

STRATEGY

GENERAL TOOLS & EQUIPMENT ASSET CLASS STRATEGY

JEN ST 0105

Revision Number: 3.0

Revision Date: 29/11/2019

AUTHORISATION

REVIEWED BY

Name	Job Title	Signature	Date
	Electricity Asset Investment Manager		

Approved by

Name	Job Title	Signature	Date
	GM Strategy & Commercial		

INTERNAL

© Jemena Limited. All rights reserved. Copyright in the whole or every part of this document belongs to Jemena Limited, and cannot be used, transferred, copied or reproduced in whole or in part in any manner or form or in any media to any person other than with the prior written consent of Jemena.

Printed or downloaded copies of this document are deemed uncontrolled



DOCUMENT HISTORY

Revision	Date	Author	Description of Changes
1.0	11/09/2012		First Issue.
2.0	03/04/2015		Update of position titles and minor process changes due to rollout of BTP.
2.1	24/08/2015		Document reclassified from Public to Internal. Public classification relates to the regulatory review process only.
3.0	29/11/2019		Review and update.

OWNING FUNCTIONAL GROUP & DEPARTMENT / TEAM

Electricity Distribution : Strategy & Commercial : Electricity Asset Investment

REVIEW DETAILS

Review Period: Review Date + 2 years

Next Review Due: December 2021

TABLE OF CONTENTS

EXECUTIVE SUMMARY	4
1 INTRODUCTION	5
1.1 PURPOSE / OBJECTIVES	5
1.2 ASSET MANAGEMENT SYSTEM	5
1.3 DESCRIPTION OF ASSETS COVERED	5
1.3.1 CLASS 1 GENERAL TOOLS AND EQUIPMENT	5
1.3.1.1 BUSINESS RULES	6
1.3.2 CLASS 2 GENERAL TOOLS AND EQUIPMENT	7
1.3.2.1 BUSINESS RULES	7
1.3.3 CLASS 3 GENERAL TOOLS AND EQUIPMENT	8
1.3.3.1 BUSINESS RULES	9
1.3.4 CLASS 4 GENERAL TOOLS AND EQUIPMENT	9
1.3.4.1 BUSINESS RULES	9
1.4 GOVERNANCE	10
1.4.1 APPROVAL AND COMMUNICATIONS	10
1.4.2 RESPONSIBILITIES	10
2 STRATEGIC DRIVERS.....	11
3 ASSET CLASS OBJECTIVES.....	12
3.1 GROUP STRATEGY	12
3.2 ASSET CLASS OBJECTIVES	13
3.3 ASSET CLASS PERFORMANCE	13
3.3.1 REQUIREMENTS	13
3.3.1.1 LIFE EXPECTANCY	13
3.4 LIFE CYCLE MANAGEMENT.....	14
3.4.1 CREATION	14
3.4.1.1 ACCOUNTING MANAGEMENT	14
3.4.1.2 PROCUREMENT APPROACH.....	14
3.4.2 ASSET OPERATION AND MAINTENANCE	15
3.4.3 ASSET REPLACEMENT/DISPOSAL	15
3.4.3.1 LIFTING EQUIPMENT.....	15
3.4.3.2 TOOLS & EQUIPMENT CONTAINING FLUIDS	16
4 CONSOLIDATED PLAN	17
4.1 CAPITAL FORECAST	17
5 TERMS AND DEFINITIONS	18

EXECUTIVE SUMMARY

This Asset Class Strategy (ACS) is for JEN's tools and equipment. Tools and equipment used on the Jemena Electricity Network (JEN) are classified as below:

Class 1 – valued up to a maximum of \$1,500 per unit and replaced every 2-3 years.

Class 2 – range in value from \$1,501 up to \$6,000 per unit and are replaced every 3-5 years.

Class 3 – range in value from \$6,001 up to \$50,000 are replaced every 5-10 years.

Class 4 – valued over \$50,000 and replaced every 5-10 years.

JEN is required to maintain general tools and equipment numbers at the optimum levels to meet the requirements of JEN activities and optimise economic performance.

The purpose of this document is to guide the lifecycle management of general tools and equipment that are owned by JEN, including procurement, usage and disposal.

1 INTRODUCTION

JEN requires various tools and equipment to assist its operations teams to deliver capital, maintenance and operational activities on the JEN. Equipment is assigned and managed by the relevant operations team managers.

Overhead, Substations, Network Operators and Underground Cables operations teams have the responsibility of assessing/evaluating, procuring, managing and disposing of JEN tools and equipment as detailed within this strategy document.

JEN is required to maintain general tools and equipment numbers at the optimum levels to meet the requirements of the JEN activities and optimise economic performance.

1.1 PURPOSE / OBJECTIVES

The purpose of this document is to provide guidance to the actions that must be undertaken when procuring, managing and disposing of general tools and equipment that are owned by Jemena Electricity Networks (JEN).

The objective of this strategy is to demonstrate that a clear and consistent approach is adopted for budgeting, procuring, managing and disposing of the JEN general tools and equipment, including:

- Approval process;
- Equipment classifications;
- Procurement process;
- General tools and equipment life cycles; and
- Disposal processes.

1.2 ASSET MANAGEMENT SYSTEM

The Tools & Equipment Asset Class Strategy creates a line of sight between the Group Strategy and JEN's Asset Business Strategy through to the associated Asset Investment Plan.

The purpose of this document is to ensure that asset class performance, cost and risks are analysed, so that the optimum strategy and plans are developed to meet Jemena's Business Plan.

A detailed description of Jemena's Asset Management System and its constituent parts is available in the JEM AM MA 0001 Jemena Asset Management System Manual.

1.3 DESCRIPTION OF ASSETS COVERED

This strategy applies to any general tools and equipment that are owned by JEN. Full descriptions of the assets are provided in sections 1.3.1 to 1.3.4 of this strategy.

1.3.1 CLASS 1 GENERAL TOOLS AND EQUIPMENT

Class 1 general tools and equipment are valued up to a maximum of \$1,500 per unit and replaced every 2-3 years.

The Class 1 general tools and equipment category includes, but is not limited to:

- Battery drills
- Impact wrenches/guns
- Multimeter
- Bonders, hoppers & earthing short circuits
- Hand crimpers
- Ladders
- Electric drill
- Digital camera
- Harness and lanyards
- Chainsaw
- Diamond cutters
- HSE i.e. covers mats, barriers, gloves
- Telescopic sticks
- Impact drills
- Cable rollers

NB – Any purchases not included in the table above for general tools and equipment below \$1,500 per unit shall be assessed for appropriateness by the Electricity Maintenance Manager for approval to procure the tool or equipment.

The general tools and equipment outlined within this category all reside at the depots, sites or on vehicles. General tools and equipment listed are classified as low cost, high use items. This equipment is generally estimated to have a life cycle of 2-3 years due to normal use general wear and tear and it is recommended that items are replaced within this timeframe. Extending beyond these timeframes may lead to:

- Decrease in asset reliability;
- Total failure of asset;
- Excessive repair/maintenance costs;
- Asset will not be up to date with the latest safety features and technology;
- Increased safety risks to users.

1.3.1.1 *Business Rules*

The following are key business rules regarding Class 1 general tools and equipment:

- For budgeting purposes, the average lifespan retained is 2.5 years per Class 1 general tools and equipment listed in the asset register. The estimation shall then be adjusted accordingly to the 5-year volume of work forecast;
- In practice these equipment items (exception made for safety equipment) will be run to failure and replaced if the cost of repair is likely to be above 25% of the replacement cost;
- The replacement of safety equipment shall comply with safety and regulatory requirements; and

- Planned purchases for a given calendar year are required to be documented in the business case for the year delivery is expected to take place.

1.3.2 CLASS 2 GENERAL TOOLS AND EQUIPMENT

Class 2 general tools and equipment range in value from \$1,501 up to \$6,000 per unit and are replaced every 3-5 years.

The Class 2 general tools and equipment category includes, but is not limited to:

- 5kV insulation resistance tester
- Impact socket drivers 1/2"
- Hydraulic cutters
- Hydraulic crimper
- Jump start pack
- ABC crimpers
- Demo saw
- Concrete saw
- Angle roller
- Peru augers
- Herc alloy chains
- Traffic control equipment
- Generators
- Phase angle meters
- Phase rotation meters
- Earth resistance tester

NB – Any purchases not included in the table above for general tools and equipment above \$1,500 per unit but below \$6,000 per unit shall be assessed for appropriateness by the Electricity Maintenance Manager for approval to procure the tool or equipment.

The general tools and equipment outlined within this category all reside at the depots, sites or on vehicles. General tools and equipment listed are classified as medium cost, high use items. This equipment is generally estimated to have a life cycle of 3-5 years due to normal use general wear and tear and it is recommended that items are replaced within this timeframe. Extending beyond these timeframes may lead to:

- Decrease in asset reliability;
- Total failure of asset;
- Excessive repair/maintenance costs;
- Asset will not be up to date with the latest safety features and technology;
- Increased safety risks to users.

1.3.2.1 Business Rules

The following are key business rules regarding Class 2 general tools and equipment:

- For budgeting purposes, the average lifespan retained is 4 years per Class 2 general tools and equipment listed in the asset register. The estimation shall then be adjusted accordingly to the 5-year volume of work forecast;
- In practice these equipment items (exception made for safety equipment) will be run to failure and replaced if the cost of repair is likely to be above 40% of the replacement cost;
- The replacement of safety equipment shall comply with safety and regulatory requirements; and
- Planned purchases for a given calendar year are required to be documented in the business case for the year delivery is expected to take place.

1.3.3 CLASS 3 GENERAL TOOLS AND EQUIPMENT

Class 3 general tools and equipment range in value from \$6,001 up to \$50,000 are replaced every 5-10 years.

The Class 3 general tools and equipment category includes, but is not limited to:

- Seismaphone (directional) duel probe
- Time domain reflectometers
- Cable tracers – VLOC
- Heavy current test set
- Battery ground fault locator
- Sverker relay test instrument
- Ductor - micro ohm meter
- CB timing profiler
- Battery tester
- CT analyser
- Cable fault locator (FLIRT)
- Partial discharge units
- Acoustic instruments
- Transformer ohmmeter

NB – Any purchases not included in the table above for general tools and equipment above \$6,000 per unit but below \$50,000 per unit shall be assessed for appropriateness by the Electricity Maintenance Manager for approval to procure the tool or equipment.

The general tools and equipment outlined within this category all reside at the depots, sites or on vehicles. General tools and equipment listed are classified as high cost, high use, long life items. This equipment is generally estimated to have a life cycle of 5-10 years due to normal use general wear and tear and it is recommended that items are replaced within this timeframe. Extending beyond these timeframes may lead to:

- Decrease in asset reliability;
- Total failure of asset;
- Excessive repair/maintenance costs;
- Asset will not be up to date with the latest safety features and technology.

1.3.3.1 Business Rules

The following are key business rules regarding Class 3 general tools and equipment:

- For budgeting purposes, the average lifespan retained is 8 years per Class 3 general tools and equipment listed in the asset register. The estimation shall then be adjusted accordingly to the 5-year volume of work forecast;
- In practice these general tools and equipment items (exception made for safety equipment) will:
 - Have documented proactive maintenance plans to maximise lifespan
 - Be run to failure and replaced if the cost of repair is likely to be above 50% of the replacement cost;
- The replacement of safety equipment shall comply with safety and regulatory requirements; and
- Planned purchases for a given calendar year are required to be documented in the business case for the year delivery is expected to take place.

1.3.4 CLASS 4 GENERAL TOOLS AND EQUIPMENT

Class 4 general tools and equipment range are valued over \$50,000 and replaced every 5-10 years.

The Class 4 general tools and equipment category includes, but is not limited to:

- VLF test set HV diagnostics
- F6250 Doble – protection test set
- Omicron – test set
- Power cable fault locator

NB – Any purchases not included in the table above for general tools and equipment above \$50,000 per unit shall be assessed for appropriateness by the Electricity Maintenance Manager for approval to procure the tool or equipment.

1.3.4.1 Business Rules

The following are key business rules regarding Class 4 general tools and equipment:

- For budgeting purposes, the average lifespan retained is 8 years per Class 4 general tools and equipment listed in the asset register. The estimation shall then be adjusted accordingly to the 5-year volume of work forecast and changes in technologies.
- In practice these general tools and equipment items (exception made for safety equipment) will:
 - Have documented proactive maintenance plans to maximise lifespan
 - Be run to failure and replaced if the cost of repair is likely to be above 60% of the replacement cost.
- The replacement and maintenance of safety equipment shall comply with safety and regulatory requirements.
- Planned replacements of existing equipment for a given calendar year are required to be documented in the business case for the year delivery is expected to take place.
- A dedicated business case (explaining the rationale and options considered to respond to the business needs) shall be submitted for approval to the Electricity Asset Investment

Manager to justify the acquisition of new Class 4 equipment (as opposed to replacement of existing Class 4 equipment). This might for example entail the procurement of new type of technology for testing underground cable systems.

1.4 GOVERNANCE

1.4.1 APPROVAL AND COMMUNICATIONS

This ACS is reviewed annually every two years in order to ensure ongoing alignment with the Group Strategy and JEN ABS, and to account for any new asset performance and risk information. This document is owned by the JEN Asset Investment Team.

1.4.2 RESPONSIBILITIES

The following personnel assume the primary responsibility for the activities covered by this document:

Table 1-1: Roles and responsibilities relating to general tools and equipment

Position Title	Responsibilities
Electricity Asset Investment Manager	<p>Endorse JEN General Tools and Equipment Budget and Business Cases.</p> <p>Monitor program status to ensure funds are allocated and spent within the prescribed calendar year.</p>
Operations Manager	<p>Ensure requests for new types of equipment are in accordance with the current strategy.</p> <p>Facilitate the management and maintenance of the General Tools and Equipment Asset Register database and undertake an annual audit to confirm the location and condition of general tools and equipment assets.</p> <p>Facilitate the assessment of the general tools and equipment that are intended to be procured or disposed. Ensure that the general tools and equipment forecast is up to date and accurate at all times.</p> <p>Ensure the use of sound and rigorous procurement processes that maximise the efficiency in JEN's investment in Tools and Equipment.</p> <p>Ensure that the goods match the specified requirements.</p> <p>Assist the operations teams with making final purchasing recommendations.</p> <p>Manage the general tools and equipment end of life disposal process.</p> <p>Coordination and seasonalisation of forecast in the PIM for current calendar year.</p> <p>Coordinate the procurement and disposal function in accordance with Jemena's Procurement Policy and Delegation of Financial Authority (DFA).</p>
HSE Team	<p>Rectify any product non-compliance in conjunction with the vendor.</p> <p>Provide assistance with pre purchase risk assessments where requested.</p>

2 STRATEGIC DRIVERS

As detailed in the Group Strategy and JEN's ABS, the operating environment and stakeholder expectations are crucial inputs into how we manage general tools and equipment requirements. External factors, including regulations, technical standards, technological advance and customer requirements are regularly evolving, which means we must regularly review and monitor the strategic drivers for investment.

Jemena identifies the following strategic drivers that influence how we manage our assets:

- market trends and competitive position;
- customer and community expectations;
- long term sustainable costs and shareholder expectations;
- innovation and technology; and
- regulatory and legislative environment.

These strategic drivers were considered in relation to general tools and equipment in forming this Asset Class Strategy.

3 ASSET CLASS OBJECTIVES

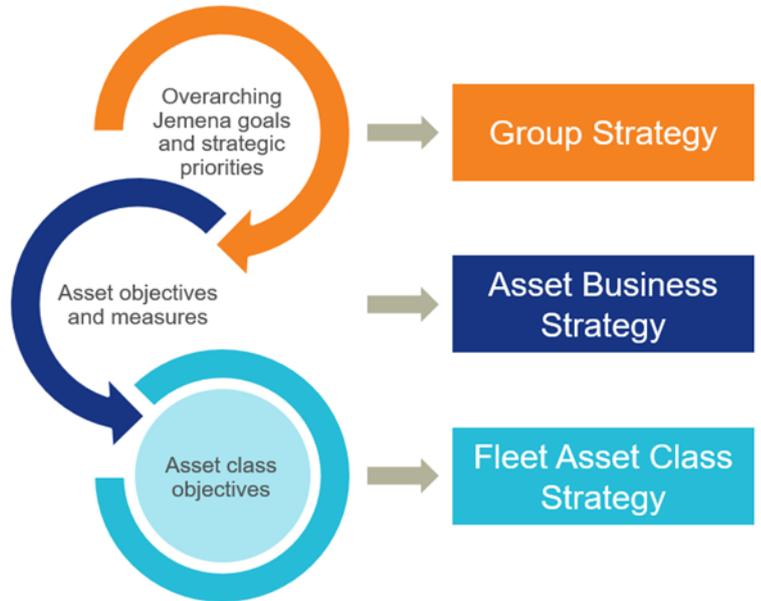
This section provides the line of sight from corporate goals through to the general tools and equipment asset class objectives.

The general tools and equipment asset class supports the JEN asset business. Each of these asset businesses produces an ABS, which outlines that business' asset objectives. The asset objectives are in turn informed by the goals described in the Group Strategy and relevant gas and electricity market strategies.

This general tools and equipment ACS considers the asset objectives detailed in the ABS, along with current performance data on relevant assets. It then defines a series of asset class objectives that apply to the assets.

These asset class objectives then help determine the appropriate general tools and equipment management strategies to support the gas and electricity businesses.

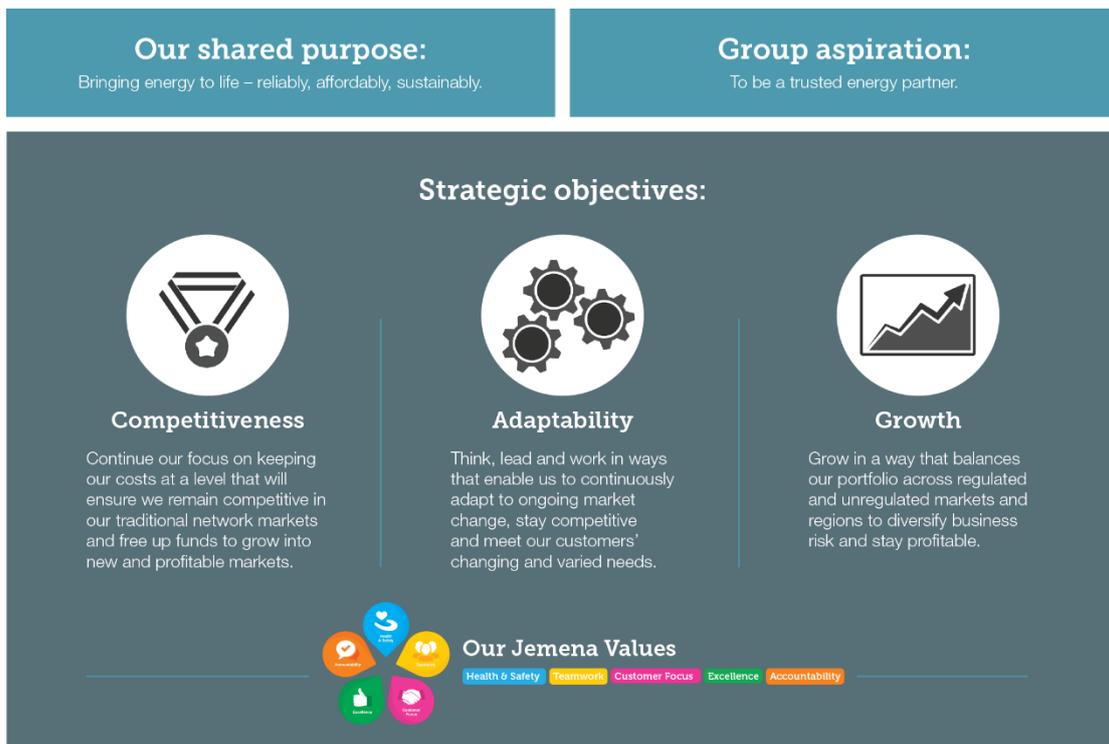
Figure 3-1: Documents that contain the various corporate and asset-specific goals, pillars and objectives.



3.1 GROUP STRATEGY

The Group Strategy is presented in **Figure 3-2** below.

Figure 3-2: Overview of Group Strategy



The three pillars under the Strategic Objectives of the Group Strategy are overarching goals that apply to JEN, and are used to inform the specific general tools and equipment asset class objectives through several key objectives shown in **Figure 3-3** below.

Figure 3-3: Key success measures and objectives



3.2 ASSET CLASS OBJECTIVES

JEN's general tools and equipment strategy is based on the following core principles.

- All general tools and equipment shall be 100% utilised only on our network assets;
- All general tools and equipment are identified and managed through an asset register;
- The lifecycle of general tools and equipment is managed in accordance with the Tools and Equipment Strategy; and
- In the event of premature or unanticipated failure of tools and equipment or an urgent or unanticipated requirement arises, a purchase requisition or business case will be prepared to facilitate procurement. The Electricity Asset Investment Manager may approve the allocation of additional funds once prioritisation analysis has been completed.

3.3 ASSET CLASS PERFORMANCE

3.3.1 REQUIREMENTS

The estimated lifecycle for each of the asset classes is derived under the assumption of normal use, general wear and tear and we therefore replace items within their estimated useful life. Extending beyond these timeframes may lead to:

- A reduction in the reliability of the asset;
- Total failure of the asset;
- Excessive repair / maintenance costs (i.e. substituting higher operating costs for a lower capital cost); and
- Obsolescence in relation to safety features and technology.

3.3.1.1 *Life Expectancy*

For Class 1 and 2 general tools and equipment (<\$6,000), the expected life cycle is 2-3 years and 3-5 years respectively. The key considerations for Class 1 and 2 general tools and equipment are:

- The end user is supplied with equipment that is fit for purpose and meets all regulatory and legislative requirements;
- The purchase price;
- Maintenance; and

- Lifecycle (asset age).

For Class 3 and 4 general tools and equipment (>\$6,000), the expected life cycle is 5-10 years. The key considerations for Class 3 and 4 general tools and equipment are:

- The user is supplied with equipment that is fit for purpose and meets all regulatory and legislative requirements;
- Available technological advancements;
- The purchase price;
- Maintenance requirements, and
- Lifecycle (asset age).

3.4 LIFE CYCLE MANAGEMENT

All general tools and equipment due for replacement shall be included in the 5-year capex plan. This plan must be approved prior to Services & Projects activating the general tools and equipment replacement plan.

A forecast is submitted in accordance with JEN timeframes to ensure that budget approval processes are met. Individual business cases for new Class 4 equipment need to be identified and approved separately by the Electricity Asset Investment Manager.

All purchases must be carried out in accordance with Jemena's Delegated Financial Authority (DFA) and Procurement Policies.

General tools and equipment purchases falling outside these timeframes may still be submitted in special circumstances (i.e. asset manager initiated, network, regulatory or legislative demand), but must have clearly documented justification and be approved by the Electricity Asset Investment Manager.

3.4.1 CREATION

3.4.1.1 Accounting Management

General tools and equipment are capital items from an accounting perspective. As such an asset number is required to be assigned by Finance (Fixed Asset Accountant) to each item.

Upon request from Services & Projects, through an approved Capital Expenditure Request form, Finance will create an asset number for each item of general tools and equipment.

Once an asset number is delivered, Services & Projects can initiate the procurement.

3.4.1.2 Procurement Approach

All general tools and equipment that are due for replacement are replaced with like for like units or equivalent, unless it is determined there is a more cost effective option available.

Prior to the making of any recommendation to purchase the replacement equipment, quotes must be sought in accordance with Jemena's Procurement Policy. The procurement policy relates to the four general tools and equipment classes as follows:

Class 1*:

- One written quote is required for procurement of all Class 1 tools and equipment

Class 2*:

- If the tool or equipment is above \$1,500 but below \$2,500, one written quote is required
- If the tool or equipment is \$2,500 and above, three written quotes are required

Class 3*:

- At least three written quotes are required to procure all Class 3 tools and equipment
- Alternatively, a Waiver of Competition can be prepared where three quotes cannot be obtained

Class 4*:

- If the tool or equipment is below \$250,000, at least three written quotes are required
- Alternatively, a Waiver of Competition can be prepared where three quotes cannot be obtained
- If the tool or equipment is above \$250,000, a tender process must be completed
- For information on how tenders are run, refer to the Jemena Procurement Policy

(* This data is valid as at 29 November 2019. The Jemena Procurement Policy and Purchasing Manual should be consulted for current requirements).

All applicable quotes are then attached to the Capital Expenditure Request form and forwarded to the Electricity Maintenance Manager for approval.

3.4.2 ASSET OPERATION AND MAINTENANCE

Services & Projects is to maintain and manage the General Tools and Equipment Asset Register database and undertake an annual audit to confirm the location and condition of general tools and equipment assets.

A register that operates in parallel to the General Tools and Equipment Asset Register database is the Fixed Asset Register. The purpose of the Fixed Asset Register is to record the tools and equipment currently utilised by Services & Projects and their expected useful life. General tools and equipment listed in the Fixed Asset Register are depreciated over their expected useful lives.

3.4.3 ASSET REPLACEMENT/DISPOSAL

Prior to any disposal of tools or equipment, an assessment is required to be undertaken by the relevant Services & Projects Operations Team manager. The purpose of this assessment is to determine if the general tool or equipment has reached end of life.

Once a general tool or equipment asset is assessed as having reached end of life, the relevant Power Services & Projects Operations Team manager is to notify Finance to enable the Fixed Asset Register to be updated.

All tools and equipment assessed and determined to have reached end of life shall be disposed of using environmentally responsible practices. For most general tools and equipment, this encompasses disposal in designated general waste bins at work sites. However, some classes of general tools and equipment have specific business rules regarding disposal that must be followed at all times. Please see below for specific disposal requirements for lifting equipment and tools and equipment containing fluids.

3.4.3.1 *Lifting Equipment*

Lifting equipment comprises any equipment utilised to raise or lower a load. It also includes safety harnesses for personnel. All tools and equipment classified as lifting equipment that have been determined to have reached end of life shall be rendered inoperable prior to disposing in an

environmentally responsible manner. If the lifting equipment contains fluids, refer to section 5.2 below for disposal requirements.

3.4.3.2 Tools & Equipment Containing Fluids

Tools and equipment containing fluids are subject to an additional disposal requirement. These tools and equipment, such as generators, chainsaws and hydraulic equipment are required to have all fluids drained prior to disposal, consistent with JEM PO 1600 Scrap Materials Policy and responsible environmental practices.

4 CONSOLIDATED PLAN

4.1 CAPITAL FORECAST

The high-level long-term general tools and equipment capex forecast for JEN is presented in the following table.

Table 4-1: Forecast JEN long term general tools and equipment capital expenditure

CAPEX Type	Forecasted CAPEX (\$'000s, \$2019)					
	2020	2021	2022	2023	2024	2025
Overhead Tools & Equipment	254	254	254	254	252	252
Underground Tools & Equipment	66	66	66	66	66	66
Zone Sub Tools & Test Equipment	141	141	141	141	140	140
Total	461	461	461	461	458	458

5 TERMS AND DEFINITIONS

capital expenditure (CAPEX)	Expenditure to buy fixed assets or to add to the value of existing fixed assets to create future benefits.
operating expenditure (OPEX)	Expenditure (ongoing) for running a product, business, or system.
Asset	Refers to the collection of tangible and non-tangible assets required to provide a product or service to its customers. Jemena consists of the following Assets: Jemena Electricity Network (JEN), Jemena Gas Network (JGN), Queensland Gas Pipeline (QGP), Eastern Gas Pipeline (EGP), Colongra Gas Pipeline (CGP), Northern Gas Pipeline and evoEnergy
Asset Class	A separation of the Assets into smaller manageable components that enable decision-making relating to implementing broader strategies in a meaningful way. Example is Facilities.
Asset Management Policy	A short statement that sets out the principles by which Jemena intends to apply asset management to achieve its objectives.
Sub Asset Class	A separation of an asset class into smaller manageable components that enable decision-making relating to implementing broader strategies in a meaningful way. Example is Fuse.
Sub Asset Class Element	A further separation of an sub asset class into smaller manageable components that enable decision-making relating to implementing broader strategies in a meaningful way. Example is Boric Acid Fuse.