

CHAPTER 4

Asset management overview

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4 Asset management overview

Key highlights

- Powerlink is committed to prudent and sustainable asset management practices that consider and recognise our customer and stakeholder requirements.
- Powerlink's asset management practices provide safe, reliable, secure and environmentally conscious services that provide the platform to enable the transition to a more sustainable, cost efficient, and climate resilient energy system.
- Powerlink's approach to asset management:
 - delivers value to our customers and stakeholders by optimising whole of life cycle costs, benefits and risks while ensuring compliance with relevant legislation, regulations and standards
 - is underpinned by Powerlink's corporate risk management framework and good practice international risk assessment methodologies.

4.1 Introduction

Powerlink's asset management system captures significant internal and external drivers on the business and sets out initiatives to be adopted.

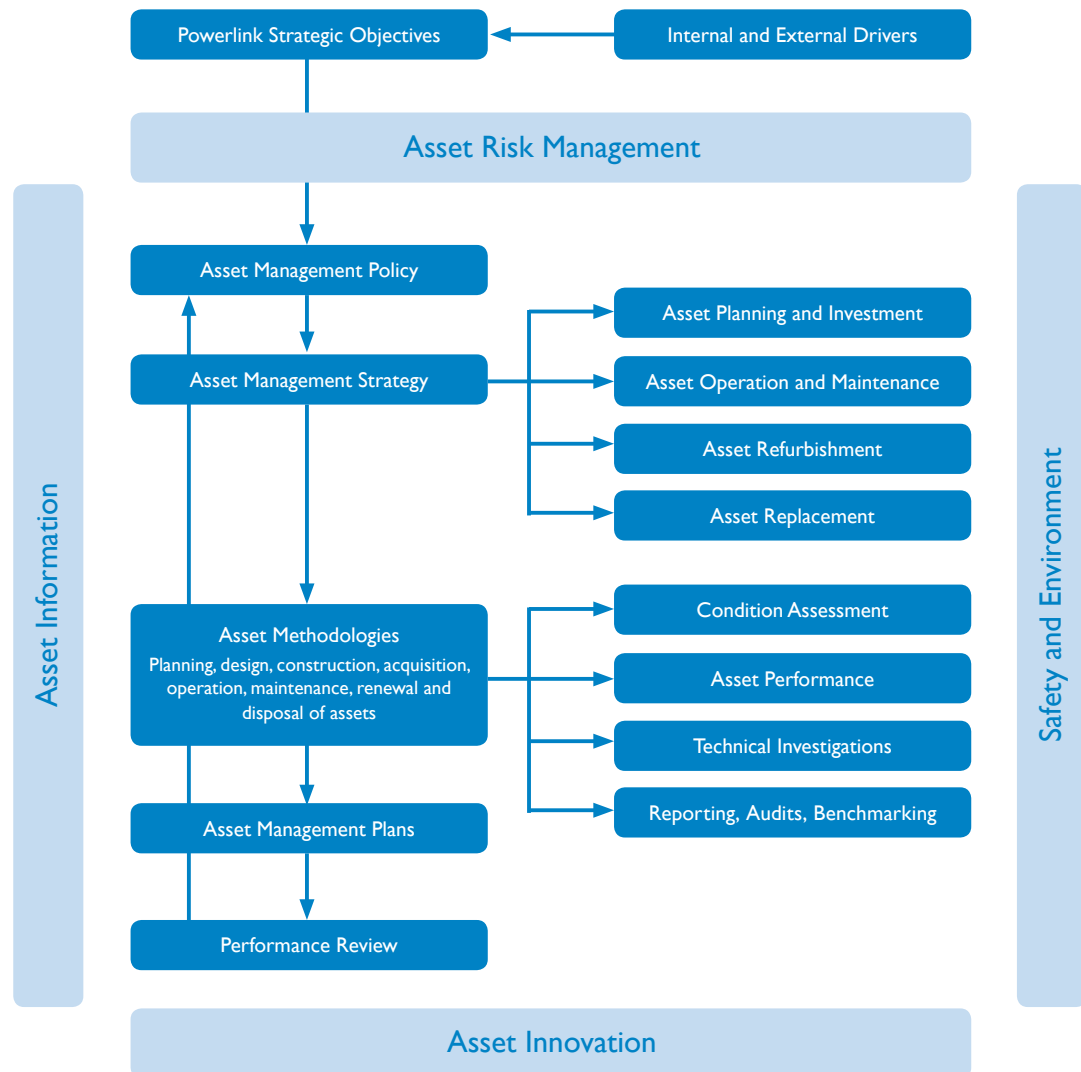
Other factors that influence network development, such as energy and demand forecasts, generation development (including asynchronous generation development and potential synchronous generation withdrawal), emerging industry trends and technology, and risks arising from the condition and performance of the existing asset base are also analysed collectively in order to form an integrated network investment plan over a 10-year outlook period.

4.2 Overview of approach to asset management

Powerlink's Asset Management System ensures assets are managed in a manner consistent with the Asset Management Policy and overall corporate objectives to deliver cost effective and efficient services. The principles set out in the Asset Management System (refer to Figure 4.1) and Asset Management Policy guides Powerlink's analysis of future network investment needs and key investment drivers.

Powerlink's asset management and joint planning approaches ensure asset reinvestment needs are not just considered on a like-for-like basis, rather the enduring need and most cost effect option are considered. A detailed analysis of both asset condition and network capability is performed prior to proposed reinvestment and where applicable, a Regulatory Investment Test for Transmission (RIT-T) is undertaken, in order to bring about optimised solutions that may involve network reconfiguration, retirement and/or non-network solutions.

Figure 4.1 Asset Management System



4.3 Asset Management Policy

Powerlink’s Asset Management Policy sets out a commitment to sustainable asset management practices that ensure Powerlink provides a valued transmission service to our customers’ needs by optimising whole of life cycle costs, benefits and risks while ensuring compliance with applicable legislation, regulations and standards.

The policy includes principles that are applied to manage Powerlink’s entire transmission network, including telecommunications and business infrastructure assets.

4.4 Asset Management Strategy

Powerlink’s Asset Management Strategy identifies the principles and the approach that guide the development of investment plans for the network, including such factors as expected service levels, technological changes, investment policy and risk management.

Powerlink’s Asset Management Strategy is based on two parallel aspects:

- Asset Life Cycle, which considers assets on a ‘whole of life’ basis
- Asset Management Cycle, which considers the broader business environment including continuous improvement from the review of evolving factors.

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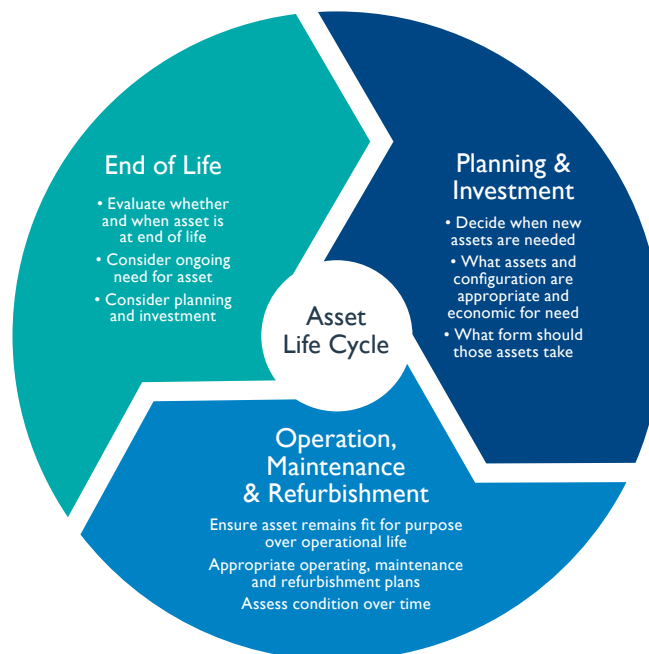
Together, these complementary systems:

- enable a process of continuous improvement which focuses on providing valued services to customers by taking into account evolving internal and external factors (such as energy transition)
- provide a framework to ensure Powerlink’s obligations are able to be effectively and efficiently delivered.

4.4.1 Asset life cycle

A critical element of asset management is to consider the life cycle of assets. There are three primary timeframes in the life of an asset. These timeframes and the interaction between them over the life cycle of assets are shown in Figure 4.2.

Figure 4.2 Asset life cycle



4.4.2 Asset management cycle

Powerlink’s asset management practices also consider the broader business environment. This includes operating and overarching business requirements such as safety and environment, risk and information management.

Powerlink manages these aspects by considering the asset management cycle and applying the four phases (refer to Figure 4.3).

Phase 1 – Strategic alignment

Assessing Powerlink’s obligations across a wide range of legislation and regulation, and determining the expectations of Powerlink’s customers and stakeholders.

This assessment enables Powerlink to responsibly deliver electricity transmission services that are valued by stakeholders, customers and the market.

Phase 2 – Asset management strategies

Considering the obligations and expectations identified under the strategic alignment phase and determining how Powerlink responds in meeting or managing those obligations and expectations.

By managing these obligations and expectations, Powerlink is aligning asset management processes and practices with AS ISO55000:2014¹ to ensure a consistent approach is applied throughout the life cycle of assets.

¹ AS ISO 55000:2014 is an international Asset Management standard.

Phase 3 – Resource alignment

Ensuring resources are made available to achieve strategies which are to be implemented and that resourcing needs are taken into account in the development of asset management strategies.

Powerlink uses a range of tools to develop resource plans over medium to long-term forward planning horizons.

Phase 4 – Continuous review

Monitoring and reviewing network, asset and business performance outcomes continuously.

Powerlink focuses on:

- reviewing the implementation of strategies to identify and adopt improvements
- checking strategies deliver to Powerlink’s obligations and the expectations of customers.

Figure 4.3 Asset management cycle



4.5 Asset management methodologies

Powerlink’s asset management methodologies are fundamental in supporting the appraisal of future reinvestment needs, particularly in relation to:

- the monitoring and analysis of asset health, condition and performance
- identifying the emerging needs for asset intervention to enable considered and prudent decision making
- consideration of all economic and technically feasible options (including non-network options)
- assessment of benefits, risks and costs
- whole of life cycle planning.

Reinvestment in assets approaching the end of their economic and technical life forms a substantial part of Powerlink’s future network investment plans across the 10-year outlook period. Accordingly the assessment of risk associated with the condition and performance of these assets is of particular importance. In order to inform such risk assessments, Powerlink undertakes periodic reviews of network assets which considers a broad range of factors, including physical condition, capacity constraints, performance and functionality, statutory compliance and ongoing supportability.

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Risk assessments are underpinned by Powerlink's corporate risk management framework and the application of a range of risk assessment methodologies set out in AS/NZS ISO31000:2018 Risk Management Guidelines².

4.6 Flexible and integrated network investment planning

A fundamental element of the Asset Management System involves the adoption of processes to manage the life cycle of assets, from planning and investment to operation, maintenance and refurbishment, to end of technical service life.

A range of options are considered as part of a flexible and integrated approach to network investment planning. These options may include retiring or decommissioning assets where there is unlikely to be an ongoing future need, refurbishing to maintain the service life of assets, replacing assets of different capacity or type, alternate network configuration opportunities, and non-network solutions.

The purpose of Powerlink's network investment planning is to:

- apply the principles set out in Powerlink's Asset Management Policy, Asset Management Strategy and related processes to guide network asset planning and reinvestment decisions;
- provide an overview of asset condition and health, life cycle plans and emerging risks related to factors such as safety, network reliability, resilience and obsolescence;
- provide an overview and analysis of factors that impact network development, including energy and demand forecasts, generation developments, forecast network performance and capability, and the condition and performance of Powerlink's existing asset base;
- identify potential opportunities for optimisation of the transmission network; and
- provide the platform to enable the transition to a more sustainable, cost efficient and climate resilient energy system.

4.7 Asset management implementation

Powerlink has adopted implementation strategies across its portfolio of projects and maintenance activities aimed at efficiently delivering the overall work program including prudent design standardisation by considering emerging trends in technology, portfolio management and supply chain management.

One of Powerlink's objectives includes the efficient implementation of work associated with network operation, field maintenance and project delivery. Powerlink continues to pursue innovative work techniques that:

- reduce risk to personal safety;
- optimise maintenance and/or operating costs; and
- reduce the requirement and minimise the impacts of planned outages on the transmission network.

In line with good practice, Powerlink also undertakes regular auditing of work performed to facilitate the continuous improvement of the overall Asset Management System.

4.8 Further information

Further information on Powerlink's Asset Management System may be obtained by emailing networkassessments@powerlink.com.au.

² [AS/NZS ISO 31000:2018](#) is an international Risk Management standard.