Powerco as a distribution system operator

Innovation and non-traditional solutions allowance application

Commerce Commission

28 May 2026

Contents

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, [redacted].

Parts of this application contain sensitive information. Any information that should not be published is 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.

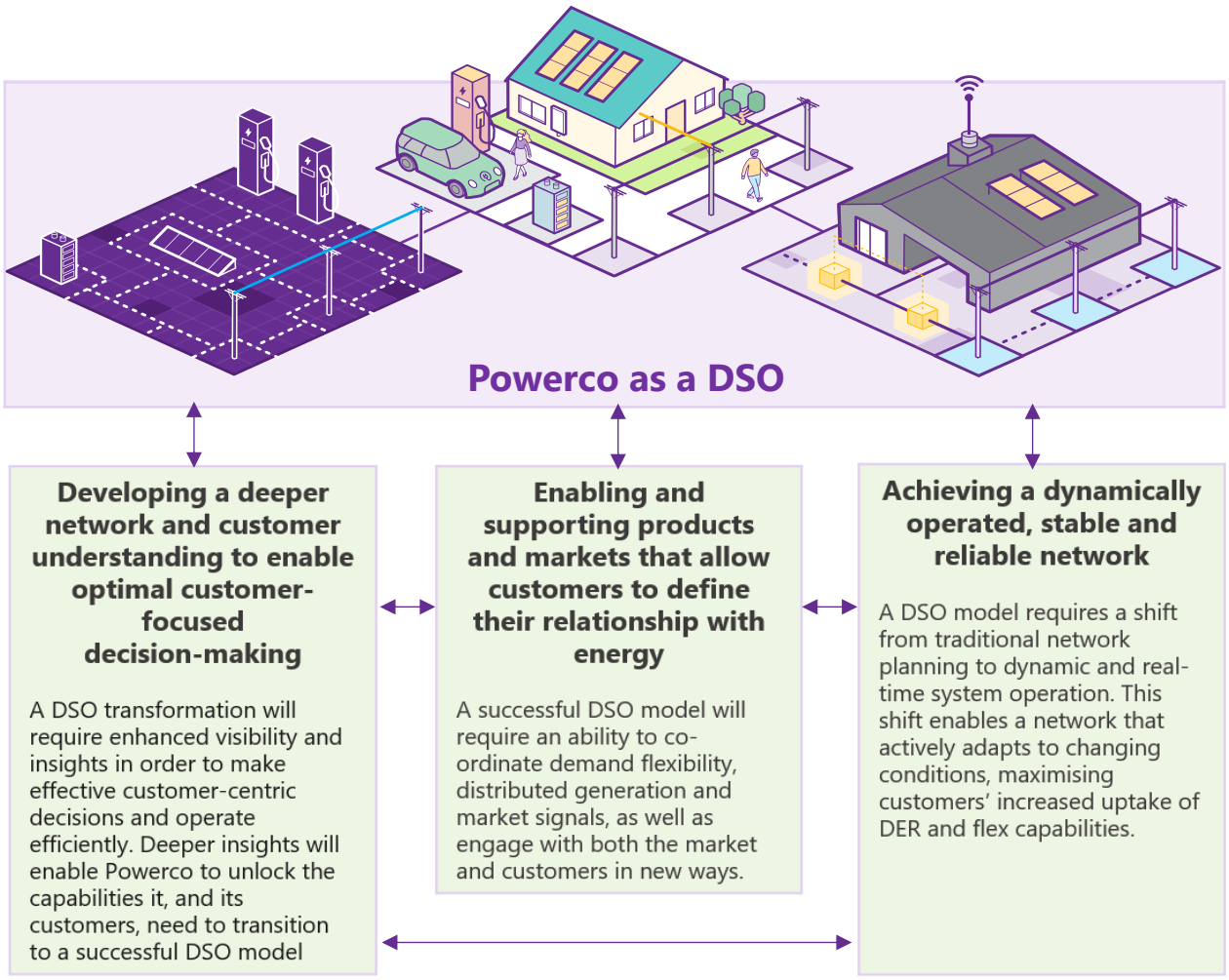


Figure 1: Diagram of Powerco's DSO transformation and associated outcome portfolios

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 determination[1]. 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.

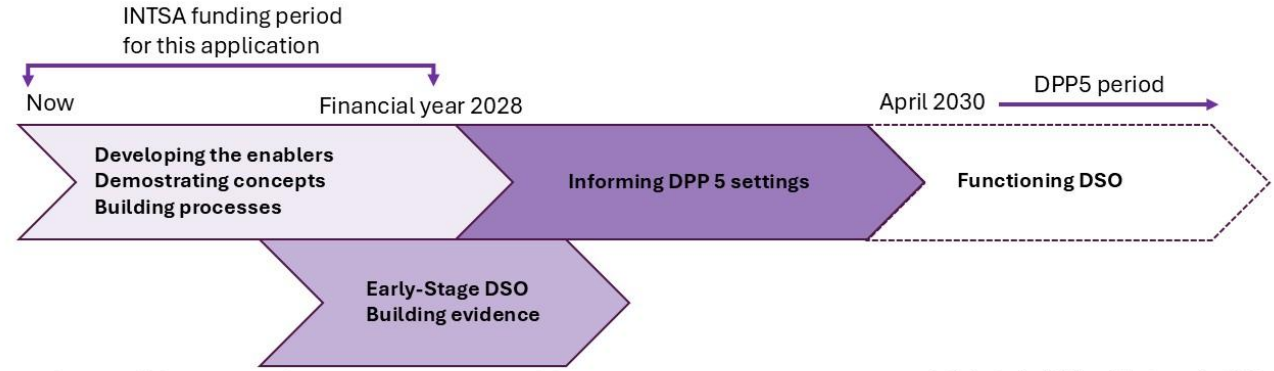
The full Powerco allowance available under Schedule 5.3 is $20.1 million (with 25% of this being for collaborative projects only). A breakdown of our allowance is provided in sections 1 and 3.4 of this report.

[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.



Enabling capabilities to develop/strengthen by the end of FY 2028

- Demand forecasting
- Data and architecture platforms and governance
- Network data quality
- Flex market platform
- Flex products and trials
- Network models
- Network visibility
- Capacity and constraints mapping
- Customer insights
- Flexible connections
- Flexible network pricing
- Operational capability development
- Flex valuation

Anticipated features by the end of FY 2028

- Multiple active flex contracts
- Longer-term flex scheduling
- Transparent and efficient investment framework
- Static operating envelopes informing pricing
- Transparent reflection of flex value aligned to forecast congestion
- Granular capacity and constraint mapping reflecting seasonality and future constraint forecasts
- Suite of flexible connection products available
- Limited DER and flexibility management capability

Anticipated additional features by 2030

- Active mass-market flex participation
- Shorter-term flex scheduling
- Dynamic operating envelopes
- Dynamic, locational pricing – signalling constraints
- Published flex opportunities that are regularly updated
- Dynamic system (stability monitoring)
- Dynamic co-optimisation of DERMS and network configuration

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)

[redacted]

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-optimise 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 expenditure [2].

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 products[3].
    - 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 expenditure[4].

[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			

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.

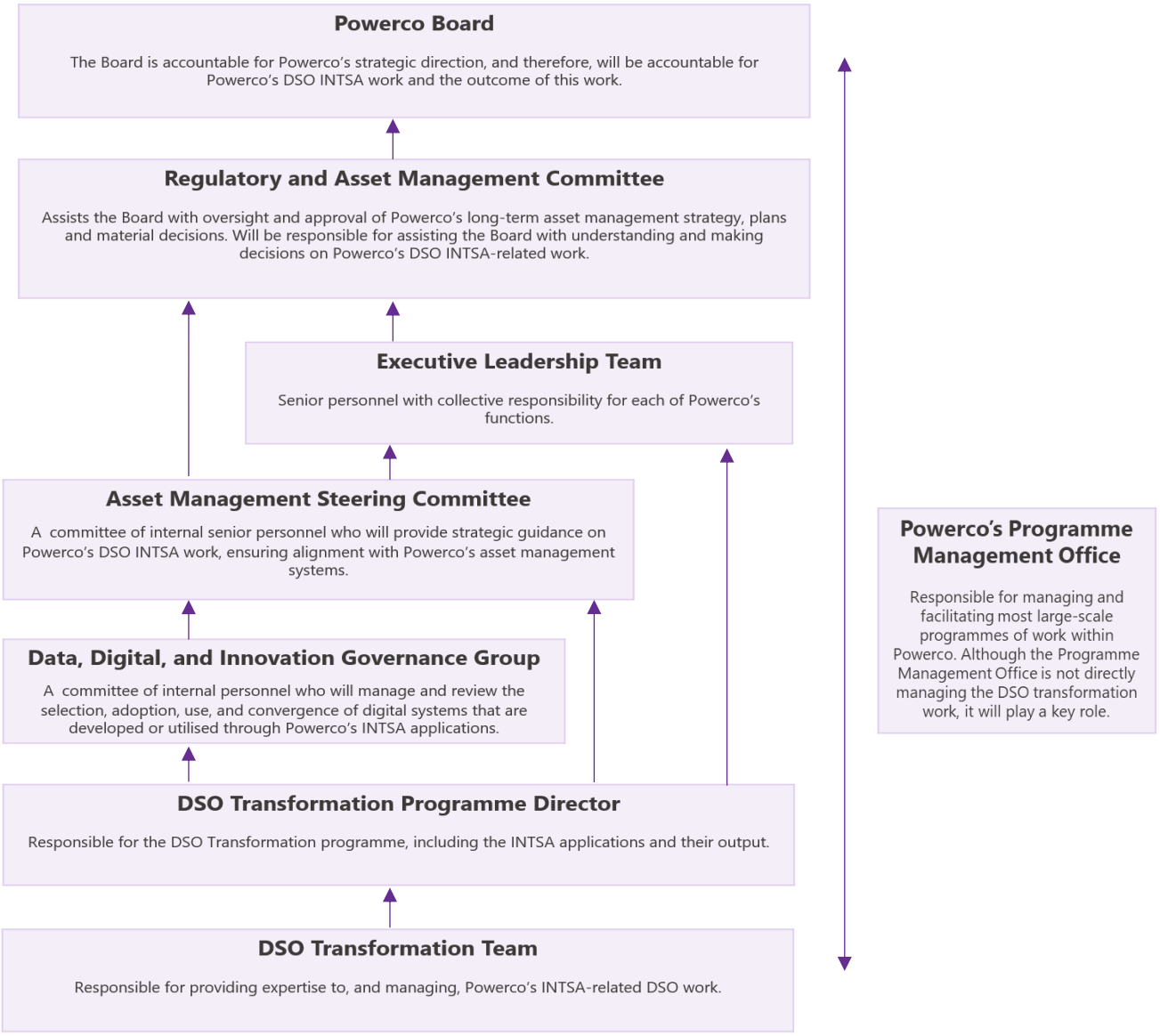


Figure 3: Powerco's Governance structures relevant to the contents of this application

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 group[5].

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 period[6].

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, which 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 to 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.

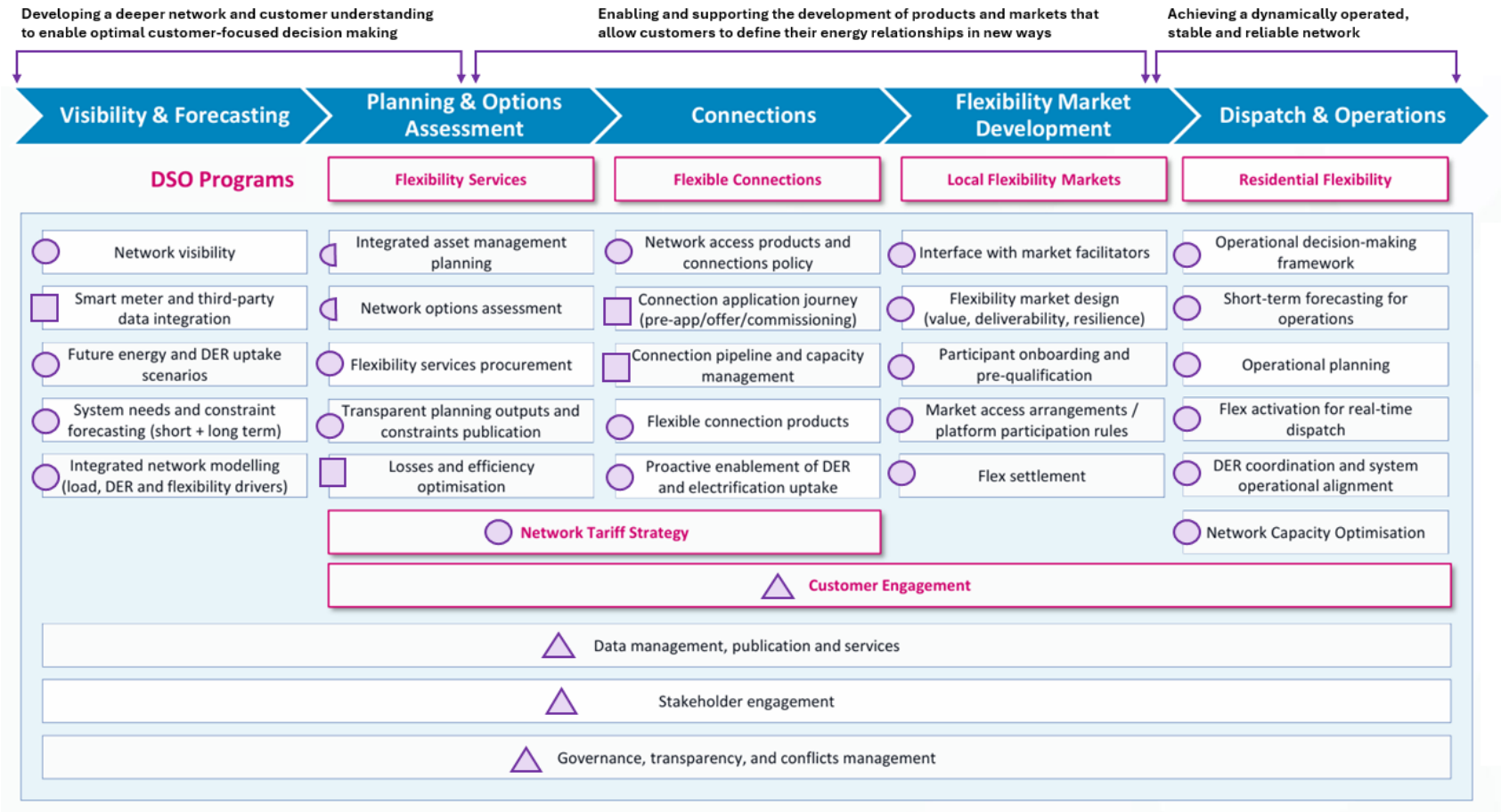


Figure 4: Mapping of independent report to the contents of this application.

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.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