



Fleet Asset Management Strategy 2020-2025

January 2019

Abstract: This Strategic Plan has been developed to identify key initiatives which support Energy Queensland in achieving its Corporate Strategies.

Keywords: Fleet Assets, Compliance, AER, CAPEX, OPEX

Table of Contents

Executive Summary	1
1 Purpose and Scope	2
2 References	2
3 Legislation, Regulations, Rules and Codes.....	3
4 Energy Queensland Strategic Direction	3
5 Historical Fleet Capital and Operational Expenditure Performance.....	5
6 Fleet Asset Management Strategy Statement.....	7
7 Fleet Asset Drivers	7
8 Fleet Asset Measures	12
9 Relationship Management	12
10 Fleet Asset Management Process	13
Annex A - Fleet Asset Replacement Matrix	15
Annex B – Fleet Asset Criticality Matrix.....	18

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Executive Summary

This Asset Management Strategy summarises the Energex and Ergon Energy fleet requirements for the coming regulatory period, July 2020 to June 2025.

This strategy aims to provide value to the Queensland community by:

- ensuring EQL's fleet is procured and maintained to a standard that enables the operation of a safe and efficient network; and
- delivering a program that is cost effective and aids in making electricity more affordable.

The strategy details the key drivers for the fleet program and the capital and operating financial requirements. Ergon Energy and Energex fleet portfolio's, totalling over 4000 assets are managed by Energy Queensland's Transformation Office.

Cost Management

Capital and operational costs for fleet assets are linked to the System Program of Work (PoW), crewing structure and composition, tasks undertaken and work practices. The program is developed on business requirements and linked to the principle of fit-for-purpose design considering safety, industry standards, business priorities and cost efficiency.

Replacement criteria for fleet assets are determined by considering:

- initial economical life expectancy (benchmarked to industry peers);
- asset condition at end of life and its potential to be economically and safely extended;
- industry safety and technology improvements;
- Regulatory constraints.

Based on 2017/18 dollars the following direct capital and operating expenditure is forecast for the 2020-2025 regulatory period:

- Ergon Energy
 - Capex - \$161.15 million
 - Opex - \$117.72 million
- Energex
 - Capex - \$113.23 million
 - Opex - \$102.61 million

1 Purpose and Scope

The Fleet Asset Management Strategy has been developed to identify key strategic initiatives for the Fleet and Equipment Strategy Team in supporting Energy Queensland in achieving its Corporate Strategy to “safely deliver secure, affordable and sustainable energy solutions with our communities and customers”.

Key enabling partners supporting the Fleet Asset Management Strategy are:

- All EQL Business Units associated with building and/or maintaining the distribution network;
- Suppliers and service providers;
- Industry peers; and
- Fleet Management Partner

Their engagement supports the Fleet Asset Management Strategy to:

- Ensure a cost-conscious and prudent approach to procurement of EQL’s Fleet Assets;
- Manage risk in accordance with regulations and policy guidelines;
- Focus on fleet safety through appropriate design;
- Sustain EQL fleet assets to ensure optimum availability; and
- Provide effective fleet asset management services.



Energy Queensland Fleet Demographic for FY2017/2018

Demographic	Number
Number of Fleet Assets	5,194
Total Vehicle Kilometres Travelled	53,242,446
Total Plant Hours	217,418

2 References

Energy Queensland controlled documents

- P044. Standard for Light Fleet

3 Legislation, Regulations, Rules and Codes

This document refers to the following:

Compliance Type	Key Requirements
Legislation Federal	National Heavy Vehicle Regulation (NHVR) <ul style="list-style-type: none"> Chain of Responsibility (CoR) Vehicle Inspections Guidelines Australian Design Rules (ADRs) Vehicle Standards Bulletins (VSBs) Safety Recalls Australia Australian Standards International Standards Work Health and Safety Act and Regulations
Legislation State	Queensland Road Traffic Act and Regulations Queensland Motor Vehicles Act and Regulations Work Health and Safety Act and Regulations Vehicle Inspections Guidelines Code of Practice Queensland Codes of Practice Registrable Plant

4 Energy Queensland Strategic Direction

Our Strategy

The following strategy framework provides an overview of Energy Queensland's vision, purpose and strategic objectives.



Energy Queensland's strategic objectives place our communities and customers at the centre of all that we do. To achieve this, we must ensure that we:

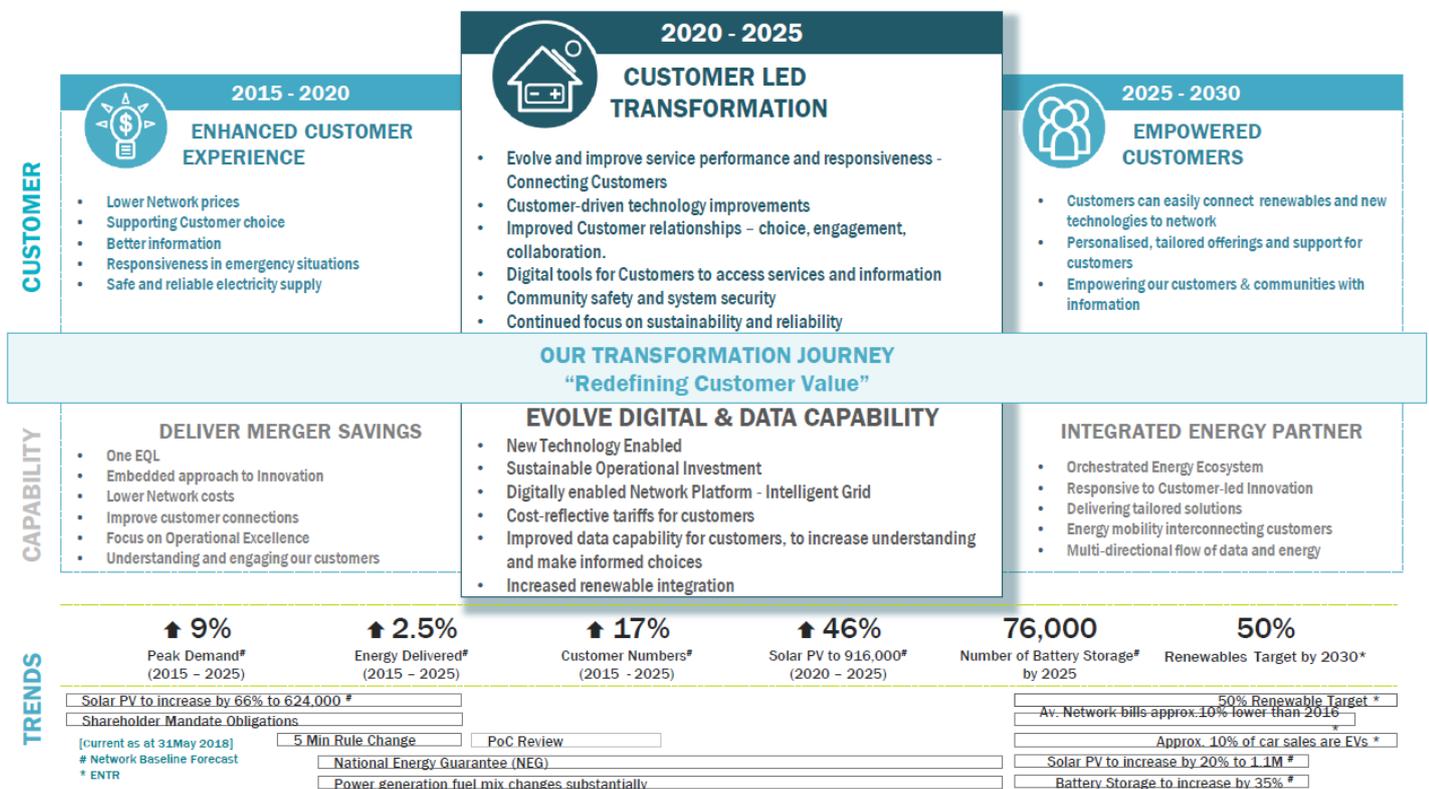
- maintain and deepen our customers' and communities' trust by delivering on our promises, keeping the lights on and delivering an exceptional customer experience;

- continue to build a strong safety culture across the business and empower and develop our people while delivering safe, reliable and efficient operations;
- strive for a culture of continuous improvement in our processes, systems, capabilities and data; and
- innovate to deliver differentiated and compelling offerings for our communities, customers, partners and shareholders.

To deliver on these objectives, Energy Queensland will continue to transform our approach to redefine customer value as shown in Figure 4.1 below by:

- understanding and partnering with our customers to be responsive to their rapidly changing needs and expectations;
- delivering price and cost savings whilst providing high reliability and customer service performance outcomes; and
- ensuring we are at the forefront in integrating distributed, renewable energy and other technologies into the grid.

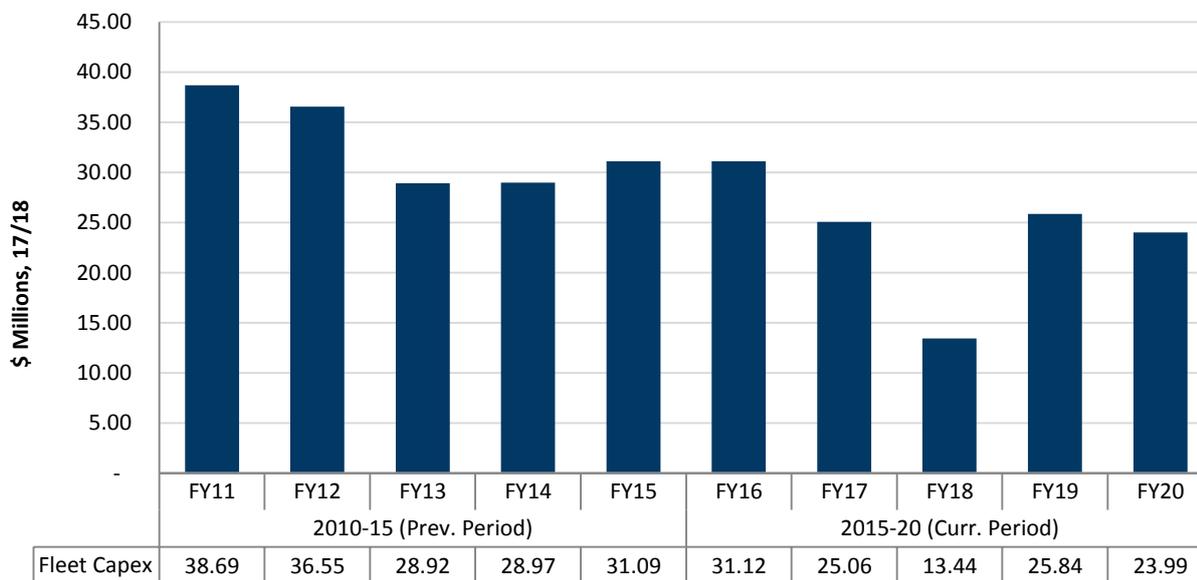
Figure 4.1



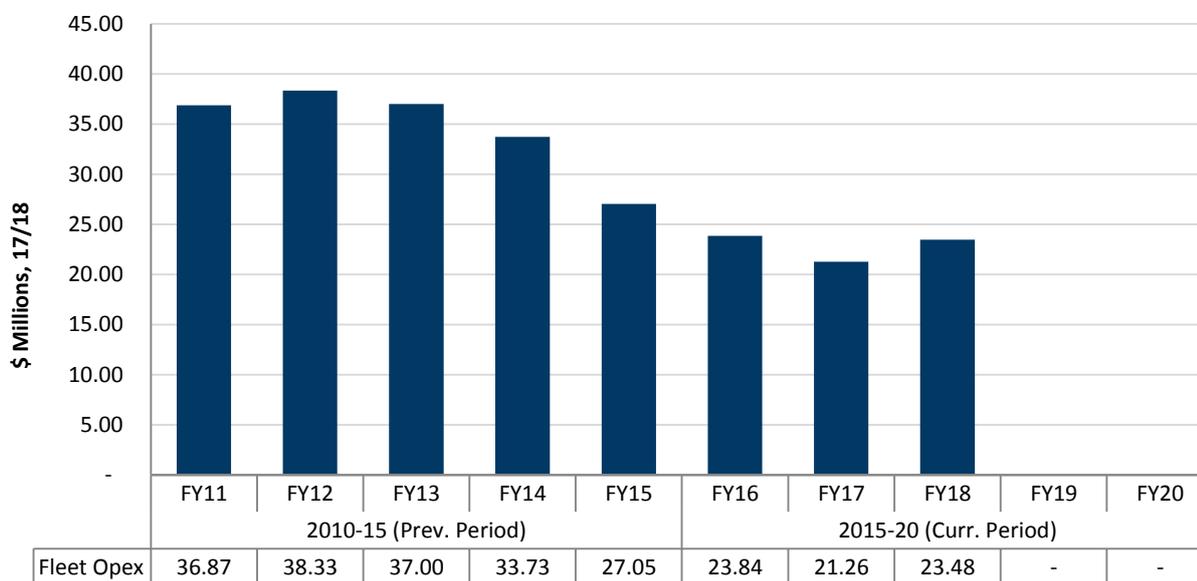
5 Historical Fleet Capital and Operational Expenditure Performance

The following graphs (5.1, 5.2, 5.3 and 5.4) provide an overview of the actual and forecast CAPEX and OPEX spend for the 2010-2015 and 2015-2020 periods shown in as reported 2017/18 \$'s.

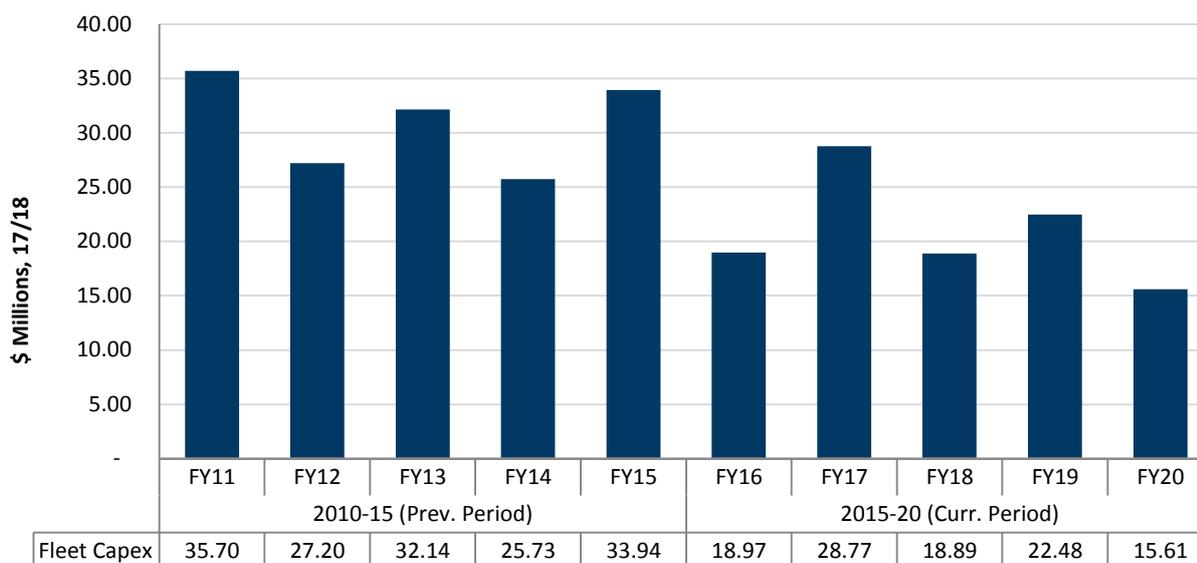
Graph 5.1 Ergon Energy Fleet Capital Expenditure Trend



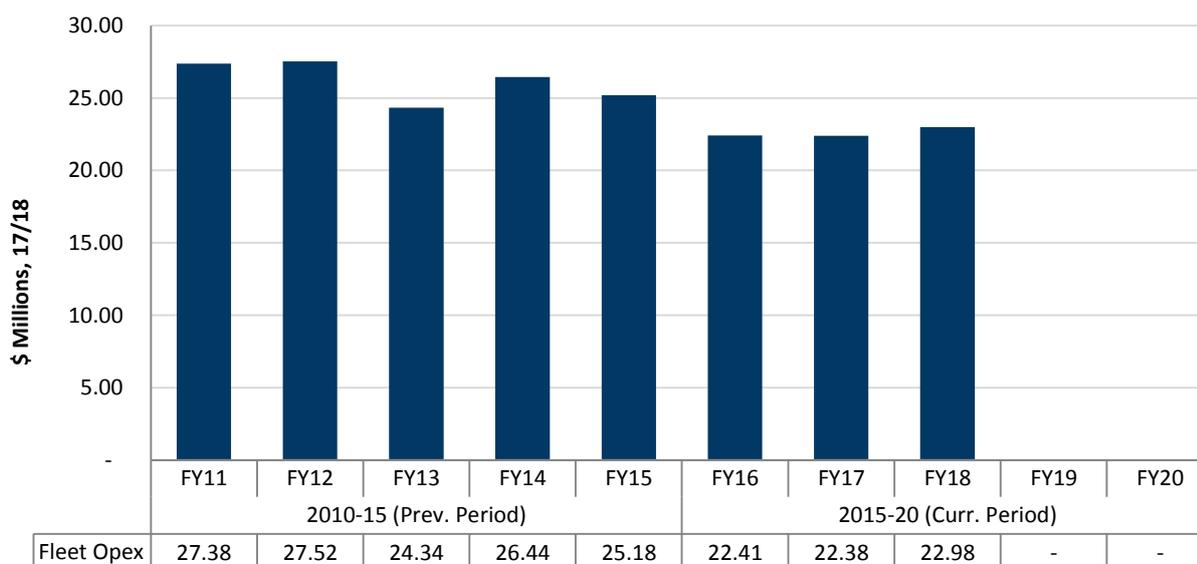
Graph 5.2 Ergon Energy Fleet Operational Expenditure Trend



Graph 5.3 Energex Fleet Capital Expenditure Trend



Graph 5.4 Energex Fleet Operational Expenditure Trend



The below tables (5.1 and 5.2) detail the historical fleet units held at the end of each financial year for Ergon Energy and Energex.

Table 5.1 Ergon Energy Fleet Units Held

Ergon Energy	Jun-12	Jun-13	Jun-14	Jun-15	Jun-16	Jun-17
Car	206	175	133	96	71	60
Light Commercial Vehicles	1,009	1,037	926	936	888	861
Heavy Commercial Vehicles	237	246	241	232	219	213
MEWP HCV	205	214	209	216	203	201
Crane Borer Plant	82	76	73	75	69	66
Other	840	851	857	862	842	810
Total	2,579	2,599	2,439	2,417	2,292	2,211

Table 5.2 Energex Fleet Units Held

Energex	Jun-12	Jun-13	Jun-14	Jun-15	Jun-16	Jun-17
Car	442	364	323	298	265	241
Light Commercial Vehicles	686	648	631	613	615	651
Heavy Commercial Vehicles	289	277	259	250	243	245
MEWP HCV	254	245	244	243	239	232
Crane Borer Plant	23	23	23	23	24	24
Other	436	465	461	461	460	458
Total	2,130	2,022	1,941	1,888	1,846	1,851

6 Fleet Asset Management Strategy Statement

The aim of the Fleet Asset Management Strategy is to provide fleet assets which meet business requirements based on the principle of fit-for-purpose assessment considering safety, industry standards, business priorities and cost efficiency. Requirements for fleet are assessed following a documented business case outlining the business requirements, alternatives and cost-effectiveness.

7 Fleet Asset Drivers

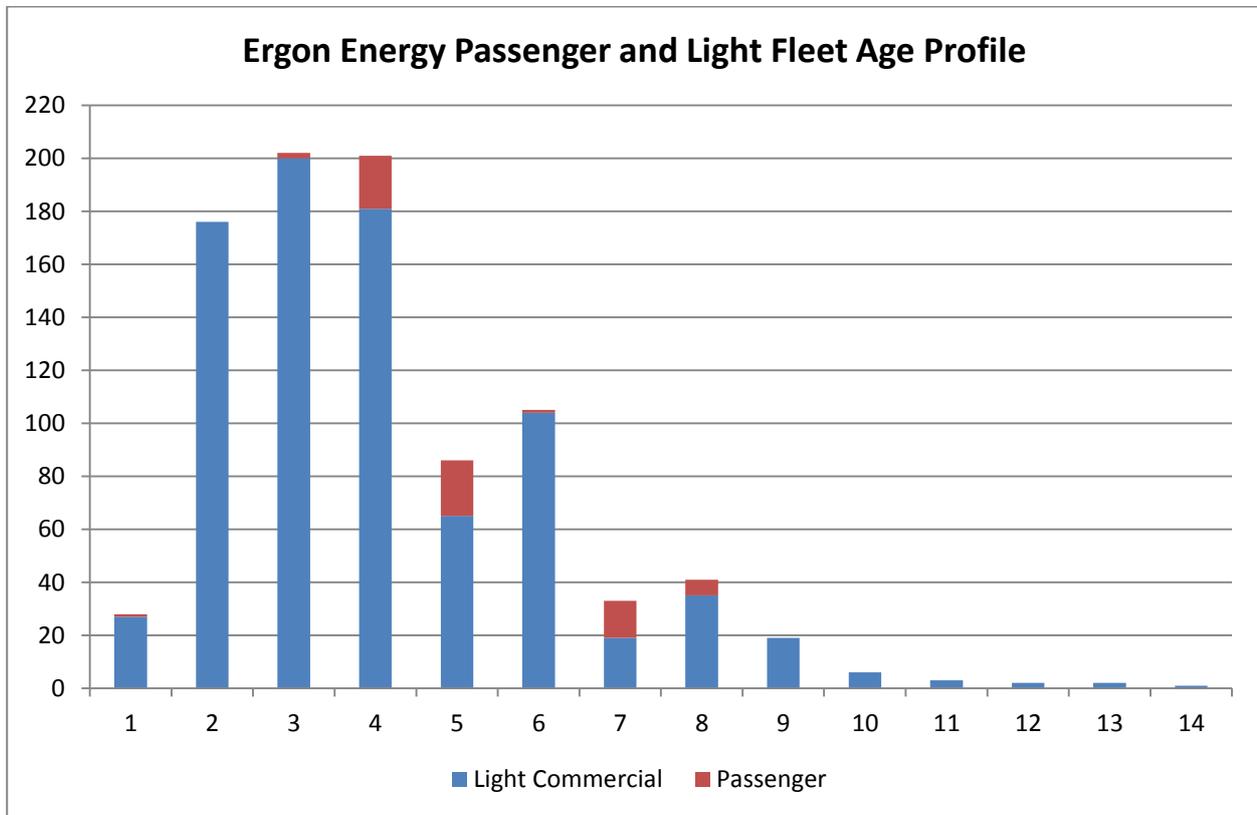
As an enabler to business operational requirements, fleet assets are linked to System Program of Work (PoW), crewing structure and composition, tasks undertaken and related work practices. Fleet assets are utilised by the business to undertake construction, maintenance and service activities and to enable support services to deliver core distribution business functions.

To enable this, EQL requires access to a considerable and diverse range of Fleet Assets. The main factors that affect the capital and operational expenditure on fleet are:

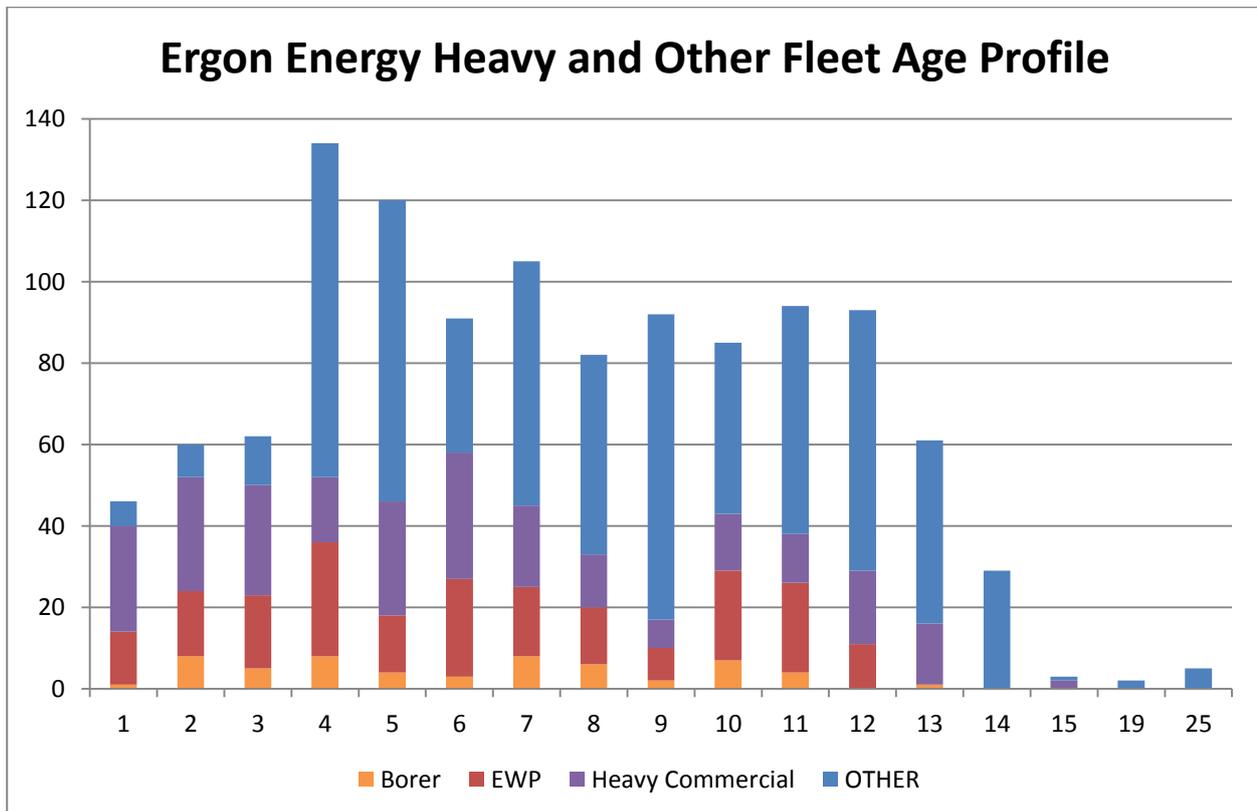
- The forecast demand for vehicles and mobile plant and changes to the PoW and associated work practices;
- Compliance to Federal and State Regulatory requirements i.e. Australian Design Rules, Heavy Vehicle National Law (including Chain of Responsibility) and Australian and International Standards, Environmental Emissions Regulations;
- The appropriateness of the current fleet composition and the remaining useful, economic life;
- Compliance to original equipment manufacturer's (OEM's) scheduled maintenance, inspection and inspection regimes;
- Fuel price; and
- Emerging technologies such as electric and hybrid electric vehicles.

The following graphs (7.1, 7.2, 7.3 and 7.4) provide an age profile of the current asset base for Ergon Energy and Energen.

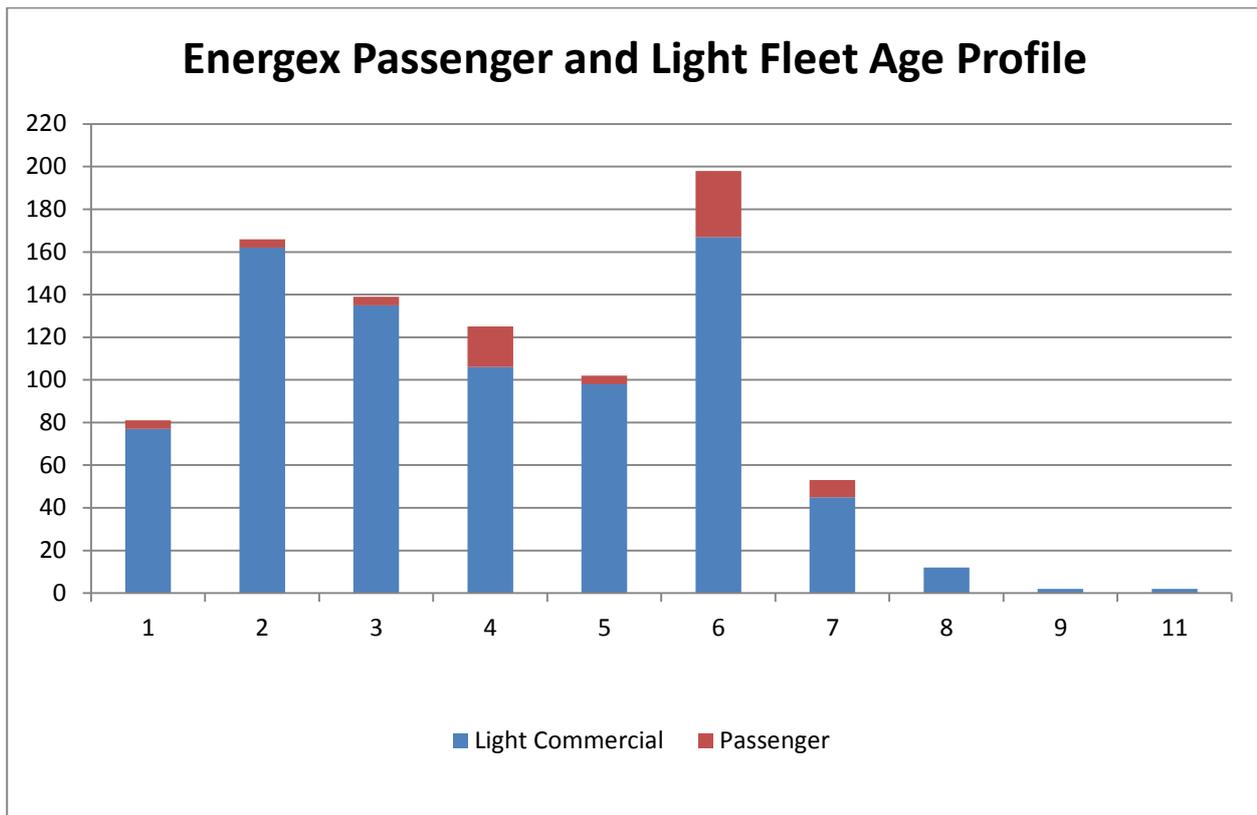
Graph 7.1 Ergon Energy Passenger and Light Commercial Fleet Age Profile



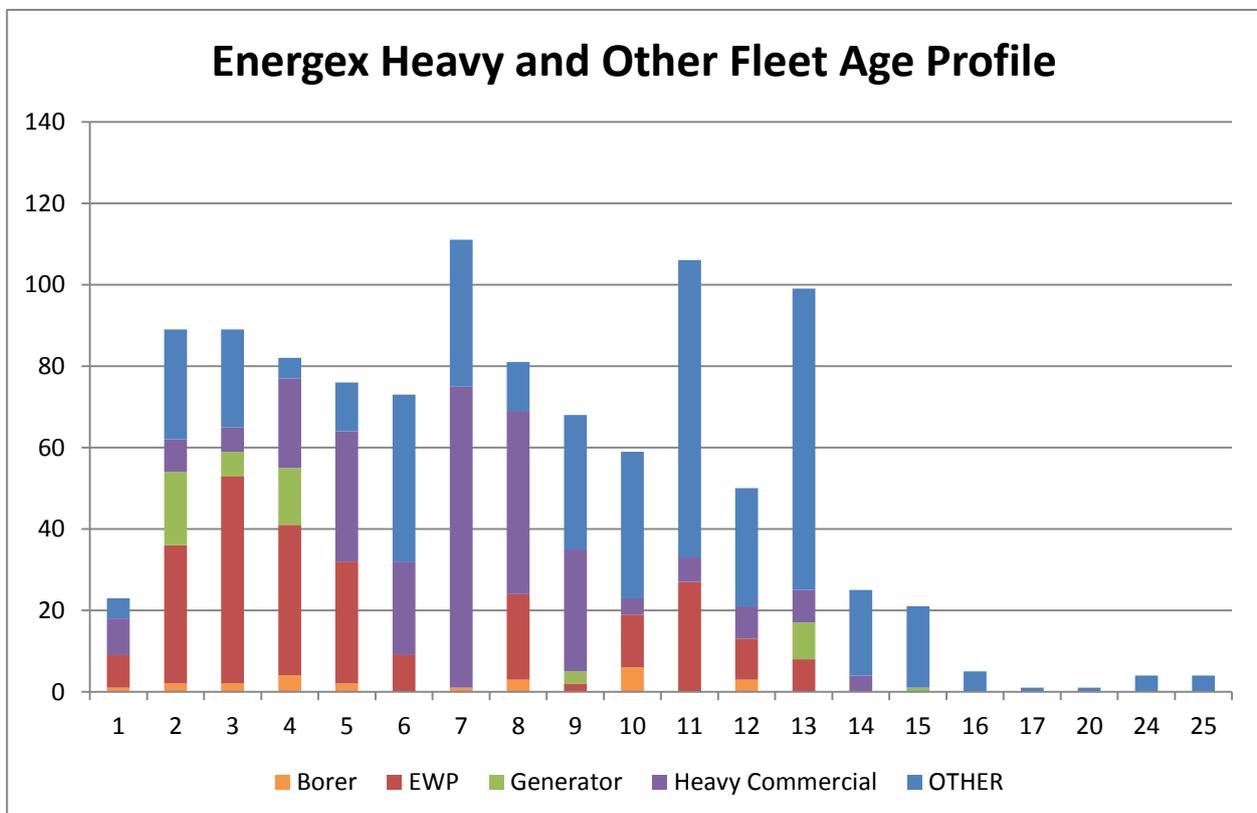
Graph 7.2 Ergon Energy Heavy and Other Fleet Age Profile



Graph 7.3 Energex Passenger and Light Commercial Fleet Age Profile



Graph 7.4 Energex Heavy and Other Fleet Age Profile



Fleet Asset Management Strategy 2020-2025



The forecast fleet capital program for the 2020-25 regulatory period has been derived applying the principles set out above and is based on a like-for-like replacement considering age and condition of existing assets and is detailed in tables 7.1, 7.2, 7.3 and 7.4 (note: figures in 7.2 and 7.4 are in as reported 2017/18 \$s).

Table 7.1 Ergon Energy Fleet Replacement Volumes

Ergon Energy	2020-21	2021-22	2022-23	2023-24	2024-25	2020-25
Car	9	8	7	-	9	33
Crane Borer	7	17	6	15	13	58
Elevated Work Platform	28	24	45	37	42	176
Heavy Commercial Vehicle	51	48	58	43	51	251
Light Commercial Vehicle	150	138	115	118	129	650
Other	67	93	92	65	110	427
Generators	9	10	6	7	5	37
Total	321	338	329	285	359	1,632

Table 7.2 Ergon Energy Fleet Replacement Capital Expenditure

Ergon Energy	2020-21	2021-22	2022-23	2023-24	2024-25	2020-25
Car	284,319	241,764	204,706	-	288,495	1,019,284
Crane Borer	2,185,700	4,956,171	1,798,489	4,692,414	4,139,897	17,772,671
Elevated Work Platform	6,278,704	5,187,862	10,362,027	8,888,881	9,616,485	40,333,959
Heavy Commercial Vehicle	7,670,681	6,452,089	8,236,983	6,093,053	7,217,172	35,669,978
Light Commercial Vehicle	9,530,942	7,985,671	6,641,153	7,179,273	7,376,392	38,713,431
Other	3,946,106	4,190,228	3,598,354	2,614,890	4,066,453	18,416,031
Generators	2,903,549	3,086,215	1,258,288	1,641,490	335,106	9,224,648
Total	32,800,000	32,100,000	32,100,000	31,110,000	33,040,000	161,150,000

Table 7.3 Energex Fleet Replacement Volumes

Energex	2020-21	2021-22	2022-23	2023-24	2024-25	2020-25
Car	6	12	12	6	12	48
Crane Borer	2	1	1	2	3	9
Elevated Work Platform	10	18	14	44	37	123
Heavy Commercial Vehicle	11	33	22	34	32	132
Light Commercial Vehicle	114	131	82	91	131	549
Other	31	34	72	34	39	210
Generators	15	1	1	-	9	26
Total	189	230	204	211	263	1,097

Table 7.4 Energex Fleet Replacement Capital Expenditure

Energex	2020-21	2021-22	2022-23	2023-24	2024-25	2020-25
Car	268,751	537,502	537,502	268,751	537,502	2,150,008
Crane Borer	1,120,111	498,791	582,310	1,362,105	1,665,709	5,229,026
Elevated Work Platform	1,377,186	6,202,182	7,445,930	15,335,967	12,637,540	42,998,805
Heavy Commercial Vehicle	1,571,828	4,798,019	3,968,299	5,279,403	4,438,599	20,056,148
Light Commercial Vehicle	5,483,379	5,833,942	4,105,704	4,575,758	6,220,906	26,219,688
Other	783,160	1,260,879	2,480,068	1,898,016	1,632,941	8,055,064
Generators	5,095,587	68,686	80,187	-	3,276,804	8,521,264
Total	15,700,000	19,200,000	19,200,000	28,720,000	30,410,000	113,230,000

The above forecasts will deliver against the Category Replacement Strategies and give consideration to the Criticality Matrix ([Annex B – Criticality Matrix](#)).

The forecast fleet operating expenditure for the 2020-25 regulatory period has also been derived by applying the principles set out in this strategy and is outlined in tables 7.5 and 7.6 (note: all figures are in as reported 2017/18 \$s).

Table 7.5 Ergon Energy Fleet Operating Expenditure

Ergon Energy	2020-21	2021-22	2022-23	2023-24	2024-25	2020-25
OPEX	24,339,094	23,813,067	23,085,210	23,085,210	23,398,955	117,721,536

Table 7.6 Energex Fleet Operating Expenditure

Energex	2020-21	2021-22	2022-23	2023-24	2024-25	2020-25
OPEX	21,496,091	20,887,905	20,075,855	20,075,855	20,075,855	102,611,561

8 Fleet Asset Measures

Delivery of the strategy is monitored and measured by the indicators listed in the table below:

Indicator	Description
Finance	Capital Expenditure (CAPEX) Operating Expenditure (OPEX) Proceeds or Losses on Disposal
Safety	Corrective Action Plans (CAPs) Incidents and Infringements
Compliance	Compliance with Legislation – quarterly and annual inspections Certificate Of Inspection Major Inspections of EWP and cranes Vehicles Over Due for Service Manufacturer/ Supplier Recalls/ Bulletins
Performance	Fleet Composition – Assets, Leased and Hire vehicles Delivery of Annual Capital Replacement Programs Fleet Age Profile Fleet Asset to Employee Ratio Fleet Optimisation
Partnering	Supplier / Manufacturer Performance Maintenance Service Provider Performance Fleet Improvement Forum - Strategy End User Engagement
Environment	National Greenhouse and Energy Reporting (NGER)

9 Relationship Management

Critical to EQL meeting its corporate strategy is being able to have effective relationships between internal business units and external organisations that foster productive outcomes. EQL actively engages suppliers and service providers that add value through the introduction of improved technologies, practices and processes. Supplier and service provider performance is routinely monitored to develop and retain a consistently high standard of fit-for-purpose products and services.

EQL will continue to engage with peer organisations to conduct product review and benchmarking activities to identify opportunities to increase efficiencies, improve functionality and safety performance and reduce costs.

10 Fleet Asset Management Process

A lifecycle approach is taken to fleet asset management. The Fleet Asset Management Process aligns to AS/NZS ISO 9001:2016 Quality Management Systems (QMS).



This strategic plan supports the AER period 2020-2025 to provide the strategies to deliver prudent financial and operational outcomes and additionally considers impacts for future regulatory periods. The procurement, commissioning and maintenance of fleet assets adhere to EQL corporate goals of managing its duty of care to employees and community safety. This is achieved by ensuring fleet assets comply with all legislative, regulatory (including environmental) and Original Equipment Manufacturer (OEM) requirements. Further to this, EQL maintains a Register of Health and Safety Legislative Obligations and routinely reviews and monitors the fleet environment for changes.

The replacement strategy for the fleet asset categories utilised by EQL can be found in Annex A - Fleet Asset Replacement Matrix. EQL in conjunction with the external Fleet Maintenance Administrator monitors operational expenditure (OPEX) to identify assets that are outside the industry norm and may require early intervention. The procurement of all fleet assets adheres to EQL's purchasing policies, guidelines and procedures through a combination of tenders, contracts, accessing Government supply arrangements and quotations.

These strategies and asset life cycles are developed in consultation with vehicle and plant manufacturers, fleet management experts and utility forums to determine best practice. This benchmarking formulates the input into the bottom-up replacement forecast which is continuously refined to ensure optimal return on investment.

EQL will continue to standardise the range of fit-for-purpose fleet assets provided to support the broad range of activities undertaken to build and maintain the distribution network. Fleet asset utilisation is reviewed on a quarterly basis in conjunction with the external Fleet Administrator. EQL is committed to investigating emerging technology which will aid in supporting this and assist in

monitoring asset operational performance. Further to this, EQL has and will continue to implement pooled vehicle arrangements where utilisation patterns make such arrangements commercially viable.

Annex A - Fleet Asset Replacement Matrix

Category	Replacement Profile KM or AGE	Replacement Age	Replacement Kilometres	
Passenger Vehicles	KM	7	120,000	<ul style="list-style-type: none"> Asset maintenance costs monitored Review utilisation of current fleet for opportunities to implement asset reduction strategies. Implemented a vehicle pool where utilisation patterns deem commercially viable
2WD Commercial Vehicles	KM	7	140,000	
4WD Commercial Vehicles	KM	7	140,000	
2WD and 4WD Redeployed Vehicles (Remote Locations)	AGE	Assessed upon annual condition report	-	
Truck – Light Rigid	KM	7	175,000	<ul style="list-style-type: none"> Asset maintenance costs monitored Review utilisation of current fleet for opportunities to implement asset reduction strategies.
Truck – Medium Rigid	KM	15 Excluding Trucks with Plant	250,000	
Truck – Heavy Rigid	KM	15 Excluding Trucks with Plant	250,000	
Crane Borer and Truck Chassis	AGE3	10	-	<ul style="list-style-type: none"> Asset maintenance costs monitored Review utilisation of current fleet for opportunities to reduce the number of assets. Conduct a 10-year major inspection (YMI) based on a condition assessment of the Crane Borer assets extending the life of both the plant and the truck to 15 years. Units will be retained in the vehicle pool for rotation when rebuilds are in progress or to supplement peaks in the work program. Units undergoing major inspection will be reallocated in accordance with business requirements.

Fleet Asset Management Strategy 2020-2025



Elevating Work Platforms and Truck Chassis	AGE	10	-	<ul style="list-style-type: none"> Asset maintenance costs monitored Review utilisation of current fleet for opportunities to reduce the number of assets. Conduct a major inspection a 10 YMI based on a condition assessment of the MEWP assets 14 metres and greater extending life of both the plant and the truck to 15 years. Units will be retained in the vehicle pool or source hire fleet for rotation when rebuilds are in progress or to supplement peaks in the work program. Units undergoing major inspection will be reallocated in accordance with business requirements.
Self-Propelled Elevating Work Platform and Transport Trailer	AGE	7	-	<ul style="list-style-type: none"> Asset maintenance costs monitored Review utilisation of current fleet for opportunities to implement asset reduction strategies.
Forklift - Fuel	AGE	15	-	<ul style="list-style-type: none"> Asset maintenance costs monitored Review utilisation of current fleet for opportunities to implement asset reduction strategies.
Forklifts – Battery	AGE	10	-	
Vehicle Loading Cranes – Single Knuckle	AGE	7 or 10	-	<ul style="list-style-type: none"> Asset maintenance costs monitored Review utilisation of current fleet for opportunities to implement asset reduction strategies. Light Rigid Truck 7 years Medium and Heavy Rigid Trucks 10 years
Vehicle Loading Cranes – Double Knuckle	AGE	15	-	<ul style="list-style-type: none"> Asset maintenance costs monitored Review utilisation of current fleet for opportunities to implement asset reduction strategies. Conduct a 10 YMI on VLCs fitted to medium and heavy rigid trucks based on a condition assessment extending the life of both the plant and the truck to 15 years
Trailers: <ul style="list-style-type: none"> Box Boat Caravan 	AGE	15	-	<ul style="list-style-type: none"> Asset maintenance costs monitored Review utilisation of current fleet for opportunities to implement asset reduction strategies. Extension of life from 10 to 15 years in consideration

Fleet Asset Management Strategy 2020-2025



<ul style="list-style-type: none"> • Plant • Single Pole • Tipping • Tool • Winch • Self-Loading Cable 				to maintenance costs.
Trailers: <ul style="list-style-type: none"> • Multi-Pole • Semi 	AGE	20	-	<ul style="list-style-type: none"> • Asset maintenance costs monitored • Review utilisation of current fleet for opportunities to implement asset reduction strategies.
Mini Loader/ Trencher and Transport Trailer	AGE	12	-	<ul style="list-style-type: none"> • Asset maintenance costs monitored • Review utilisation of current fleet for opportunities to implement asset reduction strategies.
Wheeled Loader	AGE	15	-	<ul style="list-style-type: none"> • Asset maintenance costs monitored • Review utilisation of current fleet for opportunities to implement asset reduction strategies.
Light Plant: <ul style="list-style-type: none"> • All-Terrain Vehicle • Winches • Compressors • Boat 	AGE	15	-	<ul style="list-style-type: none"> • Asset maintenance costs monitored • Review utilisation of current fleet for opportunities to implement asset reduction strategies.
Mobile Generators	AGE	10	-	<ul style="list-style-type: none"> • Asset maintenance costs monitored • Review utilisation of current fleet for opportunities to implement asset reduction strategies. • A condition-based assessment undertaken at 10 years to determine if replace or refurbish.

Annex B – Fleet Asset Criticality Matrix

The criticality matrix provides identification of asset types and their impact to the delivery of Energy Queensland in achieving its Corporate Strategy to “safely deliver secure, affordable and sustainable energy solutions with our communities and customers”.

Business / Community Impact	Vehicle and or Mobile Plant Type	Impact Definition
Severe	Crane Borer (including GP) MEWP - Insulated Heavy Rigid Trucks > 16T GVM Medium Rigid Truck 8T to 16T GVM (When fitted with Critical plant) *Light Rigid Truck 4.5T to 8T GVM *4WD Light Commercial Vehicle *4WD Light Service Truck Trailer – NOMAD Trailer – Generation Trailer – Pole	The absence of these Fleet Assets will critically impact the business through: Distribution Services. Cessation or delay of both planned and unplanned work. Community. Delay in response to a disaster or an increased community risk of exposure to fallen/damaged power lines. People. Under-utilised resources (crews) Fleet. Difficult to replace at short notice due to: <ul style="list-style-type: none"> • Long replacement lead time, • Availability of replacement hire equipment
* Denotes vehicle platform critical to business operations and utilised as a first response vehicle		
High	EWP – Uninsulated SPMEWP & Scissor Lift Heavy Rigid Truck >16T GVM Medium Rigid Truck 8T to 16T GVM Light Rigid Truck 4.5T to <8T GVM 4WD Light Commercial Vehicle 4WD Light Service Truck Forklift Mobile Crane – Franna Vehicle Loading Cranes Single/ Double Knuckle Plant Winch Trailer – Self Loading Cable Trailer – Plant Transport	The absence of these Fleet Assets may significantly impact business operations. Business impact is reduced from critical Fleet Assets as these vehicles: Distribution Services. Delay of planned work. Delay in scoping unplanned work. Community. Planned outages exceeding duration impacting on community safety. People. Under-utilised resources (crew) Fleet. Lower than the critical impact to Fleet operations due to: <ul style="list-style-type: none"> • More readily available for hire (LCV) • More Vehicles per depot
Moderate	2WD LCV Passenger Vehicle Utility Terrain Vehicle Light Plant - Trencher/Loader/Compressor Trailer – Box Trailer Cable Trailer Equipment Trailer - Tipper	The absence of these Fleet Assets are able to be managed in the short-term but will have an impact on business operations if not remedied in a timely manner. Typically these Fleet Assets are commercially available vehicles and trailers that support business operations and are available for hire.