summary of Ausgrid's light commercial vehicle replacement program business case. It provides a recommendation derived from analysis of five options overall, informed by Ausgrid's experience in operating light commercial vehicles during the current (2019-24) regulatory period. The proposed program of work, if approved, would deliver net benefits of \$30.4 million based on our net present value (NPV) modelling.

Executive summary							
Key objective(s) of the program	<p>Ausgrid's fleet capex program is focused on improving employee and public safety, standardising vehicle types to obtain improved pricing, optimising through-life costs, and improving fleet capability, utilisation and sustainability.</p> <p>During the 2024-29 regulatory period, the program for light commercial vehicles will renew 438 utility and 287 van assets that have reached end of determined useful life, while increasing the level of standardisation and optimisation within the fleet. Asset replacement will be guided by a bottom-up build of fleet requirements that includes Minimum Level Operating Capability statements approved by the business.</p> <p>Failure to replace light commercial vehicles or adopting a run to failure approach is not considered acceptable due to the significant impacts such a strategy would have to operating costs, productivity, and employee and public safety.</p>						
Key benefits	<ul style="list-style-type: none"> • Increased employee and public safety • Increased employee mobility and productivity • Reduced operating costs • Reduced carbon emissions 						
Safety considerations	<p>During the 2019-24 regulatory period, Ausgrid Fleet Replacement Guidelines stipulated that the technical life for light commercial assets was 7 years or 150,000 kilometres. Notably, 7 years was on average 2 years longer than the technical life maintained for these assets by other similar organisations. It was also 1 year longer than the technical life recommended by the Australasian New Car Assessment Program (ANCAP).</p> <p>A technical life of 6 years or 150,000 kilometres has been investigated and subsequently adopted. This was in recognition of favourable NPV modelling results and also aligns with ANCAP's updated Application of Star Ratings Protocol.</p>						
Recommended Option & Rationale	<p>Option 5: Further Optimisation + ANCAP Policy Alignment</p> <ul style="list-style-type: none"> • Unlocks most net economic benefits of options assessed • Aligns with ANCAP recommendations and increases overall safety of the fleet 						
Market NPV	\$30.4 million						
Expenditure forecast	(\$M Real, FY24)	FY25	FY26	FY27	FY28	FY29	Total
	CAPEX	10.0	12.8	10.9	3.3	9.8	46.8
	OPEX benefits	0.7	1.4	1.9	1.8	2.3	8.1
	CAPEX benefits	4.6	5.8	4.9	1.5	4.4	21.3

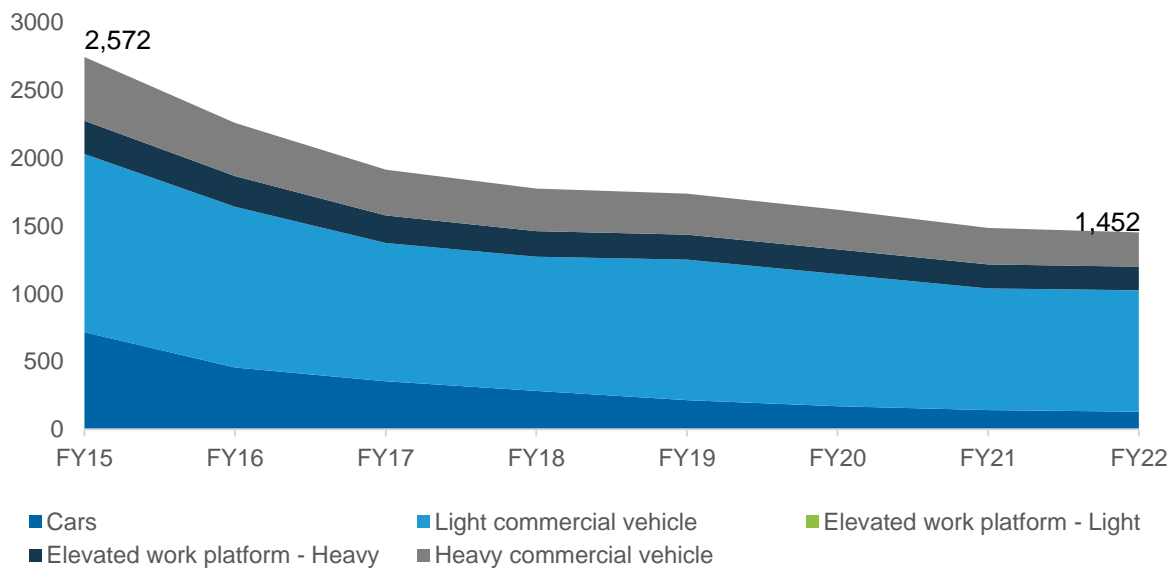
3. CONTEXT

3.1. Background

Ausgrid’s fleet of light commercial vehicles supports the efficient delivery of network maintenance and capital delivery. Light commercial vehicles are the backbone of the Ausgrid fleet, accounting for some 40% of overall fleet numbers. Capital investment within the light commercial vehicle portfolio is driven by business need and determined useful life.

Ausgrid’s 2024-29 light commercial vehicle program considers fleet reductions already realised, as well as future opportunities that exist to relocate, reallocate or outright reduce vehicles in order to optimise the overall fleet portfolio. To facilitate this reduction, Ausgrid has leveraged data provided by In-Vehicle Monitoring Systems (IVMS) installed across all light commercial vehicles to better understand utilisation, optimise the fleet and reduce operating costs. In combination with previous fleet rationalisation initiatives, this has resulted in a reduction of 419 light commercial vehicles since FY15 as shown in **Figure 1**.

Figure 1 – Ausgrid motor vehicle fleet: FY15 to FY22



3.2. Problem / Opportunity

Ausgrid’s fleet of light commercial vehicles has been the focus of significant capital investment since 2018, with the majority of assets renewed over the intervening period. As a consequence of that investment, the average age of light commercial assets has reduced substantially with only a few remaining assets still operating beyond their technical life as of 2022, as shown in **Figure 2** and **Figure 3** below.

Figure 2 – Light Commercial Vehicles by Age and Count

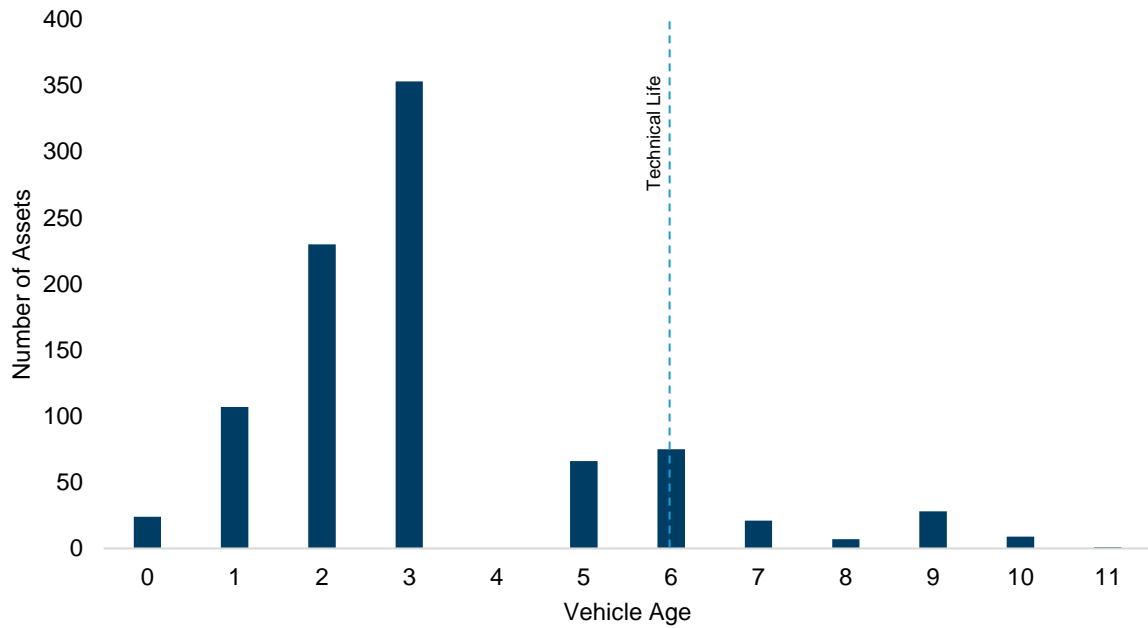
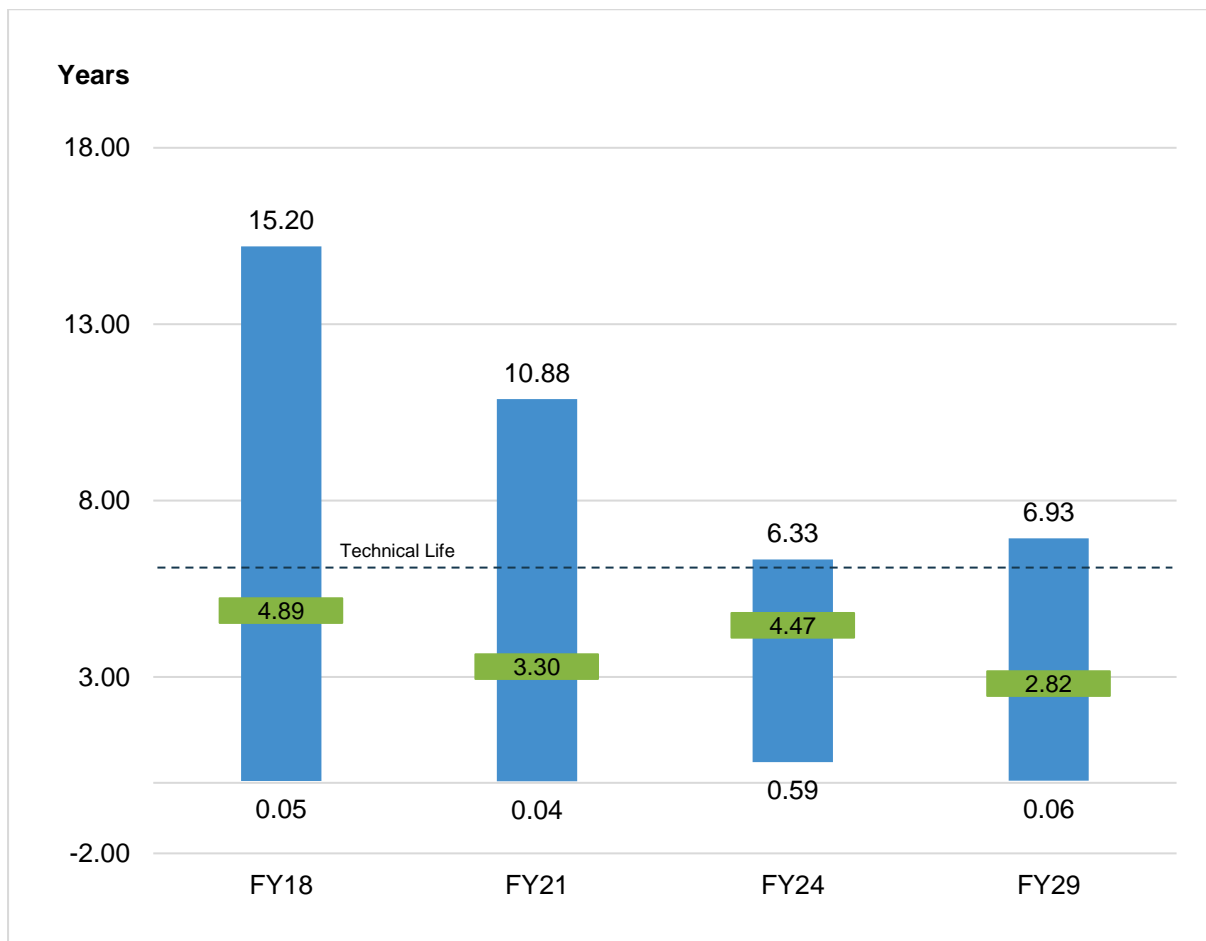


Figure 3 – Light Commercial Vehicles – Historic & Projected Maximum, Minimum and Average Ages



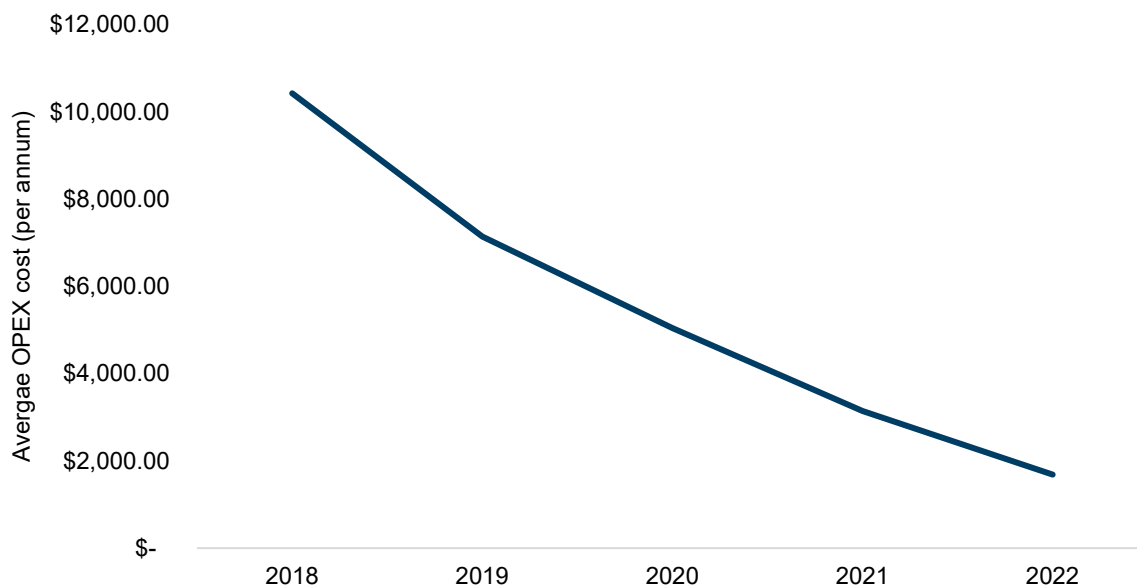
When Ausgrid enters the next Regulatory Period in 2024, the light commercial vehicles purchased between 2018 and 2023 will start to fall due for replacement according to their technical life of 6 years.

Replacement at this point is considered prudent in order to support staff mobility and the efficient delivery of network maintenance and capital delivery. In particular, renewal of the light commercial vehicle fleet increases its reliability, reduces ongoing maintenance, repair costs and carbon emissions, and implements newer vehicle safety technology to better protect both Ausgrid staff and members of the public.

Conversely, failure to replace light commercial vehicles or adopting a run to failure approach is not considered acceptable due to the significant impacts such a strategy would have to operating costs, productivity, and employee and public safety.

Figure 4 below shows the significant reduction in light commercial vehicle operating costs achieved due to investment in this category since 2018.

Figure 4 – Light Commercial Vehicles: average operating cost per annum over time



3.3. Safety Considerations

Historically, Ausgrid Fleet Replacement Guidelines stipulated that the technical life of light commercial assets was 7 years or 150,000 kilometres. Notably, 7 years is on average 2 years longer than the technical life maintained for light commercial vehicles by other DNSPs and contractors as shown in **Figure 5** below. It is also 1 year longer than the technical life recommended by ANCAP.

Importantly, ANCAP has recently implemented a policy amendment to its *Application of Star Ratings Protocol*, which sees a rating validity period applied. From December 2022, vehicles which hold a current ANCAP safety rating with a datestamp of 2017 or earlier will begin to expire.

In summary:

- Ratings for vehicles with a rating datestamp of 2015 or earlier will expire as at 31 December 2022;
- Ratings for vehicles with a rating datestamp of 2016 or earlier will expire as at 31 December 2023; and

- Ratings for vehicles with a rating datestamp of 2017 or earlier will expire as at 31 December 2024.

Any vehicle which is built after the rating expiry date will be considered “unrated” though it will be eligible for reassessment.

ANCAP star ratings indicate the level of safety a vehicle provides for occupants and pedestrians in the event of a crash, as well as its ability – through technology – to avoid or minimise the effects of a crash. As part of its obligations under the Work Health and Safety Act 2011 and its duty of care to provide “a work environment without risks to health and safety,” Ausgrid endeavours to provide a safe driving environment for both employees and members of the public by mandating the use of 5-Star ANCAP rated vehicles in all applicable asset categories.

Consequently, ANCAP’s policy amendment is significant in terms of its implication which, in practical terms, means that any passenger or light commercial vehicle within the Ausgrid fleet aged older than 6 years can no longer be deemed to have a 5-Star ANCAP rating.

Figure 5 – Fleet lifecycle benchmarking

Company	Passenger Vehicles	Light Commercial Vehicles	Heavy Commercial Vehicles & Plant
Essential Energy	60 months / 150,000 km	60 months / 150,000 km	10-15 years
Powerlink	48 months	48 – 84 months	8-10 years
Ergon	48 months / 100,000 km	150,000 km	10-15 years
Energex	3 or 5 years	60 months	10-15 years
SA Power Networks	60 months / 150,000 km	60 months / 150,000 km	10 years (EWP) 15 years (crane)
Powercor	60 months / 150,000 km	60 months / 150,000 km	10-15 years (EWP) 10 years (HCV)
Downer	36 months / 90,000 km	36 months / 90,000 km	7-10 years
Jemena	60 months / 150,000 km	60 months / 150,000 km	10-15 years (EWP) 10 years (HCV)
Ausgrid	60 months / 150,000 km	84 months / 150,000 km	15 years

Source: sgfleet (included in Jemena – Attachment 05-01 – Forecast capital expenditure report – 31 January 2020, p. 114)

ANCAP’s policy change, in conjunction with the results of NPV modelling conducted as part of preparations for the 2024-29 regulatory proposal (detailed below), provided the catalyst for Ausgrid to review and update its Fleet Replacement Guidelines, specifically changing the technical life for light commercial vehicles to 6 years and 150,000 kilometres.

3.4. Procurement Strategy

To support the light commercial vehicle replacement program, a procurement strategy is developed and approved each financial year for all fleet asset classes. Ausgrid utilises the purchasing power of the NSW Government (as a minority shareholder) to obtain the best available market rates for light

commercial vehicles and enters into manufacturer-specific agreements to obtain further discounts where applicable.

In addition, a market exercise is conducted with dealers and vehicle body builders to ensure best commercial value, particularly with respect to role-specific fitouts which account for a significant portion of overall asset cost.

4. NPV Methodology & Approach

4.1. Overview of Cash & Probabilistic Benefits

The NPV modelling conducted for the 2024-29 Fleet Capital Expenditure Program for Light Commercial Vehicles considers the following cash and probabilistic benefits:

- Maintenance costs;
- Repair and breakdown costs;
- Fuel costs;
- Disposal proceeds; and
- Carbon emissions.

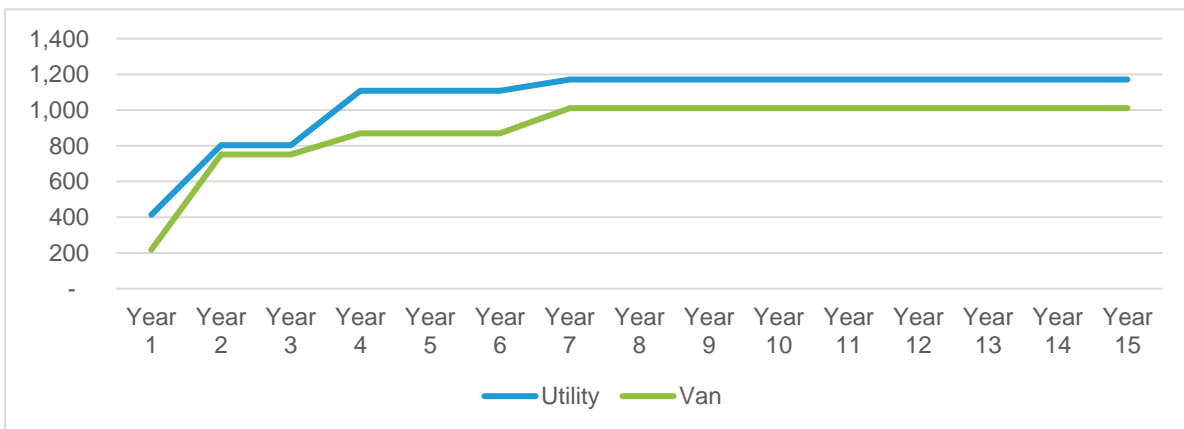
4.2. Maintenance costs

Financial data sourced from the Plant Maintenance (PM) module of Ausgrid’s Enterprise Resource Platform (ERP) has been used to calculate the average annual maintenance cost by asset age and exhibits cost step changes for both utility and van assets in Years 4 and 7 as shown in **Figure 6** and **Figure 7** below.

Figure 6 – Average annual maintenance costs by asset age (\$)

Asset Class	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Utility	413	804	804	1,109	1,109	1,109	1,171	1,171	1,171	1,171	1,171	1,171	1,171	1,171	1,171
Van	218	751	751	869	869	869	1,011	1,011	1,011	1,011	1,011	1,011	1,011	1,011	1,011

Figure 7 – Average annual maintenance costs by asset age (\$)



Asset replacement at 6 years results in a significant 63% decrease in annual average maintenance costs for utilities and 75% for vans in Year 1, eroding to only 5% for utilities between Years 4 and 6. It

also avoids a 6% (utilities) and 16% (vans) increase in maintenance costs that would otherwise be incurred between Years 6 and 7.

4.3. Repair and breakdown costs

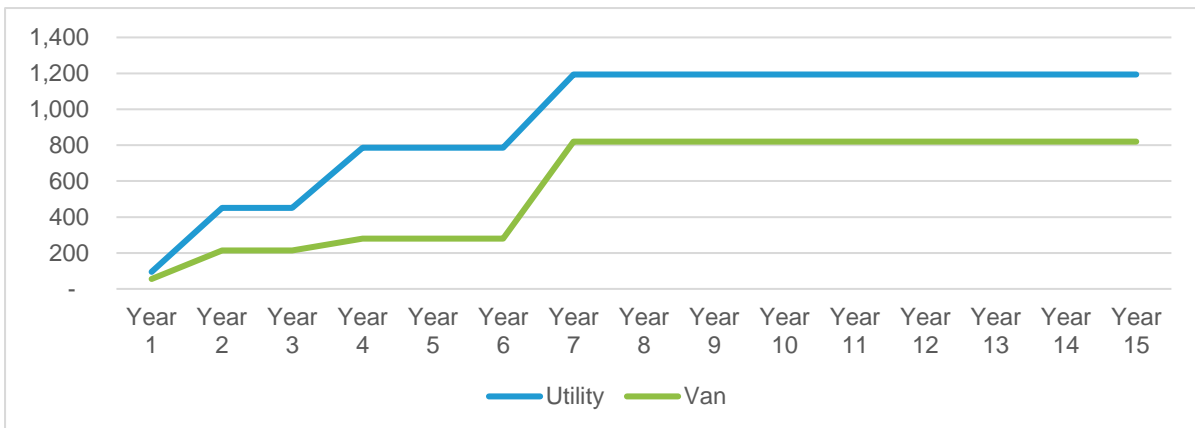
Ausgrid data has been used to calculate the average annual repair cost by asset age and again exhibits a significant increase in expenditure in Years 4 and 7 as shown in **Figure 8** below.

Figure 8 – Annual repair costs by asset age (\$)

Asset Class	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Utility	95	451	451	786	786	786	1,194	1,194	1,194	1,194	1,194	1,194	1,194	1,194	1,194
Van	55	214	214	280	280	280	820	820	820	820	820	820	820	820	820

Asset replacement at 6 years results in a significant 88% decrease in annual average repair costs for utilities and 80% for vans in Year 1, eroding to 34% and 66% respectively between Years 4 and 6 as shown in **Figure 9** below.

Figure 9 – Annual repair costs by asset age (\$)



4.4. Fuel costs

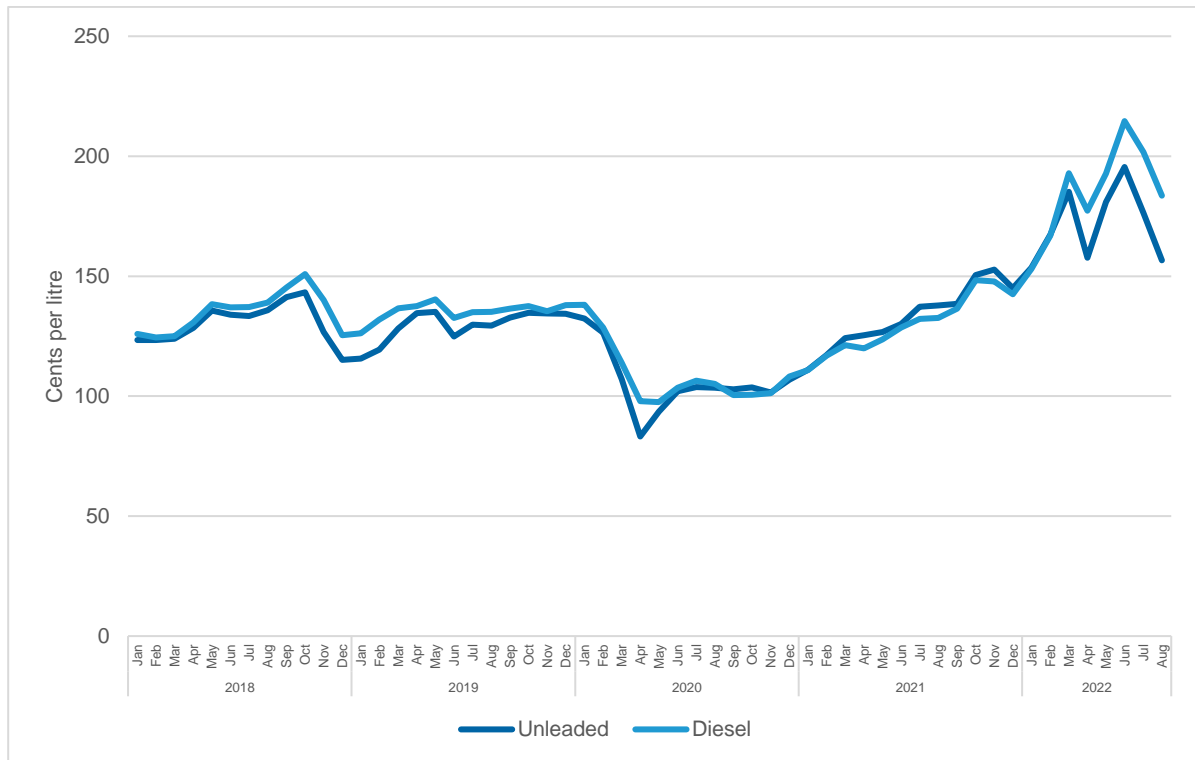
Ausgrid data has been used to calculate the average fuel consumption for light commercial vehicles by asset age, with fuel costs calculated based on the estimated distance vehicles in each asset class will travel per annum. Notably, while utilities exhibit a noticeable increase in fuel consumption as they age as is demonstrated in **Figure 10** below, Ausgrid vans maintain relatively consistent fuel consumption throughout the entirety of their technical life.

Figure 10 – Annual fuel consumption by asset age (L/km)

Asset Class	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Utility	0.10	0.11	0.11	0.13	0.13	0.13	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Van	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12

In FY22, Ausgrid’s utility and van assets travelled an average distance of 15,135 and 14,795 kilometres respectively however in consideration of the impacts of COVID-19 lockdowns, as well as the proposed increase in capital expenditure for the 2024-29 period, an annual escalation factor of 5% has been applied. This will take projected average travel to 21,297 and 20,818 kilometres per asset respectively by FY29. A diesel price of \$1.90 per litre has been used by default within the modelling conducted, however in light of the impact of conflict between Russia and the Ukraine, not to mention a well-established trend of increasing diesel costs as shown in **Figure 11**, a 5% per annum escalation factor has also been applied. This will take the forecast diesel price to \$2.70 by FY29.

Figure 11 – Average monthly fuel cost trend – January 2018 to August 2022



Source: Australian Institute of Petroleum – Historical ULP and Diesel Terminal Gate Price Data

4.5. Disposal proceeds

Disposal proceeds for light commercial assets consider both current and historic sales performance across both utility and van assets. Proceeds have exceeded expectations over the last 12 to 24 months due to the strong second-hand car market brought about by the pressures of COVID-19 on new vehicle supply chains, however this has been balanced using pre-COVID sales data which is considered more indicative of future results.

For the purposes of modelling, average proceeds of \$30,000 and \$23,000 have been used for utilities and vans respectively. These figures have been calculated using historic sales for these asset classes across FY21 and FY22.

5. OPTIONS

Five options have been developed, including the Base (Counterfactual) Case which assumes no incremental capital expenditure. These options have been informed by Ausgrid’s experience in operating light commercial vehicles during the current (2019-24) regulatory period, and includes

consideration of operator feedback, technology and safety advances, fleet utilisation, and employee mobility requirements.

The expenditure forecast for the Base (Counterfactual) Case, which assumes a run to failure strategy is adopted, is summarised in **Figure 12**. This approach is not considered acceptable due to the significant impacts it would have to operating costs, productivity, and employee and public safety however for the purposes of NPV modelling, only the operating cost (dis)benefit has been included.

Figure 12 – Expenditure Forecast: Option 1 - Base (Counterfactual) Case

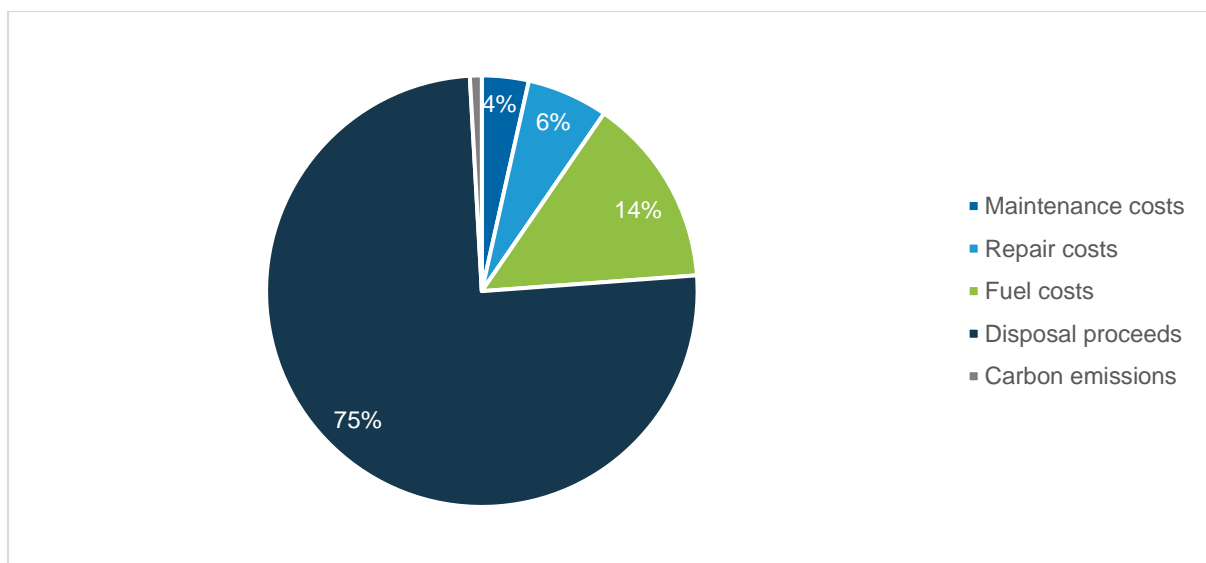
(\$M Real, FY24)	FY25	FY26	FY27	FY28	FY29	Total
CAPEX	-	-	-	-	-	-
OPEX benefits	-0.3	-0.1	-0.04	-0.07	-0.03	-0.5
CAPEX benefits	-	-	-	-	-	-

Option 2 assumes current asset volumes are maintained for light commercial vehicles, noting that Ausgrid has already realised significant benefits from fleet reduction/rationalisation projects. Option 2 also assumes that as per Ausgrid’s original Fleet Replacement Guidelines, the determined useful life for light commercial vehicles is maintained at 7 years or 150,000 km. The expenditure forecast and benefits for Option 2 is summarised in **Figure 13** and **Figure 14** below.

Figure 13 – Expenditure Forecast: Option 2 – Business-as-Usual Replacement

(\$M Real, FY24)	FY25	FY26	FY27	FY28	FY29	Total
CAPEX	8.2	8.2	8.2	8.2	8.2	41.0
OPEX benefits	0.5	0.8	1.2	1.5	1.8	5.9
CAPEX benefits	3.7	3.7	3.7	3.7	3.7	18.6

Figure 14 – Benefits Breakdown: Option 2 – Business-as-Usual Replacement

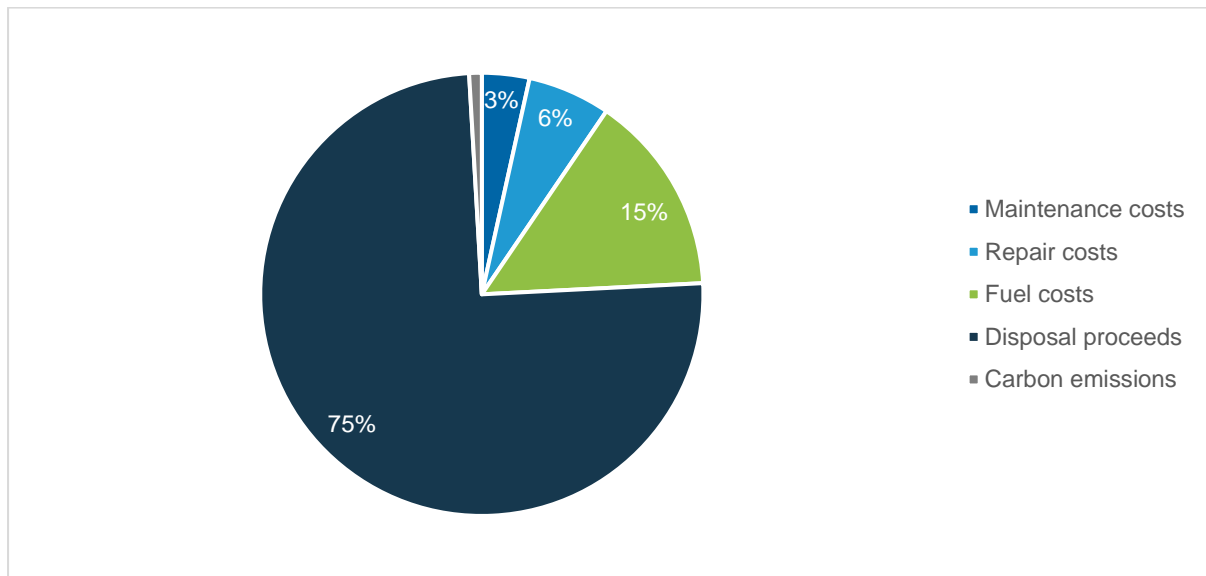


Option 3 changes the determined useful life for light commercial vehicles to 6 years in line with ANCAP recommendations and with a view to constantly maintaining a 5-Star ANCAP rating across the fleet. For the purposes of modelling, this change is implemented in FY24 and undertakes the transition over a 6-year period. The expenditure forecast and benefits breakdown for Option 3 is summarised in **Figure 15** and **Figure 16** below.

Figure 15 – Expenditure Forecast: Option 3 – ANCAP Policy Alignment

(\$M Real, FY24)	FY25	FY26	FY27	FY28	FY29	Total
CAPEX	10.6	10.6	10.6	10.6	10.6	53.1
OPEX benefits	0.6	1.1	1.6	2.0	2.4	7.8
CAPEX benefits	4.8	4.8	4.8	4.8	4.8	24.2

Figure 16 – Benefits Breakdown: Option 3 – ANCAP Policy Alignment

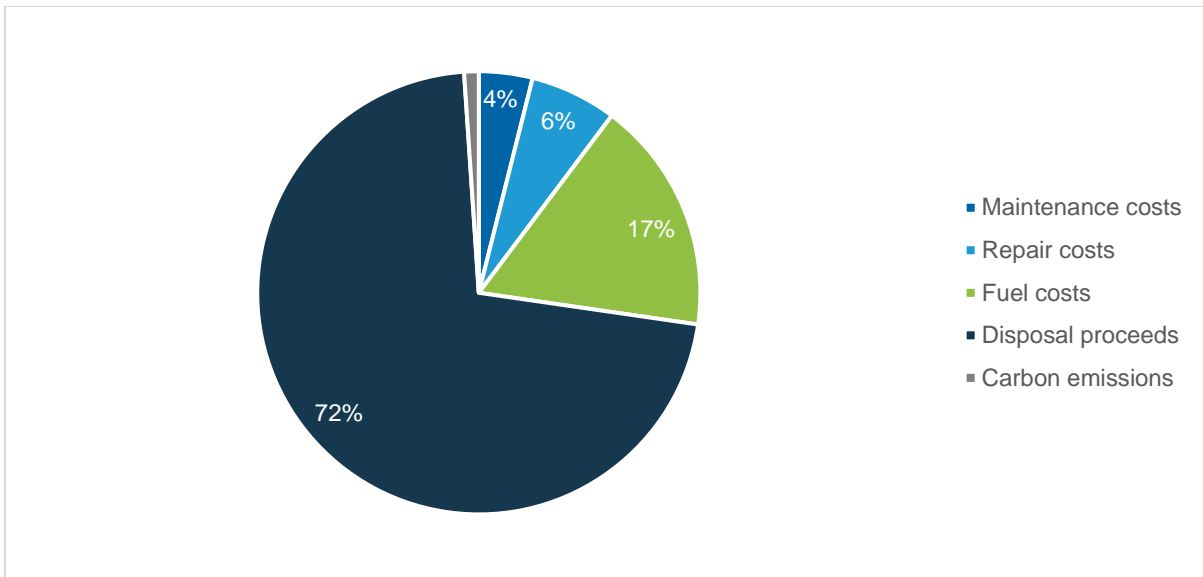


Option 4 assumes a 5% reduction in light commercial vehicles, implying that some level of fleet reduction/rationalisation will continue. The expenditure forecast and benefits breakdown for Option 4 is summarised in **Figure 17** and **Figure 18** below.

Figure 17 – Expenditure Forecast: Option 4 – Further Optimisation

(\$M Real, FY24)	FY25	FY26	FY27	FY28	FY29	Total
CAPEX	7.9	7.9	7.9	7.9	7.9	39.4
OPEX benefits	0.5	1.0	1.4	1.8	2.1	6.8
CAPEX benefits	3.6	3.6	3.6	3.6	3.6	17.8

Figure 18 – Benefits Breakdown: Option 4 – Further Optimisation

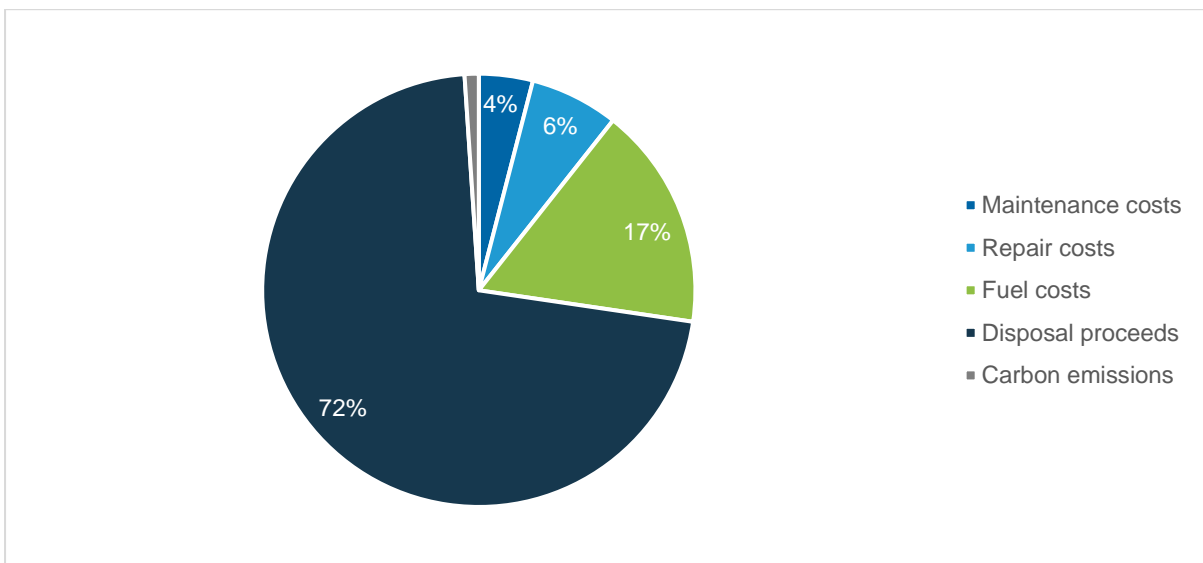


Option 5 combines elements of Option 3 and Option 4 by changing the determined useful life of light commercial vehicles to 6 years, while also executing a 5% reduction in light commercial vehicles. The expenditure forecast and benefits breakdown for Option 5 is summarised in **Figure 19** and **Figure 20** below.

Figure 19 – Expenditure Forecast: Option 5 – Further Optimisation + ANCAP Policy Alignment

(\$M Real, FY24)	FY25	FY26	FY27	FY28	FY29	Total
CAPEX	10.0	12.8	10.9	3.3	9.8	46.8
OPEX benefits	0.7	1.4	1.9	1.8	2.3	8.1
CAPEX benefits	4.6	5.8	4.9	1.5	4.4	21.3

Figure 20 – Benefits Breakdown: Option 5 – Further Optimisation + ANCAP Policy Alignment



6. RECOMMENDATION

Options for Ausgrid's light commercial vehicle replacement program that have been considered for this business case, including the Market NPV outcomes, are summarised in **Figure 21**.

Figure 21 – Light Commercial Vehicles: NPV Modelling Options

Option	Description	Market NPV
Option 1: BASE CASE (Counterfactual)	Key initiatives include: <ul style="list-style-type: none"> No incremental investment 	-\$1.2 million
Option 2: BUSINESS-AS-USUAL REPLACEMENT	Key initiatives include: <ul style="list-style-type: none"> Current asset volumes maintained No change to determined useful life of: 7 years or 150,000 km 	\$21.1 million
Option 3: ANCAP POLICY ALIGNMENT	Key initiatives include: <ul style="list-style-type: none"> Determined useful life changed to: 6 years or 150,000 in line with ANCAP guidelines 	\$29.0 million
Option 4: FURTHER OPTIMISATION	Key initiatives include: <ul style="list-style-type: none"> Asset volumes reduced by 5% No change to determined useful life of: 7 years or 150,000 km 	\$29.4 million
Option 5: FURTHER OPTIMISATION + ANCAP POLICY ALIGNMENT	Key initiatives include: <ul style="list-style-type: none"> Asset volumes reduced by 5% Determined useful life changed to: 6 years or 150,000 in line with ANCAP guidelines 	\$30.4 million

The recommended option for the 2024-29 period is Option 5 based on quantitative analysis demonstrating that it will unlock the most net economic benefits compared to Options 1, 2, 3 and 4 which had a lower NPV. For a capital cost of \$46.8 million, it results in an NPV of \$30.4 million.

Taking up this option requires additional capital expenditure to account for earlier replacement of assets which is partially offset by further fleet optimisation. Significantly, it also realises a significant benefit in reduced maintenance and repair costs which increase by 10% and 89% respectively between Years 6 and 7.

6.1.1. Alignment to strategy

In line with Ausgrid's ELT-endorsed Fleet Strategy, the 2024-29 Fleet Capital Expenditure Program for Light Commercial Vehicles is guided by a bottom-up build of fleet requirements that combines stakeholder input, data analytics, optimisation opportunities and standardisation, to create a capability-based, fit-for-purpose, economical fleet to match the future needs of operations.

The program will achieve this by:

- Using capability as the priority factor instead of preferences, ratios, or utilisation;
- Allowing direct staff input to equipment needs;
- Producing documented capability bricks by teams within regions and aligning the assets required;
- Dividing the requirements into full time and part time requirements; and
- Creating a fleet Minimum Level Operating Capability (**MLOC**) program with business approval.

6.1.2. Program delivery risks and dependencies

The most significant risk to delivery of the 2024-29 Fleet Capital Expenditure Program for Light Commercial Vehicles relates to the direct and indirect impacts of the COVID-19 pandemic on manufacturer supply chains. Current lead times for light commercial vehicles have increased from two or three months up to 8 months. This presents a significant risk of under-delivery for the light commercial vehicle replacement program and could result in increased operating costs through late asset replacement.

To mitigate this risk, Ausgrid will place early orders for vehicles in order to establish an advanced pipeline of light commercial vehicle requirements. Ausgrid has also commenced engaging vehicle manufacturers, dealers and bodybuilders directly in order to secure required stock and ensure maximum value. This approach also removes any opportunity for any third party (nominally Ausgrid's Fleet Management Organisation (**FMO**)) to retain discounts from the dealers and manufacturers that would otherwise be passed on to Ausgrid.

The Fleet Engineering & Strategy team and its current level of resourcing is a critical dependency to the successful delivery of this program. This includes the third-party support of an FMO (currently *sgfleet*) who will be relied upon to administer ordering processes.

6.1.3. Business area impacts

#	Impacted Group	Description
01	Field Operations	Staff within this workgroup account for the majority of light commercial vehicle allocations, with approximately 60% of the fleet assigned.
02	Network Delivery Services	Staff within this workgroup account for approximately 25% of light commercial vehicle allocations.

6.1.4. Next steps

This business case has been developed to support Ausgrid's proposed fleet capital expenditure (capex) forecast and should be read in conjunction with Ausgrid's Fleet Strategy. Subject to endorsement by the Investment Governance Committee, it will be used for Ausgrid's FY25-29 Regulatory Proposal.