



Powerco as a distribution system operator

Innovation and non-traditional solutions allowance
application

Commerce Commission

28 May 2026



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1. Summary of Powerco's INTSA allowance and applications

A summary of the proposed innovation and non-traditional solutions allowance (INTSA) recovery in this application is provided in Table 1, along with an overview of Powerco's cumulative allowance recovery through the current default price-quality path (DPP) period. The expenditure presented in this table is 75% of the total expenditure for the work outlined in this document, aligning with Powerco's request under this application for partial recovery only. Powerco's INTSA allowance limit is \$20.1 million, of which 25% is for collaborative projects only.

Table 1: Overview of Powerco's INTSA allowance and proposed expenditure to be recovered under this application

Powerco as a DSO		FY27		FY28	
Description	Purpose	Opex	Capex	Opex	Capex
Undertake a programme of work focused on transforming from a largely traditional electricity distribution network operator (DNO) to a customer-centric, future-focused, distribution system operator (DSO). This is an all-of-business transformation, not just the addition of capabilities to be run as a separate business function. While various forms of DSOs are operational around the world, this is new to New Zealand. Establishing a DSO model in New Zealand requires work on several enabling capabilities that are innovative and for which the final outcomes are not fixed. The funding outlined in this application will help Powerco trial and develop a number of these key capabilities which are essential to help Powerco achieve this transformation and share our learnings with other electricity distribution businesses.	A DSO offers a viable way to mitigate future network challenges, maximise the benefits of electrification and support the accelerated uptake of distributed energy resources (DER). At the same time, it will help minimise the cost of electricity, improve customers' energy experiences and increase energy options.	\$3,270,840	\$658,635	\$2,891,460	\$1,536,390
Recovery in this application		\$8,357,325			
Allowance recovery previously approved – Powerco		\$105,000			
Allowance recovery previously approved – collaborative		\$280,000			
Applications currently under consideration		\$771,250			
Remaining allowance – Powerco (should current applications be approved)		\$5,841,425			
Remaining allowance – Collaborative (should current applications be approved)		\$4,745,000			
Total allowance		\$20,100,000			

2. Introduction

2.1 Purpose of this report

This is Powerco Limited's ("Powerco", "we", "our") application for the innovation and non-traditional solutions allowance (INTSA), for projects planned to be delivered mainly during financial year (FY) 2027 and 2028. This report collates the information required for the Commerce Commission (the Commission) to be satisfied that the contents of this application meet the requirements for recovery of the allowance for FY27 and FY28.

This application covers the following programme for FY27-28:

- **Powerco as a distribution system operator**

This programme encompasses a number of interlinked initiatives, as set out in this application.

We are happy to discuss any aspects of this application with the Commission. The first point of contact for this application is Irene Clarke Policy Manager, Irene.Clarke@powerco.co.nz.

Parts of this application are confidential, and any confidential information has been marked.

2.2 Overview of the programme scope

The proposed programme represents a major transformation of Powerco's electricity business, from a largely traditional electricity distribution network operator (DNO) to a customer-centric future-focused distribution system operator (DSO).

Powerco has adopted a key strategic objective of functioning as a DSO by the start of the next regulatory period (DPP determination 5), which commences 1 April 2030. This requires transformation at multiple levels of our business – stepping into and developing areas new to us, and New Zealand. However, this transformation is uncertain and requires the development of a number of innovative capabilities. Although we can learn much from overseas jurisdictions on the potential shapes that a DSO can take, these ideas are often not directly transferable to New Zealand, and their implementation requires considerable trials and development to ensure they are fit-for-purpose for our business, and the structure of New Zealand's regulatory and energy sectors.

With the considerable scope of transformation required, we have developed a roadmap up to FY30 to achieve this transformation.

This application seeks to fund the core of Powerco's DSO transformation programme as a single, INTSA-supported initiative. Powerco's DSO transformation programme is driven by the need to achieve three clear but interlinked outcomes that will deliver long term benefits to our customers. This will require Powerco to develop the key capabilities needed to operate as an effective, efficient DSO. At the same time, the products and markets that customers will require to maximise the value of increased electrification and interact with a DSO will also need to be in place. Each of these outcomes requires several component elements that need to be trialled, developed and implemented. Figure 1 gives an overview of these outcome portfolios and their interrelated nature.

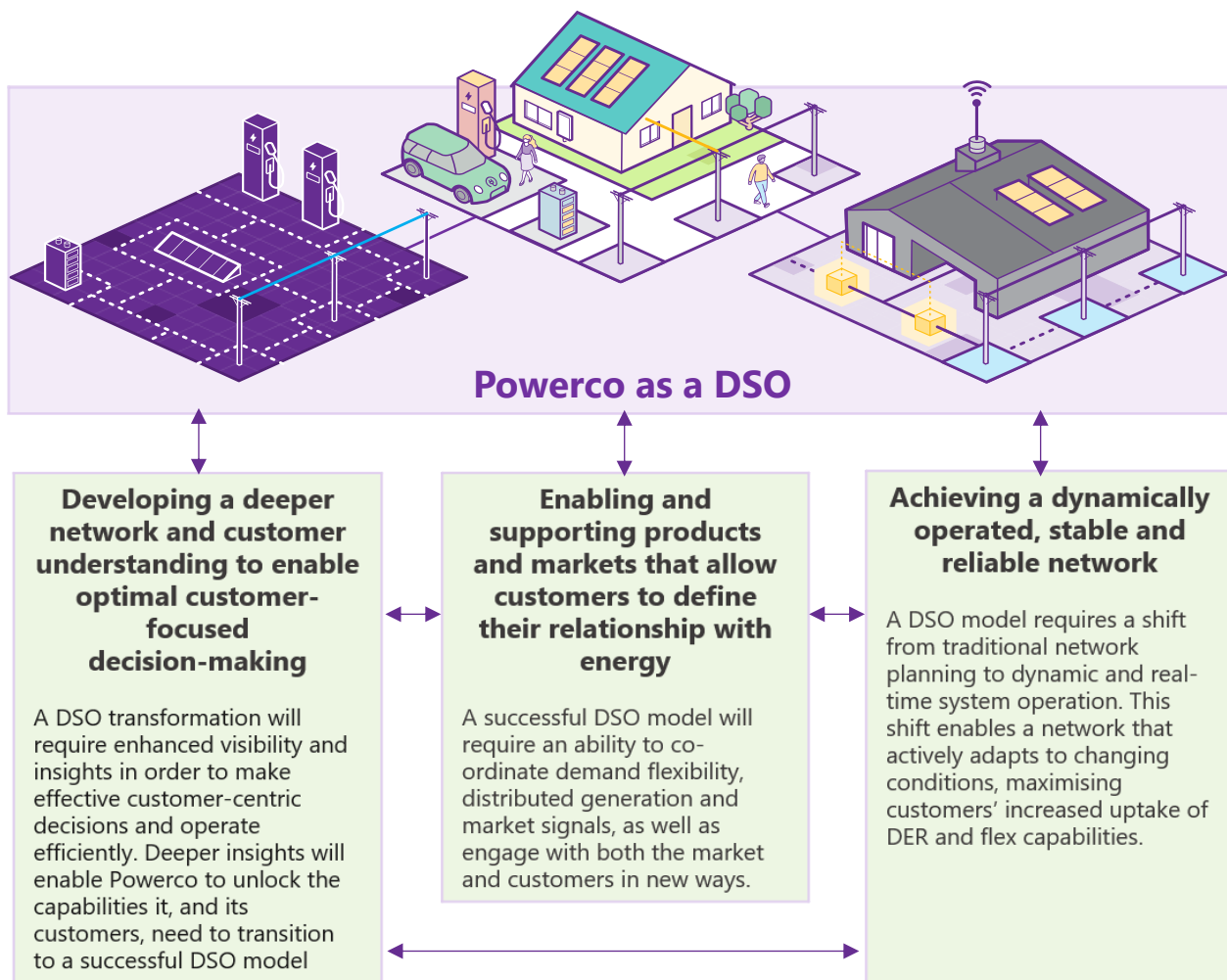


Figure 1: Diagram of Powerco's DSO transformation and associated outcome portfolios

2.3 Rationale for the DSO programme

Energy use and generation patterns are evolving at an accelerating pace. The functions, capabilities and services of a future successful electricity distribution business (EDB) will need to be different to operate an optimised network for the long-term benefit of customers. Some of the material issues that are driving change include:

- The economics of distributed generation (DG) and energy storage are improving relative to traditional grid-supplied electricity, resulting in its accelerated uptake. This is further amplified by drives to decarbonise energy use.
- Energy affordability is a top-of-mind concern for small and large consumers alike, requiring more efficient means to meet energy needs.
- Customers' expectations and behaviours in how they engage with their energy consumption and generation is changing.
- Variability in electricity generation and consumption is escalating significantly, both in short- and long-term cycles. Demand forecasting and the associated investment planning is increasingly challenging.
- Technological advancements are supporting new ways to meet energy needs, offering improved service and the potential to be much more cost-effective.

As we seek to understand how best to respond to this changing energy environment, it is becoming increasingly clear that a transformation to a DSO offers a viable way to both mitigate future challenges and maximise the benefits of electrification and the accelerated uptake of DER. A DSO model is one of the most effective ways of:

- Minimising the cost of distributing energy to customers, by better matching demand and available network capacity.
- Increasing customers' energy options, including the potential to monetise their energy services or consumption patterns.
- Retaining the efficiency and stability of our network with increasing variable DG levels, two-way power flows and changing consumption patterns.
- Facilitating customer decarbonisation through accommodating renewable generation.
- Helping keep investment options open by providing more flexibility for construction timing.

Powerco has a clear business strategy and an investment commitment focused on maturing our asset management practices to align with international best practice (ISO: 550001). Building on this strong asset management foundation to develop DSO capabilities is the natural progression for a customer-focused business driven by ensuring a sustainable long-term model is in place that maximises value for our customers and communities.

Since FY25 we have sought to build on our best practice asset management foundations by undertaking research, road map development and 'no regrets' pilots and projects focused on laying the foundation for developing an ability to provide DSO services. Our work to date has confirmed that an efficient and seamless journey to offering DSO services is going to be constrained by the limitations of traditional data, systems and processes. A step change to unlock new capabilities is required to navigate uncertainties and deliver a DSO transformation at speed and at scale. Therefore, a considerable step-up in delivery is required as the transformation process accelerates and our earlier small-scale, mainly manual, trials are scaled up into major business-as-usual (BAU) activities.

2.4 INTSA requirements

Under the current DPP determination, an EDB may make an application to the Commission seeking approval to recover the allowance under Schedule 5.3 of the determination¹. This report is guided by the requirements in Schedule 5.3. We have provided an assessment against Schedule 5.3 throughout this application, including in section 3.3 and Appendix 1.

The full Powerco allowance available under Schedule 5.3 is \$20.1 million (with 25% of this being for collaborative projects only). A breakdown of our allowance is provided in sections 1 and 3.4 of this report.

¹ Determination: [5BFINAL5D-Electricity-Distribution-Services-Default-Price-Quality-Path-Determination-2025-5B20245D-20-November-2024.pdf](#)

3. Project information: Powerco as a DSO

3.1 Project purpose and steps to achieve the purpose

The overarching goal of this application is to support Powerco's objective to function as a fully fledged DSO by the start of DPP5 (April 2030). Figure 2 provides a high-level timeline and indication of the capabilities to be developed and the expected DSO features at different stages.

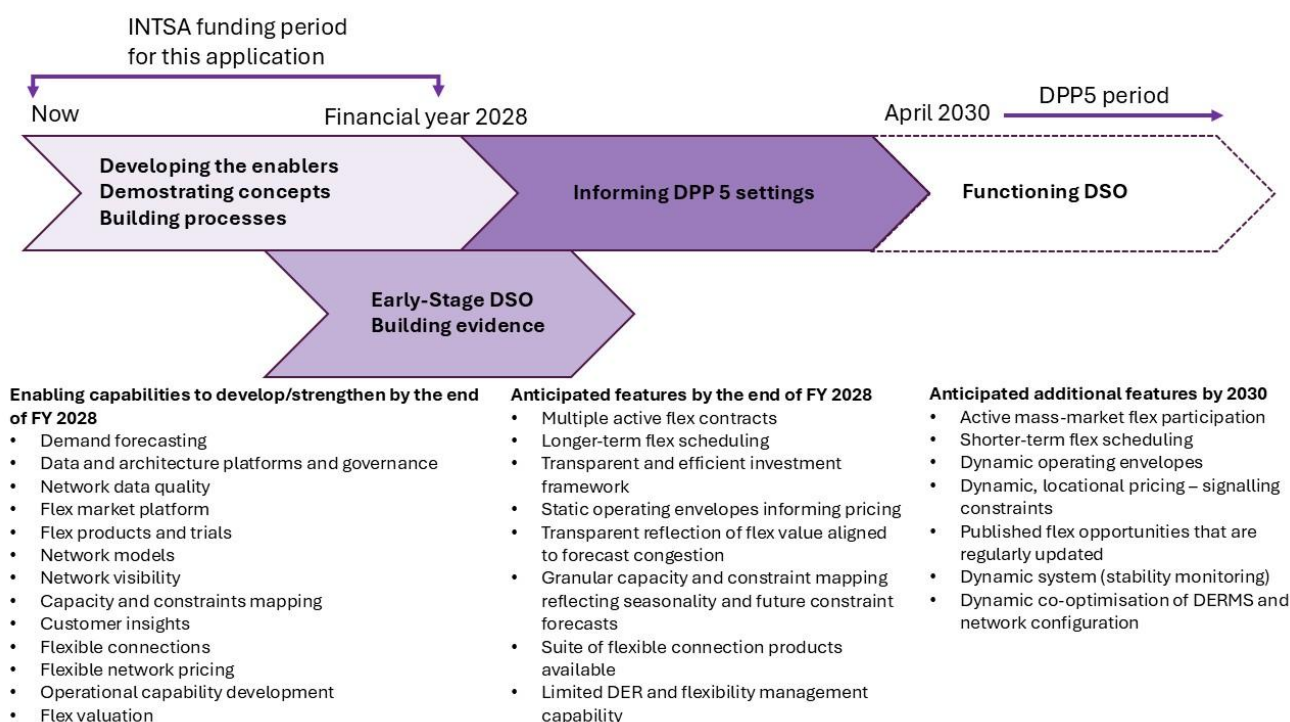


Figure 2: Proposed timeline for Powerco's DSO transformation within the INTSA funding period and beyond

This timeline will see us with sufficient DSO capabilities within the FY28 period, allowing us to build operating evidence to demonstrate to the Commission the viability of a DSO model, and its components, as we engage in the DPP5 reset process. It is likely that changes to regulatory settings will be required to accommodate, and maximise, the value customers get from a DSO model. During the DPP5 development process, we will provide relevant evidence to support the Commission's consideration of enabling regulatory changes.

This INTSA application is primarily targeting the development and/or improvement of the enabling capabilities required for early-stage DSO operation within the FY28 period. It is the combination of these enabling capabilities that will allow Powerco to achieve the three outcomes it needs to transform into a DSO. While there will be further work required after this funding period (which may be the subject of further INTSA applications), the magnitude of that work is anticipated to be considerably less than the scale of work included in this application.

Table 2 provides an overview of the three customer-focused outcome portfolios covered under this INTSA application. It highlights how each component propels Powerco towards achieving the overall objective of functioning as a DSO. It also shows the interconnected and mutually reinforcing nature of these outcomes, and the projects within them. Details of the individual projects within these outcome portfolios is provided in Appendix 2, 3 and 4.

Table 2: Overview of outcome portfolios covered under this application

Outcome and description	Function in DSO programme	Projects within the outcome portfolio
Developing a deeper network and customer understanding to enable optimal customer-focused decision-making A DSO transformation in New Zealand will require enhanced visibility and insights into customer requirements and preferences, current and future network utilisation and the uptake of DER. Current (and historical) means of gathering and analysing this information are not compatible with achieving a DSO transformation. The energy landscape, and the regulatory and environmental contexts around it, are constantly changing, evolving and shifting in unprecedented ways. Traditional tools and capabilities to assess customer needs and anticipated network demand patterns are no longer fit for purpose. To achieve a DSO model we will require dynamic, accurate assessments and predictions, which have the ability to continually update in the face of constantly changing contexts.	Improved insights are essential for understanding: current and upcoming network constraints; the extent of flexible services available; the incentives customers require to provide this flexibility to help address network requirements; and to inform the development of attractive flexibility products and flexible connections.	• Customer intelligence • DSO data and digital architecture • Productionised network models • Leveraging our future demand forecasting platform • Advanced analytics
Enabling and supporting the development of products and markets that allow customers to define their energy relationships in new ways A successful DSO model will provide new options and value opportunities for customers in the way they procure, use and generate energy. This includes how and who they engage with within the energy system, and how they may choose to monetise their energy services or consumption patterns. As a DSO, Powerco will be able to optimally leverage customers' uptake of DER, which will benefit the entirety of the network and customers base, irrespective of whether they own DER. The capabilities, signals, market and products needed to maximise the value of leveraging DER is a key part of the DSO transformation.	This work will help Powerco develop the products, markets and capabilities to co-ordinate demand responses, flexibility services, DG, market signals as well as engage with both the market and customers in new ways.	• Flex product development • Flex market development • Flexible network pricing • Flex connection development • Flex valuation
Achieving a dynamically operated, stable and reliable network A DSO model requires a shift from traditional network operation to dynamic, real-time system operation. It will also involve the integration of increasing levels of variable DG and energy storage, with associated two-way power flows. To ensure ongoing stable and reliable network operation will require levels of operational sophistication and corresponding capabilities not previously required.	This work will enable Powerco to operationalise the insights, products, markets, capabilities, and new customer value opportunities developed through the other outcome areas as well as the ability to dispatch flexibility, and actively adapt to changing conditions.	• DSO operational technology and processes • Operational network envelopes (static and dynamic)

3.1.1 External validation of the scope of the programme

The development of a DSO model suited to the New Zealand context is immature, with limited regulatory or other guidance as to the shape a New Zealand DSO should take. In addition, there is significant variance in the shape of DSO models across international jurisdictions, so developing a model is not straightforward.

Powerco has developed its DSO plan based on extensive research of international practices, attempting to adapt these practices to local market conditions and our own company requirements. To provide us with comfort that our plan aligns with best international industry practice, we commissioned an independent review of our DSO programme by international experts in this field (consulting firm Baringa). They also reviewed our intentions, progress on the DSO transformation to date, assessed potential gaps in our capabilities and delivery plan and provided suggestions for a prioritised roadmap.

The outcomes from this review formed an important input in the preparation of this INTSA application. Their findings strongly support our DSO intent and the direction we've adopted. At the same time, the recommendations for further capability development required aligns well with the initiatives included in our INTSA application. This is illustrated in Appendix 5, where Baringa's recommendations are mapped to the outcome portfolios and the projects included in this application.

The Baringa report is attached as a supporting document. This attachment is also confidential. We will share the findings of the independent report at an appropriate time after approval of the application.

3.2 Benefits under this application

We see a DSO model as an evolution of good asset management that will provide multiple customer benefits and an effective means of responding to future energy challenges.

In Table 3, we list the major benefits that would arise from a successful DSO implementation, as seen from various perspectives.

Table 3: Benefits of the DSO transformation work captured under this application

Perspective	Benefits offered
Energy affordability	• Successful flexibility services or dynamic price signals will encourage higher network utilisation. This will reduce or defer the need for network growth investment. • Flexible connections will co-optimize between addressing customer needs and network capacity availability. This can substantially reduce connection charges. • The application of DSO principles to renewal investments (optimising network renewals to actual or anticipated use patterns rather than just adopt like-for-like replacement) can offer material scope for cost reduction. • Providing more alternatives and constructive challenge supports better optimised investment decisions.
Environmental sustainability	• Opportunities to monetise DG will accelerate uptake. DG is largely renewable in nature. • Better energy system utilisation allows for investment in fewer carbon-intense assets along the whole energy value chain. • Incentivising energy storage. This in turn enhances DG uptake, particularly solar (small and large scale).

Perspective	Benefits offered
Network benefits	- Improved resilience through enhanced demand management during outages and, hence, the ability to restore additional customers via alternative network configurations. - Ability to smooth out network reinforcement investment programmes. - Improved network visibility allows for better informed risk-based investment decisions as well as investments that are more optimally timed. - DSO-enabling investments will have direct benefits for conventional network operations.
Customer service	- Options for customers to actively engage in their energy use. Clear visibility of network capacity and constraints allows customers to make better informed decisions and streamlines the connection process. - Flexibility services offer opportunities for customers to monetise their excess energy generation or change energy consumption patterns.

3.2.1 Anticipated learnings

While DSOs have been successfully operationalised around the world, this has not yet been the case in New Zealand. There are a number of DSO models used internationally. The programme will largely consist of developing and implementing capabilities or systems that are already in place elsewhere in the world but have not been tested or put in place locally. While some DSO elements have been trialled and adopted in New Zealand, the whole-of-programme approach is new and innovative in New Zealand.

The major learnings from the proposed programme will be around how a DSO model can be established in New Zealand, what associated business transformation is required for success, and what DSO shape works in the New Zealand context (and what does not). We see that the successful conclusion of the programme could be a blueprint for the development of DSOs throughout New Zealand. It could also be a catalyst for other parts of the energy value chain to adapt to or develop products to support future DSOs and give customers a range of options for how they interact with energy, and the energy industry.

While the focus is on the programme as a whole, we do anticipate substantial learnings from individual projects as well. This has been the case for the pilot projects we have completed to date. A good example is the initial flexibility contracts developed for the Western Bay of Plenty, which involved considerable learning for Powerco and our flexibility partners at each step of the way. Details about each individual project can be found in Appendix 2, 3 and 4.

We strongly believe that DSO benefits should extend to all New Zealand electricity users. Sharing our learnings with other industry participants will be a core objective of the programme. Our plan for sharing these learnings in a consistent and material way is outlined in section 4.2 of this application.

3.3 Eligibility criteria

We believe the DSO transformation programme of work strongly aligns with the requirements for INTSA expenditure recovery outlined in Schedule 5.3 of the DPP determination.

3.3.1 Relates to the supply of electricity distribution services

This programme relates directly to the supply of electricity lines services. Although a successful DSO will continually seek more efficient non-wire solutions, it is still fully dedicated to providing electricity distribution services.

3.3.2 Promotes the Part 4 Purpose of the Act

The programme has a core purpose of ensuring the long-term stable delivery of electricity at the lowest possible cost, while maintaining network stability and reliability within our future, evolving, energy system.

3.3.3 There is an unlikely financial benefit and/or sufficiently uncertain benefits

While the overall goal of the DSO programme is clear, its development and implementation involve significant uncertainty and areas of work that are novel to both Powerco and the wider New Zealand industry. It involves a substantive transformation of our business, where we will move away from a sole focus on the traditional asset management approach to a more dynamic network approach equipped to better handle the new, emerging energy environment. We have clear international examples of what is achievable, but getting to that point will involve significant ongoing research and trials to learn what exact model best suits the New Zealand environment – if a DSO model suits New Zealand at all.

The development path will be greatly affected by the shape of several of the underlying projects, which by themselves involve significant uncertainty in outcomes. This is because these projects involve work that has not been undertaken in the New Zealand context before, has not been carried out to the extent we are proposing, or we are seeking to do things in ways that are novel in the New Zealand context.

While we foresee that in the medium to longer term a DSO will result in lower energy cost for customers compared with traditional network operation, in the near-term it will require considerable investment, which has not been allowed for under our DPP4 revenue settings. This investment will develop and scale the products and capabilities that enable a DSO, develop our workforce, and change existing business processes. There will also be increasing operating expenditure as the use of flexibility services increases, albeit this will likely be offset in some capacity by reduced or deferred capital expenditure².

While this is all directly beneficial for our customers, there is unlikely to be a financial benefit for Powerco. Given the uncertain nature of this programme of work the successful development of Powerco as a DSO cannot occur within current regulatory allowances. Support for the programme through INTSA is therefore essential.

3.4 Expenditure under this application

This section provides an overview of the forecast expenditure that Powerco is seeking to recover through this INTSA application. All expenditure in this section is GST exclusive.

In addition to the product procurement and delivery resources required for the three outcome portfolios, including consulting and project management costs, we will require dedicated programme resourcing to manage the overall programme, meet governance requirements, and regularly share learnings and updates with customers and other stakeholders. These supporting costs are reflected in Table 4. The cost of commissioning an external consultant to assess the viability of our proposed DSO transformation programme is reflected in the supporting costs line item.

We have provided an overview of the expenditure related to this work from multiple views in section 3.4.2.

3.4.1 Expenditure principles and INTSA percentage recovery

Given the delivery timelines, dependencies, and uncertainties associated with the innovative nature of the DSO transformation programme, we have established guiding principles to provide confidence that good financial management will be applied to all expenditure throughout the life of the programme. These principles are:

² This is because flexibility solutions would generally only be implemented if they result in lower lifecycle cost to consumers compared with the comparable alternative being offset.

- Whenever practical, internal Powerco resources will be utilised. Where utilising internal resources is not possible, or the required expertise, capabilities or software applications do not exist within Powerco, we will append this with external consultants. Consultant appointments will adopt the following principles:
 - Consultancy expenditure will be in line with industry market rates, as benchmarked against projects of a similar nature/size completed recently within Powerco.
 - Powerco's Procurement Policy, which has been approved by the Powerco Board, will be applied to all services and products³.
 - Where appropriate, competitive offers will be sought.
- The DSO transformation programme will be delivered in accordance with Powerco policies relating to financial expenditure, as well as delegated financial authority rules.
- Regular expenditure updates will be provided to our Asset Management Steering Committee and the Powerco Board for scrutiny (more information on the Governance structures relative to this project can be found in section 4.1).

Through this INTSA application, Powerco is seeking to recover 75% of the total programme expenditure, with the remaining 25% to be met through Powerco's annual budgets. Recovering expenditure at this level reflects that, while the scope, scale and efficiencies of the programme outlined in this application cannot be achieved without INTSA support, certain projects will deliver enduring benefits to Powerco's core asset management capability and therefore may proceed in a limited manner even without the DSO programme. All expenditure amounts provided in this application are 75% of the total forecast project expenditure. Any expenditure amounts represented in this application are the amounts that Powerco is seeking to recover under the INTSA scheme, not the full expenditure of this work (unless it is explicitly stated otherwise).

3.4.2 Forecast expenditure

Table 4 breaks down the Capex and Opex expenditure of each of the outcome portfolios, as well as other enabling costs, by financial year.

Table 5 breaks down the expenditure of each outcome portfolio by cost category. Because of the interconnected nature of the projects under each outcome portfolio, some costs between initiatives may overlap and the outcome of certain spending (e.g. consultancy support, internal resourcing costs, or licensing) will be utilised across different projects. As such, breaking down costs by category within each outcome portfolio provides the most accurate and transparent view of where the costs fall within this DSO transformation programme.

The expenditure outlined in both tables represents 75% of the programme expenditure⁴.

³ This includes market testing for significant procurement projects.

⁴ The total programme expenditure (100%) is \$11,143,100.

Table 4: Total recovery amount forecasted across the DSO programme per financial year

	Expenditure to be recovered (FY27)		Expenditure to be recovered (FY28)	
	Opex	Capex	Opex	Capex
Developing a deeper network and customer understanding to enable optimal customer-focused decision making	\$1,275,270	\$234,555	\$1,669,170	\$882,030
Enabling and supporting the development of products and markets that allow customers to define their energy relationships in new ways	\$1,083,300		\$594,600	\$576,600
Achieving a dynamically operated, stable and reliable network	\$556,020	\$424,080	\$271,440	\$77,760
DSO INTSA support costs	\$356,250		\$356,250	
Financial year total	\$3,929,475		\$4,427,850	
Total expenditure we are seeking to recover in this application	\$8,357,325			

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Table 5: Total recovery amount forecasted broken down by expenditure category (definitions provided in Appendix 6)

Tier one expenditure category	Tier two expenditure category	Developing a deeper network and customer understanding to enable optimal customer-focused decision-making	Enabling and supporting the development of products and markets that allow customers to define their energy relationships in new ways	Achieving a dynamically operated, stable and reliable network	Total expenditure per category amount across the DSO transformation programme
Design and early thinking	Consultant costs	\$379,536	\$159,570	\$51,525	\$590,631
	Internal resourcing	\$289,530	\$156,675	\$60,795	\$507,000
	Market testing	\$200,640	\$93,135	\$50,490	\$344,265
Supporting and enabling	Consultant costs	\$221,046	\$465,000	\$80,370	\$766,416
	Internal resourcing	\$222,390	\$114,750	\$25,245	\$362,385
	Marketing, communication and engagement costs	\$91,578	\$93,135	\$14,940	\$199,653
Implementation	Consultant costs	\$1,209,450	\$491,925	\$280,800	\$1,982,175
	Internal resourcing	\$626,685	\$144,225	\$107,685	\$878,595
	Data costs		\$68,100	\$14,940	\$83,040
	Integration costs	\$443,670	\$167,985	\$127,260	\$738,915
Product costs	Licensing costs	\$1,683,750	\$300,000	\$515,250	\$2,499,000
	Total expenditure across the outcome portfolios	\$4,061,025	\$2,254,500	\$1,329,300	

3.5 SAIDI and SAIFI

In delivering this project, we are not anticipating any SAIDI and SAIFI impact to be excluded under Schedule 3.1 or Schedule 3.2.

3.6 Parties to this project and collaboration

The overall DSO programme covered under this application is Powerco specific. However, the outcomes from the project will be relevant to all New Zealand EDBs. In addition, many of the underlying components of the programme lend themselves to collaboration with other EDBs or industry partners.

Accordingly, we will actively seek collaboration wherever possible on as many of the parts of our DSO programme as is practical. We are already actively collaborating with other EDBs and Electricity Networks Aotearoa (ENA) on several DSO-related initiatives. However, we have not sought collaboration in preparing this application, as we are not able to commit to, or outline, specific collaboration for major DSO initiatives until we have more certainty regarding funding availability (the purpose of this application).

After lodging the application, we intend to seek out potential development partners. We also propose to continue engaging with the ENA Future Networks Forum (FNF).

4. Programme governance, progress tracking and reporting

We have developed a number of key processes, metrics and commitments to ensure that we keep key stakeholders informed and consistently share our learnings for the betterment of New Zealand. Our aim is to give customers and the Commission confidence that Powerco is making use of INTSA funding in ways that provide material benefits.

4.1 Governance arrangements

4.1.1 Internal DSO governance

Given the scope of the work involved and the business transformation it promises, Powerco already has significant oversight and governance structures in place to oversee outcomes and to ensure that the programme is effectively managed. While it is not an explicit INTSA requirement, we believe it is important to provide an overview of how this programme will be governed to give the Commission confidence that the expenditure outlined in this application, if approved, has appropriate internal oversight.

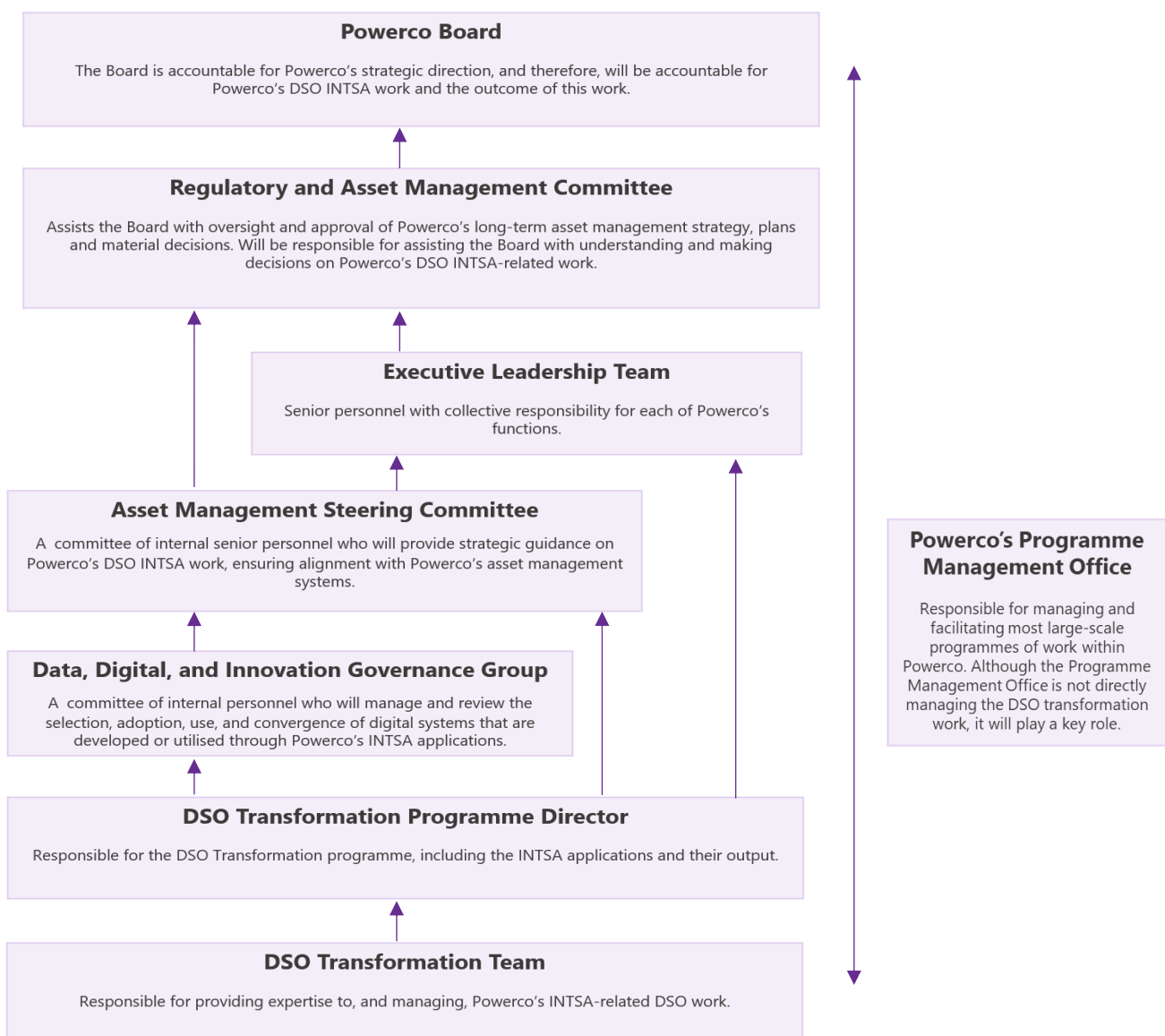


Figure 3: Powerco's Governance structures relevant to the contents of this application

4.1.2 Programme delivery and deliverability

Our overall intent with the programme is to transform Powerco to a DSO. This will require an all-of-business transformation as opposed to an arrangement whereby the DSO is a separate function, run by a separate group⁵.

We are confident that we can deliver the work outlined in this application. Powerco has a small, dedicated DSO Transformation team that provides leadership, direction, and specialist subject matter expertise. The team has already established relationships, and works closely, with business units across Powerco to enable and support implementation of programme initiatives. Powerco has experience in driving organisational change and undertaking projects of a similar scale to those outlined in this application. Not only do we, therefore, believe we have the required organisational expertise to complete this programme of work, but the costs outlined in this application are also based on our experiences, meaning we are confident we can deliver what has been outlined in this document within the forecasts we have provided. With a significant increase in scope and delivery pace anticipated for this stage of the programme, the expenditure recovered through this application will allow Powerco to strengthen its resourcing to ensure sufficient capacity, capability, and deliverability.

As deliverables are defined and scheduled for delivery, Powerco will apply its established Programme Management Office methodology to each project to ensure an appropriate level of rigour, governance, and control. This will include approved project documentation, integrated delivery schedules (including Gantt charts), detailed cost breakdowns, and clearly assigned roles and responsibilities. Each project will have nominated resources, such as a project manager, business owner, subject matter experts, and delivery partners to support efficient and effective execution.

4.2 Progress monitoring, reporting and information sharing

We are committed to keeping our stakeholders informed, and enabling industry participants to utilise and be involved in the development of our thinking and learnings. We are also committed to ensuring that customers have oversight of how Powerco is using INTSA funding to provide material benefits.

Our commitment to keeping our key stakeholder segments informed, includes:

Industry

- Half-yearly webinars open to industry participants. In these webinars we will provide updates on our work to date on DSO INTSA activities and provide spotlight deep dives on the projects that have made progress or have produced the most material insights since the previous webinar. It will be an opportunity for two-way engagement as we test thinking, share learnings and answer questions.
- We will continue to engage with the industry on the progress and insights resulting from a DSO transformation after the INTSA funding period ends, for example through updates at the FNF.

Commerce Commission

- For each financial year, Powerco will report to the Commerce Commission on progress towards achieving its three customer-centric outcomes and overall DSO transformation through an in-person workshop. A shared agenda will be developed by the Commission and Powerco to ensure the discussion is focused, relevant, and provides meaningful insight. The workshop will be attended by

⁵ This approach is based on what we see the optimal outcome under current New Zealand regulations. Future regulatory decisions about the shape of system operations in New Zealand may require our structure to be amended, but our proposed DSO programme will, to the extent possible, reflect no-regret implementations that will apply regardless of the future shape of other DSOs and potential future regulations.

senior staff from both organisations and will include an independent assessment of progress against performance and capability indicators (refer to section 4.2.1 for further detail).

- At the conclusion of the funding period, we will produce a close-out report to document the insights developed through the work under this application as per the requirements under Schedule 5.3.

Customers

- We are committed to providing customers with visibility and transparency of our INTSA-supported work. To do this we will leverage existing customer communication channels. Through our experiences, we know that customers more willingly engage with material through proven channels. As such, we will provide information on outcomes and benefits related to our DSO transformation programme on our website. We will publish news articles as we deliver projects, trials and gain insights, and will also use our well-established social media and in-field relationships to promote content and drive engagement. Our BAU tools and processes for monitoring performance and developing activation strategies will be applied to any DSO INTSA-related content.
- We will provide an annual summary of the programme's progress and key insights in our annual Integrated Report.
- We will continue to report to customers the benefits resulting from a DSO transformation after the INTSA funding period ends.

4.2.1 Overarching programme indicators and capability readiness indicators

Powerco is committed to providing robust assurance that the purpose of this application and the intended customer benefits are being delivered as planned. A set of core capabilities underpins the customer outcomes sought through this application, and Powerco will report on the progressive development and maturity of these capabilities throughout the INTSA funding period. As such, we have developed a set of overarching programme indicators (refer to Table 6) and a set of capability readiness indicators (refer to Table 7) to enable Powerco to provide updates on our progress towards meeting expenditure and delivery timeframes, and our progress towards developing the capabilities required to transform into a DSO. Our progress against these indicators will be base-lined, and then annually review, by an external expert. This will provide the Commission and customers confidence that Powerco is making progress throughout the funding period⁶.

Table 6: Overarching programme indicators

Outcome being tracked	Overarching programme indicator	Performance being assessed
Overarching programme delivery	Delivery timeframes	Progress towards achieving the outcomes set out in this document within the INTSA funding period.
	Expenditure	We will track actual expenditure against the forecasts within this application.

⁶ We will confirm with the Commission and external experts if the proposed programme and capability indicators are fit-for-purpose.

Table 7: Capability readiness indicators

Customer outcome being tracked	Capability readiness indicator	Capability being assessed
Developing a deeper network and customer understanding to enable optimal customer-focused decision-making	Customer	Quantifiable understanding of what customers value and how this is used to inform aspects of DSO capability prioritisation, development and delivery.
	Network	The development of a granular and probabilistic understanding of our network and the optimisation of the proposed programme of future works.
Enabling and supporting the development of products and markets that allow customers to define their energy relationships in new ways	Flexible connections	The ability to offer a range of cost and time effective connection options.
	Flexibility services	The ability to use flexibility as an alternative to standard network offerings and investment.
Achieving a dynamically operated, stable and reliable network	DER orchestration	The ability to optimally orchestrate DER to optimise the utilisation of our network.
	Flexibility dispatch	The ability to send signals to customers or flexibility service providers to dispatch flexibility.

As Powerco's DSO experience progresses, we will develop key performance indicators focused on outcomes relative to the practical application of our DSO function. These will be put in place when the enabling work, establishing the DSO (essentially the work in this application), is completed. Our performance against the measures we develop in the future will be reported to help highlight how we are improving our DSO function over time and the types of benefits it is providing. We will ensure such measures are visible to all external stakeholders.

5. Conclusion

Energy use and generation are evolving at a rapid pace. Powerco is proactively positioning itself for this shift, with a clear strategy to lead in the face of uncertainty to the benefit of our customers, and the New Zealand energy sector. Central to this is a strong focus on innovation, with our DSO plan at the heart. We see a DSO model as a compelling emerging pathway to address upcoming challenges and unlock greater customer value in an evolving energy landscape.

Powerco's development of a DSO model will provide key insights into the potential shape, effectiveness and viability of a DSO model, and its components, for all of New Zealand. We hope Powerco's transformation will be a blueprint for the development of DSOs throughout New Zealand, including key insights into what works well in the New Zealand context (and what does not). Therefore, not only does this application present an opportunity for Powerco to undertake innovative work that may drive long-term benefits for our own customers, but by sharing our learnings, it presents an opportunity for long-term customer benefits to be felt across New Zealand – beyond Powerco's footprint.

The DSO transformation outlined in this application is designed not as a one-off initiative, but as a catalyst for lasting organisational change. As we progress through the funding period, the focus will remain on building practical, scalable capabilities that deliver measurable value. Subject to the outcomes achieved and the success of the transformation, we will transition from innovation to embedding – integrating the tools, practices, and insights developed into BAU operations. This will ensure that the benefits realised are sustained and extended across all areas of the organisation.

Appendix 1 – Check of application against Schedule 5.3 requirements

Table 8: Innovation project allowance criteria and how the requirement is met by the proposal under this application

Schedule 5.3 requirement	How the requirement is met
(2) A non-exempt EDB may at any point prior to six months before the end of the DPP regulatory period submit an INTSA proposal to the Commission.	This application is made before the stated deadline.
(3) If a non-exempt EDB proposes to work together with one or more other EDBs to carry out the project or programme in an INTSA proposal, each non-exempt EDB carrying out the project or programme that proposes to recover any of the forecast costs from the non-exempt EDB's innovation and non-traditional solutions allowance must submit an INTSA proposal.	This programme is not explicitly a collaborative programme. However, we will actively seek collaboration where possible. After lodging the application, we intend to seek out potential development partners.
(4) An INTSA proposal must set out the following:	
(a) The purpose of the project or programme in the INTSA proposal, and the steps that the non-exempt EDB intends to take to achieve that purpose if the Commission approves the INTSA proposal.	Refer to section 2, 3, and 4 and in Appendix 2, 3 and 4.
(b) The INTSA outputs and expected benefits of the project or programme for consumers.	Refer section 3.
(c) The date by which the non-exempt EDB expects all of the INTSA outputs for the project or programme to have been delivered.	As noted in this application, we intend to finalise the work in this application (and therefore this stage of our DSO transformation) by the end of FY28. These timeframes are discussed throughout the application.
(d) The forecast costs of the project or programme for each disclosure year up to the date by which the non-exempt EDB expects all of the INTSA outputs to have been delivered.	Refer section 3.4 and Appendix 2, 3 and 4.
(e) The proportion of the forecast costs of the project or programme that the non-exempt EDB seeks to recover from the non-exempt EDB's innovation and non-traditional solutions allowance (e.g., 75% of the forecast costs of the project or programme).	As noted throughout the application, we are seeking to recover the expenditure as it is laid out in this application. This is 75% of the forecast costs of the programme. Section 3.4 provides further information on this.
(f) An estimate of any anticipated SAIDI INTSA values or SAIFI INTSA values that the non-exempt EDB expects to exclude under Schedule 3.1 or 3.2.	Refer section 3.6.
(g) The cause or causes of the interruptions for the SAIDI INTSA values and SAIFI INTSA values referred to in subparagraph (f).	Refer section 3.6.

(h) Any steps that the non-exempt EDB has taken, or proposes to take, to reduce the likelihood or impact on consumers of any interruptions referred to in subparagraph (f).	Refer section 3.6.
(i) Whether the non-exempt EDB intends to work together with one or more other EDBs to carry out the project or programme in the INTSA proposal and, if so, how it intends to work together with the other EDBs.	Refer section 3.7
(j) Sufficient information to enable the Commission to decide under paragraph (7) whether the project or programme meets the eligibility criteria under paragraph (6).	Refer section 3.3 (and remainder of application).
(14) Within 50 working days of the delivery of all of the INTSA outputs for the project or programme in a non-exempt EDB's INTSA proposal that the Commission has approved under paragraph (7), the non-exempt EDB must submit a closeout report to the Commission.	We will deliver a report within 50 days of completion of outputs. We do not request an extension to the time for submitting a close-out report but reserve the option of making this request at a later time. Refer section 4.2 for our progress reporting during the programme.
(19) Subject to paragraph (20), the limit on the innovation and non-traditional solutions allowance for each non-exempt EDB for the DPP regulatory period is specified in Table 5.1	Refer section 1.
(21) Where a non-exempt EDB considers that it has a right to confidentiality in any information that it provides to the Commission under this Schedule and the non-exempt EDB does not waive the right, the non-exempt EDB must – (a) include that information in an appendix; and (b) clearly mark the information as confidential.	This application does contain confidential information. Confidential information has been marked.

Appendix 2 – Outcome portfolio details: Developing a deeper network and customer understanding to enable optimal customer-focused decision-making

Outcome purpose

A DSO transformation in Aotearoa will require enhanced visibility and insights into the network, customers and DER in order to operate effectively. An improved understanding of the network and customers will allow for evidenced-based customer-centric decisions and more efficient expenditure. More readily available, deeper, and timely insights will enable Powerco to unlock the capabilities it, and its customers, need to innovate and become a successful DSO model.

A DSO model cannot be achieved without the right underlying information and the capabilities to leverage this information. Traditional methods and capabilities associated with asset management are not capable of achieving this future.

Customer benefits

Developing deeper network and customer understandings, and utilising these to make more optimal customer-focused decisions will have a number of customer benefits, including:

- More efficient network investment, helping to reduce the risk of over or under investment, improving long-term customer experiences and supporting more stable long-term prices.
- Laying the foundations for faster and more consistent connection assessments, particularly for electrification-driven load growth.
- Improved reliability planning through better visibility of future demand growth and emerging constraints.
- Lowering long-run costs through well-designed, scalable, and cost-effective digital solutions.
- An improved reliability and quality of future DSO services, enabled by robust, integrated, and scalable digital foundations.

Projects: How the outcome will be delivered

The following projects, in amalgamation, will give Powerco a deeper network and customer understanding, and a better ability to undertake optimal customer-focused decision-making.

DSO data and architecture

Digital systems and data underpin the delivery of Powerco's DSO capabilities. As DSO capabilities expand, they rely on multiple interconnected systems and models that must be built on consistent, well-governed, and trusted data.

This project establishes a clear and integrated approach to DSO data and digital architecture. It focuses on how platforms, data, and integration patterns are designed and governed, to ensure systems operate cohesively, scale with future DSO requirements, and remain maintainable and cost-effective over time.

The project will define and establish a coherent DSO data and digital architecture, including governance, enabling platforms, information models, and integration patterns. It provides the foundation on which DSO applications, models, operational tools, and analytics can be consistently developed and scaled.

Productionised network models

A DSO model will require automated network analysis in support of commercial, investment and operational capabilities. A reliable, accurate and current network model, or parts thereof, must be consistently managed across multiple platforms, including external publication, coordinating data from multiple source systems while automatically dealing with data quality.

There are two potential pathways for this work:

- If commercial off the shelf network model management products and our own integration architecture are sufficiently mature, we will pursue this strategic solution directly.
- If this is not possible, we aim to build more robust versions of our existing network model and tactical integration solutions. In either event, the current high-voltage model will be fully extended to include low-voltage.

As a result of this project, Powerco will have a robust network model that supports reliable use of advanced ADMS applications, increased accuracy and reliability of forecasting models (e.g. capacity) that support the commercial application of DSO-related products, and the capability to leverage and maximise these tools to greatly improve operational efficiencies.

Advanced analytics

In a future industry with DSO capabilities, investment and commercial decisions will rely on detailed (granular), timely and transparent forecasts of future network capability, opportunity and risks.

This project will seek to develop an integrated and automated suite of network forecasting models, applying advanced analytics to derive and make visible various network and commercial parameters including congestion, capacity, indicative flex value and corresponding price signals. This will be fundamental for providing full visibility of network capacity and flexibility opportunities, risks and capability to both internal and external stakeholders.

Monetised forecasts of future network congestion, both import and export, can inform the value proposition for both network investment and/or flexibility. Transparently reflecting this value in forecast pricing and flex opportunities will maximise the extent to which market investors, customers and distributors can make informed and timely decisions. This will better support efficient investment that co-optimises traditional and non-traditional options, while still retaining optionality but minimising risks to end consumers. Advanced analytics will also be foundational to developing the capability to issue operating envelopes (static and eventually dynamic) to customers who have signed up to flexible connections or service provision.

In the longer term, we foresee that dynamic price signals will be key to providing incentives to customers to change energy patterns, optimising network utilisation. These signals will also rely on the integration of a number of internal network and commercial models.

Customer intelligence

To realise the customer benefits of DSO services quickly and efficiently, Powerco must go beyond traditional customer research. We will build decision-grade customer intelligence systems comprising of data, models, and insight products that directly informs:

- Network planning models (e.g. forecasting, investment optimisation, hosting capacity).
- Operational decision-making and dispatch (e.g. flexibility activation, constraint management).
- Market and product design (e.g. flexibility service definitions, participation rules, incentives).

Conventional best practice customer research and engagement will continue as BAU, including service experience research, disruption minimisation, and understanding customer service levels and expectations.

INTSA funding will be targeted specifically at innovative approaches to embed customer behaviour modelling into network decision-making and operations beyond anything seen before in New Zealand – turning customer insight into actionable inputs for planning tools, operational processes, and emerging flexibility market design.

This will be achieved by producing actionable intelligence across the following priority areas:

- **Adoption forecasting (DER/electric vehicles)**
Develop robust forecasts of technology uptake and usage patterns to improve investment timing, constraint forecasting, and flexibility potential assessment.
- **Hosting capacity acceptance and connection friction**
Quantify what prompts (and blocks) uptake of new connections and upgrades to drive hosting capacity improvements that translate into real customer outcomes.
- **Value of reliability and resilience (investment trade-offs)**
Build evidence of what customers value most (and what they will pay for or trade off) to support economically efficient investment decisions.
- **Trust/data/control acceptance thresholds**
Understand the conditions under which customers will share data, permit control, or participate in automated services – critical for a market-enabled DSO.
- **Flex product discovery and willingness-to-accept**
Identify which flexibility products customers will participate in, under what conditions, and at what price to ensure services are usable and scalable.

Overall, INTSA funding will accelerate the transition from insight to execution, creating an innovative customer intelligence capability that reduces uncertainty, improves planning quality, enables efficient operations, and de-risks flexibility market design for the benefit of customers.

Leveraging our future demand forecasting platform

This project is focused on leveraging the step change enhancement in demand forecasting capability currently being developed by Powerco outside of this application. Increasing levels of electrification, DER uptake, and flexible network use are introducing new levels of uncertainty and complexity that can lead to significant inefficient network investment. These challenges will require planning and operational approaches that make more effective use of improved, data-driven forecasts.

By integrating industry leading demand forecasting outputs into the tools and systems developed through this application, we will enable more granular, scenario-based, and probabilistic insights. This will support improved network planning, more accurate connection assessments, and enhanced operational decision-making. We will also leverage improved forecasts to continue to drive value to customers through improving public-facing capacity maps, creating better visibility of network constraints, and more proactive identification of emerging issues.

A key deliverable of this project will be to operationalise shorter-term forecasting outputs to support day-to-day DSO activities, including the application of operating envelopes and the effective management of DER and flexibility. Within the funding period of this application, the project will also leverage increased longer-term forecasting capabilities to drive maturity in our wider asset management processes.

Forecast expenditure

Table 9: Recovery amount forecasted broken down by financial year for this outcome portfolio

	FY27 recovery proposal		FY28 recovery proposal	
	Opex	Capex	Opex	Capex
Developing a deeper network and customer understanding to enable optimal customer-focused decision making	\$1,275,270	\$234,555	\$1,669,170	\$882,030

Table 10: Recovery amount forecasted broken down by expenditure category for this outcome portfolio

Tier one expenditure category	Tier two expenditure category	Developing a deeper network and customer understanding to enable optimal customer-focused decision-making
Design and early thinking	Consultant costs	\$319,536
	Internal resourcing	\$252,030
	Market testing	\$200,640
Supporting and enabling	Consultant costs	\$209,796
	Internal resourcing	\$188,640
	Marketing, communication and engagement costs	\$91,578
Implementation	Consultant costs	\$890,700
	Internal resourcing	\$541,935
	Data costs	
	Integration costs	\$518,670
Product costs	Licensing costs	\$847,500
Total		\$4,061,025

Appendix 3 – Outcome portfolio details: Enabling and supporting the development of products and markets that allow customers to define their energy relationships in new ways

Outcome purpose

A successful DSO model will increase energy options and value opportunities for customers', giving customers the ability to decide how, to what level and who they engage with within the energy system, and how they choose to monetise (or not monetise) their energy services or consumption patterns.

To unlock new value opportunities for customers, Powerco will need to develop the products, markets and capabilities to co-ordinate demand flexibility, DG, and market signals, as well as engage with both the market and customers in new ways.

Customer benefits

Achieving this outcome will have a number of benefits for customers. In particular, it will allow customers to redefine their relationship with energy and the energy sector, leverage new technology, and participate in the market in ways they have not been able to before. Specifically, this outcome will:

- Create new opportunities for network reinforcement to be deferred or avoided while reducing both upfront capital and ongoing costs for connecting to Powerco's network. This will deliver savings to customers when compared to a more traditional network and investment model.
- Improve connection options and timeframes.
- Result in significant growth in the number of options for this uptake, meaning there are both emission reduction and customer agency benefits.
- Ensure fair rewards for participation in constraints and congestion management.
- Increase the ability for a customer to choose their level of participation.

Projects: How the outcome will be delivered

The following projects, in amalgamation, will enable the development of products and markets that allow customers to define their energy relationships in new ways.

Flex connections development

Businesses are increasingly electrifying, driving growth in both electricity demand and DG. Powerco is receiving an increasing number of connection requests from customers seeking to connect large or variable loads (e.g. electric vehicle charging, industrial electrification) and generation (e.g. solar, batteries) to constrained parts of the network.

Under the standard firm connection model, these connections can result in high upfront costs and long delivery timeframes. Without a change from the current model to a new approach, there is a risk of inefficient investment, inconsistent customer outcomes, and missed opportunities to enable electrification.

Powerco has completed a qualitative research project with both large commercial, industrial, and DG customers. This research validated the need to pursue investment in flexible connections and provided an understanding of customers' needs to inform product development.

This project will design, develop, and implement a standardised set of flexible connection products for both load and generation customers. These products will allow customers to connect faster and at lower cost by

accepting static operating envelope offers and responding to dynamic operating envelope operations, once connected.

As a result of this project, flexible connection products for load and generation customers should be live and operational, customers will be routinely offered flexible connection options where appropriate, and connection timeframes and costs are reduced for eligible customers.

Flex product development

As Powerco continues to scale up its use of flexibility to manage network constraints and growth, there is a clear need for clearly defined standardised flexibility products that translate network needs into market facing services. While flexibility services are emerging in New Zealand, inconsistent product definitions and bespoke arrangements create longer-term uncertainty and limit scalability. Standardised flexible products assist with repeatable procurement, provide flexibility service providers with consistent options, and allow for more participation.

Experience to date shows that flexibility service providers have varying technical capabilities and preferred commercial models. Early market activity has highlighted two broad flexibility products:

- Sustained – flexibility is scheduled for certain times of day and certain times of the year, regardless of real-time network conditions. Payment is for contracted energy in MWh. This suits providers with residential flexibility loads, such as hot water load control, or providers who can't dispatch in real-time.
- On call – flexibility is available at specified times of day but is only dispatched when required because of real-time network conditions. Payment is a mix of MW available and MWh dispatched. This suits providers with commercial and industrial loads, battery energy storage systems, generators, or the capability to operate in real time.

Over the course of the project, we will also assess the viability of additional products, including variations of the above, as well as reactive power support, and demand turn-up products. Offering multiple product types within the same procurement process has been shown to broaden market participation by allowing flexibility service providers to select the product structure that best aligns with their capabilities and commercial preferences. International experience indicates that this approach increases competition and improves outcomes for network operators, while retaining discretion over which offers best meet network needs. In low-voltage, where dispatching large numbers of small assets in real time is impractical, scheduled or sustained products provide a proportionate and effective means of accessing flexibility at scale.

This project seeks to develop standardised flexibility products that are practical for flexibility service providers to offer and practical for Powerco to utilise. Product development will follow a staged approach aligned with forecasting, data, and operational capability maturity. Initial products will be deliberately simple, utilising static operating envelopes with sustained and on call response capability.

Key outputs of this project are:

- A standardised suite of flexibility products, including sustained and on call response options, aligned to differing provider capabilities and network needs.
- Product definitions that progressively evolve from static, scheduled responses towards more dynamic and real-time dispatch.
- Increased confidence and certainty for flexibility service providers, supporting participation, competition, and investment in enabling technologies.
- Early investigation work on alternative products, such as low-voltage focused products, turn up demand, voltage management and day-ahead.

Flex market development

To maximise the value of flexibility as a non-network solution, Powerco requires a functional flexibility market where flexibility can be requested, procured, and operationalised. For flexibility service providers, a local flexibility marketplace allows a consistent, single point and easy process to offer flexibility across multiple EDBs.

Powerco has been undertaking several trials for procurement flexibility as well as the already funded INTSA project of trialling a local flexibility market platform. These activities have not been embedded into BAU. This project aims to transition Powerco's trials into an established DSO capability with a public-facing flexibility market platform.

Use of the local flexibility market platform will also be embedded into Powerco's BAU processes across network planning, procurement, and operations. This ensures flexibility is not treated as an ad hoc or trial activity, but as a capability that can be reliably deployed alongside traditional network solutions.

A formal flexibility plan will be developed to sit alongside the Asset Management Plan, establishing flexibility as a recognised input into network investment decision-making. The plan will outline how flexibility is identified, valued, and utilised over time, providing a clear link between network needs, market engagement, and long-term planning.

Alongside development of the platform, Powerco will actively support the growth of New Zealand's local flexibility market to enable participation at scale. This includes developing clear and accessible information about how flexibility can be provided to Powerco; establishing regular and reliable procurement cadences to give market participants confidence; engaging directly with flexibility service providers to reduce barriers to entry and engaging with other EDBs to enhance their capability in flexibility so flexibility service providers can see opportunities across multiple jurisdictions. Targeted engagement activities, such as webinars and structured workshops, will be used to support market understanding and to co-design flexibility procurement approaches that are practical, scalable, and aligned with network and flex service provider needs.

The key outputs for this project are:

- A public-facing flexibility trading platform has been operationalised.
- The use of a local flexibility market platform is embedded into Powerco's BAU processes.
- Development of a flexibility plan to sit alongside the Asset Management Plan.
- Ongoing supporting documentation and engagement with flexibility service providers is established.

Flex valuation

As the DSO increasingly looks to non-traditional solutions to solve network needs and as a lower cost outcome for customers, there is no consistent or transparent way to assess their value compared with traditional network investment. Without this it will remain difficult to have confidence that the lowest cost solution is being selected when making investment decisions. Valuation also plays an important role for early flexibility service providers to give an indication of how their investment in flexibility services will result in a viable business model.

The project will explore and develop flexibility valuation methodologies and examine how differing approaches align with various flexibility product constructs and use cases. This includes understanding how flexibility creates value through deferred or avoided network investment and improved utilisation of existing assets, and how those benefits vary by location, timing, and duration. Through this work, Powerco will develop an

understanding of the price points at which flexibility becomes the preferred option for managing constraints and congestion on the network.

A clear, defensible valuation of flexibility sets the upper and lower boundary of what is reasonable to pay for flexibility services, while still requesting the market provides its best offer. This supports the design of pricing and procurement mechanisms that incentivise flexibility adoption while remaining aligned with efficient investment.

The key outputs for this project are:

- Repeatable flexibility valuation methodology established.
- Flexibility service requests are based on cost reflective pricing.

Flexible network pricing

To encourage the uptake of flexibility and ensure value is maximised for both customers and Powerco, the development of flexible pricing mechanisms is required. Flexible pricing enables network constraints and costs to be more accurately reflected in price signals, while ensuring outcomes remain fair and reasonable across the wider customer base. By better aligning prices with underlying network conditions, flexibility can be incentivised where it is most valuable, supporting efficiency, decarbonisation, and improved use of existing network assets.

Flexible pricing creates opportunities for customers to modify consumption and generation behaviour in response to price signals and to benefit from those changes through reduced network charges or increased value for services provided. At the same time, it improves the signalling of the real cost of supply, encouraging more efficient locational and temporal decisions over time, including where new load or DER are connected.

A pricing signal is locational where it is derived from the capacity and utilisation of specific network assets, and dynamic where it changes over time in response to how constrained those assets are in each settlement period. By exposing retailers or flexibility service providers to higher prices during periods of high utilisation, and lower prices when capacity is available, pricing can be used to encourage improved network utilisation and reduce the need for traditional capital investment, without relying on real-time control in the near term.

The key outputs for this project are:

- Structured, locationally aware pricing arrangements that progressively move from static to more targeted signals aligned to forecast and emerging network constraints as required.
- Customer-centric design, ensuring pricing signals are predictable, understandable and actionable, supporting trust and participation.
- Scalable foundations for future dynamic pricing, enabled by improved data, system visibility and regulatory maturity, without over-reliance on real-time control in the near term.

Forecast expenditure

Table 11: Recovery amount forecasted broken down by financial year for this outcome portfolio

	FY27 recovery proposal		FY28 recovery proposal	
	Opex	Capex	Opex	Capex
Enabling and supporting the development of products and markets that allow customers to define their energy relationships in new ways	\$1,083,300		\$594,600	\$576,600

Table 12: Recovery amount forecasted broken down by expenditure category for this outcome portfolio

Tier one expenditure category	Tier two expenditure category	Enabling and supporting the development of products and markets that allow customers to define their energy relationships in new ways
Design and early thinking	Consultant costs	\$159,570
	Internal resourcing	\$156,675
	Market testing	\$93,135
Supporting and enabling	Consultant costs	\$465,000
	Internal resourcing	\$114,750
	Marketing, communication and engagement costs	\$93,135
Implementation	Consultant costs	\$491,925
	Internal resourcing	\$144,225
	Data costs	\$68,100
	Integration costs	\$167,985
Product costs	Licensing costs	\$300,000
Total		\$2,254,500

Appendix 4 – Outcome portfolio details: Achieving a dynamically operated, stable and reliable network

Outcome purpose

A DSO model requires a shift from traditional network planning to dynamic, real-time system operation. Although the stable and reliable delivery of electricity is a fundamental role of a network operator, the operationalisation of a DSO model will help to achieve a reliable and stable network at least cost, and at a faster pace when compared with a traditional DNO model.

This area of work will enable Powerco to operationalise the insights, products, markets, capabilities, and new customer value opportunities developed through the other outcome portfolios. It will result in an ability to operate a network that actively adapts to changing conditions, such as variable generation, evolving demanding patterns, new technologies and two-way power flows.

Customer benefits

This outcome ensures that Powerco is capable of dynamic system operation, and therefore, can operationally maximise the insights, products, and markets developed through the other two outcome categories. As such, this outcome benefits customers by ensuring that the network itself is capable of operating with the level of flexibility required to allow customers to define their relationship with energy in new ways.

At the same time, this outcome ensures that the network can deliver reliable and stable supply in a more cost-effective way, and at a faster pace when facing future challenges, than under traditional asset management models.

The projects within this outcome will:

- Lower long-run costs for customers by optimising network constraint management using DER and flexibility in situations where this is more cost-effective than traditional augmentation.
- Increase the speed and efficiency of integrating DG, electric vehicles, and flexible load to the network.
- Improved reliability and quality of supply through proactive, real-time management of DER impacts.
- These models form the basis of numerous flex options, which in turn enable customer participation and better customer outcomes.

Projects: How the outcome will be delivered

The following projects, in amalgamation, will help to achieve a dynamically operated, stable and reliable network that ensures the benefits and capabilities unlocked through the other two outcome portfolios can be maximised.

Operating envelope model

Developing modelling to determine the size, timing and duration of constraints and congestion, both static and dynamic, to produce operating envelopes at which flexible connection/pricing signals can be targeted, is essential to ensure that the full benefits of flexibility for customers can be maximised.

This project seeks to develop operating envelope calculation models that are repeatable, accurate and dependable. We will seek to transition from the current block methodology, typical for DNOs, to more granular half-hour demand profiles, beginning with static envelopes using historical and forecast data, moving to short-term forecast dynamic envelopes, then to fully dynamic operating envelopes (DOE) that use state estimation and real-time data.

DSO Operational Technology and Processes

DER are connecting to Powerco's network at increasing scale. This is resulting in more dynamic power flows, increasingly localised constraints, and tighter operational coordination requirements across distribution and transmission interfaces.

A core DSO function is the real-time coordination of third-party flexibility alongside traditional network operation to manage constraints safely and at the least cost.

Existing legacy operational tools are not designed to support this end-to-end DSO operational function at scale. Without targeted uplift, Powerco's ability to operate the network safely, reliably, and efficiently will become increasingly constrained as DER and flexibility participation grows.

This project delivers DSO operational capability through an initial deployment of a DER and flexibility interface, integrated with Powerco's operational environment and external market interfaces.

An initial DER/flexibility interface establishes secure, standards-based ingestion of DER telemetry and basic dispatch signals to support early operational interaction with DER and flexibility providers.

This includes ingestion and dispatch of DOE produced by the DOE engine, ingestion of network state outputs and forecasts to support DOE generation, reconciliation of flex dispatch outcomes, and structured feedback into billing and settlement systems. Operational outputs are provided for pricing engines and flex markets, reflecting current forecast constraints informed by demand forecasts.

Supporting operational processes, governance, workforce capability, and coordination with the transmission system operator are included to ensure sustained, system-wide benefits.

Forecast expenditure

Table 13: Recovery amount forecasted broken down by financial year for this outcome portfolio

	FY27 recovery proposal		FY28 recovery proposal	
	Opex	Capex	Opex	Capex
Achieving a dynamically operated, stable and reliable network	\$556,020	\$424,080	\$271,440	\$77,760

Table 14: Recovery amount forecasted broken down by expenditure category for this outcome portfolio

Tier one expenditure category	Tier two expenditure category	Achieving a dynamically operated, stable and reliable network
Design and early thinking	Consultant costs	\$51,525
	Internal resourcing	\$60,795
	Market testing	\$50,490
Supporting and enabling	Consultant costs	\$80,370
	Internal resourcing	\$25,245
	Marketing, communication and engagement costs	\$14,940
Implementation	Consultant costs	\$280,800
	Internal resourcing	\$107,685
	Data costs	\$14,940
	Integration costs	\$127,260
Product costs	Licensing costs	\$515,250
Total		\$1,329,300

Appendix 5 – Mapping the projects and outcomes under this application with the independent review

In Figure 4, we have mapped the outcomes and projects included in this INTSA application to the recommendations in the independent report. While there is strong overlap, we note that a small number of recommended priorities are treated as all-of-Powerco activities instead of DSO-led initiatives, and are therefore not addressed in this application. There are also some activities flagged for action closer to the end of DPP4.

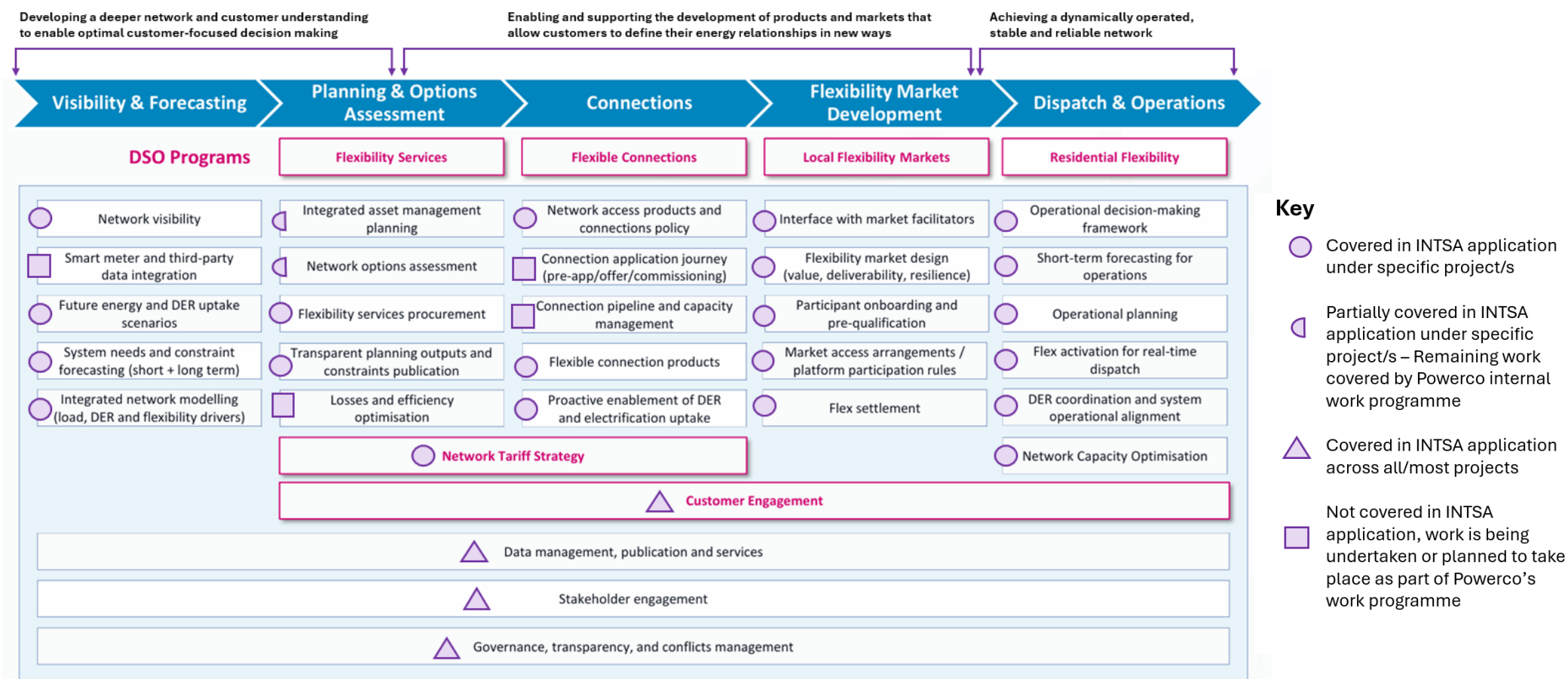


Figure 4: Mapping of independent report to the contents of this application.

Appendix 6 – Definition of expenditure categories presenting in this application

Tables 15 and 16 provide a definition of the expenditure categories that are presented in this application.

Table 15: Definition of tier one expenditure category

Tier one expenditure category	Description
Design and early thinking	Expenditure associated with defining the project, shaping the solution, and validating early assumptions. This includes exploratory work, feasibility analysis, procurement and initial planning activities.
Supporting and enabling	Expenditure required to support the projects development. This focuses on the readiness of the project, stakeholder engagement, and capability building to support successful delivery.
Implementation	Expenditure related to building, configuring, and deploying the solution, including technical execution and delivery.
Product cost	Expenditure associated with the tools, platforms, or products required to operate the solution. For the purposes of this application these are all licensing-based expenses.

Table 16: Definition of tier two expenditure category

Tier two expenditure category	Description
Consultant costs	External expertise providing specialist advice, design support, or delivery capability. Powerco does not have the expertise internally.
Internal resourcing	Time and effort from internal staff contributing to the project across planning, delivery, or support.
Implementation	Expenditure related to building, configuring, and deploying the solution, including technical execution and delivery.
Market testing	Activities to test concepts, validate demand, or assess feasibility with users. Also includes the cost of market procurement for vendors.
Marketing communication and engagement expenditure	Expenditure related to promoting an initiative and engaging external stakeholders.
Data expenditure	Expenditure associated with acquiring, storing, processing, or managing data that Powerco has not previously had access to, but is needed for the solution.
Integration expenditure	Costs to connect new systems with existing platforms, ensuring appropriate integration and seamless operation.
Licensing expenditure	Fees for using software, platforms, or tools required for the solution.





DSO strategy

Final Report

Powerco
May 2026



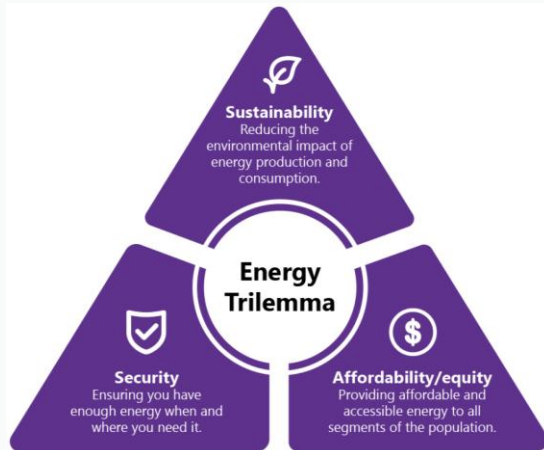
Executive Summary

Powerco DSO Strategy

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To inform Powerco's future DSO ambition & strategy, we have undertaken a 3-phase engagement to align on key challenges and objectives



While the relative emphasis on each element may evolve, the **Energy Trilemma remains central to energy system design. However, increasing uncertainty** caused by technology change, DER uptake, energy shocks, inflation, and regulatory shifts **makes speed and adaptability critical for EDBs.** Building strong DSO capabilities will allow **Powerco to differentiate and accelerate growth while and manage risk** for both the business and its customers.

Executive Summary and key findings per phase:

1

Market insights & strategy overview

Market Context: New Zealand's energy market is changing, and Electricity Distribution Businesses (EDBs) will be required to develop 'Distribution System Operator' (DSO) capabilities. However, 'DSO Models' developed in equivalent markets such as the UK and Australia will not translate directly to New Zealand or Powerco's unique context.

The Opportunity: This creates an opportunity for Powerco to build on its strategy to be "customer first" and play a significant role in defining the role of DSOs in New Zealand and create new business growth opportunities.

The Challenge: A rapidly changing energy & technology landscape coupled with long-term regulatory uncertainty makes it difficult to quantify the 'value of DSO' for Powerco and therefore prioritise programs & investments.

2

DSO Readiness Assessment

Powerco's Current State: Powerco has made strong progress in developing core capabilities and has actively pursued a range of DSO innovation initiatives. However, to deliver successfully demonstrate & quantify the value of DSO and influence DPP5, Powerco must prioritise those programs that deliver short-term customer value.

3

DSO Roadmap Planning

DSO Program Roadmap: Based on the Powerco's DSO Strategy and current state, it is recommended that Powerco should focus on several short-term, high-impact **Flexible Services** and **Flexible Connections** DSO Programs while further developing **network pricing** strategies.

Background

New Zealand's (NZ) electricity system and distribution networks are undergoing rapid change driven by customer electrification, DER uptake and evolving regulatory expectations.

- Electricity Distribution Businesses (EDBs) such as Powerco are increasingly expected to develop Distribution System Operator (DSO) capabilities to manage constraints, integrate DER, and deliver efficient customer outcomes.
- While international DSO models (such as in the UK and Australia) provide useful reference points, no single model translates directly to NZ's regulatory, customer and network context.
- Powerco has already made strong progress across DSO-enabling initiatives, but faces uncertainty, competing priorities and the challenge of demonstrating DSO value ahead of DPP5.

Key outputs

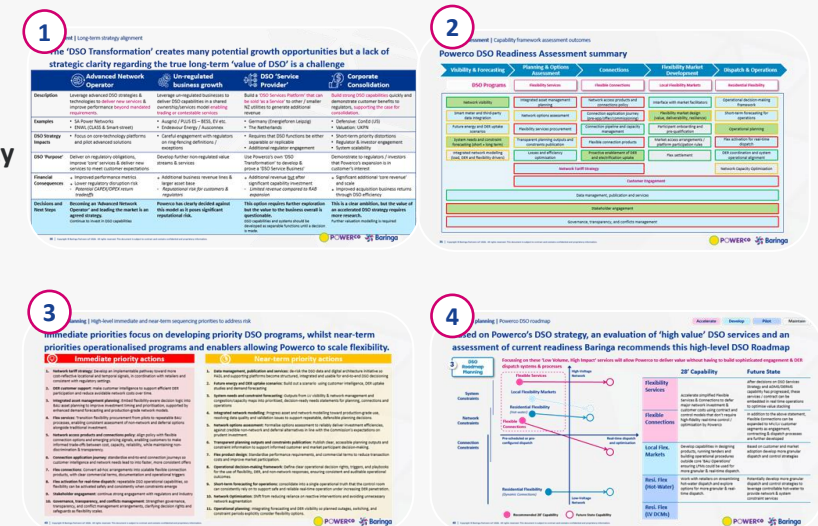
From our assessment, DSO programs only deliver intended customer and network value when delivery, governance and capability are aligned. To strengthen Powerco's DSO transition, this engagement has provided:

- A clear long-term strategic ambition, confirming Advanced Network Operator as Powerco's preferred DSO trajectory, with the DSO roadmap deliberately structured to deliver customer and regulatory value first, while keeping optionality and future growth pathways open** to focus effort where Powerco can demonstrate value quickly
- A structured DSO readiness assessment** identifying where Powerco should accelerate, develop, pilot or maintain capabilities, ensuring resources are directed to areas that matter most for DPP5 outcomes.
- Actionable guidance to 'industrialise' delivery**, moving priority DSO initiatives centring on Flexible Services and Flexible Connections from bespoke or ad-hoc execution toward repeatable products and BAU processes spanning planning, connections and operations.
- Clearer alignment between strategy and DSO capability model**, clarifying decision rights, governance expectations and cross-functional hand-offs required to operate as an intelligent, integrated DSO rather than a collection of stand-alone initiatives. We also provided a strategic customer narrative, positioning Powerco to engage with regulators and stakeholders by linking DSO investment and delivery directly to customer outcomes and system efficiency.

In this context, early capability uplift of DSO programs and proof-of-delivery are critical to deliver Powerco's DSO strategy.

Approach

- Market and regulatory insights:** Reviewed NZ policy developments, ENA DSO work and international DSO experience to frame Powerco's strategic choices.
- Strategy overview and stakeholder engagement:** Conducted targeted interviews and workshops with senior leaders and subject-matter experts across customer, operations, planning, regulation and digital functions.
- DSO readiness assessment:** Assessed maturity and strategic importance across a structured DSO capability framework adapted for the NZ context.
- DSO roadmap prioritisation:** Segmented the options for scalable DSO programs (e.g. flexible services, connections, market, tariffs) that could demonstrate customer value through delivery.



Powerco's DSO roadmap must support both long-term and short-term strategic priorities without closing potential growth paths

1

Market insights & strategy overview

Long-term Strategy

Powerco will seek to **'lead the pack'** in becoming an **Advanced Network Operator** pioneering new capabilities to accelerate and shape the role of DSOs in NZ. This **'no regrets' path** allows Powerco to explore additional DSO Service Provider and Corporate Consolidation growth pathways in future

DSO Service Provider

Consequences

Certain DSO capabilities should be developed separately to core operations until a decision is made

Corporate Consolidation

Powerco should progress a wide range of DSO programs providing future optionality but only focus on operationalising a few

Next Steps

1. Study the economics of 'DSO Service Provider' business models and assess regulatory appetite for this model.
2. Perform an analysis on the 'economics of DSO' to the core business and potential acquisition targets
3. Continue strong regulatory engagement

Short-term Strategy

To become an 'Advanced Network Operator', **Powerco must prove the value of DSO to shape the DPP5 regulatory period** by delivering quantified network and customer value in the short-term.

Network Value

Findings

To deliver maximum value, Powerco should use DSO capabilities to resolve system & connection constraints

Customer Value

Powerco can provide the most value to larger Solar & BESS and C&I customers who experience network cost impacts most acutely

Conclusion

Powerco should focus on the **Flexibility Services** and **Flexible Connection Programs** as these address short-term customer and network challenges and therefore demonstrate the value of DSO to regulators in advance of DPP5.

Powerco's DSO roadmap must support both long-term and short-term strategic priorities without closing potential growth paths

2

DSO Readiness Assessment

Readiness Assessment

After conducting the DSO readiness assessment, we consider Powerco is well-positioned to progress toward an Advanced Network Operator model.

ENSA Report no-regrets enablers	Current Initiatives	LEADS to	Powerco Program
• Data, analytics and digital capabilities • Network planning and engineering • Customer engagement and service • Operational excellence • Talent and capability • Governance and risk management	• Data, analytics and digital capabilities • Network planning and engineering • Customer engagement and service • Operational excellence • Talent and capability • Governance and risk management	• Data, analytics and digital capabilities • Network planning and engineering • Customer engagement and service • Operational excellence • Talent and capability • Governance and risk management	• Network planning and engineering • Customer engagement and service • Operational excellence • Talent and capability • Governance and risk management

Visibility & Forecasting	Planning & Optimisation	Connections	Flexibility Market	Dispatch & Operations
• DSO Programs • Network planning • Operational excellence • Talent and capability • Governance and risk management	• Network planning • Operational excellence • Talent and capability • Governance and risk management	• Network planning • Operational excellence • Talent and capability • Governance and risk management	• Network planning • Operational excellence • Talent and capability • Governance and risk management	• Network planning • Operational excellence • Talent and capability • Governance and risk management

Summary

Strengths

- Strong progress has been made on developing broad-based DSO enablers
- Powerco is developing many different DSO Programs in parallel to address almost any customer & network challenge

Weaknesses

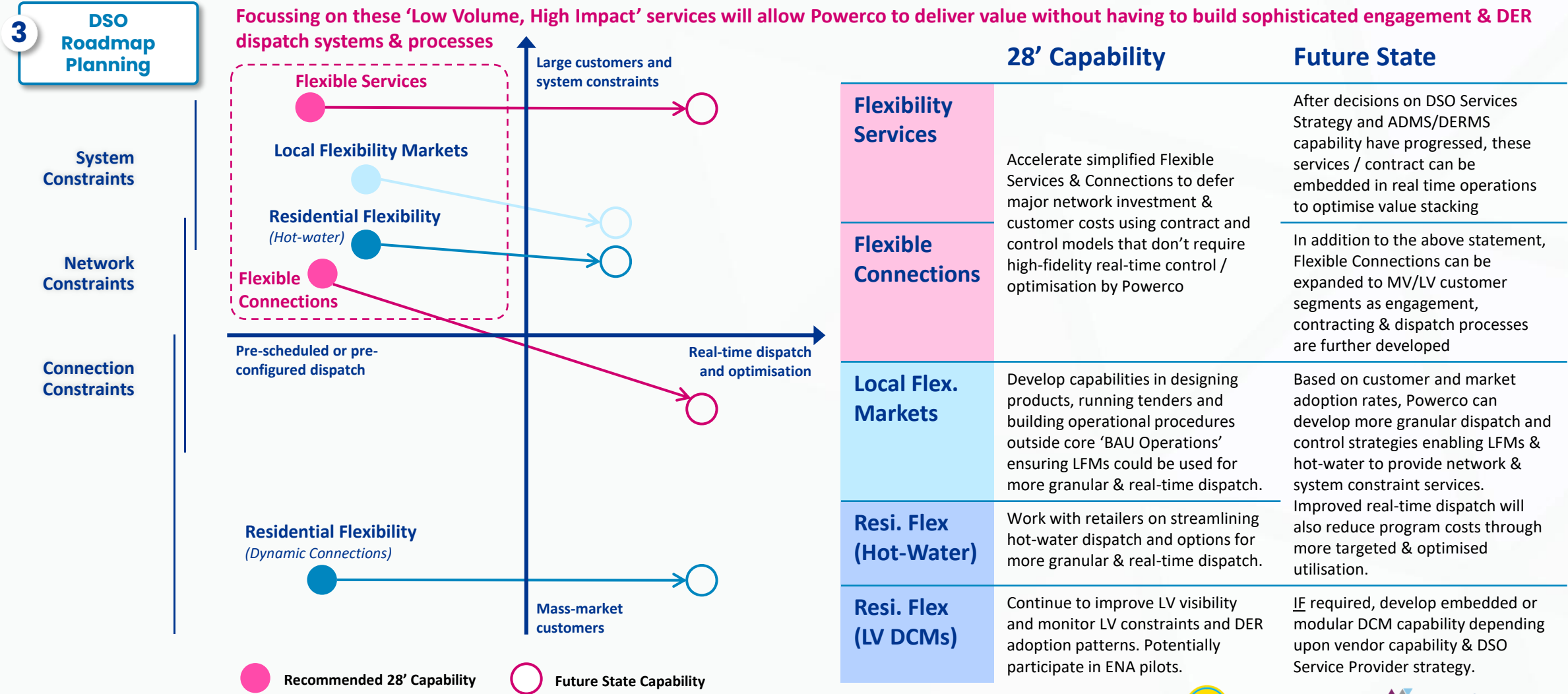
- There is limited organisational capability to develop scaled and systematised flexibility services with real-time dispatch
- Several DSO initiatives are still bespoke, manually executed or reliant on individual expertise, constraining repeatability and BAU transition.

Constraints

- Decision-making frameworks, governance and ownership across planning, operations and commercial functions are not yet fully aligned to support scaled DSO delivery
- Until a decision on 'DSO Services Provider' is made, Powerco should not deeply embed DSO functions in the business

Conclusion: Powerco should focus on 'low volume, high value' DSO Services that deliver immediate customer and network value. Work should continue on key programs and foundational initiatives as identified in the INTSA application. These initiatives will support the multi-phased evolution to deliver more advanced real-time services over time. In parallel, longer-term initiatives such as Network Tariff Strategy and operating model clarity must be progressed to not close future growth paths.

Based on Powerco’s DSO strategy, an evaluation of ‘high value’ DSO services and an assessment of current readiness Baringa recommends this high-level DSO Roadmap



Market context and insights

Powerco DSO Strategy

There are 3 key drivers propelling Powerco's DSO strategy

Powerco's DSO transition is being driven by converging regulatory expectations, accelerating DER-led customer change, and rising pressure to deliver efficient, affordable network outcomes.

1



Regulatory and market

Drivers – changing regulatory settings within the last 6-12 months

- Evolving regulatory settings (EA Model, EA rule changes, Congestion Load Management) placing greater emphasis on:
 - Efficient integration of DER and non-network solutions
 - Transparency around capacity, constraints and connection processes
 - Better coordination with Transpower and wider system planning
- Increasing focus of capex-led growth, reinforcing the need for flexibility, dynamic operating envelopes and alternative solutions to defer or avoid network investment

2



Customer and DER

Drivers – customer electrification & DG uptake

- Rapid growth in distributed generation and electrification across Powerco's networks, including commercial rooftop solar and growing interest in BESS, EV charging, and electrified heat/processes
- Rising customer expectations for:
 - Faster, more transparent connection assessments
 - Clear visibility of local network capacity and constraints
 - Products that reward flexibility (e.g. flexible connections, dynamic pricing)
- Large and industrial customers seeking greater certainty on load growth pathways, and options for long-term connection solutions aligned to decarbonisation plans

3

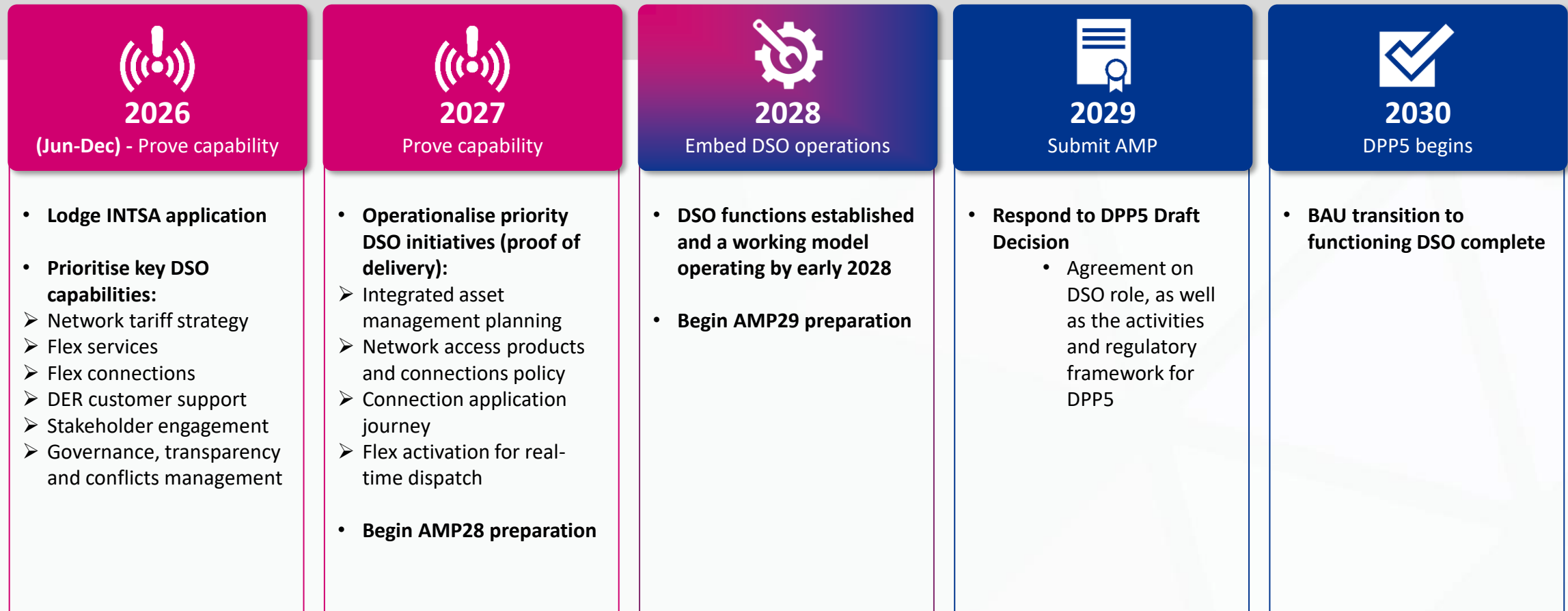


Cost and network performance

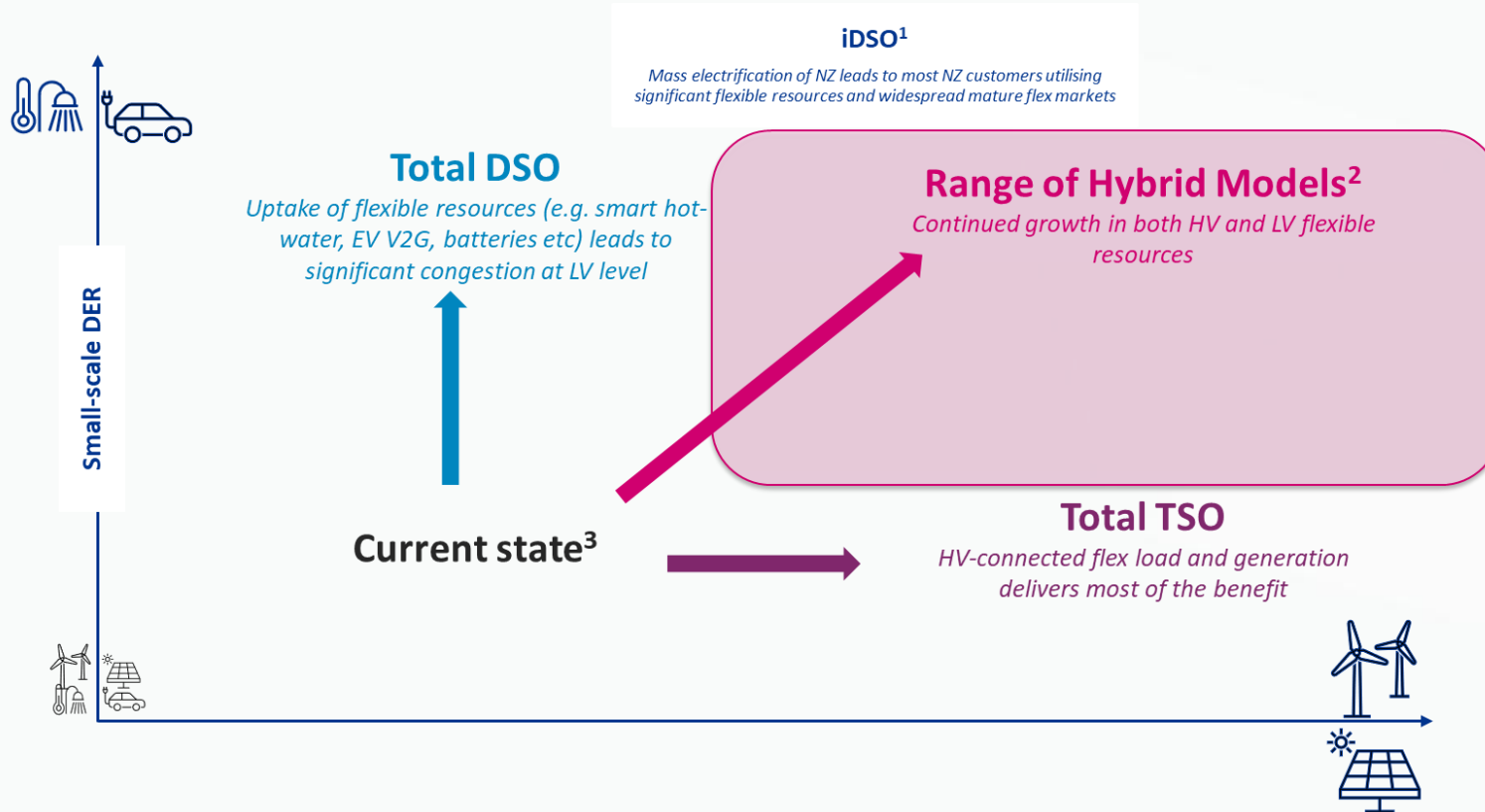
Drivers – costs to maintain and operate the network

- Material cost-to-serve pressures from continuing network growth, asset renewal and resilience requirements across diverse and regional areas
- Increasing operational complexity driven by bi-directional power flows, local constraints and intermittent DER behaviour
- Unlock system intelligence through:
 - Improved planning accuracy
 - Enabling cost-effective use of flexibility instead of traditional reinforcement
- Other DSO capabilities as a lever to manage long-term affordability, by deferring augmentation and improving utilisation of existing assets

Over the next 18 months, Powerco must prove their DSO capability through delivery, and lock in the key decisions that make Powerco DSO ready for DPP5



NZ has potential directions for travel for each of the industry structures, with many EDBs already observing and responding to emerging challenges and market changes

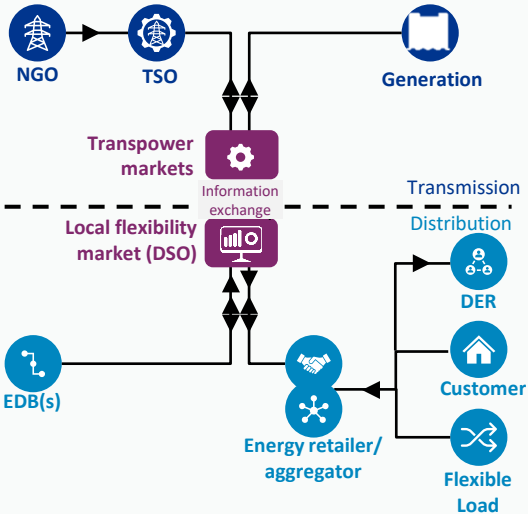


* The initial path could trend towards Total TSO but then evolve towards Hybrid, even a Hybrid Model nearer Total DSO, over time. Conversely, if LV headroom issues are considered the priority challenge, the initial move could be towards Total DSO, with later moves towards some Hybrid Model features to improve management of HV-connected flex resources.

Implications for NZ

- Total TSO and Total DSO represent contrasting end points of market design and evolution. NZ should continue to closely monitor how sector developments may align with these models.
- There are many potential Hybrid Models covering the spectrum from Total DSO to Total TSO.
- Current market settings and regulation (e.g. separate operation of local flex services and wholesale markets) are a form of hybrid model similar to the one assessed in this report.
- Note this two-dimensional diagram does not capture how the best model for NZ could evolve over time.*

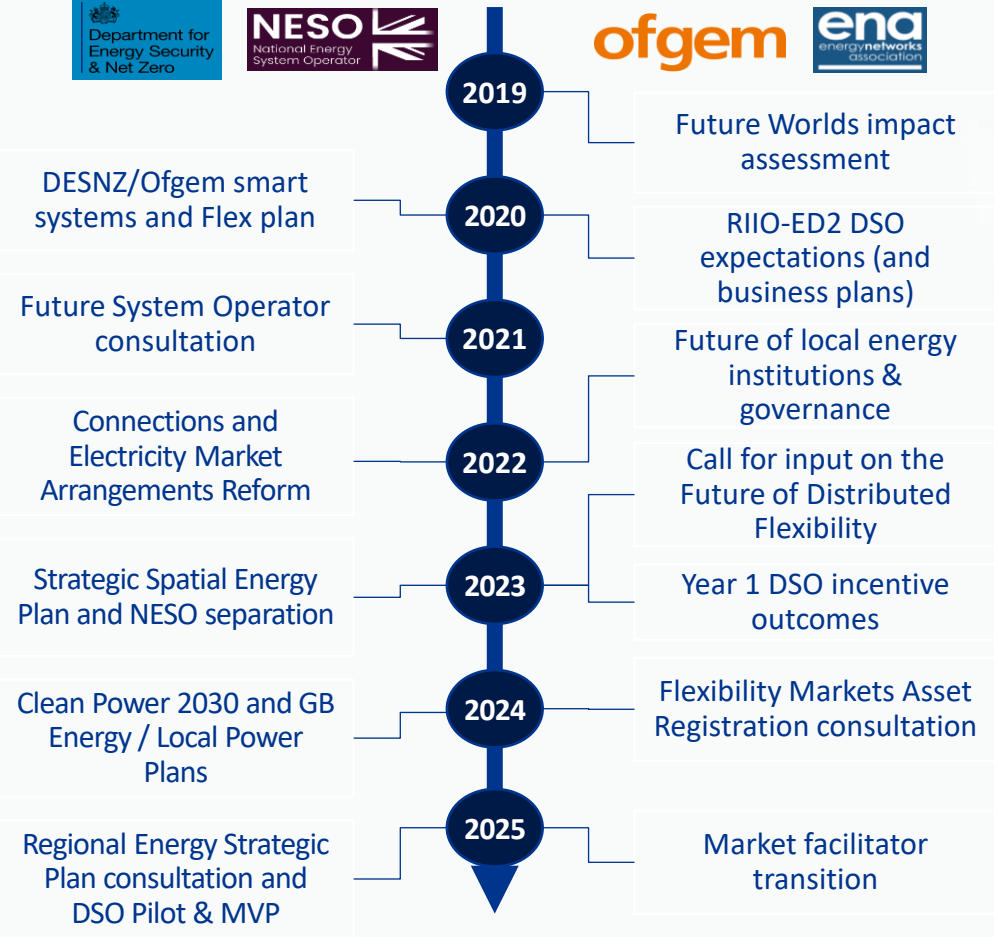
The DSO model in NZ is still evolving creating an uncertain regulatory environment for EDBs to build business and technology strategy beyond a set of no-regrets actions

Model name	Hybrid Model ¹	No-regrets DSO Enablers	
Description	A hybrid approach, where the DSO operates local flexibility markets and optimises constraints within its own distribution network. The TSO optimises the wholesale market at transmission level. Aggregators can offer services to one or both DSO and TSO. The EA noted there is strong support for the hybrid DSO model. ²		Continue collaborative development of DSO-like functions, do not delay action while waiting for the exact DSO model, roles & responsibilities to be set
			Agree a robust method for valuing costs and benefits of this system-wide transformation
Simplified Diagram			Develop a preliminary plan that maps milestones and persist/exit decision points to avoid overspending
			Develop good practice principles to improve data availability across the network
			Develop shared standards for: - DER control and management, including the protocols for control signals - Passing dynamic and static operating envelope information - Bid and offer structures for flexibility services
			Explore technology partners and solutions for DSO functions/capabilities
			Consider opportunities for joint DSOs/shared services

¹ There are many variants of a hybrid DSO framework – this description and model diagram represent just one way this could work, noting it is one that is already evolving in NZ.

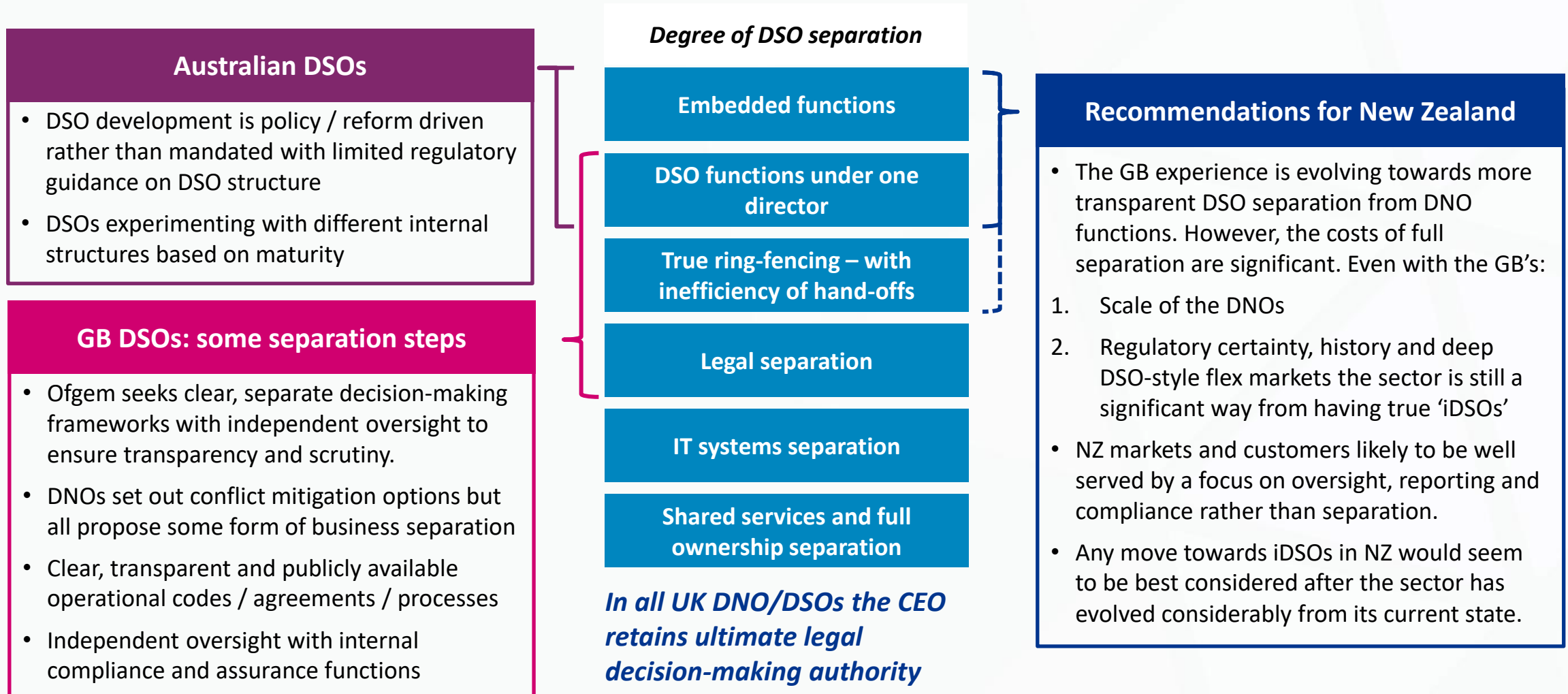
² Source: [Future System Operation project - update and next steps](#) | Electricity Authority
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The UK and Australia provide examples of regulatory vs. industry driven DSO models



Advantages	Strategic clarity, incentives & joint project coordination	Flexibility to innovate and ‘push the boundaries’
Disadvantages	Poor calibration of incentives, changing regulations	Weak mandates, limited direction, changing regulations

For example, the UK and Australia have chosen vastly different DSO-DNO separation models but NZ must choose for itself and Powerco has a role in shaping this model



DSO Strategy Alignment

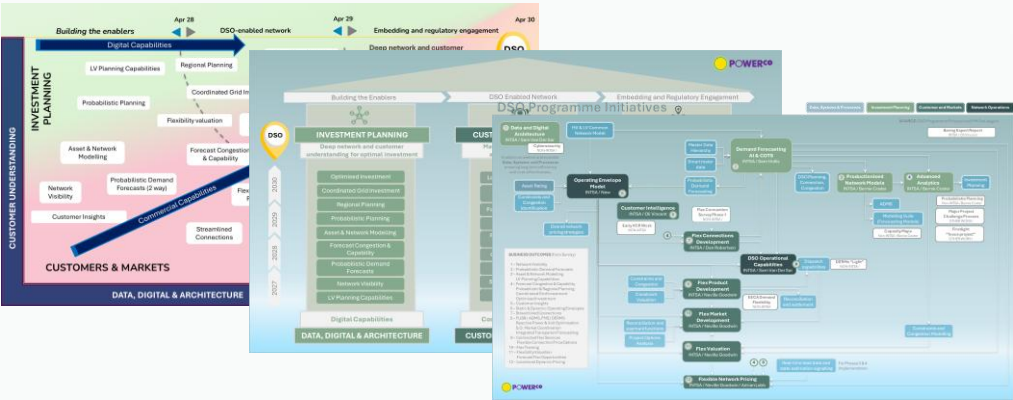
Powerco DSO Strategy

The 'DSO Transformation' creates many potential growth opportunities but a lack of strategic clarity regarding the true long-term 'value of DSO' is a challenge

	 Advanced Network Operator	 Un-regulated business growth	 DSO 'Service Provider'	 Corporate Consolidation
Description	Leverage advanced DSO strategies & technologies to deliver new services & improve performance beyond mandated requirements .	Leverage un-regulated businesses to deliver DSO capabilities in a shared ownership/services model enabling trading or contestable services	Build a 'DSO Services Platform' that can be sold 'as a Service' to other / smaller NZ utilities to generate additional revenue	Build strong DSO capabilities quickly and demonstrate customer benefits to regulators, supporting the case for consolidation .
Examples	- SA Power Networks - ENWL (CLASS & Smart-street)	- Ausgrid / PLUS ES – BESS, EV etc. - Endeavour Energy / Ausconnex	- Germany (Energieforen Leipzig) - The Netherlands	- Defensive: ConEd (US) - Valuation: UKPN
DSO Strategy Impacts	Focus on core-technology platforms and pilot advanced solutions	Careful engagement with regulators on ring-fencing definitions / exceptions	- Requires that DSO functions be either separable or replicable - Additional regulator engagement	- Short-term priority distortions - Regulator & investor engagement - System scalability
DSO 'Purpose'	Deliver on regulatory obligations, improve 'core' services & deliver new services to meet customer expectations	Develop further non-regulated value streams & services	Use Powerco's own 'DSO Transformation' to develop & prove a 'DSO Service Business'	Demonstrate to regulators / investors that Powerco's expansion is in customer's interest
Financial Consequences	+ Improved performance metrics + Lower regulatory disruption risk - <i>Potential CAPEX/OPEX return tradeoffs</i>	+ Additional business revenue lines & larger asset base - <i>May pose reputational or regulatory risk</i>	+ Additional revenue <u>but</u> after significant capability investment - <i>Limited revenue compared to RAB expansion</i>	+ Significant additional 'core revenue' and scale + Improved acquisition business returns through DSO efficiency
Decisions and Next Steps	Becoming an 'Advanced Network Operator' and leading the market is an agreed strategy.	This growth model is not the focus of Powerco's current DSO strategy	This option requires further exploration and the potential value to the business must be quantified.	This is a clear ambition, but the value of an accelerated DSO strategy requires more research.

While long-term strategy is important, Powerco has made great progress on many DSO initiatives that set the foundation for an ‘Advanced Network Operator’

To help structure Powerco’s existing DSO initiatives, Powerco has used several internal formats:

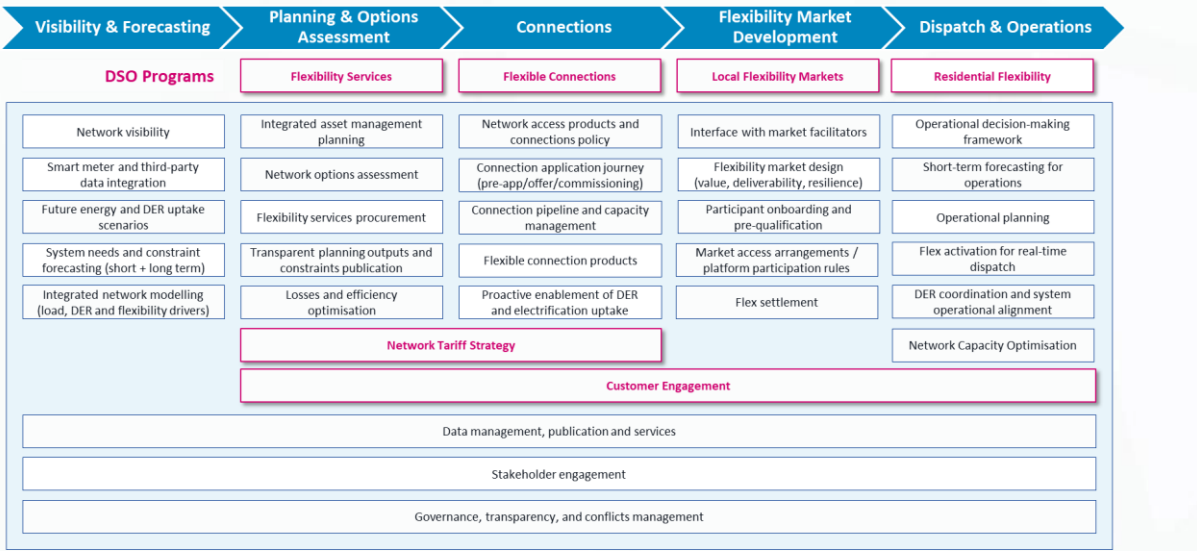


To benchmark and operationalise Powerco’s DSO strategy additional frameworks were considered:

Objective	Work programme	Organisations involved	2026	2027	2028	2029	2030
Design and delivery of DSOs	DSO Design and delivery	Powerco, Baringa, ERM, etc.					
Driving efficiency	DSO Design and delivery	Powerco, Baringa, ERM, etc.					
Accelerating flexibility	DSO Design and delivery	Powerco, Baringa, ERM, etc.					
Connecting and pricing right	DSO Design and delivery	Powerco, Baringa, ERM, etc.					
Prioritising customers	DSO Design and delivery	Powerco, Baringa, ERM, etc.					

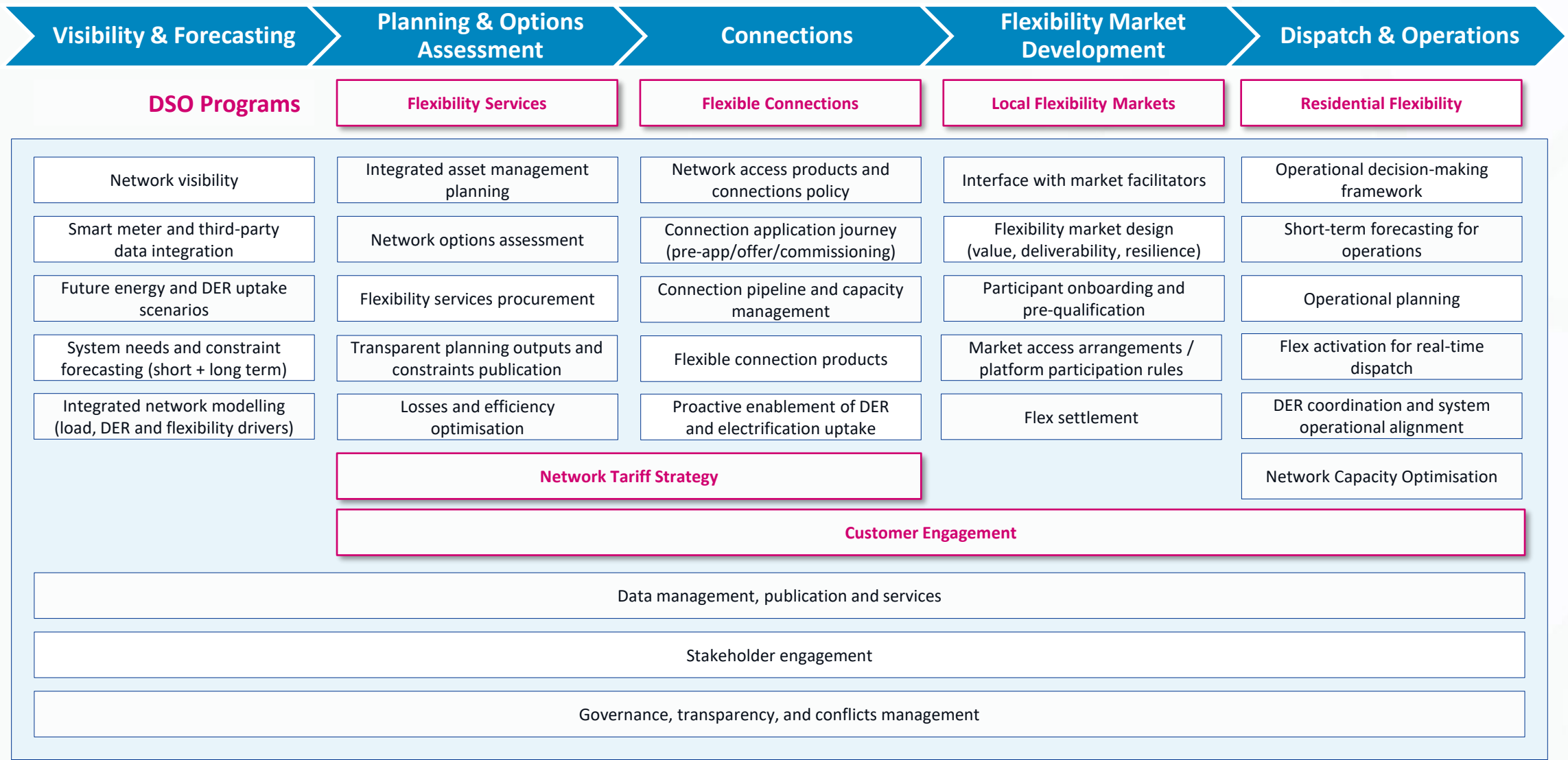
Based on this review, Baringa proposes this DSO Framework adapted from the UK’s proposed ED-RIO3 version to reflect NZ’s context because:

- It provides an international benchmark
- Provides sufficient granularity & accurately reflects the range of DSO initiatives that are mapped to Powerco’s Operating Model.
- Can be updated as Powerco’s DSO strategy or NZ’s regulatory context evolves.



The framework has been adapted, and several major **DSO Programs** have been identified for more extensive roadmap analysis. These DSO Programs are based on the underlying functions identified in the framework but do not require all functions to be mature to create customer and network value as part of Powerco’s DSO strategy.

Powerco has made strong progress on a range of DSO Framework functions



Definitions

Function	Definition
Visibility & Forecasting	Network visibility The ability to obtain timely, sufficiently granular, and reliable data on the state of the distribution network, including demand, generation, constraints, voltage, and asset loading, to support operational decision-making, planning, and market interaction across relevant time horizons.
	Smart meter and third-party data integration The capability to ingest, integrate, and utilise smart meter data and relevant third-party datasets (e.g. DER telemetry, weather, EV charging data) in a controlled and governed manner to improve network visibility, forecasting accuracy, and customer outcomes.
	Future energy and DER uptake scenarios The development and use of forward-looking scenarios that reflect plausible pathways for electrification, DER uptake, and customer behaviour, to inform network planning, flexibility needs, and investment decisions under uncertainty.
	System needs and constraint forecasting The capability to identify, forecast, and spatially locate current and future short-term and long-term system needs and constraints across operational, tactical, and strategic timeframes, forming a common evidence base for planning, flexibility procurement, and connections decisions.
	Integrated network modelling The use of consistent, integrated models that represent interactions between load growth, DER behaviour, and flexibility responses to assess network performance, risks, and options under different scenarios.
Planning & Options Assessment	Integrated asset management planning The coordination of asset, demand, DER, and flexibility considerations within planning processes to deliver least-cost, whole-of-system outcomes over the asset lifecycle, rather than treating traditional reinforcement and non-network options separately.
	Network options assessment A structured assessment of credible network and non-network options (including flexibility and operational measures) to address identified system needs, considering cost, risk, delivery certainty, resilience, and consumer outcomes.
	Flexibility services procurement The capability to specify, procure, and contract flexibility services in a transparent and competitive manner, aligned to defined system needs and integrated with planning and operational frameworks.
	Transparent planning outputs and constraints publication The publication of clear, accessible information on network constraints, future needs, and planning assumptions to support informed customer, market participant, and investor decisions and enable efficient participation in flexibility and connections processes.
	Losses and efficiency optimisation The systematic consideration of opportunities to reduce technical losses and improve network efficiency through planning, operational practices, and the use of DER and flexibility where cost-effective.

Function	Definition
Connections	Network access products and connections policy A clear and internally consistent framework defining network access rights, connection products (including flexible or conditional access), and associated obligations, aligned with regulatory policy and system operation requirements.
	Connection application journey End-to-end processes that provide customers with clarity, predictability, and timely decision-making across the connection lifecycle, from early engagement in pre-application through to offer, commissioning and post-connection compliance.
	Connection pipeline and capacity management The active management of current and prospective connection enquiries and committed capacity to ensure efficient utilisation of network headroom, visibility of future risks, and alignment with planning and flexibility approaches.
	Flexible connection products Connection arrangements that allow customers to connect earlier or at lower cost by accepting constraints or operational controls, supported by clear rules, monitoring, and customer protections.
	Proactive enablement of DER and electrification uptake Anticipatory actions taken to remove avoidable network barriers to DER and electrification, including forward investment, process improvements, and use of flexibility, consistent with long-term consumer value.
Flexibility Market Development	Interface with market facilitators The operational and governance arrangements that enable effective coordination between EDB and any flexibility market facilitator or platform, including role clarity, data exchange, and decision rights.
	Flexibility market design The specification of flexibility products that are clearly linked to system needs, deliverable by participants, and resilient under different operating conditions, while providing value for consumers.
	Participant onboarding and pre-qualification Processes to register, assess, and approve flexibility providers to ensure technical capability, compliance, and operational reliability prior to participation.
	Market access arrangements / platform participation rules The rules, standards, and participation requirements governing access to flexibility markets or platforms, ensuring transparency, non-discrimination, and regulatory compliance.
	Flex settlement Arrangements for validating delivery and settling payments for flexibility services in a timely, auditable, and transparent manner.

Definitions

	Function	Definition
Dispatch & Operations	Operational decision-making framework	A defined framework that sets out how operational decisions are made, prioritised, and escalated, including the role of flexibility, DER coordination, and interactions with system security obligations.
	Short-term forecasting for operations	Near-term forecasts of demand, generation, and network conditions that support real-time and day-ahead operational planning and activation decisions.
	Operational planning	The translation of planning and market outcomes into operational schedules, constraints, and readiness actions across relevant timeframes.
	Flex activation for real-time dispatch	The capability to issue, manage, and verify real-time or near-real-time flexibility activations to manage network constraints or operational risks.
	DER coordination and system operational alignment	The coordination of DER behaviour with network operational needs, including alignment with upstream system operators where relevant, to maintain secure and efficient system operation.
	Network Capacity Optimisation	The use of operational tools, DER capabilities, and control strategies to maintain voltage within limits while maximising network hosting capacity and efficiency for the full High-Voltage to Low-Voltage network
Cross-cutting capabilities	Network tariff strategy	The design and application of network tariffs to recover costs efficiently while providing signals that support desired customer behaviour, network utilisation, and system outcomes.
	DER customer support	Provision of clear, consistent information and support to customers regarding DER connections, operation, obligations, and opportunities to participate in flexibility arrangements.
	Data management, publication and services	End-to-end governance of data quality, access, publication, and use to support operational needs, market participation, transparency obligations, and innovation.
	Stakeholder engagement	Structured engagement with customers, market participants, and other stakeholders to inform DSO decision-making and build trust in new roles and services.
	Governance, transparency and conflicts management	Governance arrangements that define accountabilities, manage conflicts between regulated and non-regulated roles, and ensure transparent, auditable DSO decision-making.

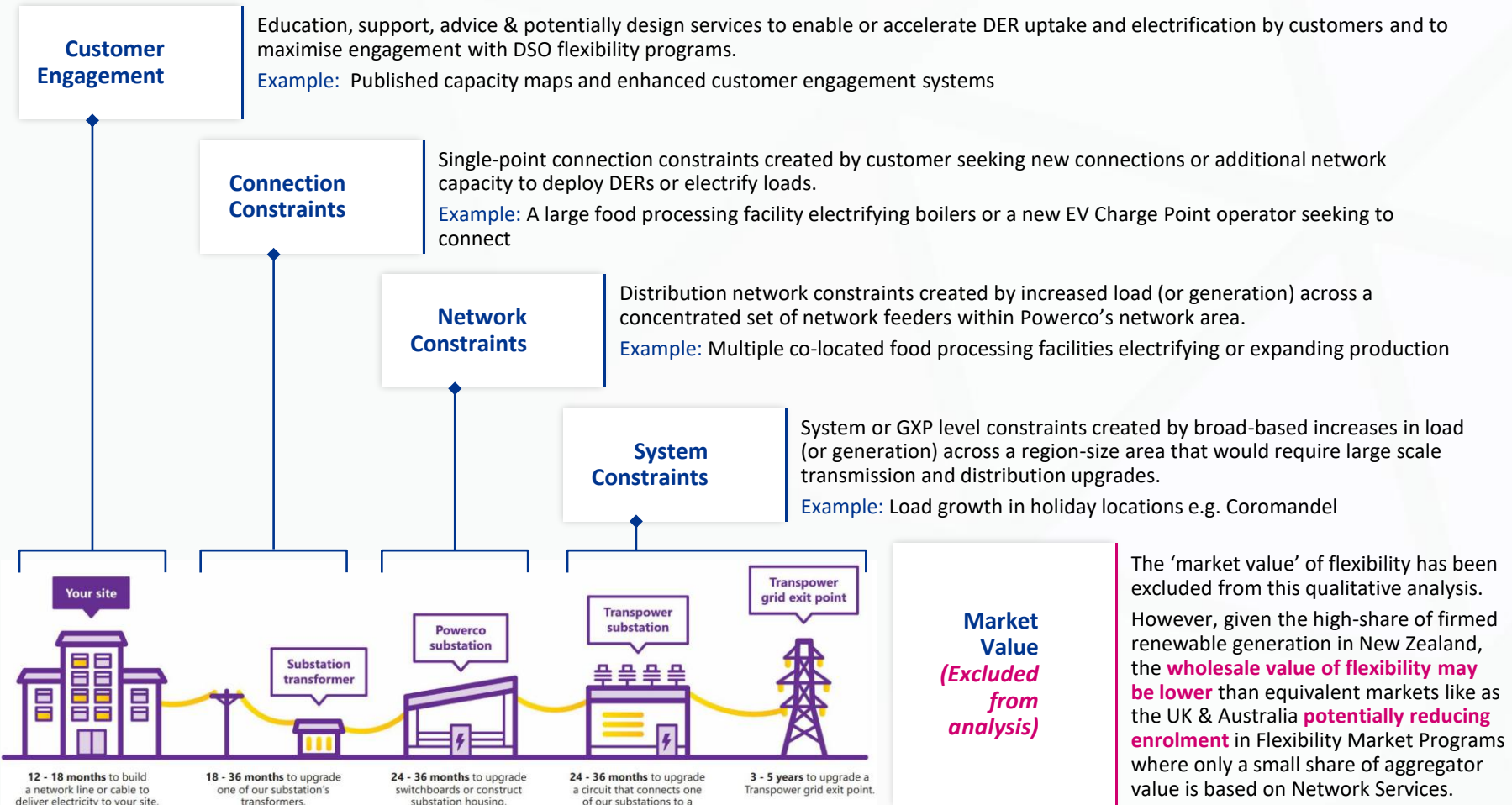
To demonstrate the value of DSO and effectively shape DPP5 while working within operational constraints, Powerco must prioritise specific DSO initiatives.

Program Prioritisation

Powerco is making significant progress developing fundamental enabling DSO capabilities such as forecasting, network visibility etc. however to demonstrate tangible value and therefore shape DPP5 regulations, Powerco must focus on scaling & operationalising **DSO Programs** that deliver direct and quantified value. These have been identified as:

- Customer Engagement
- Flexibility Services
- Flexible Connections
- Local Flexibility Markets
- Residential Flexibility
- Network Tariff Strategy

To prioritise these initiatives and Baringa has considered network and customer value:



To qualitatively assess the value of DSO to customers, Baringa has used Powerco's core customer segments with some DSO specific additions

	 Solar & BESS	 Large C&I Business	 Small & Medium Business	 EV CPOs & Energy Services	 Residential Customers	 Farms & Remote Customers
Description	A growing customer segment as solar & BESS costs decline and 'dry year' hydropower risks have emerged as a major system-level concern.	Commercial and industrial customers connected to the MV or HV network seeking to electrify or expand capacity.	Commercial customers connected to the LV or MV network, who require low-cost and highly standardised connection products & services.	An emerging customer segment delivering 'contestable' energy services such as EV Charge Point Operators who	Residential customers with existing load-controlled hot water who are slowly adopted DERs (primarily EVs and Solar PV)	Customers or communities in remote locations who face additional reliability & resiliency challenges, and which pose higher costs to serve or upgrade for Powerco.
Key trends	To reduce connection costs, many projects utilise existing capacity on distribution networks and creating a potential source of flexibility.	These may be concentrated in low-diversity areas of network and have seasonally peaky demand profiles. High electrification costs are a sustainability and business challenge.	These customers are typically dispersed through mixed use areas and are only slowly adopting DERs.	require new & potentially large (>50kw) network connections but are more price responsive and sophisticated than typical C&I customers.	This market is primarily engaged through retailers and can be divided between home-owners and renters .	They may require bespoke solutions & programs e.g. Farmflex
Customer Energy Pains	Connection cost	Cumulative cost to electrify (connection & tariffs)	Cumulative cost to electrify (connection & tariffs)	Cumulative cost to electrify (connection & tariffs)	Affordability	Affordability & Resilience
Potential Flexibility	High	Medium (electrification)	Low	Medium	Low (excl. Hot water)	Low (excl. SAPS)
Regulatory Changes	• BESS regulatory roadmap (Electricity Authority, 2025) • Electricity Industry Participation Code updates • Relaxation of EDB generation investment limits	• Solar consenting reform (Building Act changes) • Broader energy system reforms (MBIE)	• Solar consenting reform (Building Act changes) • Proposed retail export / buy-back frameworks	• Reforms to enable network connections via National EV Charging Strategy (MBIE) • Input Methodology and pricing reform (ComCom)	• Common Load Management Framework (AMI hot water) • 10kW Solar Export & Dynamic Capacity Management	• Solar on Farms package Note: this is a high-level analysis for discussion only. Powerco is working on a separate customer surveys and VCR studies to further support the DSO strategy

Based on this analysis of the network and customer value of each DSO Program they have been prioritised based on this scale:

Accelerate	Standardise, scale and operationalise these programs to demonstrate broad-based value to customers and regulators. These programs must move beyond ad-hoc processes.
Develop	Develop these capabilities without building these programs into standard workflows or critical systems to reserve limited capacity for priority programs
Pilot	Develop Powerco driven pilots or engage with those of 3 rd parties (e.g. ENA Innovation projects) to learn & ensure future responsiveness should these capabilities be required
Maintain	Maintain the current strategy related to these programs but continue to monitor market trends and customer expectations

Based on this analysis, Powerco should focus on reducing short term connection and system costs by operationalising the Flexible Services and Connections programs

Customer Engagement	Customer Engagement				Through Retailers & Aggregators	
System Constraints	Flexible Services (<i>project-based</i>)				Residential Flexibility (Hot Water)	
Network Constraints	Local Flexibility Markets (<i>regional-based</i>)				FarmFlex	
Connection Constraints	Flexible Connections (<i>site-based</i>)				Residential Flexibility (LV Dynamic Connections)	
	 Solar & BESS	 Large C&I Business	 Small & Medium Business	 EV CPOs & Energy Services	 Residential Customers	 Farms & Remote Customers
Powerco Influence*	High	Medium	Low	High	Low	Medium
'DSO Value'	Medium	High	Medium	High	Low	Medium
Strategy Recommendation	Develop standardised Flexible Connection products to reduce connection costs, accelerate deployment & maximise network utilisation	Develop customised Flexible Connection products to reduce upgrade / extension costs and encourage business growth & network utilisation	Use Flexible Services to reduce overall network costs. Over time, develop Flexibility Markets to further encourage DER adoption	Develop standardised Flexible Connection products to reduce connection costs, accelerate EV adoption & maximise network utilisation	Use Flexible Services to reduce overall network costs. Explore advanced hot-water dispatch & develop Flexibility Markets & LV DCM to further encourage DER adoption	Continue FarmFlex project. Explore 'BESS by Exception' as the last resort flexibility service provider as required
Pricing & Connections Reform (Short term)	Hybrid solar + BESS tariffs or improved demand forecasting	Program or connection specific pricing, rebates & incentives	Program specific pricing, rebates & incentives	Co-incident peak pricing reform or short-term rebates		

* **Powerco Influence:** Powerco's ability to directly address customer pains

Readiness assessment

Powerco DSO Strategy

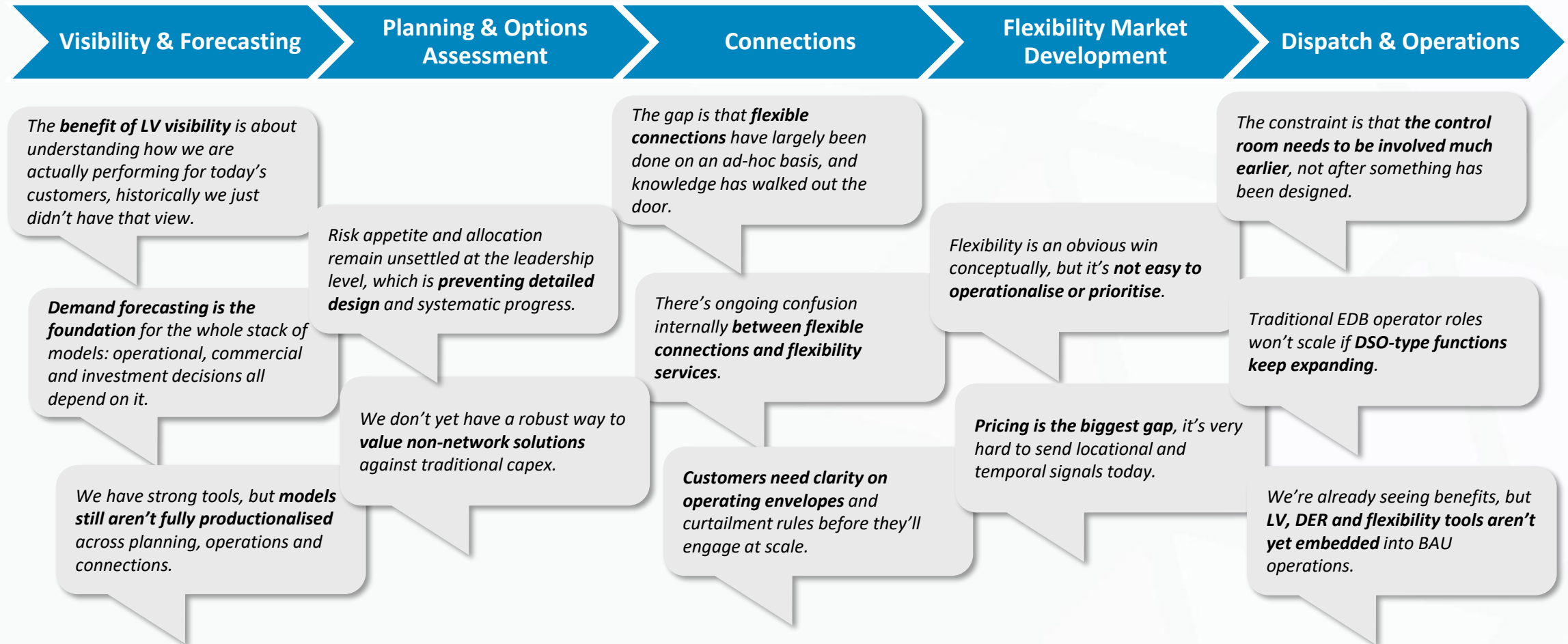
11 interviews were conducted with key stakeholders across the engagement.

Interview approach and process

- We conducted targeted, role-based interviews with senior leaders and subject-matter experts across the operations, regulation, customer, asset management, digital functions and DSO programme to capture a holistic view of overall capability and DSO readiness.
- A common interview framework was applied across all sessions, with tailored prompts aligned to each interviewee's accountabilities (e.g. forecasting, connections, flexibility markets, operations, pricing, regulation) to ensure depth while maintaining consistency.
- Insights were synthesised across interviews to identify convergent themes, areas of misalignment, and systemic enablers or blockers to scaling DSO capabilities – see next slide.

Key stakeholders interviewed			
Name	Role	Topic	Interview date & time (NZST)
Ryno Verster	Director DSO Programme	Customer intelligence	Tue 14 th Apr, 11:30am
Oli Vincent	DSO Programme Delivery Manager and Customer Insights Lead	Regulatory strategy	
Bernie Coster	DSO Programme Principal	Demand forecasting	Tue 14 th Apr, 2:00pm
Sam Holliss	DSO Project Manager	Asset and network modelling Productised network models	
Sam Van Der Sar	Lead DSO Engineer	LV Visibility and Network Management Operational Capabilities	Tue 14 th Apr, 3:30pm
Haden Power	Network Operations Futures Manager	Network Operations Centre	Wed 15 th Apr, 2:15pm
Neville Goodwin	DSO Programme Principal	Flexible Market Development	Wed 15 th Apr, 3:00pm
Adrian Lobb	DSO Retailer and Flexibility Manager	Flexible Network Pricing	
Marius Botha	Senior Enterprise Architect	Business capability (Data and digital architecture)	Thu 16 th Apr, 4:00pm
Sam Van Der Sar	Lead DSO Engineer		
Dan Robertson	Flexibility Product Manager	Flexible Connection Products	Tue 21 st Apr, 2:30pm
Emma Wilson	Head of Regulatory, Policy and Markets	Regulatory Strategy	Wed 22 nd Apr, 1:00pm
Karen Frew	GM Electricity	Asset Management	Wed 22 nd Apr, 3:30pm
Stuart Dickson	GM Customer	Customer	Thu 23 rd Apr, 1:00pm
Lanne Torres	Project and Business Analyst Consultant	DSO architecture support	Fri 24 th Apr, 12:00pm

The interviews highlighted Powerco's technical progress, but overall DSO readiness is currently constrained by commercial, operational and decision-making gaps.



Powerco has already made good progress on the 'no-regrets actions' which in conjunction with parallel ENA initiatives have established a strong DSO foundation

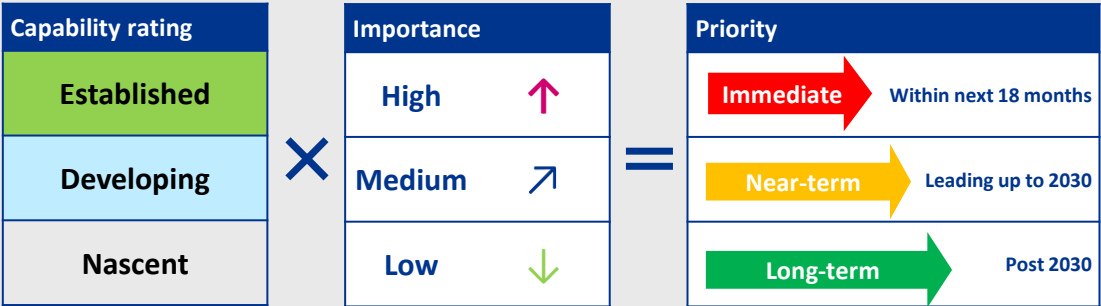
ENA Report no-regrets enablers		Powerco progress		
		Current DSO initiative	Leading organisation	Baringa assessment
1. 	Continue collaborative development of DSO-like functions , do not delay action while waiting for the exact DSO model, roles & responsibilities to be set	- LV Visibility and Network Management - Operational Capabilities - Flexible Network Pricing		- Powerco is actively collaborating with other NZ EDBs and the ENA across several DSO-related initiatives, particularly constraint mapping and flexibility standards. The ENA is also playing an active role. - Network pricing and regulatory engagement are being used as levers to influence industry DSO evolution, while collaboration is strong, earlier operational involvement would accelerate towards BAU capabilities.
2. 	Agree a robust method for valuing costs and benefits of this system-wide transformation	- Regulatory strategy - Data and digital architecture		- Powerco has developed early-stage constraint and flexibility valuation models, which provide a foundational view of system-wide trade-offs and network deferral value. - Valuation of DSO benefits is being approached through joint ENA work on flexibility valuation
3. 	Develop a preliminary plan that maps milestones and persist/exit decision points to avoid overspending	- LV Visibility and Network Management - DSO Strategy Review		A clear milestone-based delivery plan has been established for LV network visibility. Powerco recognises the need for a more robust, integrated DSO roadmap with external support being sought to refine sequencing and governance.
4. 	Develop good practice principles to improve data availability across the network	- Asset and Network modelling - LV Visibility and Network Management		Congestion and capacity mapping initiatives have materially improved network data visibility, particularly at LV. LV visibility initiatives, supported by Gridsight and enterprise architecture principles, represent a significant step forward in network situational awareness.
5. 	Develop shared standards for: DER control and management, including the protocols for control signals - Passing dynamic and static operating envelope information Bid and offer structures for flexibility services	- Customer intelligence - Operational Capabilities - Flexible Connection Products		- Powerco recognises DER control and management as foundational to flexible connections, with strong conceptual linkage to DOEs and SOEs. - Operational capabilities support early development of control signals and envelope concepts, but implementation remains at a pilot or bespoke level. - Powerco is contributing to industry standards for large-scale DG connections, with more limited involvement to date in standardising DOEs and mass-market flexibility products.
6. 	Explore technology partners and solutions for DSO functions/capabilities	- Demand forecasting - Data and digital architecture		- Powerco is actively pursuing bespoke AI build & off the shelf load forecasting projects, engaging leading technology partners across demand forecasting, LV analytics and emerging DSO tools. - The preferred approach favours modular, interoperable platforms over bespoke or monolithic builds, providing flexibility as DSO use cases mature.
7. 	Consider opportunities for joint DSOs/shared services	- Asset and Network modelling - Operational Capabilities		Powerco is working with the ENA and EDBs on NZ-wide constraint mapping and data sharing initiatives. There is a clear strategic intent to position Powerco's platforms and capabilities to potentially offer DSO services to others over time.

Our assessment of Powerco’s DSO readiness activities provides an output to determining the DSO Roadmap sequencing and priorities.

Assessment approach and process

- Each capability function was assessed on:
- **Current capability maturity** (Established, Developing, or Nascent), based on evidence from existing processes, documentation, and stakeholder discussions; and
 - **Importance to the DSO strategy** (High, Medium, or Low), reflecting its criticality to delivering Powerco’s strategic objectives and anticipated regulatory outcomes.
- These two dimensions were combined to determine roadmap priority:
- **Immediate** where high-importance capabilities are nascent or developing to be delivered within the next 18 months,
 - **Near-term** where sequencing is required but risks are manageable and should be completed by 2030, and
 - **Long-term** where capabilities are lower priority or already embedded, which do not need to be fully developed by the 2030 DPP5 period.

DSO readiness assessment and roadmap priority



DSO Roadmap priority matrix		Importance to DSO strategy		
Capability maturity rating		Low	Medium	High
Scale				
Definition				
Established		Limited impact on near-term DSO objectives and outcomes, and can be progressed later.	Important to delivering the DSO strategy but can be flexible in prioritisation.	Critical to delivering DSO strategy outcomes, with gaps posing risks to customers and performance
Developing		Long-term	Long-term	Near-term
Nascent		Long-term	Near-term	Immediate

There is strong visibility and forecasting progress, the key opportunity is to shift to operational and market-ready applications, to fully support a more active DSO role.

Function	Existing Powerco initiatives	Strategy importance	Capability maturity rating and commentary	Priority for Powerco DSO roadmap
Network visibility	LV visibility and network management	↗	- LV visibility via Gridsight has delivered a step-change from historically patchy maximum demand and LV performance data, with clear early value identified for utilisation assessment, voltage issues and fault identification, though visibility is uneven across the network and additional MV network monitoring may be required to identify and managed constraints. Overall, initial deployment has been described as phenomenal at the ELT level. - Operational use constrained by daily batch uploads to short-term planning due to AMI latency and OT constraints, with use by specialists rather than integrated into BAU planning, operations and connections workflows	Long-term →
Smart meter and third-party data integration	- Asset and Network modelling - LV Visibility and network management	↗	- Powerco has strong underlying data foundations, with smart meter data, network models and multiple datasets already ingested into the Powerco Analytics Data Lake, and an explicit preference for scalable commercial off-the-shelf (COTS) solutions to uplift future analytic and operational capability. - Data architecture could be better structured for easier integration however, as resourcing constraints, and reliance on manual hand-offs between GIS, electrical models and systems may limit scalability and more dynamically updated workflows and data model management.	Near-term →
Future energy and DER uptake scenarios	Demand forecasting	↗	- Demand forecasting is treated as the foundation of the modelling stack, with established short-term (operational), medium-term and long-term forecast horizons in place. Powerco are pursuing multiple avenues (AI and COTS) to further bolster the forecasting capabilities. - DER uptake and two-way system scenarios are not yet formalised as a standardised, governed scenario product, with forecasts produced via parallel tools and no single consolidated “view of the future” used consistently across the business.	Near-term →
System needs and constraint forecasting	DSO operational capabilities	↑	- Powerco is viewed as an industry leader in congestion and capacity mapping, with LV insights and internal constraint models already informing utilisation discussions and early investment prioritisation decisions. Constraint forecasting is stronger in the long term than the short term. - To improve, Powerco could automate the constraint and capacity models, and engage further with the control room to unlock stronger short-term insights.	Near-term →
Integrated network modelling	Asset and network modelling	↗	- Core components are in place, including an in-house electrical network model, improving LV model accuracy, and an active GIS migration intended to better align connectivity and asset attributes. - Model management and validation remain immature, particularly for MV assets and monitoring coverage, and key architecture and sequencing decisions are still unresolved.	Near-term →

Improved asset management practices should help future planning decisions deliver DSO-enabled least-cost customer-centred outcomes as complexity increases.

Function	Existing Powerco initiatives	Strategy importance	Capability rating and commentary	Priority for Powerco DSO roadmap
Integrated asset management planning	- Asset and network modelling - Investment efficiencies	↑	- Powerco has an established asset management planning process and a clear strategic intent to embed DSO principles into core system planning, with acknowledgement that growth investment should consider non-network or deferral options and stronger utilisation of existing assets. - However, this is not yet systematically embedded into BAU asset management processes, with a current reliance on individual judgement and local knowledge rather than a consistent, repeatable and quantified planning frameworks	Immediate
Network options assessment	- Productionised network models - Investment efficiencies	↗	- Currently being improved by constraint insights, demand forecasting and various flexibility product options, there is strong executive support for treating flexibility as alternative options to traditional network augmentation. - Process is largely bespoke, with evaluation of non-network and flexibility-based options still variable and case-specific. Although parallel industry work (via the ENA) is planned to value flexibility which will accelerate Powerco's capability in this area and further support the regulatory push for DSO supporting incentives / regulations	Near-term
Flexibility service procurement	Flexible product development	↑	- Powerco has practical experience procuring flexibility through tenders and bespoke arrangements (e.g. large C&I customers, charge point operators), and benefits are well understood in terms of deferring augmentation and improving utilisation at specific constrained locations. - Flex procurement remains at an early design stage and small-scale, with prioritisation required between flex services and other flexibility products (such as connections and pricing).	Immediate
Transparent planning outputs and constraints publication	- LV visibility and network management - Flexible network pricing	↗	- Powerco publishes a range of planning information that supports customer and stakeholder understanding of the network, and we consider their Asset Management Plans to be sufficiently detailed and transparent. Broadly, they are an industry leader in congestion / capacity mapping supporting informed customer and market decision-making. - Published outputs could be more granular and made more accessible to their targeted customer base for flexibility products.	Near-term
Losses and efficiency optimisation	- LV visibility and network management - Asset and network modelling	↓	- Powerco has established practices for managing network losses and efficiency through asset design and operational standards and considers losses and efficiency as part of standard asset management practice. - Additional control room system updates (e.g. ADMS) will improve this capability - While not considered a primary DSO driver, developing this capability further will increasingly support whole-of-system efficiency objectives and stronger linkage to flexibility, DER and dynamic planning decisions.	Long-term

Moving from reactive connection processes to proactive approaches, using better visibility, flexible access products, and anticipatory planning will unlock benefits.

Function	Existing Powerco initiatives	Strategy importance	Capability rating and commentary	Priority for Powerco DSO roadmap
Network access products and connections policy	- Customer intelligence - Flexible connection products	↑	- Existing arrangements are defined and support a wide range of customer types but are primarily designed around firm access, with limited use of more flexible or conditional access products. - Development of access products towards using flexibility, utilisation uplift and alternative terms to enable efficient access for large loads and generation is seen as an area for improvement as there is no single framework linking access products, pricing, reliability and flexibility being applied.	Immediate →
Connection application journey	- Customer intelligence - Flexible connection products - Flexible network pricing	↑	- Actively improving the customer interface, with Salesforce-based tools, a growing customer hub (particularly for C&I), and increased early engagement between operations, engineering and customers for complex DER and large load connections. - The end-to-end journey remains reactive and resource-intensive, with limited standardisation towards optimal solutions and reliance on existing relationships and manual processes. - If Powerco is to scale Flexibility Services and Flexible Connections then continued improvement in the customer engagement function through defined 'customer journeys / onboarding' processes is key. - There is an existing 'Connections Transformation' project underway (falls out-side DSO program)	Immediate →
Connection pipeline and capacity management	- Demand forecasting - LV visibility and network management	↓	- Powerco has improving visibility of utilisation and constraints through LV and congestion mapping initiatives, which provides a stronger foundation for understanding where capacity exists or is constrained. - This process is not as developed for the MV and HV levels. Improvements could be considered to dynamically manage competing connection requests based on network needs and customer value however Powerco does not suffer from a huge connection backlog at this stage.	Long-term →
Flexible connection products	Flexible connection products	↑	- There are opportunities for flexible connections to unlock capacity and accelerate customer connections at the large C&I customer level (as well as charge-point operators) and a subset of these customers are currently being offered flexible connections - However, this process is bespoke and still at an early stage, with limited knowledge transfer, unclear boundaries between flex services and flex connections, and no standardised commercial framework for scaling.	Immediate →
Proactive enablement of DER and electrification uptake	Customer intelligence	↗	- Powerco is increasingly engaging with customers earlier, particularly large industrial, agricultural and C&I customers where flexibility and utilisation benefits are highest. - Not yet considered a defined resourced capability, with activity largely reactive to customer-initiated connection requests, rather than anticipatory at a local or regional level. - This additional advisory capability could incentivise additional loads to connect in the long-term	Long-term →

Powerco's long-term flexibility market focus should be on understanding viability for credible mechanisms, if it is needed as a genuine planning tool for customers.

Function	Existing Powerco initiatives	Strategy importance	Capability rating and commentary	Priority for Powerco DSO roadmap
Interface with market facilitator	- Regulatory strategy - Flexible market development	↓	- Powerco has actively engaged with regulators, industry bodies and other EDBs on flexibility and future system operation, with a strong preference for collaborative, market-led evolution for the hybrid DSO model - While engagement is strong, there is limited clarity on the enduring operating model and division of roles between Powerco, the market facilitator and third parties but this is an ongoing area of development.	Long-term →
Flexibility market design	- Flexible product development - Flexible market development - Flexible network pricing	↑	- Powerco has accurately defined flexibility products using practical experience and provider input, with increasing clarity on deliverability, reliability and resilience requirements, particularly for large C&I customers and network-specific use cases. - Currently no clear prioritised design principles or standardised product definitions have yet been implemented. - Additional early-stage engagement with control room operators is required to ensure that Flexibility contracts are designed to facility near real-time dispatch by control room systems (e.g. DERMS) in future	Near-term →
Participant onboarding and pre-qualification	- Flexible market development - Customer intelligence	↓	- Powerco has successfully piloted and worked directly with a small number of flexibility providers and large customers, demonstrating that the technical and commercial fundamentals of participation are viable. - Onboarding is manual and resource-intensive limiting ability to expand participation beyond a small, known provider base. Pre-qualification standards for operational and commercial participation are not yet defined. - Depending on the wholesale value of flexibility markets this responsibility may be shifted to retailers / aggregators	Long-term →
Market access arrangements / platform participation rules	- Regulatory strategy - Flexible market development	↓	- There is no defined market access model or platform strategy, meaning participation rules, transparency and interoperability remain unclear for scaling flexibility to a wider set of participants over time. - While not immediately critical, this capability underpins long-term DSO functions. Overall, this is an area for industry (ENA) in conjunction with the EA to lead.	Long-term →
Flex settlement	DSO operational capabilities	↓	- Able to manage settlement through bespoke contractual arrangements where required, which is sufficient to support early pilots and small-scale flexibility procurement. - Powerco has limited experience settling operational flexibility services overall and processes are not automated and are not designed to support higher transaction volumes, repeat dispatch or performance reconciliation at scale. We consider this capability can be developed iteratively should market volumes increase.	Long-term →

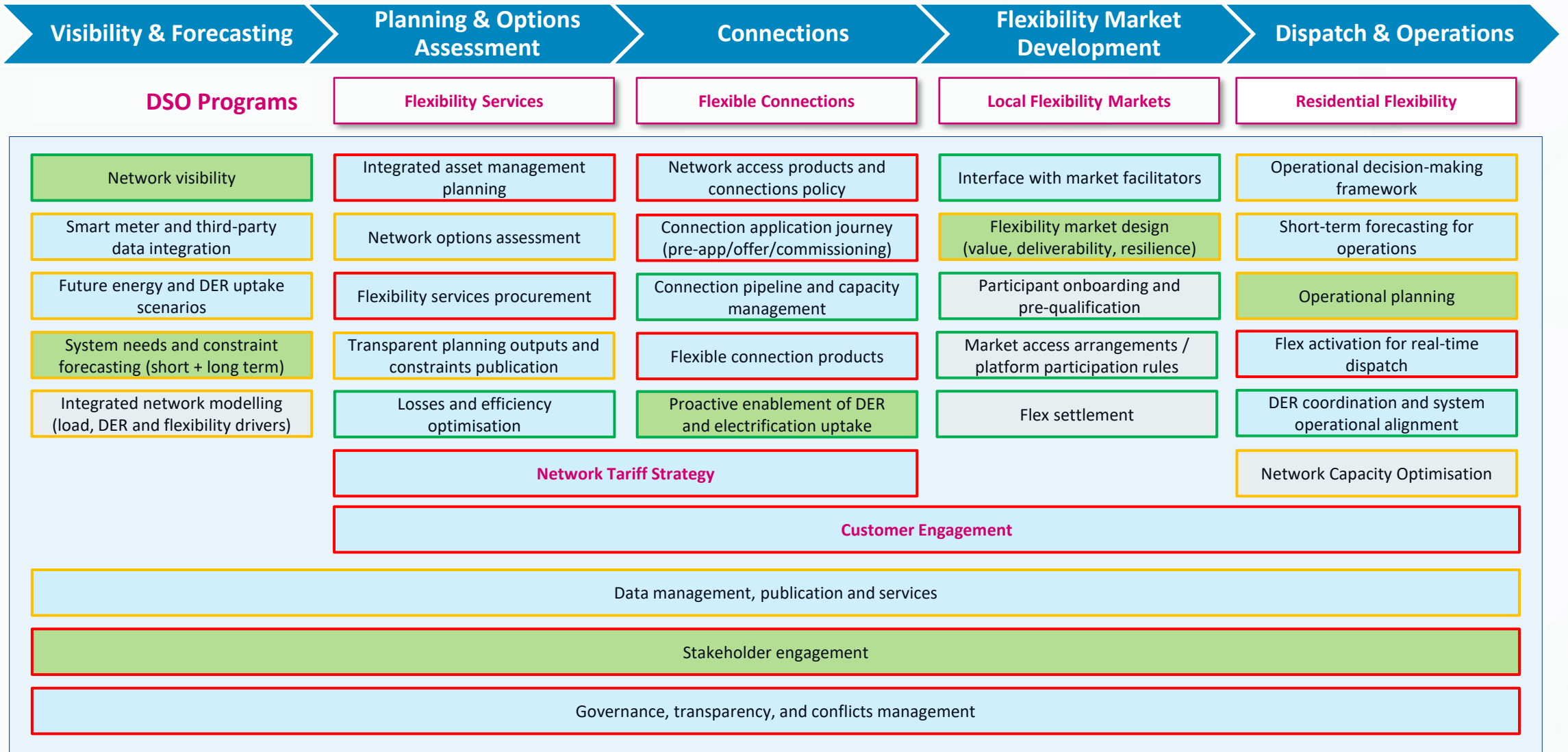
Powerco has strong control room foundations, but must invest in a more dynamic, DSO-style operations environment as network and system complexity grows.

Function	Existing Powerco initiatives	Strategy importance	Capability maturity rating and commentary	Priority for Powerco DSO roadmap
Operational decision-making framework	DSO operation capabilities	↗	- Powerco has a well-established and safety-focused operational decision-making framework, with strong control-room discipline, clear escalation processes and growing involvement of operational teams early in DER and large connection projects - Decision frameworks do not yet fully integrate DSO-specific decision rights, or triggers for when and how flexibility, DER or non-network options should be actively used in operations.	Near-term →
Short-term forecasting for operations	- Demand forecasting - DSO operation capabilities	↗	- Short-term demand forecasting is under development and is considered critical to operations, with forecasts produced at 30-minute ICP resolution through to GXP to be used for operational planning, outage management etc. - Forecasts are generated through multiple tools and pathways but are not yet fully consolidated into a single, trusted operational view integrated with control-room systems and processes. A COTS vs AI assessment is underway.	Near-term →
Operational planning	- Flexible market dev. - DSO operation capabilities	↑	- Operational planning processes (including outage planning, switching and system readiness) are proven and embedded, with increasing consideration of DER and system impacts informed by improved visibility. - Reliant on expert judgement, with limited automation and integration between forecasting, network models and real-time operational tools and flexibility activation capabilities still emerging.	Near-term →
Flex activation for real-time dispatch	DSO operation capabilities	↑	- Powerco has demonstrated the ability to activate flexibility in specific contexts (e.g. solar farm curtailment, bespoke resilience initiatives), showing that targeted operational use of flexibility is feasible. - Operational systems and processes are bespoke and not yet configured to support routine flexibility dispatch. - Without operational 'ADMS/DERMS' systems, flexibility programs and dispatch strategies must be carefully designed	Immediate →
DER coordination and system operational alignment	- DSO operation capabilities - Regulatory strategy	↓	- Powerco is actively coordinating with Transpower on hierarchy-of-control arrangements, and has established a small dedicated operational capability to integrate DERs into control-room thinking. - Coordination remains arrangement-specific rather than systematic, with no clearly defined long-term model for DER coordination, role separation or shared system operation across DSO–TSO boundaries – however this capability development is being led by industry via the ENA and EA. - This limited and paper-based coordination of services also applies to retailers for hot water dispatch and is being slowly improved through the Common Load Management Protocol	Long-term →
Network Capacity Optimisation	DSO operation capabilities	↗	- Voltage management is a core operational concern, but increased LV visibility has already improved detection and correction of over-voltage and PQ problems and early steps taken to improve fault identification and response. - End-to-end voltage control strategy spanning planning, operations and customer solutions is currently limited.	Near-term →

There are opportunities to further formalise, and integrate underlying enablers to support greater transparency, market participation, and customer trust.

Function	Existing Powerco initiatives	Strategy importance	Capability maturity rating and commentary	Priority for Powerco DSO roadmap
Network tariff strategy	Flexible network pricing	↑	- In a DSO context, network tariff strategy complements operational and market approaches by encouraging efficient use of network capacity, supporting electrification and DER uptake, and reducing or deferring network investment where possible, while remaining fair, transparent, and consistent with regulatory requirements. Powerco has progressed with industry engagement and has a pricing reform roadmap but this is yet to be implemented. - Tariffs are not yet used as an active DSO lever to influence locational, temporal, or behavioural outcomes in a highly dynamic way. Further evolution of Powerco's tariff strategy could strengthen long-term alignment between pricing signals, flexibility use, and efficient network utilisation, particularly as DER and electrification increase.	Immediate →
Customer Engagement	Customer intelligence	↑	- Powerco is making a clear shift toward earlier and more direct engagement with DER and large-load customers, supported by key account managers, closer collaboration between electricity and gas customer teams, and growing involvement of DSO teams in complex customer discussions. - DER customer support remains fragmented, with no end-to-end customer journeys, and unclear ownership between customer, commercial and DSO teams, making the experience difficult to scale	Immediate →
Data management, publication and services	- Regulatory strategy - DSO data and digital architecture	↗	- Powerco has invested in core digital foundations, including a central analytics data lake, enterprise architecture capability and a clear preference for modular, interoperable platforms to enable future DSO use cases. - Data governance, structure and integration require improvement with architecture and resourcing constraints limiting Powerco's ability to publish reliable, customer-ready data products and support consistent decision-making across the business	Near-term →
Stakeholder engagement	- Regulatory strategy - Customer intelligence	↑	- Powerco has strong and open relationships with regulators, industry bodies and peer EDBs, and is viewed as a constructive, trusted participant in discussions on DSO models, flexibility and future system operation. - Engagement is often initiative-specific rather than driven by a clear, shared business narrative. Note: while Powerco has established regulatory engagements, this is critical to shaping future DSO policy and so has been emphasised as an ongoing 'immediate priority'	Immediate →
Governance, transparency, and conflicts management	DSO operational capabilities	↑	- Powerco has a strong governance mindset with high awareness of conflicts, ring-fencing obligations and the desire to demonstrate decisions are in customers' best interests. - Governance arrangements for DSO decisions are not yet formalised, with limited transparency over decision rights, prioritisation and trade-offs. By developing advanced governance & transparency processes, Powerco can demonstrate and prove the value of DSO to regulators.	Immediate →

Powerco DSO Readiness Assessment summary



Immediate priorities focus on developing priority DSO programs, whilst near-term priorities operationalised programs and enablers allowing Powerco to scale flexibility.



Immediate priority actions

1. **Network tariff strategy:** Develop an implementable pathway toward more cost-reflective locational and temporal signals, in coordination with retailers and consistent with regulatory settings.
2. **DER customer support:** Make customer intelligence to support efficient DER participation and reduce avoidable network costs over time.
3. **Integrated asset management planning:** Embed flexibility-aware decision logic into BAU asset planning to improve investment timing and prioritisation, supported by enhanced demand forecasting and production-grade network models.
4. **Flex services:** Transition flexibility procurement from pilots to repeatable BAU processes, enabling consistent assessment of non-network and deferral options alongside traditional investment.
5. **Network access products and connections policy:** Align policy with flexible connection options and emerging pricing signals, enabling customers to make informed trade-offs between cost, capacity, reliability, while maintaining non-discrimination & transparency.
6. **Connection application journey:** Standardise end-to-end connection journeys so customer intelligence and network needs lead to faster, more consistent offers.
7. **Flex connections:** Convert ad-hoc arrangements into scalable flexible connection products, with clear commercial terms, documentation and operational triggers.
8. **Flex activation for real-time dispatch:** Embed repeatable operational capabilities, so flexibility can be activated safely and consistently when constraints emerge.
9. **Stakeholder engagement:** Continue strong engagement with regulators and industry.
10. **Governance, transparency, and conflicts management:** Strengthen arrangements, clarifying decision rights and safeguards as flexibility scales.



Near-term priority actions

1. **Data management, publication and services:** De-risk the DSO data and digital architecture initiative so Powerco Analytics Data Lake and supporting platforms become structured, integrated and usable for end-to-end DSO decision-making.
2. **Smart meter and third-party data integration:** Integrate data into the DSO data and digital architecture, to develop a single structured data foundation.
3. **Future energy and DER uptake scenarios:** Build out a scenario using customer intelligence, DER uptake studies and demand forecasting.
4. **System needs and constraint forecasting:** Outputs from LV visibility & network management and congestion/capacity maps into prioritised, needs statements for planning, connections and operations.
5. **Integrated network modelling:** Progress asset and network modelling toward production-grade use, resolving data quality and validation issues to support repeatable, defensible planning decisions.
6. **Network options assessment:** Formalise options assessment to reliably deliver investment efficiencies, against credible non-network and deferral alternatives in line with the Commission's expectations on prudent investment.
7. **Transparent planning outputs and constraints publication:** Publish clear, accessible planning outputs and constraint information to support informed customer and market participant decision-making.
8. **Flex product design:** Standardise performance requirements, and commercial terms to reduce transaction costs and improve market participation.
9. **Operational decision-making framework:** Define clear operational decision rights, triggers, and playbooks for the use of flexibility, DER, and non-network responses, ensuring consistent and auditable operational outcomes.
10. **Short-term forecasting for operations:** Consolidate into a single operational truth that the control room can consistently rely on to support safe and reliable real-time operation under increasing DER penetration.
11. **Network capacity optimisation:** Shift from reducing reliance on reactive interventions and avoiding unnecessary network augmentation.
12. **Operational planning:** Integrate forecasting and DER visibility so planned outages, switching, and constraint periods explicitly consider flexibility options.

Roadmap planning

Powerco DSO Strategy

Powerco’s DSO roadmap must support both long-term and short-term strategic priorities without closing potential growth paths

1

Market insights & strategy overview

Long-term Strategy		Consequences	Next Steps
Powerco will seek to ‘lead the pack’ in becoming an Advanced Network Operator pioneering new capabilities to accelerate and shape the role of DSOs in NZ. This ‘no regrets’ path allows Powerco to explore additional DSO Service Provider and Corporate Consolidation growth pathways in future	DSO Service Provider	Certain DSO capabilities should be developed separately to core operations until a decision is made	1. Study the economics of ‘DSO Service Provider’ business models and assess regulatory appetite for this model.
	Corporate Consolidation	Powerco should progress a wide range of DSO programs providing future optionality but only focus on operationalising a few	2. Perform an analysis on the ‘economics of DSO’ to the core business and potential acquisition targets 3. Continue strong regulatory engagement
Short-term Strategy		Findings	Conclusion
To become an ‘Advanced Network Operator’, Powerco must prove the value of DSO to shape the DPP5 regulatory period by delivering quantified network and customer value in the short-term.	Network Value	To deliver maximum value, Powerco should use DSO capabilities to resolve system & connection constraints	Powerco should focus on the Flexibility Services and Flexible Connection Programs as these address short-term customer and network challenges and therefore demonstrate the value of DSO to regulators in advance of DPP5.
	Customer Value	Powerco can provide the most value to larger Solar & BESS and C&I customers who experience network cost impacts most acutely	

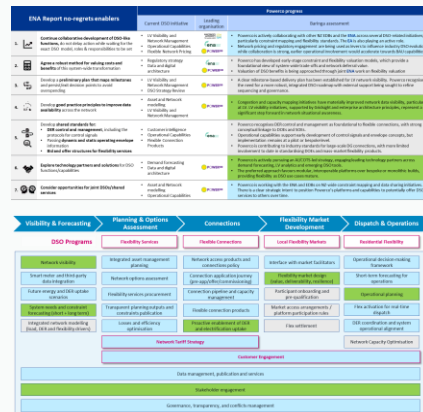
Powerco's DSO roadmap must support both long-term and short-term strategic priorities without closing potential growth paths

2

DSO Readiness Assessment

Readiness Assessment

After conducting the DSO readiness assessment, we consider Powerco is well-positioned to progress toward an Advanced Network Operator model.



Summary

Strengths

- Strong progress has been made on developing broad-based DSO enablers
- Powerco is developing many different DSO Programs in parallel to address almost any customer & network challenge

Weaknesses

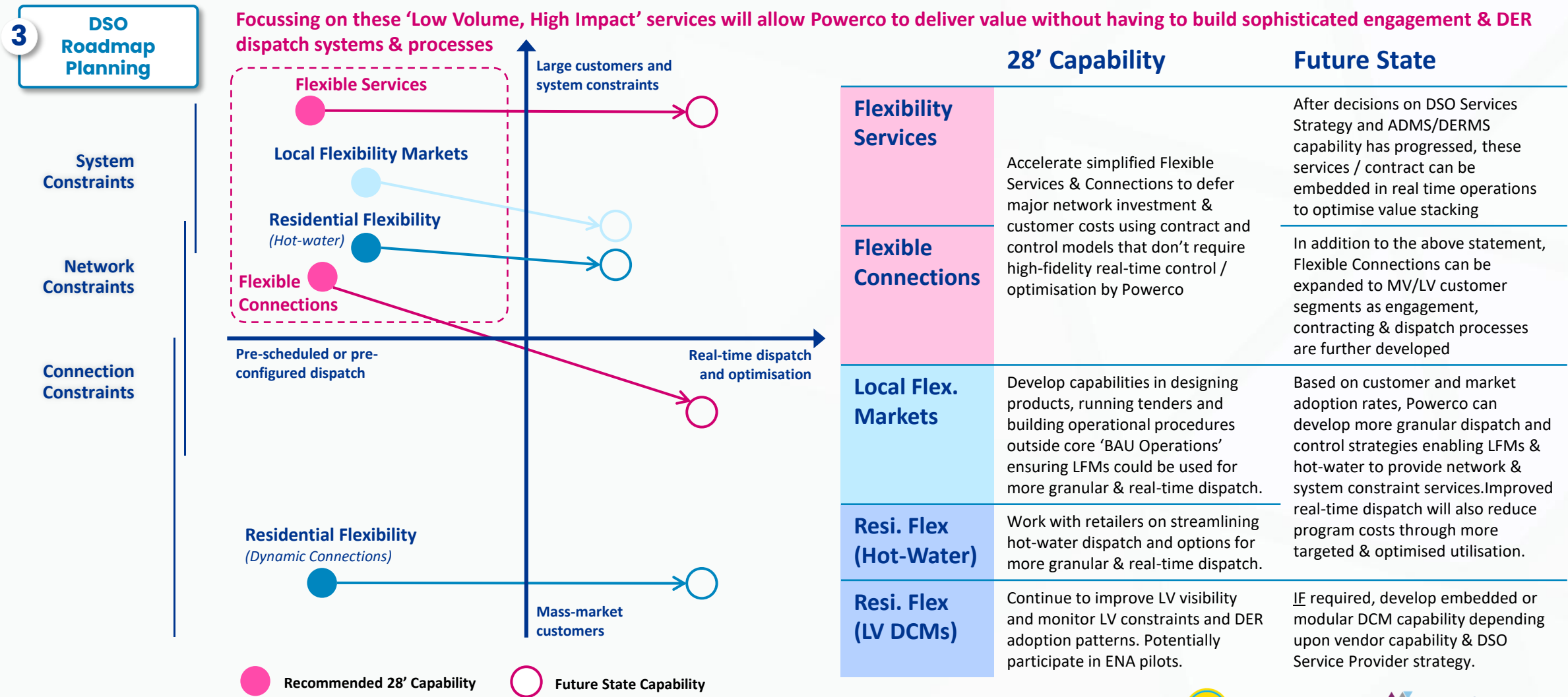
- There is limited organisational capability to develop scaled and systematised flexibility services with real-time dispatch
- Several DSO initiatives are still bespoke, manually executed or reliant on individual expertise, constraining repeatability and BAU transition.

Constraints

- Decision-making frameworks, governance and ownership across planning, operations and commercial functions are not yet fully aligned to support scaled DSO delivery
- Until a decision on 'DSO Services Provider' is made, Powerco should not deeply embed DSO functions in the business

Conclusion: Powerco should focus on 'low volume, high value' DSO Services that deliver immediate customer and network value. Work should continue on key programs and foundational initiatives as identified in the INTSA application. These initiatives will support the multi-phased evolution to deliver more advanced real-time services over time. In parallel, longer-term initiatives such as Network Tariff Strategy and operating model clarity must be progressed to not close future growth paths.

Based on Powerco’s DSO strategy, an evaluation of ‘high value’ DSO services and an assessment of current readiness Baringa recommends this high-level DSO Roadmap



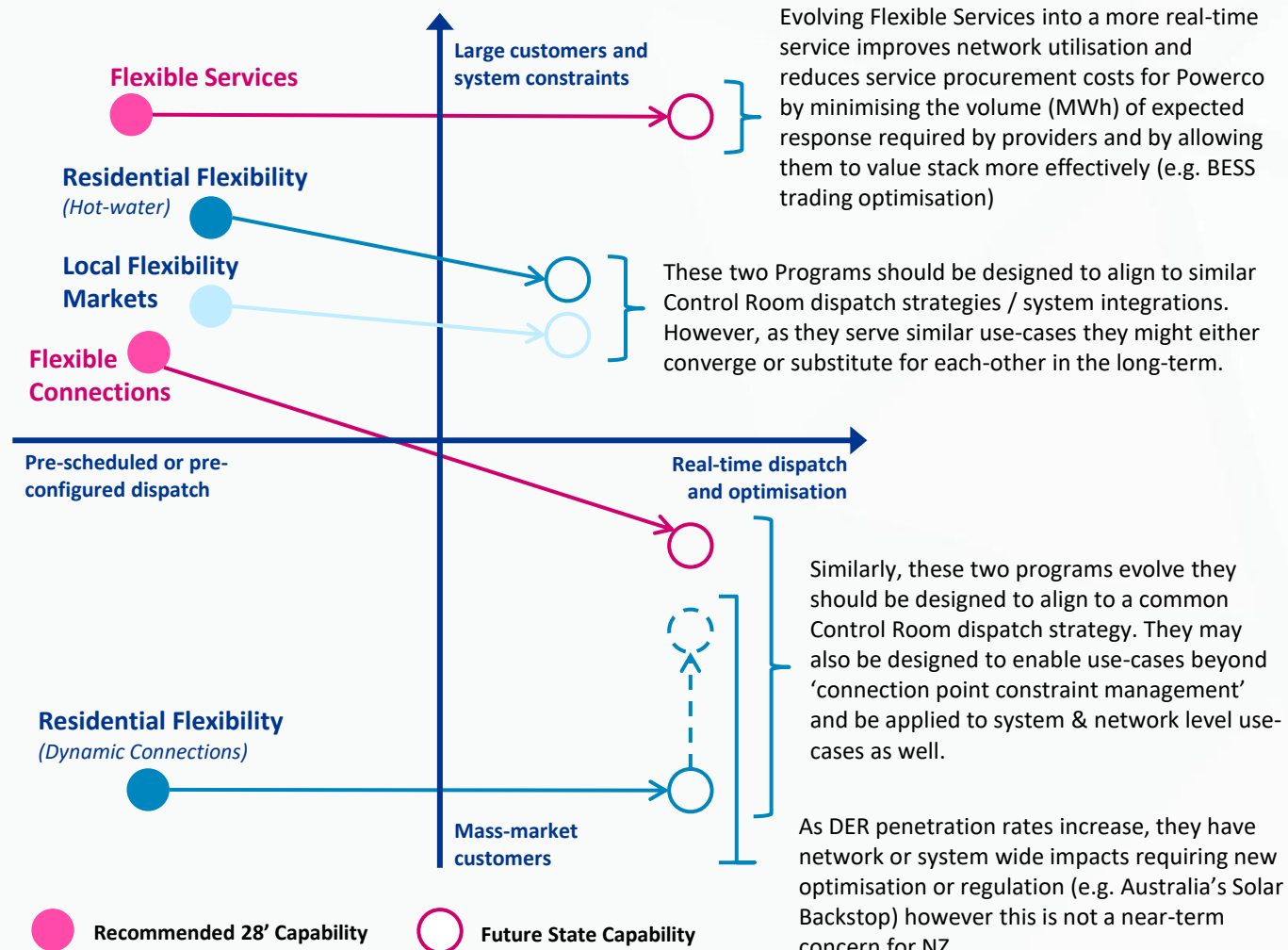
As the NZ market & regulatory structure evolves the prioritisation and use-cases applied to each of Powercos DSO Programs may change over time.

3

DSO Roadmap Planning

Powerco already has good visibility of the HV network and can monitor, control and automate dispatch using existing SCADA capability before a DERMS is deployed

Powerco is building LV visibility but with low DER-penetration and high ADMDs LV constraints are not a significant concern but LV DER dispatch will eventually need new capability



DSO Program Evolution

This report recommends a focus on a few high-priority DSO Programs based on current network and customer priorities. However, Powerco should continue developing foundational capabilities across all DSO Programs because:

- 1. Risk Reduction:** It ensures Powerco is highly adaptable and can protect both Powerco's business and customers from sudden & unforeseen changes. E.g. a fuel crisis that accelerates EV adoption.
- 2. Corporate Consolidation:** If Powerco acquires a new network, different DSO Programs may provide greater value than those developed for Powerco's current service territory.
- 3. Program Cost Optimisation:** As the system evolves Powerco may shift how much of each service is procured / utilised based on the network economics and the potentially for substitution between services. For example, Flexible Connection contracts could be extended to provide system level constraint services as needs arise.
- 4. Knowledge Sharing / Regulatory Influence:** As a leading Advanced Network Operator, Powerco can develop new capabilities that help other EDBs and inform how regulation is shaped.

Annexure

Powerco DSO Strategy

Glossary of terms

Term	Description
CLMP	Common Load Management Protocol, an industry framework governing the coordination and control of managed loads (e.g. hot water), supporting system and network operations through standardised interfaces and roles.
Commerce Commission	New Zealand's economic regulator responsible for regulating electricity networks, including setting price-quality paths, approving Asset Management Plans, and assessing whether network investment is prudent and efficient.
DCM	Dynamic Capacity Management are when EDBs offer dynamic or flexible export limits as an alternative to the static connection limits.
DER	Distributed Energy Resources are typically smaller, decentralised generation units distributed across an energy system (such as rooftop solar PV), as opposed to large, centralised generation such as coal or nuclear power plants.
DERMS	Distributed Energy Resource Management System, systems that enable monitoring, coordination and control of DER to support network operations, including the calculation and enforcement of operating envelopes and activation of flexibility services.
DSO	A Distribution System Operator securely operates and develops an active distribution system comprising networks, demand, generation and other flexible distributed energy resources (DER).
EA	Electricity Authority, New Zealand's electricity market regulator responsible for overseeing the wholesale and retail electricity markets, market rules, and system operation arrangements.
EDB	Electricity Distribution Business, an organisation responsible for owning, operating and maintaining the electricity distribution network and delivering regulated network services to customers.
ENA	Electricity Networks Aotearoa, the national industry body representing New Zealand's electricity distribution businesses and transmission interests.
GXP	A point at which electricity is transferred from the transmission network to a distribution network
LFM	Local flexibility market, a mechanism through which flexibility services may be competitively procured at a local or regional level to address network constraints, subject to regulatory and market design decisions in New Zealand.
Market operator	An entity responsible for operating and administering electricity markets, including system operation, dispatch and settlement (e.g. wholesale market functions), distinct from the distribution-level DSO role.
SAPS	Stand Alone Power Systems, an electricity supply arrangement where a customer or community is supplied independently from the interconnected distribution network, typically using local generation and storage
TSO	Transmission System Operator, responsible for owning and operating the transmission network and maintaining system security at the transmission level.

8 July 2026

Ryno Verster, DSO Programme Director, Powerco

Via email: [REDACTED]

Tēnā koe Ryno,

Thank you for Powerco's application for the Innovation and Non-traditional Solutions allowance (INTSA) on 28 May 2026.

As a follow-up to the meeting we had on Friday 26 June 2026, we have the following questions regarding the Powerco as a DSO project:

- Some of the workstreams included in the application seem to relate to projects already funded via INTSA. To the degree that this is the case, please explain why the initial funding has not been sufficient?
- Contractors represent approximately 40% of the forecast expenditure on the project. Could you please explain the factors driving the proposed level of contractor expenditure and the role contractors are expected to play in delivery?
- Powerco is undertaking a number of strategic initiatives in parallel. Could you outline any risks this may present for delivery of the DSO project, and how those risks are being managed?
- One of the stated objectives of the programme is to provide input to DPP5 decisions. Could you provide examples of the outputs or insights that you expect could be used to inform future regulatory settings?
- Could you describe the metrics and outcomes that will be used to evaluate the success of the proposed changes?
- The proposed DSO programme contains multiple workstreams, some of which are expected to evolve over time. Could you describe the governance arrangements for the programme, including stop/go decision points?
- Could you describe any developments regarding potential future phases of the programme that have occurred following submission of the application?

We will consider Powerco's responses and use them to inform our decision. As we intend to publish this letter and Powerco's reply alongside our final decision, please ensure that any confidential information in your reply is clearly identified.

Nāku iti nei, nā

Ben Woodham



16 July 2026

Ben Woodham
Electricity Distribution Manager
Commerce Commission

Via email: [REDACTED]

Tēnā koe Ben,

INTSA application for Powerco as a DSO: response to follow-up questions

Thank you once again for taking the time to meet with us on Friday the 26th of June to discuss our Innovation and Non-traditional Solutions Allowance (INTSA) application for Powerco's development of the core capabilities required to transform into a distribution system operator (DSO). We received your letter requesting further information and have responded to your questions below.

Question 1: Some of the workstreams included in the application seem to relate to projects already funded via INTSA. To the degree that this is the case, please explain why the initial funding has not been sufficient?

While there are strategic linkages, the Powerco DSO INTSA application does not duplicate or seek additional funding for any Powerco projects or work that has already been requested via the INTSA application process. The work outlined in the *Powerco as a DSO* INTSA application is novel to Powerco and, to our understanding, the New Zealand context.

In the table below we highlight what earlier INTSA applications are relevant to the DSO, describing how they complement but do not overlap with that proposed in the *Powerco as a DSO* application.

Table 1: Comparison of some of Powerco's previous INTSA applications with the Powerco as a DSO application

INTSA Project	Scope of the application	How it is distinct from the work under the Powerco as a DSO application
Local flexibility market platform (Submitted on the 8th of April 2025)	Development of a targeted flexibility platform solution, to support the recruitment of flexibility service providers, the registration of flexible distributed energy resources and to facilitate an auction and contracting process for such services.	The activities raised in our DSO INTSA application involves separate but adjacent initiatives – focusing on developing a range of flexibility services. This includes bringing flexible services to market, making the value of flexibility services visible, reducing barriers for standardised flexibility product providers, opening up flexibility market participation and building experience and confidence in using flexibility services to reliably defer or avoid more traditional network solutions.
Demand Forecasting Artificial Intelligence – AI/ML (Submitted on the 17th of October 2025)	The first phase of a potential demand forecasting model leveraging artificial intelligence/machine learning (AI/ML) techniques. Its goal is to develop a partial prototype of a short-term demand forecasting model that utilises AI/ML to provide automated seasonal daily demand profiles at all network nodes.	Powerco recently signed a contract for an off-the-shelf demand forecasting product to provide an immediate, significant step-change in our demand forecasting capability (this was funded outside of INTSA). The 'leveraging our future demand forecasting platform' activity outlined in the Powerco as a DSO application will integrate this off the shelf tool and its outputs into the tools and systems intended to be developed for future DSO capabilities. The off-the-shelf product, and the integration into other tools outlined in the DSO INTSA application is distinct from the first-phase AI/ML prototype work.
Flexible Farm Energy (Submitted on the 2nd of April 2026)	Engaging with rural energy consumers and service providers to understand the impact of changes to energy consumption patterns, particularly on dairy farms. This sector is experiencing rapid growth in DG uptake. Early and meaningful engagement will create an opportunity to develop DSO solutions that maximise benefits to customers and the network from these new installations.	Customer engagement and intelligence is core to a DSO. The DSO INTSA application involves gaining insights about our broader customer base, as well as focusing on particular customer segments (excluding dairy farming). It is intended to engage with customers to understand how, why and when they may want to interact with a DSO, flexibility or other new forms of energy technology and what they see as the value from these. The insights gained will provide essential inputs for Powerco's DSO work, helping us ensure our services align with what customers need and value.

Question 2: Contractors represent approximately 40% of the forecast expenditure on the project. Could you please explain the factors driving the proposed level of contractor expenditure and the role contractors are expected to play in delivery?

The proposed contractor expenditure reflects the scale, complexity and novel nature of the DSO application. The capabilities being developed through this programme are new to Powerco and to the New Zealand energy sector. As a result, this requires access to specialist expertise and capability that is not currently available within Powerco's current workforce.

In addition, (as discussed in the response to the next question), Powerco has some internal capacity constraints as we deliver a number of strategic objectives in parallel. Where appropriate, external providers will be used to help alleviate these constraints. (Our DPP4 settings did not anticipate the DSO program and associated resource requirements.)

Contractors are not intended to replace Powerco ownership or deliverability of the programme. Powerco employees will provide the programme leadership, governance, strategic direction and subject matter expertise, while contractors will primarily provide specialist skills, delivery support in areas where capability is emerging or not currently available, and subject matter expertise if not available at Powerco. Given this, contractors are expected to play several roles within the delivery of this application, including:

- Supporting the design, development of new tools, systems and processes.
- Transferring knowledge and capability to Powerco employees as the programme progresses.
- Providing additional delivery capacity for periods of high programme activity, or where internal Powerco resources are not available.

The combination of these factors leads us to rely more heavily on external service providers than would typically be the case for a more conventional project or development programme. The use of external support will enable resourcing flexibility and security, meaning we can be confident that we can ensure delivery of the programme as required.

Question 3: Powerco is undertaking a number of strategic initiatives in parallel. Could you outline any risks this may present for delivery of the DSO project, and how those risks are being managed?

Powerco has a number of key strategic initiatives to deliver over the coming years. Alongside our DSO transformation, we are currently integrating the Firstlight network into the existing Powerco network (pending the completion of final contractual arrangements) and completing a substantive transformation of our customer service approach. These initiatives are complementary and intentionally designed to support a common strategic objective of being the most customer focused infrastructure provider. The primary risks associated with delivering multiple strategic initiatives concurrently include:

- Competition for internal specialist resources and subject matter expertise.
- Competing delivery priorities across programmes.
- Dependencies between programmes.
- Potential for emerging regulatory, market or technology developments that may alter programme priorities and focus.

Powerco is actively managing these risks, and several measures are being (or have been) implemented to do so:

- Increased use of consultants and external service providers, to help deliver initiatives and ensure we have adequate resources and expertise (as mentioned in the answer to the previous question).
- Ensuring work programmes are targeted to best utilise critical internal resources, such as for change management and IS integration.
- Centralised management of the DSO transformation, supported by a company-wide agreed roadmap, to avoid ad hoc or potentially conflicting priorities or capability development. This also helps ensure DSO capabilities can be more immediately integrated into BAU processes and deliver faster benefits.
- Careful scheduling of the delivery plan to reflect programme priorities and the capacity of internal teams to support delivery or integrate new business processes.
- Uplifting strategic planning and programme management capability across the organisation.
- Dedicated governance and oversight (see our response to question 6 for more information on this).

Together, these measures are anticipated to reduce delivery risk and help the effective and efficient delivery of the DSO programme within the desired timeframe. Resourcing risks will however remain an ongoing focus point for the DSO team and Powerco leadership.

Question 4: One of the stated objectives of the programme is to provide input to DPP5 decisions. Could you provide examples of the outputs or insights that you expect could be used to inform future regulatory settings?

DPP4 is all about testing DSO capability to build an evidence base that informs Powerco's DPP5 advocacy and positioning. We will utilise existing reporting obligations, such as AMPs and INTSA reporting, to highlight the impacts of operationalising DSO capabilities as well as input into the DPP5 consultation process. The intended DSO improvements and investments will be explicitly called out and also compared to the counterfactual (maintaining more traditional network solutions). An essential prerequisite for investing in the DSO and flexible solutions, is that it has to demonstrate net life-cycle benefits to customers, either from adopting lower cost solutions or providing service improvements (that provide value to customers above the cost to achieve these). In our 2026 AMP we have included assumptions of the DSO benefits of deferred capex investment. In future AMPs we will provide further detail, understanding and transparency of DSO benefits.

Delivering DSO benefits, will require significant internal changes to our business model, systems, capabilities and operations. As we progress with these changes we anticipate we will get a better understanding of any

regulatory mechanisms or barriers that might need to evolve with it. We are aiming to get a better understanding and provide the Commission with evidence on:

- The extent of the shift from capex to opex. While we know flexibility will cause such a shift, we don't yet understand how much, the timing impact or how this interacts with regulatory mechanisms such as IRIS. As there is currently no flexibility market in place in Aotearoa, our DSO INTSA work will accelerate the development of these markets and help develop an understanding of how flexibility providers will engage with the market, and how these impact our cost base.
- Understanding the service customers want and expect from a DSO. Given the way customers are using the network is changing and we are developing new service offerings, there is a step change in the need for customer engagement, to ensure we are meeting customer service and information expectations.
- Potential new metrics or ways of measuring network performance such as reliability, or utilisation of the network.
- New ways of understanding network investment and providing investment transparency, especially given the use of flexibility.
- New ways of understanding the trade-off between price and quality.
- Understanding of whether there are any barriers in the current regulatory framework which impede becoming a DSO or maximising the benefits of a DSO.

Our intent is to provide the Commerce Commission with evidence and to engage where appropriate on how the desired DSO benefits would be achieved and any impact on the regulatory framework, in order to ensure these benefits are realised. The scope and scale of our DSO INTSA application reflect regulatory timeframes and our desire to have the required settings in place by DPP5.

Question 5: Could you describe the metrics and outcomes that will be used to evaluate the success of the proposed changes?

Our response to this question reflects our interpretation of this question, which we have understood to be asking how we plan to measure success during the INTSA application period, and how do we plan to manage success after.

As our application is centred around the development of core DSO capabilities, the overall outcome we will use to measure our success is whether these capabilities have been developed or not. We plan to measure the success of the work outlined in the *Powerco as a DSO* application through our proposed capability readiness indicators (highlighted in section 4.2.1 of our application):

Table 2: The indicators used to measure success during the application period

Desired customer outcome	Capability readiness indicator	Capability being assessed
Developing a deeper network and customer understanding to enable optimal customer-focused decision-making	Customer	Quantifiable understanding of what customers value and how this is used to inform aspects of DSO capability prioritisation, development and delivery.
	Network	The development of a granular and probabilistic understanding of our network and the optimisation of the proposed programme of future works.
Enabling and supporting the development of products and markets that allow customers to define their energy relationships in new ways	Flexible connections	The ability to offer a range of cost and time effective connection options.
	Flexibility services	The ability to use flexibility as an alternative to standard network offerings and investment.
Achieving a dynamically operated, stable and reliable network	DER orchestration	The ability to optimally facilitate market orchestration of DER that ensures a reliable, efficient and stable network.
	Flexibility dispatch	The ability to send signals to customers or flexibility service providers to dispatch or signal need for flexibility.

We will base-line the above indicators, and then have them annually reviewed, using independent external experts, along with more regular internal progress reviews. The independent external experts will establish an assessment framework and will assess our progress against this framework through the INTSA funding period.

Following the completion of the work outlined in the INTSA application, we will shift from monitoring the development of our DSO capabilities, to measuring the performance of our DSO. We plan to develop performance benchmarks as we evolve and integrate our DSO capabilities – they will sit at both a programme level and a capability level and will likely be similar to those utilised by DSOs from Australia and the United Kingdom (noting that there is still much ongoing debate about suitable DSO performance measures). The table below provides an example of the types of measures we may look to use, and that are similar to international examples.

Table 3: Examples of the types of indicators that could be used to measure success after the application period

Desired customer outcome	Capability area	Key Performance Indicator
Developing a deeper network and customer understanding to enable optimal customer-focused decision-making	Customer	Mass Market Customer Expectations - Percentage of customers satisfied with the quality of supply provided at the cost it is provided Commercial Customers – Percentage of commercial customers who feel the network is aligned with, and does not act as a barrier to, their growth ambitions
	Network	Network Options Assessment - Percentage of network assessments that recommend use of flexibility Network Deferral – Value of deferred or avoided network reinforcement through the use of flexibility, flexible connections, or other DSO activities
Enabling and supporting the development of products and markets that allow customers to define their energy relationships in new ways	Flexible connections	Network Access - MW of flexible connections energised on the network Network Access - Speed of enabling access to the network through flexible connections
	Flexibility services	Flexibility Procurement - MW of flexibility requested Flexibility Procurement - MW of flexibility procured through flexibility contracts
Achieving a dynamically operated, stable and reliable network	DER orchestration	Network Utilisation - Increase in network utilisation achieved through DER orchestration
	Flexibility dispatch	Flexibility Dispatched - MWh of flexibility dispatched to manage network constraints

Although not DSO specific, Powerco will also be assessing itself as a business on metrics such as customer satisfaction, and our performance relative to other EDBs. Given our DSO transformation is an all of business one, these all of business metrics can also provide insights into whether we are succeeding as a DSO.

Question 6: The proposed DSO programme contains multiple workstreams, some of which are expected to evolve over time. Could you describe the governance arrangements for the programme, including stop/go decision points?

The goal of operating as a DSO by FY30 is clear and has been agreed with the Powerco board. While we have a well-researched view on what may be required to achieve this, the uncertain and innovative nature of a DSO transformation means that this understanding will evolve and that the targets for individual deliverables may be tweaked to account for this. Individual deliverables may also be adapted to account for outcomes from earlier initiatives.

To manage the uncertainty inherent with a new, evolving programme, our application outlined the overarching escalation and governance pathways in place to consider changes and make decisions based on this. This includes pathways from the DSO management team, through to the Asset Management Steering Committee, the executive team and/or the Powerco board.

We will follow normal internal programme progress reporting procedures for the initiatives making up the DSO programme. This includes regular (generally monthly) reviews of expenditure, progress, estimated future cost and scope changes and reporting on these to the executive and the board. In addition, we note that Powerco is in the process of uplifting its programme management capabilities for the whole of the business, and we have a newly established programme management office - its resources and expertise, will also be applied to the DSO programme.

More critical progress review points will be formalised under the guidance of our Asset Management Steering Committee. While individual decisions may be subject to different escalation paths, the programme will be reviewed in detail twice a year by this committee. These sessions will be key reflection and decision points on the progress of the programme and each initiative, also allowing for stop/go decisions. (These governance approaches and structures are not new to Powerco - we have arrangements in place to review, monitor and make stop/go decisions on over \$300 million dollars of investment projects each year). Furthermore, Powerco has an established risk management framework which is embedded within these governance structures and is used to identify risks, track issues, prompt rescoping discussions and provide checklists for when investment in an initiative may need to be scaled back or completely cease.

Stop/go decisions will typically follow a multi-step approach. These decision points will be formally documented:

- For all initiatives, there will always be pre-agreed milestone checkpoints against the proposed outcomes from it and the original (or amended) need it was meant to address.
- Reviews considering whether the original need still exists and whether the solution being worked on is still appropriate or the most effective solution. These reviews will occur as part of the periodic programme review sessions.

- Reviews considering the balance between progress on an initiative, the anticipated (customer) value from the initiative already realised or still to be realised, and the amount spent or still to be spent on it. Project governance will consider this question as part of its standard review actions.
- If an initiative fails against one or more of these checks, we will consider the consequences of scaling back or ceasing it. Such decisions will consider how stopping an initiative will impact the rest of the programme given the interdependencies across the programme. Where appropriate, a post-implementation review will be carried out to ensure that we learn from the reasons why an initiative had to be stopped.

Our DSO programme has also been reviewed and validated by an external expert and as such we are confident in the scope and trajectory we have outlined. At the same time, as noted in our answer to question 5, we plan to seek an independent view on how we are succeeding in developing our desired capabilities and whether our work continues to align with international best practices.

The above structures and resources, alongside diligent project management, provide an appropriate amount of scrutiny and checkpoints over the programme to ensure that investment in initiatives will be re-thought or stopped if substantive issues arise.

Question 7: Could you describe any developments regarding potential future phases of the programme that have occurred following submission of the application?

Since our submission of the INTSA application on the 28th of May, there have been a number of relevant developments that could influence (generally further support) our application.

Firstly, the stream of formal and anecdotal feedback on the negative impact of energy prices on households and businesses alike, continues to build. We see this from ongoing customer feedback, media articles¹, regulatory releases,² and the direction set by government³. We expect this pressure to continue to build, emphasising the importance of programmes like our DSO transformation project, the need for change to happen at pace, and to provide optimal customer outcomes at the lowest cost possible.

Both the National and Labour parties have recently announced their intent to support the uptake of household solar PV generation and battery storage⁴ with the intent of reducing barriers to the uptake of solar PV generation. We expect these policies to accelerate the uptake of solar PV and (ideally) battery storage.

¹ For example: A recent New Zealand Herald article from 08/07/2026:

<https://www.nzherald.co.nz/business/companies/energy/energy-minister-simeon-brown-calls-on-power-networks-to-tackle-scale-and-cost-pressures/premium/BHVM43Z755B73FWPNRD7BNSXQM/>

² For example, there was considerable discussion following the recent release by the Electricity Authority of movements in regional energy prices (<https://www.ea.govt.nz/data-and-insights/charts-and-dashboards/regional-power-prices/>)

³ For example, the letter from the Minister for Energy to EDB chief executives on the government's expectations.

⁴ The Labour party announced a "SolarSaver" policy and the National party announced a "Home Energy Fund" policy.

Accommodating distributed generation and providing customer opportunities to participate in the energy market are core functions of a DSO.

In his letter dated 07/07/26, the Minister for Energy recently wrote to the chief executives of all EDBs outlining his expectations that EDBs move to innovate, drive efficiencies, and keep electricity prices affordable. The Electricity Authority also released its "Roadmap for distribution system operation in New Zealand" published on 30/06/26, in which its expectations for EDBs (and industry) progress toward DSO functionality are set out. Both the letter and the roadmap strongly align with our DSO plans and goals. The initiatives included in our INTSA application will help us move quickly and at scale to develop a blueprint, navigate uncertainties and implement the transformation required. It will also provide practical insights into what works well in Aotearoa (and what does not) in meeting the government, customer and regulators' objectives.

The developments noted above reinforces the need and urgency of achieving our DSO objectives, rather than require us to materially adjust our currently proposed programme. There will of course be further development of the DSO post completion of the work covered under the current INTSA. We have already identified some areas that will need further focus⁵ and future work will also be influenced by the outcomes from the earlier stages and potential further regulatory, political or other external changes. However, none of the recent external developments would materially change our current DSO INTSA application.

In conclusion, despite some inevitable delivery uncertainties, we remain strongly of the view that our DSO objectives are an optimal way to support our customers and communities and ensure a resilient and affordable future electricity supply. We expect to learn a lot as we develop our core DSO capabilities and, while our ultimate goal remains clear, our current programme will be amended to best reflect future learnings, which we will continue to share with the rest of our industry. Accessing the requested INTSA amount will allow Powerco to work toward achieving a DSO transformation at scope and scale, also developing a strong blueprint other EDBs could follow.

If you wish to discuss the contents of this letter, or further discuss our application more generally, please do not hesitate to contact me.

Ngā manaakitanga,

Ryno Verster
DSO Programme Director
POWERCO

⁵ For example: expanding the use of dynamic operating envelopes; developing a market short-run marginal cost pricing engine; integrating true probabilistic planning into our demand forecasting and investment optimisation

12 August 2026

Irene Clarke,
Policy Manager,
Powerco.

Via email: [REDACTED]

Tēnā koe Irene,

Approval of Powerco's application for Innovation and Non-traditional Solutions Allowance

This letter sets out our decision to approve Powerco's application to recover \$8,357,325, which represents up to 75% of forecast costs of its 'Powerco as a DSO' programme, from the Innovation and Non-traditional Solutions Allowance (INTSA).

Powerco's Application

Powerco submitted its initial INTSA application in May 2026. The application sought approval to recover \$8,357,325, which represents up to 75% of forecast programme costs. The total forecast programme costs stated are \$11,143,100.

The programme covers Phase One of Powerco's long-term strategy to transform into a Distributed System Operator (DSO). The programme is expected to run until the end of DY28. The programme targets the development and/or improvement of 'enabling' capabilities required for early-stage DSO operation.

The workstreams covered in the application can be grouped into three portfolios:

- developing a deeper network and customer understanding to enable optimal decision-making.
- enabling and supporting the development of new products.
- developing markets that allow customers to define their energy relationships in new ways while supporting a dynamically operated, stable and reliable network.

Commission's assessment of Powerco's application

To be eligible for INTSA funding, a project/programme must meet the eligibility criteria found in clause (6) of Schedule 5.3 of the DPP determination, including one (or both) of 6(c)(i) and 6(c)(ii) relating to financial benefits and uncertainty.

Powerco stated it might have some financial benefits within 5 years of completion and therefore did not meet the 6(c)(i) criteria. However, we consider that the programme meets all the other eligibility criteria, including 6(c)(ii). Our assessment of the relevant criteria is set out below.

Assessment of the eligibility criteria

(6)(a) – project relates to the supply of electricity distribution services

We consider that the programme covered by the Powerco application meets the definition of Electricity Distribution services. The workstreams contained in the application aim to improve core capabilities that all EDBs will need as distributed energy resources (DER) become more common.

(6)(b) – project or programme promotes the purpose of Part 4 of the Act

We consider the programme promotes s52A(1)(b) and s52A(1)(c) of the Act through the following initiatives covered in the programme:

- The DSO network model facilitates better network planning and constraint management which has potential to reduce costs by better reducing the risk of over-investment or under-investment (s52A(1)(b)).
- The programme will enable Powerco to improve reliability and connections processes which will benefit all the consumers on Powerco’s network, regardless of whether they have DER installed (s52A(1)(c)).

(6)(c)(ii) – the benefits of the project or programme are sufficiently uncertain that the non-exempt EDB would not carry out the project or programme if it could not recover some or all of the forecast costs of the project or programme from the non-exempt EDB’s INTSA allowance:

This criterion outlines the eligibility for recovery of 75% forecast costs. We consider Powerco’s INTSA application “Powerco as a DSO” satisfies this requirement.

Powerco stated that the development and implementation of DSO programme involved significant uncertainty and areas of work that are novel to both Powerco and the wider EDB sector in New Zealand industry.

We accept Powerco’s position that the benefits of the programme are sufficiently uncertain. While DER uptake is increasing, there remains uncertainty about when EDBs will require the capability to actively manage resources on their network. The extent and timing of any customer benefits will also depend heavily on how quickly Powerco develops and implements the DSO capabilities contemplated by the programme.

In the context of this uncertainty, we agree that, without INTSA funding, Powerco is unlikely to undertake the experimentation needed to identify the optimal DSO model for its network and customers.

Powerco is therefore eligible to recover up to 75% of the programme costs.

Next Steps

With the INTSA application now approved, Powerco is eligible to draw down up to \$8,357,325 upon completion of Phase One of 'Powerco as a DSO'.

Should circumstances change, Powerco may apply to us for permission to amend the forecast costs or outputs of the programme.

Powerco must submit a closeout report to the Commission that meets the requirements in paragraph (14) of Schedule 5.3 of the Determination within 50 working days of completing the Phase One of the programme.

We will publish this approval letter on our website.

Nāku iti nei, nā

Ben Woodham
Acting Head of Energy and Airports