



TRANSPOWER

Keeping the energy flowing

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**Briefing to Incoming Minister of State Owned Enterprises
COMMERCIAL AND IN CONFIDENCE
OCTOBER 2017**

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About Transpower

Transpower is a state-owned enterprise. Shareholding ministers are the Minister of Finance and the Minister for State Owned Enterprises. Treasury monitors the performance of the company for the shareholding Ministers. We also have disclosure requirements with the NZX due to our bond listings.

Our role in the electricity industry

We are central to the New Zealand electricity industry, connecting New Zealanders to their power system through safe, smart solutions for today and tomorrow. We have two roles.

The first is to plan, build, maintain, and operate the National Grid – with the objective of “keeping the lights on” for New Zealand electricity consumers. We need to ensure that, when the lights do go off, there is sufficient resilience in the grid to reconnect people to their power supply as quickly as possible.

The second role is that of the System Operator, in which we manage the real-time operation of New Zealand’s electricity system and wholesale electricity market – controlling and coordinating electricity generation and transmission minute by minute, 24/7, 365 days of the year, to maximise the efficiency and security of the system.

These two roles are interdependent and both essential for the power system to operate successfully. We are only one part of a wider electricity supply chain. We work closely with generators, distribution companies, retailers and technology providers to power New Zealand homes and businesses.

An overview of New Zealand’s power system

The National Grid provides a high voltage transmission backbone extending from Kaikohe to Tiwai, that links generation to electricity demand. Connected to this high voltage electricity network are a series of lower voltage ‘regional’ grids that serve regional loads and generation. Maps of the National Grid and an industry structure diagram are provided in Appendices 2 and 3 respectively.

The National Grid predominately carries energy from south to north (due to the less expensive hydro generation located in the South Island). This often reverses overnight as South Island hydro generators conserve water, and periodically reverses in dry winters when the southern hydro lakes run low, and the South Island becomes reliant on North Island thermal generation.

This was demonstrated in May – June this year 2017 when low rainfall in the South Island caused a decline in South Island hydro storage, pushing our risk curve between the 1% and 4% mark in late June, and our risk meter to ‘watch’.

In response, we increased our monitoring and reporting activities, working with industry to prepare for all possible scenarios. These low levels resulted in high price events, as more expensive generation ran in the north to preserve the water in the hydro lakes in the South. In July, we returned to normal and are now compiling our findings with a framework review to be in place for winter in 2018.



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A critical component of New Zealand's power system, and an invaluable asset in managing dry year events, is the High Voltage Direct Current (HVDC) link. The HVDC link runs from Benmore through the upper South Island, beneath the Cook Strait, to Haywards north of Wellington connecting the two islands and enabling a shared power supply and national wholesale electricity market.

Over the last ten years, a substantial capital investment programme has been undertaken including significant upgrades to the HVDC link and transmission lines feeding into, and around, Auckland. As a result of this programme, New Zealand's power system has increased capacity to help meet future changes in demand (especially demand growth in Auckland) and has greater diversity to manage unplanned system events. The investment also unlocked additional renewable generation.

This foresighted capital investment will assist in managing the future uncertainty in the electricity sector around emerging technologies, greater consumer interaction and changes in load profiles.

Our customers, landowners and communities

We have 48 customers, who connect directly to the National Grid. They are made up of local distribution businesses, generators and large industrial direct connects.

Transmission is interlinked with a diverse range of stakeholders in the wider electricity system including customers, landowners, iwi, local authorities, business groups, etc. Relationships with these stakeholders is critical to managing power flow on the system effectively and providing a reliable and secure electricity supply to the end consumer.

We have around 25,000 landowners who host our assets. The relationship with these landowners is vitally important to maintaining access for maintenance work and upgrades. Maximising the utilisation of our existing assets and ensuring clear transmission corridors, limits the need to build new lines and substations, minimising costs for electricity consumers and environmental and community impacts.

The transmission grid runs through nearly every community throughout New Zealand. We have a number of community programmes in place to acknowledge that communities are periodically affected by our maintenance or projects work. The largest of these is the Transpower CommunityCare Fund that invests in community-based projects near our lines and projects to benefit the wider community. Around \$800,000 is allocated to community projects per year. Since 2008, we have donated nearly \$8 million to local communities. Under the National Policy Statement on Electricity Transmission 2008 (NPSET) we are securing corridor protections in all regional and district plans across the country. This is a time consuming, and expensive process, however we have now achieved corridor provisions in 60% of council plans, the most significant being in the Auckland Unitary Plan.

Transmission pricing – April 2018

Electricity pricing is a complicated and sensitive topic in New Zealand. We are committed to keeping our costs as low as possible. Transmission charges remain a very small component of a typical end consumer's bill – around 9%. In addition to this 9% transmission charge, end consumers bills are made up of a number of components including distribution, generation and retail charges.

We are currently undertaking our second transformation programme, focused on efficiency, to continue to lower our operating costs. Our first 18 month transformation programme, completed in June 2017, saw us pull over \$200million of savings out of our business. More detailed information about our transformation programme is provided later in this document.



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Although revenues are forecast to be flat across our current five-year RCP2 period, there will be year-on-year fluctuations. This year, in April 2017, regulated revenues peaked (a 5% increase in revenue) due to slightly higher capital investment related costs, a reduction in 'wash-up' credits to customers, higher write-offs, and the first year of the new quality of service incentive arrangements put in place by the Commerce Commission.

In 2018/2019, we expect transmission pricing to start declining however this will vary by region.

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Regulation of our business

Our key business activities are regulated by the Commerce Commission and the Electricity Authority.

The Commerce Commission

The Commerce Commission regulates our transmission revenue (and therefore the average level of prices and price increases). Revenue is based on approved levels of capital investment and operating expenditure and a regulated rate of return (currently 6.44% post-tax). Transmission charges account for more than 90% of Transpower's total revenue.

The Commerce Commission regulates our transmission business using Individual Price Quality Path (IPP) determinations for Regulatory Control Periods. The control periods are typically 5 years and the IPP specifies funding baselines for capital and operating expenditure, sets service performance targets and governs how annual revenues are determined and adjusted (including to reward outperformance).

The first regulatory control period (RCP1) ended in June 2015. We are currently in our second Regulatory Control Period (RCP2) that runs from 2015/2016 through to 2019/2020. A new range of customer-facing performance targets with financial incentives were included in RCP2. Planning and preparation of our RCP3 submission is well underway.

The Electricity Authority

The Electricity Authority (EA) has a range of functions covering the electricity sector and wholesale and retail electricity markets.

The EA approves the Transmission Pricing Methodology that Transpower uses to apportion charges among our customers such as generators, distribution businesses and major users. The System Operator is funded under a service provider agreement with the EA. This agreement was reset this year at a value of \$216 million over the next five years.

Planning and operating the future grid – Transmission Tomorrow

In May 2016, we launched our long-term outlook for the future: *Transmission Tomorrow*. We have provided a hard copy of this to your office. Transmission Tomorrow was designed to provide a realistic view of the future to ensure we continue to provide attractive, cost-effective services that meet our customers' changing needs.



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The electricity industry is on the cusp of significant change, and Transmission Tomorrow was developed to provide a future perspective for our industry and identify the challenges and changes ahead and how we should respond to these – new technologies are emerging, the electricity sector is evolving and society is changing around us.

Taking into account all the changes that we anticipate may occur in the coming decades, we consider that the service the National Grid provides will be enduring.

Demand and forecasting

Potential changes in electricity consumption, generation economics and customer response technologies bring with them greater uncertainty to future grid loading. After years of steady demand growth and investment in generation and grid capacity, we are now in a period of flat demand and change in the mix of generation.

Uncertainty around the uptake of emerging technologies makes it difficult to predict whether there will be a return to growth and what shape future demand profiles may take. This uncertainty is compounded by questions around the closure of thermal generation facilities, the future of large industrial plants such as the Tiwai aluminium smelter, potential changes to transmission prices and the future path of carbon prices and other policies.

These higher levels of uncertainty must be factored into our grid planning. We forecast that where possible, technology, rather than new costly build projects, will play a critical role in the development of the future grid. However, the need to invest to maintain and refurbish the existing asset base remains.

Meeting consumer expectations

Electricity today accounts for about 26% of the total energy used in New Zealand. As dependence on electricity rises, so do expectations of a reliable power supply – the 21st century consumer expects a highly reliable power supply, at low cost. The commercial sector's tolerance of even short power outages is ever-diminishing given the major costs of an interruption to business.

Our challenge going forward is to create a reliable and secure transmission service, that is cost-effective to the end consumer and best utilises the assets we already have while enabling the best, lowest-cost sources of electricity generation to be used to meet demand.

Using innovation and utilising new technologies will allow us to shorten the lead time to respond to changes in demand and therefore reduce, or defer the need for new towers or substations – ultimately reducing costs for the end consumer. Programmes like demand side response, in which Transpower is taking a leading role, are a positive example of measures we can take to develop alternatives to building new assets.

Future considerations and challenges

There are a number of challenges arising in 2017 including:

Transmission Pricing

Transmission Pricing Methodology (TPM) –review by the EA

The Commerce Commission sets our revenues using rules set under Part 4 of the Commerce Act. The EA decides how Transpower recovers revenue from our customers – electricity distributors, generators and large consumers connected directly to the grid.



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The current TPM was introduced in 2008. It contains three charges:

- **connection charge:** recovers the direct cost of each customer's connection to the grid (from all parties physically connected to the grid);
- **HVDC charge:** recovers the cost of the interisland link from South Island generators, on the basis of their injection into the grid;
- **interconnection charge:** recovers the balance of Transpower's revenues from distributors and large consumers connected to the grid according to contribution to regional peak demand (which drives transmission investment).

The TPM has been an ongoing topic of debate with some parties pushing strongly for change. The EA has been reviewing the TPM since 2010. It favours changing to a 'beneficiaries pay' model, where Transpower determines how much different parties benefit from the grid and sets charges accordingly. While Meridian and New Zealand Aluminium Smelter (NZAS) support this approach, it has not attracted widespread support.

The process provides for the EA to set 'Guidelines', dealing with policy settings (such as who pays for which assets), that we then develop into a detailed methodology. As a result, our focus is on workability (whether proposals are practical to implement and operate), how customers will respond (this affects the need for grid investment) and whether the new TPM will be 'durable' (or be an ongoing source of contention).

In 2016, we proposed a simplified, staged alternative that retains the main components of the EA's reforms but would be more practical to implement and, we think, would produce better outcomes for New Zealand. This approach was not accepted by the EA.

It is worth noting, there was no provision in our regulatory funding baselines for the costs of developing, implementing or operating a new TPM. For us to recover these costs, the EA and Commerce Commission must first apply provisions set out in section 54V of the Commerce Act. We have requested confirmation from both the EA and Commerce Commission on this.

In April 2017, the EA announced a delay to its process to allow it to prepare a new cost-benefit analysis as part of its review of TPM guidelines and that a decision from the EA on whether to issue new TPM Guidelines could be expected in the first half of 2018.

In June 2017, the EA announced that they would bring their new Board (4 of 6 directors have been appointed in April and May 2017) up to speed with TPM reform before commencing procurement of a new CBA. We understand this process continues and we currently have no indication of when to expect a decision by the EA on whether to issue new TPM Guidelines.

Transmission Pricing Methodology – Transpower Operational Review 2

Given the delay of to the wider Electricity Authority review, we believe there is an opportunity for us to undertake an operational review (Operational Review 2) that will achieve real benefits to the industry and for electricity consumers.

We are currently in consultation with industry to identify if this review would be worthwhile and if so, what the scope should be. In June/July 2017, we sought stakeholder views on this. There was a high level of engagement from stakeholders and we received 38 submissions from 10 consumers or consumer representatives, 18 distributors and 10 generator/retailers. Submissions demonstrated strong support with 34 of 38 submitters expressing support for Transpower to proceed with the review.

The first Operational Review by Transpower in 2014/15 was well received by industry, widely supported by stakeholders and resulted in the EA approving incremental changes to the TPM. Since their implementation we estimate that 174 MW of previously withheld South Island generation has been made [available](#).

The EA sees Operational Review 2 as complementary to their own TPM review and is supportive of us undertaking this process. In August 2017, they reiterated to stakeholders that they are "working with TP on its proposed operational review to achieve early benefits for consumers." Any proposals for change to the TPM through operational reviews are subject to their approval.

The purpose of the review would be to consider moderate and incremental reforms to the current TPM that are (i) complimentary to the EA's review, and (ii) can be implemented relatively easily and quickly. We can only propose changes to the TPM that are consistent with the current TPM Guidelines. It follows that we cannot propose to allocate HVDC charges to anyone other than South Island generators.

The potential focus areas include some housekeeping matters identified by Transpower staff, some technical elements of the EA's proposals and consideration of relatively simple methods to address problems the EA has identified with the current TPM. Some focus areas (relating most notably to Interconnection charges) could result in material wealth transfers, albeit we anticipate these would be moderate relative to those proposed under the EA's TPM review.

Transpower's Board is yet to decide whether the review will proceed and will liaise with the EA Board before making that decision.

Distributed Generation Pricing Principles (DGPP)

The Electricity Authority is reviewing the DGPP in Schedule 6.4 of the Electricity Industry Participation Code 2010 (Code). The DGPP project is a review of the pricing and charging arrangements for distributed generators. In May 2016, the Electricity Authority (Authority) proposed to remove the DGPPs from the Code, and to shift responsibility for determining avoided cost of transmission (ACOT) payments from distributors to Transpower. In December 2016, the Authority decided not to remove the DGPPs from the Code. Instead, they amended the Code so that Transpower has a new obligation to provide advice to the Authority on which distributed generation is required to meet Grid Reliability Standards (GRS) in the existing four transmission pricing regions (LSI: Lower South Island LNI: Lower North Island USI: Upper South Island UNI: Upper North Island).

Based on the advice of Transpower, the Authority will decide which existing distributed generation will continue to receive avoided cost of transmission (ACOT) payments under the regulated terms.

Transpower requested an extension from 15 March 2017 to 21 April 2017 for it to provide the LSI report to the Authority. The complex modelling work for each report is time consuming and requires scarce, specialist power system knowledge and skills. Due to these time and resource constraints (both internal and external) and a delay in acceptance of the LSI report and report methodology by the EA, Transpower could not deliver the LNI report by the code deadline of 30 August 2017. We self-reported a breach of the code on 30 August where we indicated that the LNI report will be delivered by 31 December 2017. We will also breach the code for delivery of the USI and UNI reports which are due 31 January 2018 for the reasons above.

As with the TPM operational review (Operational Review 2), Transpower is not funded to undertake this additional reporting work, and we have requested the EA to write to the Commerce Commission to approve funding.



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Auckland Strategy

In line with *Transmission Tomorrow*, we are currently developing a strategy for meeting the needs of New Zealand's largest commercial centre – Auckland. For Auckland, there is no significant generation within 60 km of the city centre, meaning that almost all the power that Auckland uses each day comes from further south, including many hundreds of kilometres away in the South Island.

Our existing network in Auckland, which was built over 60 years across rural paddocks, has remained largely unchanged, and grown to meet the needs of a growing city, in a legacy network fashion – doing what we can with the existing infrastructure, with little ability to change what's there due to the extensive residential housing that has now developed under, and around our transmission assets.

The amount of residential development around our transmission assets in Auckland is a real challenge for us. For around six years, we have been working with local authorities, including Auckland Council, to implement transmission line corridors under our transmission lines. These corridors request a 12-metre clear corridor either side of our assets, to protect them from inappropriate development. These corridors are for future development rather than retrospective, therefore places like Auckland, where there have been no protections in place, have substantial underbuild around our assets. We are confident we will secure adequate corridor protections under the Auckland Unitary Plan.

With future maintenance required on the Auckland network in the coming years, this is an opportunity for us to look holistically at the Auckland network and work in conjunction with our local customers and other infrastructure providers to see how we can best meet the changing needs of our largest city into the future.

In the next three – five years, there are around \$350 million of customer projects to deliver.

We are working closely with the Auckland Transport project team on the City Rail Link (CRL) and Light Rail Transit (rail to the airport) projects. At this stage, we are providing input into the designs, identifying constraints and opportunities as they affect our assets.

Fanshawe Street is an area of interest for us as it carries our 'backbone' underground 220 kV cables (Hobson Street to Wairau Road), that transport electricity to the North Shore and Northland. There are a number of other utilities that have infrastructure in Fanshawe Street and any CRL works will affect our cables, plus many others i.e. Vector, Watercare, Chorus. We continue to work collaboratively with the Auckland Transport project teams.

A large piece of work this year has been preparing a future strategy for fulfilling Auckland's economic and social needs and how we might meet these with best value, least disruptive and futureproof electricity grid options. In November, we aim to release an options document that will collate and analyse our stakeholder feedback and findings and provide options for review and feedback from our stakeholders for how the grid could look in the future.

Undergrounding of existing transmission lines

Transpower typically undergrounds all new transmission lines within urban areas (as it is simply not feasible to secure land rights for overhead lines). We also support undergrounding or relocation of an overhead transmission line, provided the beneficiary (typically NZTA and property developers) meets the costs that we cannot justify recovering through transmission charges.

Over the past two years, there has been a community push, principally out of Auckland in the Onehunga community, to underground existing transmission lines. Undergrounding is significantly more expensive than overhead transmission lines.



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Undergrounding transmission lines costs around \$5 to \$15 million per kilometre, around 5-10 times more than overhead lines. Overhead transmission lines also are more resilient over time than underground cables – ultimately meaning fewer power outages for the consumer.

Transpower's income comes from electricity consumers nationwide, through their monthly electricity bill. All our transmission investment operates within regulatory arrangements designed to advance the interests of electricity consumers. Undergrounding existing transmission lines does not benefit electricity consumers as those existing lines are already doing their job well.

Ultimately, whether public funding should be committed to undergrounding transmission lines is a policy decision for local and central government.

Transforming our business

We identified early in our second regulatory control period (RCP2), the need to become more efficient to meet future financial and operational challenges. Our first business-wide transformation programme – Transformation 1 – was established in 2015 to achieve the expectations set by the Board and regulator. It was important we continued to provide a good transmission service while undertaking this transformation and achieving our savings targets. The programme involved a reconfiguration of how we operate the grid service and a series of operational improvement initiatives to enhance how we provide optimum grid reliability at the lowest possible cost, while also delivering an optimum system operator service. A behavioural transformation component, with comprehensive leadership training over a two-year period, was undertaken to enable more effective collaborative work across the business and with our key stakeholders.

The first phase of this programme was completed on 30 June 2017 with real and sustainable benefits including:

- a significant reduction in our Total Recordable Injury Frequency Rate (TRIFR) from 7.8 (30 June 2016) to 5 (30 June 2017). This improvement arose from better process and a change in safety behaviour.
- an increase in HVAC availability to 99.0% – exceeding our internal target of 98.7%
- efficiencies in procedure and process through a new way of undertaking our grid business
- efficiencies and cost savings in our ongoing capital and operating expenditure.

From 1 July 2017, we have embarked on a second phase of transformation to build on the work carried out during our first transformation programme. Our people recognise the need to continuously adapt and evolve our business to meet the changing environment we operate in and provide value to those we provide services to. A key component of our work in this coming year will be delivering a substantial programme of work under Transformation 2 to further improve our operations and efficiency. The Transformation 2 programme of work once completed will position our business well for the future states described in Transmission Tomorrow.

Changes in generation and demand – uncertainty in the industry

Thermal generation closures

Recent closure of several thermal power stations, and the uncertainty around removal of two further Huntly generation units in 2022 means that in the short-term future, we face a number of changes in the availability of generation to supply the Upper North Island.

If multiple large thermal units exit, significant new generation will be required to ensure security of supply. While there are new investment options in the pipeline, the current uncertain environment



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due to Tiwai uncertainty, new technology impacts and flat demand growth, makes large investments in a generation plant difficult to justify.

The implication of this on the grid means that we may end up with less generation north of the Waikato and more generation in Taranaki, central and lower north island. With the majority of load in the Upper North Island, i.e. Auckland, this could result in less depth of power supply in the North Island and therefore less resilience to an interruption to the HVDC or HVAC backbone.

This will require potentially some investment between Auckland and Taupo – minor upgrades to optimise capacity into Auckland and possibly some line upgrades through the central North Island. We are working directly with industry regarding these planning challenges and as the grid owner and operator, we are investigating grid capability requirements and possible investment options during and beyond this transition period.

Tiwai Aluminium Smelter

An additional uncertainty is the future of the Rio Tinto Tiwai Aluminium smelter given they use around 13% of New Zealand's electricity. The international aluminium market fluctuates and new smelting capacity continues to threaten the viability of Tiwai. While trading conditions appear to have improved and Rio Tinto have renewed their electricity supply agreement, we understand that they have a 12 month notice of exit option.

If Tiwai closes or significantly reduces capacity, there will not be any electricity security of supply issues for the rest of New Zealand. However, there would be up to 600 MW of excess generation and we may not be able to fully dispatch Meridian's hydro generation at Manapouri, as a result of new transmission constraints, resulting in some water spill.

We have made a number of substantial investments in the lower South Island in recent years which assist with this possibility. We have three remaining projects, approved by the regulator and with design completed. They are ready to be constructed as soon as they are required and would take three years to complete. These would relieve most of the constraints, but other projects, as far north as Whakamaru in the North Island would also be required. We estimate the total cost of relieving these constraints would be around \$600 million. Our analysis indicates this is economic.

Financial overview

Highlights this year:

- we are stabilising our grid capital programme and transmission price path;
- we are taking an iterative approach to sizing our RCP3 work programme;
- major capital projects are closely tied to industry events; and
- we are targeting significant operational efficiency gains.

Dividend projection

Our dividend has been set at \$165 million per annum over the RCP2 regulatory period which has leverage reducing from 70% to 67% by 2019/20. Future dividends levels will be re-visited once the regulatory funding baselines and rate of return for RCP3 are set in 2019.

Valuation

Our commercial valuation as at 30 June 2017 is \$1.6 billion. This is \$100 million higher than the previous valuation as a result of increased operating cashflows over the RCP2 period as a result of lower operating costs and extending our discount cashflow model (DCF) out to the end of RCP3 from RCP2.

Transmission Price Path

We are on track to deliver a decrease in transmission prices next year, and a more stable price path into the future. This reflects work we have done to stabilise our capital programme, and efforts to moderate volatility in our revenue setting arrangements.

We have been working with the Commerce Commission to develop arrangements for RCP3 that will produce more consistent year-on-year changes in transmission prices. This is an important step for improving customer's experience of Transpower and enhancing our value proposition.

Sizing our RCP3 programme

We are part-way through the process of sizing our RCP3 work programme. Our underlying plan (before top-down adjustment) for RCP3 base capex and reconductoring is currently forecast at \$1.8 billion and we have set a top-down target of \$1.6 billion. All things being equal, achieving our target would translate into an HVAC price path that increases by 1% per annum across RCP3 (before adding any major capex projects).

Over the next 12 months, we will refine our underlying plans, and develop a clear view of work programme changes we can make to achieve our target. This will provide a clear understanding of the trade-offs between work programme objectives and overall price path impact.

Uncertain major capex outlook

Our major capex requirements are highly uncertain and heavily dependent on industry developments. We have developed a base case forecast in which we will invest \$160 million in RCP3, and an alternative scenario in which we invest \$1,000 million to adapt the transmission network for exit of generation plant at Huntly and the aluminium smelter at Tiwai.

Scenario testing shows that we can accommodate the latter scenario if needed, with the key impacts being sharper transmission price rises and four years of reduced dividends during RCP3 (from \$160 million to \$80 million per annum).

Operating efficiently

We have built significant opex efficiency targets into our plans, phasing in across the next three years. This high-level assumption is based on experience from other utilities embarking on benchmarking and efficiency exercises like the one at the centre of our Transformation 2.

We will refine our view of the size and phasing of these savings as we progress our transformational work. If we can achieve savings in line with our assumptions, then this will support our ability to set a dividend level of RCP3 that absorbs some of the movement from an anticipated lower allowable return (regulatory WACC).

Appendix 1 – Key Facts

- **Key personnel**

Board of Directors

Hon Tony Ryall (Chairman)
 Don Huse (Deputy Chairman)
 Dean Carroll
 Pip Dunphy
 Professor Jan Evans-Freeman
 Bill Osbourne
 Tim Lusk

General Management Team

Alison Andrew (Chief Executive)
 Alex Ball (Chief Financial Officer)
 John Clarke (GM System Operations & Innovation)
 Stephen Jay (GM Grid Development)
 David Knight (General Counsel and Acting GM People)
 Raewyn Moss (GM Auckland Development & Transformation)
 Cobus Nel (GM Information Services & Technology)
 Kevin Small (GM Customers & Projects)
 Jim Tocher (GM Grid Performance)

- **Total assets - \$5 billion**

We have 12,000km of transmission lines, 168 substations, 25,000 transmission towers and 120km of cable under the Cook Strait.

- **Debt - \$2.96 billion**

We access domestic and international debt markets to fund the costs of our grid reinvestment programme and to refinance maturing debt. We expect our debt to peak at around \$3.5 billion in 2018/19.

- **Annual capex**

Our capital expenditure is approximately \$300-400 million per year. This funds smaller, critical upgrade projects and our maintenance and refurbishment programme of works.

- **Revenue and profit**

Revenue for the year to 30 June 2017 was \$1061.1 million, and profit was \$208.4 million.

- **Dividends**

\$165 million in financial year to June 2017.

- **Staff – approximately 750**

Our staff are based in five offices throughout New Zealand – Auckland, Hamilton, Wellington (head office), Palmerston North and Christchurch.

- **Service providers**

All our field work is undertaken by external contractors who specialise in transmission maintenance. Our maintenance partners are currently Broadspectrum, Electrix, Electronet and Northpower.



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Appendix 2 – New Zealand National Grid





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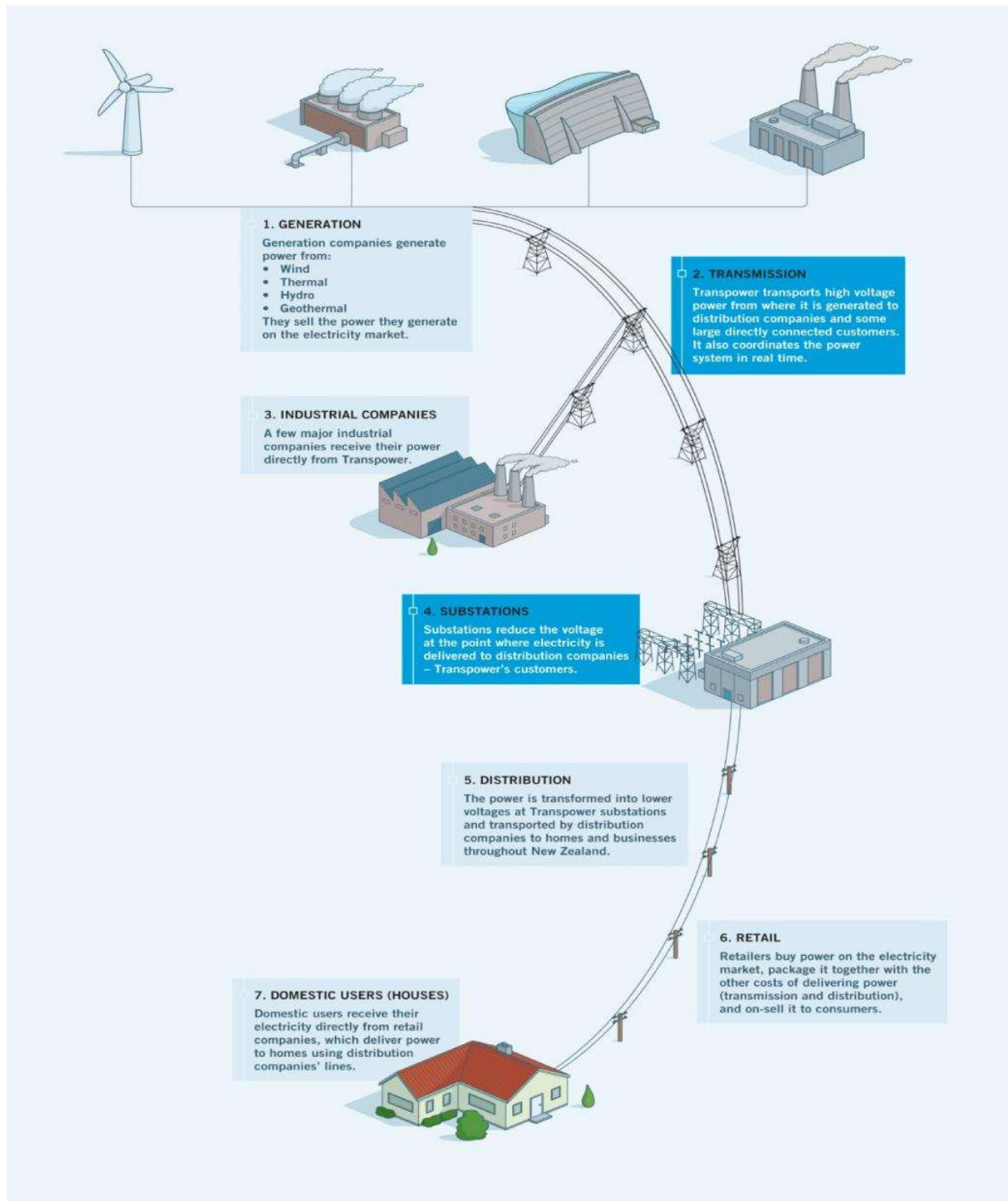
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Appendix 3 – Industry Structure

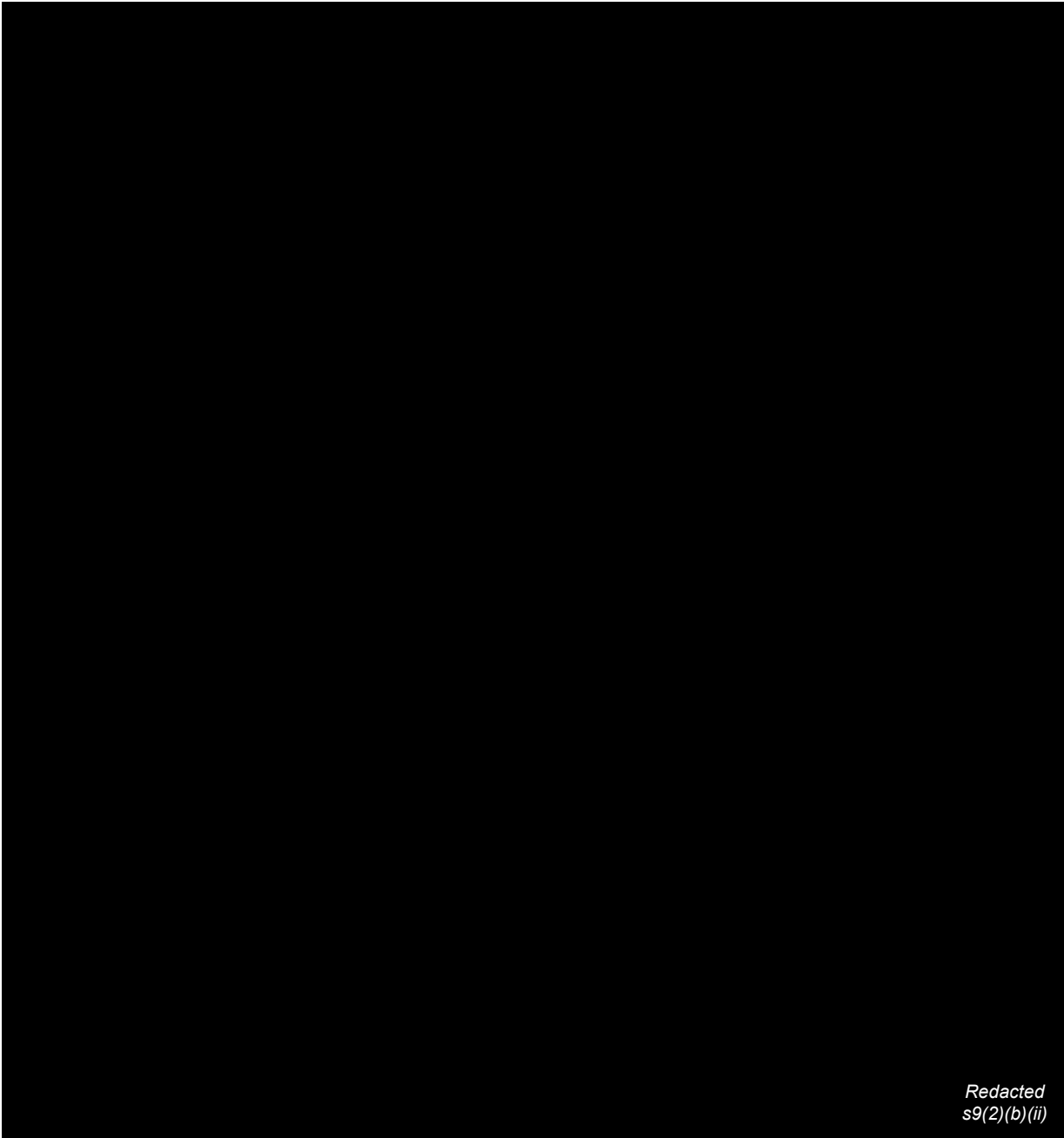




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Appendix 5 – Our Strategic Framework

