



# **Future Proofing Telecommunications Regulation: Lessons from the Electricity Sector**

**Report to Trustpower**

**September**

**2016**

## Acronyms and Abbreviations

AEMC	Australian Energy Markets Commission
AER	Australian Energy Regulator
Authority	Electricity Authority
Commission	Commerce Commission
Code	Electricity Industry Participation Code 2010
EDB	Electricity Distribution Business
DER	Distributed Energy Resources
DR	Demand Response
IM	Input Methodology
MBIE	Ministry of Business, Innovation and Employment
NEO	National Electricity Objective
RAB	Regulatory Asset Base
RSP	Retailer Service Providers

# Table of Contents

<b>1</b>	<b>Introduction and summary</b>	<b>1</b>
<b>2</b>	<b>Convergence is Occurring in the Electricity Sector</b>	<b>3</b>
2.1	The Line Between Monopoly and Competitive Sectors is Blurring	3
2.2	Regulatory Boundaries are also Blurring	5
2.3	The Australian Electricity Sector is Different	9
<b>3</b>	<b>Technological Disruption and Electricity Regulation</b>	<b>10</b>
<b>4</b>	<b>Lessons for Telecommunications Regulation</b>	<b>13</b>
4.1	Purpose of Telecommunications Act	13
4.2	Purpose statements should be simple, flexible and emphasise competition	15
<b>5</b>	<b>Conclusions</b>	<b>17</b>

# 1 Introduction and summary

The Government is considering options for applying the standard utility regulatory framework to the telecommunications sector. We have been asked to examine the lessons for telecommunications from the challenge of applying this standard framework to the electricity sector in the context of emerging technologies.

The New Zealand telecommunications and electricity sectors bear increasing resemblance. Both sectors are characterised by competitive retail service providers that rely on vertically separated monopoly networks to deliver their products to consumers. Both sectors are also characterised by technological disruption.

## **Emerging technologies are blurring the lines between competitive and monopoly services**

One of the key requirements for the efficient application of the standard utility regulatory framework is to be able to draw a clear line between the monopoly and competitive components of the value chain. If the distinction is not clear, providers of monopoly services may be able to cross-subsidise competitive activities and to distort the market.

For a long period of time, the electricity distribution and transmission sectors were seen as technologically stable, and the boundary between the provision of monopoly and competitive services could be drawn with relative ease. Broadly, there was little need to scrutinise how the electricity distribution services should be defined.

However, the emergence of technologies, such as battery storage, is blurring this distinction in the electricity sector. Energy storage provides multiple services, and can be both a substitute and complement for electricity lines and for electricity generation. In the telecommunication sector, multiple technologies are already available to provide substitutes to fixed line services. Increasing convergence in the telecommunications sector may make it even more difficult to draw a clear distinction between competitive and monopoly services.

## **Emerging technology is a key issue for the current Input Methodologies (IMs) Review**

The recent review of the electricity distribution input methodologies has highlighted the stress that convergence issues, effects of emerging technology and the greying boundaries between competitive and monopoly services in electricity have placed on the application of the utility regulatory framework.

The same issues are going to emerge in the telecommunications sector, and the design of the regulatory framework needs to anticipate them.

## **Market regulation under the Electricity Industry Act is more adaptive than pure application of the Telecommunications Act**

In the electricity sector, neither of two main existing regulatory arrangements were designed with emerging technologies in mind. These two frameworks are the Commerce Act 1986, Part 4, and the Electricity Industry Act 2010.

Nevertheless, while the regulatory framework behind the New Zealand electricity market is being stressed by the emerging technologies, it has the advantage of combining the focus on utility regulation with an equally strong focus on market rules that achieve efficiency and competition. The Commerce Commission (Commission), as the monopoly regulator, interacts with the Electricity Authority (Authority), which has a simple and direct objective:

promote competition in, efficient operation of, and reliable supply by, the electricity industry for the long term benefit of consumers.

The Authority is able to initiate work streams that help manage the boundary between the competitive and monopoly activities in the sector. For example, it has set up new work streams on cost-reflective pricing to complement demand response.

By contrast, the current Telecommunications Act s18 purpose statement excludes efficient operation, and may also be unnecessarily prescriptive as to how competition could and should be achieved. The introduction of the utility regulatory framework into the telecommunications sector without corresponding changes to the Telecommunications Act would leave the sector even less capable of dealing with the challenges posed by the emerging technologies than its electricity counterpart.

### **Regulatory frameworks need to be resilient**

We believe there can be little doubt that the exact same problems confronting the Commerce Commission under the current Part 4 framework will arise under the reformed Telecommunications Act. The Ministry of Business, Innovation and Employment (MBIE) will need to give careful consideration to the current process for setting the Input Methodologies, and whether this is a process that would be optimal for the telecommunications network. It is not clear whether the Commerce Commission is well equipped to make policy choices that define the boundary between the monopoly and competitive segments. Rather, it may be more appropriate for the boundary to be drawn by the policy-makers, while the regulator applies the conventional regulatory framework to the clearly defined monopoly segment.

As we discuss in the paper, the New Zealand approach of setting different objectives for the monopoly regulator (the Commerce Commission) and the market rule-maker (the Electricity Authority) may not work well when technological change makes it hard to keep a clear boundary between regulation and rule-making. The Australian electricity sector experience, with different institutional and governance arrangements, shows that the impact of disruptive technologies on sectors, such as electricity and telecommunications, may require new arrangements. The Australian approach of setting overarching sector objectives that apply both to monopoly regulation and to market rule making appears to offer practical advantages over the New Zealand approach.

However, since the telecommunications sector does not have its rule-making equivalent to the Electricity Authority, transplanting the current New Zealand electricity regulatory framework to telecommunications, a sector where the impact of disruptive technologies is even greater, is unlikely to be appropriate.

## 2 Convergence is Occurring in the Electricity Sector

In order to discuss the implications of emerging technologies for electricity regulation, and its relevance to the Options Paper, we first identify:

- The current split between competitive and monopoly sectors in the electricity industry, and how this split is blurring with emerging technology and convergence
- The current split of responsibility between key electricity sector regulators, and the strains it creates as the emerging technology creates a grey zone between competitive and regulated activities.

We also compare the split between competitive and monopoly sectors and between regulators in the Australian electricity sector.

### 2.1 The Line Between Monopoly and Competitive Sectors is Blurring

This section outlines the current industry structure of the electricity sector, how it is changing, and draws analogies to the telecommunications sector.

#### **Like telecommunications, the electricity sector is split into competitive and monopoly sectors**

The electricity sector is currently split into two sectors: competitive and monopoly. The competitive sector generates and retails electricity, whilst the monopoly sector transports electricity to consumers through lines network. The electricity network is split into a transmission network, owned by Transpower, and local distribution networks, owned by 29 different Electricity Distribution Businesses (EDBs).

The demarcation between competitive and monopoly sectors is largely mandated by legislation, which is outlined in section 2.2.

The split between competitive and non-competitive services is similar to the telecommunications sector, where lines network services are largely concentrated in a structurally separated provider, Chorus. Retailer Service Providers (RSPs) compete on top of that network for consumers, as electricity retailers and generators do using the electricity lines networks.

The policy behind the competitive-monopoly split is also the same in both the electricity and telecommunications sectors. In 1998, when legislation was passed to separate ownership of monopoly services from retail and generation, the government was aiming to increase competition in retail and generation. There were concerns that vertically integrated lines and generation/retailing companies could restrict competitor access to network services, and cross-subsidise their competitive arms with revenue earned from their monopoly networks.<sup>1</sup> These cross-subsidies had the potential to distort competitive markets.

Similarly, when local loop unbundling was announced in 2006, the Government was also motivated by concerns around discrimination and lack of equivalence for retail competitors seeking to access wholesale services, as well as potential cross-subsidisation of retail

---

<sup>1</sup> New Zealand Government “Cabinet Paper - 2006 Electricity Market Review: Investment in Generation by Lines Companies” <http://www.mbie.govt.nz/info-services/sectors-industries/energy/previous-reviews-consultations/electricity-market-review-2006/Cabinet%20Paper%20-%20Investment%20in%20Generation%20by%20Lines%20Companies.pdf>

services from monopoly operations. The overarching aim was to enhance competition by removing these barriers to efficient entry and exit by retailers.<sup>2</sup>

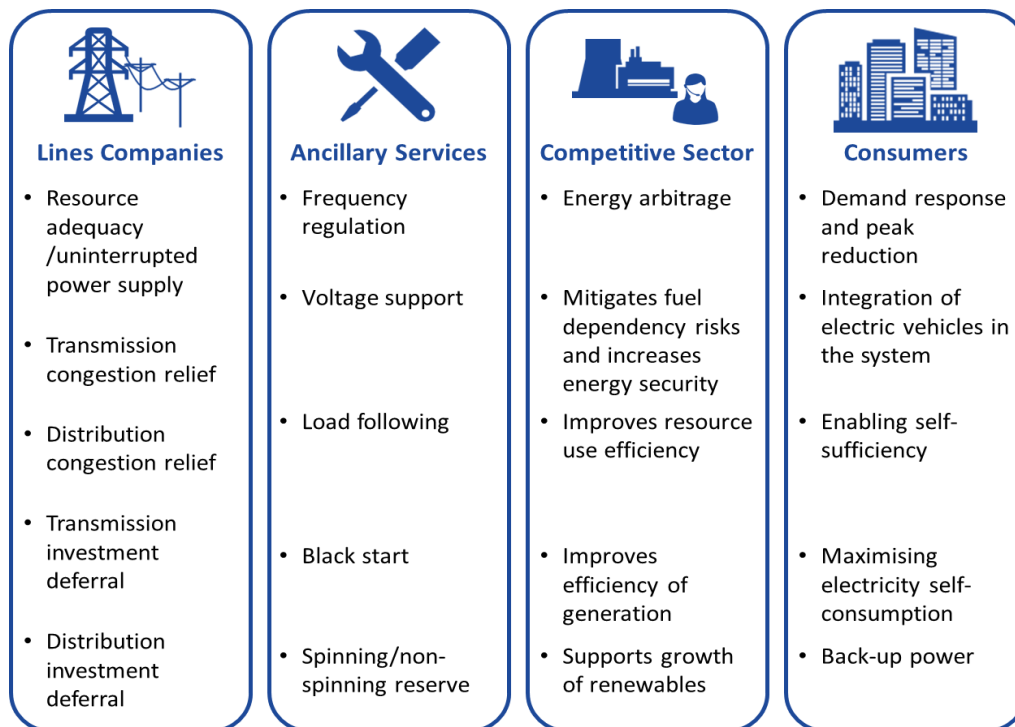
### **New technologies are able to substitute for monopoly network infrastructure**

The line between monopoly and competitive sectors is increasingly unclear. Emerging technologies, such as various types of energy storage devices, are substitutes for both monopoly networks and competitive generation. Figure 2.1 demonstrates how storage technologies can provide benefits across competitive and non-competitive parts of the electricity supply chain. For example, new products, such as combined rooftop solar and battery systems, can defer grid investment by reducing peak loads, substitute for other forms of generation, and allow consumers to participate in the wholesale market for electricity. Electric vehicles can potentially offer a similar range of services.

To a certain extent, the boundaries have never been absolutely clear. Competitive technologies, such as distributed generation and ripple control services (where a hot water cylinder effectively acts as energy storage), have long been available to help substitute for network investment. However, the variety of technologies able to substitute for both competitive and non-competitive services is increasing and the services they offer are converging in terms of convenience and reliability. Costs are also falling dramatically. Therefore, the line between the two sectors is, and will become, increasingly blurred.

Again, there are analogies to the telecommunications sector where expensive lines infrastructure can be substituted by fixed wireless and satellite based technologies. Many of these substitutes have been around for years, and are now becoming more competitive.

**Figure 2.1: Sources of Benefit Across the Sector from Battery Storage**



Source: Adapted from <http://www.rmi.org/Content/Files/RMI-TheEconomicsOfBatteryEnergyStorage-FullReport-FINAL.pdf> and

<sup>2</sup> See 2006 Cabinet Paper <https://www.beehive.govt.nz/sites/all/files/Cabinet%20paper%20and%20minute.pdf>

## 2.2 Regulatory Boundaries are also Blurring

The design of the New Zealand electricity industry structure has been very deliberate. It relies on competition to drive prices, service quality, investment and innovation wherever possible as the competitive process is most likely to maximise consumer welfare overtime. If there is limited prospect of competition, it regulates the monopoly service providers so they have incentives to price and invest efficiently.

This tidy policy boundary between competitive and non-competitive sectors is broadly reflected in the current regulatory structure, which is outlined below. However, with emerging technologies, we outline how the lines are now blurring for electricity sector regulators. Section 3 will further evaluate how well this framework is responding overall.

### **Responsibilities are also split across several regulators, operating under different frameworks**

The current regulatory settings reflect the underlying division of roles and responsibilities associated with the functional separation that has existed since the electricity sector was liberalised in the late 1990s. This regulatory paradigm was designed for an environment prior to the potential for widely available emerging technologies to both deliver significant benefits to consumers and substitute for both competitive and monopoly services.

This division of roles and responsibilities is best reflected in the different tasks performed by the Electricity Authority and the Commerce Commission:

- The Authority is responsible for overseeing and regulating the competitive parts of the electricity supply chain through the Electricity Industry Participation Code 2010 (Code). The Authority is also responsible for regulating market interactions between the monopoly and competitive elements of the sector, including pricing methodologies and transmission agreements for Transpower and use-of-system agreements for distributors<sup>3</sup>.
- The Commission is responsible for regulating parts of the electricity sector where there is no competition, and little prospect of competition, under Part 4 of the Commerce Act. This includes electricity lines businesses and Transpower. The Commission sets IMs, which set out rules, principles and processes for determining issues such as cost-allocation, regulatory assets bases (RABs) and the cost of capital. In turn, the Commission uses these IMs to make regulatory determination around service quality, maximum prices or revenue and information disclosure requirements for regulated entities.

Overseeing this regulatory framework is MBIE, which is responsible for electricity and competition policy and legislation, as well as initiatives, such as the SmartGrid Forum, and research on the roles of emerging technologies. MBIE itself is overseen by the Government, which sets broad policy parameters and drives legislative reform.

### **The Authority and the Commission operate under different legislative frameworks**

The Commission and Authority operate under very different legislative frameworks, both of which were designed prior to the rapid emergence of disruptive technologies. The Commission's powers in respect of monopolies are set in Part 4 of the Commerce Act,

---

<sup>3</sup> We understand that Vector has commenced a legal challenge to the exercise of this power by the Electricity Authority



which was inserted into the Act in 2008. The Authority operates under the Electricity Industry Act. This Act was designed in 2009 and passed into law in 2010.

The Authority has more flexibility than the Commission. The objective of the Authority is simply “to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers.”<sup>4</sup> It has wide powers to introduce new market regulations that promote this objective.

The Commission’s powers are more circumscribed. It is specifically required to regulate the price and quality of certain “electricity lines services”, which is a specifically defined term.<sup>5</sup> It also is governed by a lengthy purpose statement that focuses on both the long term interests of consumers where competition is not possible or unlikely, and the incentives on the regulated entity. In particular, it must ensure that regulated entities:<sup>6</sup>

- “(a) have incentives to innovate and to invest, including in replacement, upgraded, and new assets; and
- (b) have incentives to improve efficiency and provide services at a quality that reflects consumer demands;”

The two frameworks also have very different underlying objectives. The purpose of the new Part 4 of the Commerce Act was to improve the way in which monopolies were regulated. These reforms included providing for greater regulatory certainty through the IMs and giving the Commission more mechanisms with which to regulate markets with little competition.<sup>7</sup>

In contrast, the purpose of the Electricity Industry Act was to increase competition and improve market governance in the electricity industry. The objective of the regulator was narrowed to focus on competition and efficiency for the long term benefit of consumers. The Authority was also given the power to make market regulations without ministerial approval.<sup>8</sup>

The Electricity Industry Act also serves the additional purpose of restricting and limiting investment by regulated lines businesses in competitive parts of the supply chain (generation, retail, and metering). These limits are fixed in the Act, and cannot be changed by the Authority.

Figure 2.2 outlines the various interests, responsibilities and objectives of these regulatory actors.

---

<sup>4</sup> Electricity Industry Act 2010, s 15.

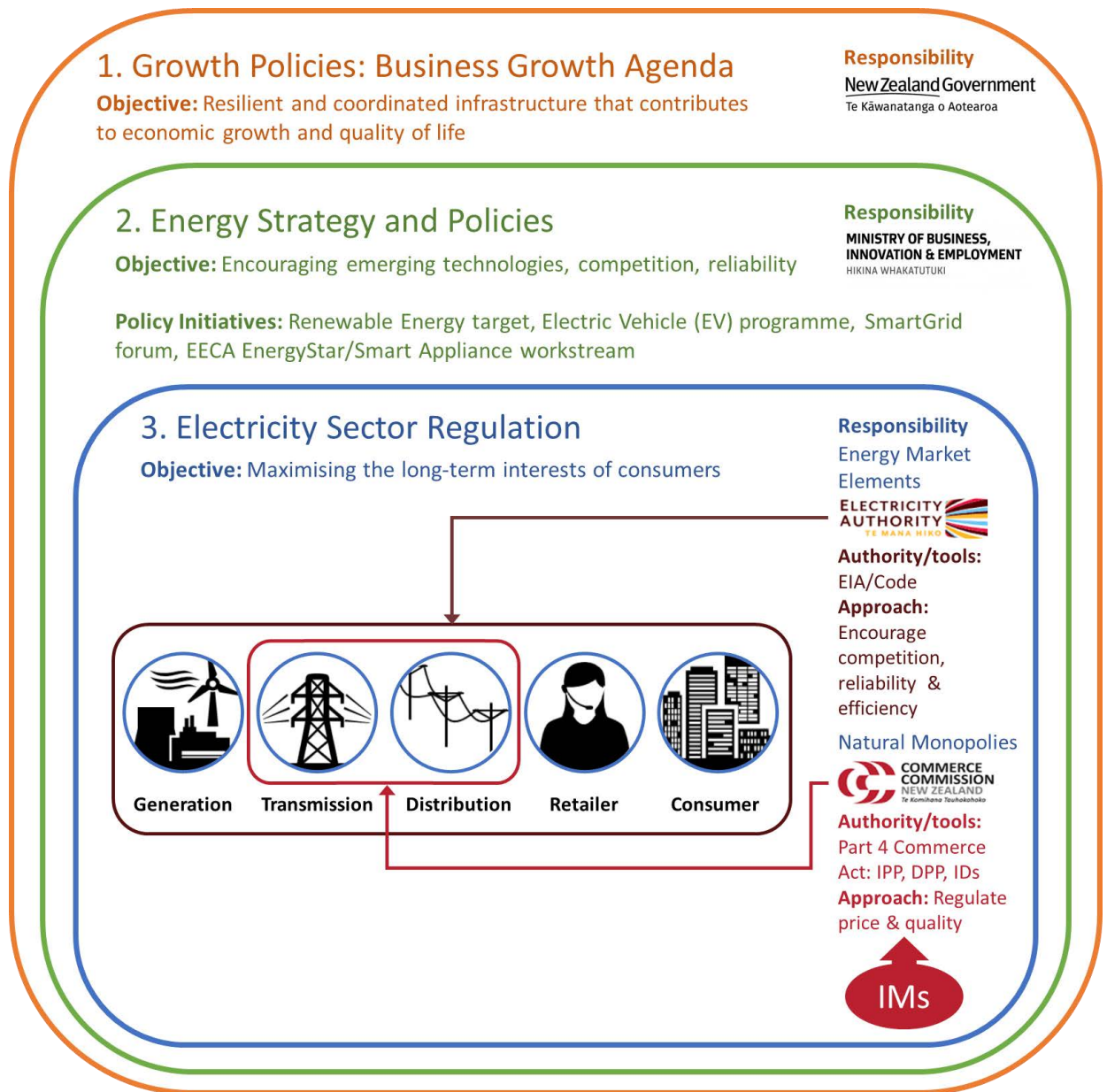
<sup>5</sup> Commerce Act 1986, s 54C.

<sup>6</sup> Commerce Act, s 52A.

<sup>7</sup> <http://www.legislation.govt.nz/bill/government/2008/0201/latest/DLM1453500.html>

<sup>8</sup> <http://www.legislation.govt.nz/bill/government/2009/0111/11.0/DLM2634201.html>

Figure 1.2: Overview of Interests in Electricity Sector



Note: EIA refers to the Electricity Industry Act, EECA is the Energy Efficiency and Conservation Authority, IPP refers to Transpower’s Individual Price-quality Path, DPP Default Price-quality Path, IDs Information Disclosures, and IMs Input Methodologies.

**With convergence, there are crossover issues and greying boundaries**

Figure 2.2 illustrates that, although the Authority and the Commission are independent of one another, the focus of the Authority is much broader. Both regulators’ interests overlap when it comes to the regulation of distribution and transmission. Emerging technology is further driving the regulatory cross-over.

Even before the emergence of disruptive technologies, there were grey areas between the two regulators. The fact that the regulators have significant common interests with the potential for regulatory overlap is evidenced by the Memorandum of Understanding entered into by the Authority and the Commission in 2010.<sup>9</sup> The Memorandum puts particular emphasis on their common interests when it comes to regulating electricity networks.

The rapid emergence of disruptive technologies is a clear example of all the regulatory participants in the electricity sector having to co-ordinate responses to a common set of issues. For example:

- The Authority has recently refocused its entire work programme on adapting market regulation across the entire electricity industry to ensure markets can take advantage of emerging technology. The Authority is particularly interested in distribution pricing and emerging technologies, and network participation in competitive markets.
- The Commission is currently reviewing its IMs, and is particularly focussed on the implications of emerging technology for its IMs. The Commission is particularly interested in whether:
  - there is risk of partial asset stranding, and how this should impact the allowed return on and of capital for EDBs
  - EDBs should be allowed to include technologies in their RABs that can also be used to provide unregulated services, and how the costs of those assets should be allocated.
- MBIE is using its Smart Grid Forum to engage with stakeholders across the industry on policy issues created by emerging technology.

The Authority and the Commission are having to work together to ensure regulatory coherence whilst they both address similar issues in respect of electricity. An example of this has been the development of Transpower's Demand Response (DR) Programme. DR involves Transpower procuring load reduction from the market. When Transpower requested regulated funds for the DR programme from the Commission, the Authority was concerned that Transpower's programme could distort competitive markets. The Commission, the Authority and Transpower worked together to reach a mutually agreeable outcome, which involved the Authority and Transpower entering into a DR Operational Protocol.<sup>10</sup>

Despite the obvious good will, there are still important obstacles to fully realising regulatory coherence: the two regulators have different objectives and powers under different empowering legislation. Although, the DR programme was adopted to each regulator's satisfaction, this outcome relied on Transpower's own willingness to agree on a procurement approach that satisfied the Authority's concerns. If Transpower had pressed the issue, it is unclear whether the regulatory frameworks could have worked together to address the Authority's concerns.

The issue of potential regulatory incoherence is coming into play with the current IMs review. With the IMs review, the Commission is currently considering the same issues

---

<sup>9</sup> <https://www.comcom.govt.nz/dmsdocument/9414>

<sup>10</sup> Commerce Commission, Setting Transpower's individual price-quality path for 2015—2020 [2014] NZCC 23",

raised by the DR Programme, except at the EDB level. The Authority has expressed concern about network involvement in competitive markets in writing to the Commission.<sup>11</sup> However, the Commission has indicated that it may be unable to address the Authority's concerns under the current Part 4 framework.<sup>12</sup> This issue is further discussed in Part 3 of this report.

Similar, cross-over difficulties may occur when it comes to distribution pricing reforms by the Authority, which are motivated by the opportunities for more responsive consumer behaviour due to emerging technology, and the price-quality determinations for EDBs set by the Commission.<sup>13</sup>

### **2.3 The Australian Electricity Sector is Different**

There are significant differences between the institutional and governance arrangements of the electricity sector in Australia when compared to New Zealand.

Those differences suggest that the issues that have arisen in New Zealand from the impact of disruptive technologies may not arise in Australia:

- The potential blurring of the split between competitive and monopoly sectors in Australia is unlikely to be an issue as a single piece of legislation (the National Electricity Law) with a single objects clause applies to both sectors. There is also a single rule making body for both the competitive and regulated sectors—the Australian Energy Markets Commission (AEMC).

This means that potential overlaps or legislative gaps will not occur; and

- The split between two electricity sector regulators in New Zealand is not replicated in Australia with a single sector regulator—the Australian Energy Regulator (AER). AER's job is to apply the framework of rules set by the AEMC to individual cases.

In Appendix A we compare and contrast the difference in institutional and governance arrangements in New Zealand and Australia in detail.

The Australian experience shows that a policy framework that does not depend on a stable and clearly defined boundary between the monopoly regulation and market rule-making may be more resilient to the challenges posed by the emerging technologies and rapid change.

---

<sup>11</sup>

[https://www.google.co.nz/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&uact=8&ved=0ahUKEwj834OCmntnOAhWIppQKHaoNC\\_UQFggjMAE&url=https%3A%2F%2Fwww.comcom.govt.nz%2Fdmsdocument%2F14337&usq=AFOjCNFikbbm4cpt5c-W8yUGC0\\_6w1XSGw](https://www.google.co.nz/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&uact=8&ved=0ahUKEwj834OCmntnOAhWIppQKHaoNC_UQFggjMAE&url=https%3A%2F%2Fwww.comcom.govt.nz%2Fdmsdocument%2F14337&usq=AFOjCNFikbbm4cpt5c-W8yUGC0_6w1XSGw)

<sup>12</sup> <http://www.comcom.govt.nz/dmsdocument/14332>

<sup>13</sup> <https://www.ca.govt.nz/dmsdocument/20057>

### 3 Technological Disruption and Electricity Regulation

Section 3 outlines just how similar the telecommunication and electricity sectors are, both in terms of regulatory market design and technological convergence. It also demonstrates the different regulatory institutions in the electricity sector, and how there are emerging grey areas of regulatory responsibility and cross-over due to emerging technologies.

The increasing regulatory cross-over due to emerging technologies is illustrative of the differences between each regulatory framework. On one hand, it illustrates the limitations of the current Part 4 regime. On the other hand, it illustrates how effective and adaptive the Authority's regulatory regime is in changing circumstances.

#### **The treatment of emerging technology under the IMs framework is a major issue**

The Commission is currently undertaking a major review of the current IMs framework. The Commission is trying to understand whether the presence of emerging technologies requires several significant changes to be made to the IMs, including adjusting assets lives, the Weight Average Cost of Capital, and cost allocation methodologies. The most contentious issue, however, has been the regulatory treatment of cash flows from emerging technology.

Emerging technologies, such as various forms of storage, have the potential to reduce network investments costs, for the long term benefit of consumers. However, this same technology can also be used to participate in the competitive markets. Electricity retailers and others are concerned that the EDBs may be able to cross-subsidise participation in competitive markets, if part of the cost of emerging technology assets can be included in their RABs. There is also concern that EDBs may engaged in discriminatory procurement, and, if costs can be passed through to consumers, that they may not face efficient incentives to prudently invest in emerging technology.

A first principles approach would suggest that networks should not be able to include assets that can be used in competitive markets in their RABs. The regulatory frameworks for the electricity sector have been built around preventing network ownership of competitive assets. This approach would ensure an undistorted competitive market would drive the adoption of emerging technology. For this reason, both the Australian Energy Regulator (in draft) and the Australian Energy Markets Commission have decided that network participation in emerging technology markets needs to be ring-fenced. Both these regulators have had to have regard to simple regulatory objective that focusses on promoting competition and efficiency for the long term benefit of consumers.<sup>14</sup>

Instead, the Commission in New Zealand has so far (in its draft decision) taken the opposite view. It views ring-fencing as a structural policy decision best left for Parliament. The Commission has also taken the view that it regulates the "electricity lines service", not particular assets, and that this service could include new technologies. Moreover, it believes EDBs should take full advantage of emerging technology to reduce their costs for the long-term benefit of consumers. Therefore, it has taken the preliminary view that EDBs can include emerging technology in their RABs.<sup>15</sup>

---

<sup>14</sup> National Electricity Objective – check

<sup>15</sup> <http://www.comcom.govt.nz/dmsdocument/14332>

The particular construct of the Part 4 means the Commission is not required to defer to competition (as competition for monopoly services was not envisaged when Part 4 was created). This is leading to an outcome which may distort competitive markets.

**In contrast, the Authority has a clear mandate to adapt the regulatory settings for competitive markets – within its jurisdiction**

The Authority has responded to the challenges posed by emerging technologies by beginning the process of reforming the Code, which governs electricity markets in New Zealand. It is:<sup>16</sup>

*“... concerned that the current market Code and market facilitation measures, market administration and operational processes and its compliance arrangements—developed when the traditional ‘bulk supply’ approach was prevalent—may be inefficiently inhibiting mass-market forms of generating, storing, transporting and purchasing electricity. The Authority is keen to remove any inefficient barriers to these developments, including removing any inefficient barriers to residential consumers purchasing directly from the wholesale electricity market or directly from local generators.”*

The Authority is required to reduce inefficient barriers to:<sup>17</sup>

- any consumers purchasing directly from the wholesale electricity market or directly from local generators*
- mass-market demand response (DR) and aggregators of mass-market DR*
- mass-market distributed energy resources (DERs) and aggregators of mass-market DERs. DERs include traditional distributed generation, batteries, micro-grids and ‘prosumer’ situations.”*

The Authority has adopted a set of principles that it expects market participants to follow, including Transpower and EDBs, when procuring DR to support their networks. The Authority is also undertaking a major review of distribution pricing arrangements to ensure they send the most efficient pricing signals in light of emerging technologies.

The Authority can adopt such a wide ranging approach because it has broad efficiency and competition focussed objective. Even though the Authority’s legislation was not designed with disruptive technologies in mind, the Authority was designed to be flexible and responsive. This approach is resilient because it is technology neutral and emphasises the role competitive markets play in maximising consumer welfare. Therefore, the regulator is focussed on fine tuning the framework so as to remove barriers to competition, enable markets and reduce transaction costs.

There are, of course, limits on what the Authority can achieve within its powers. For example, the Authority expressed concern that Commission’s approach to cost allocation will have impacts on the efficiency of the markets that it regulates.<sup>18</sup> However, at a certain point, it would be unlawful for the Authority to use its powers to mitigate against the effect

---

<sup>16</sup> <https://www.ea.govt.nz/dmsdocument/20821>

<sup>17</sup> <https://www.ea.govt.nz/dmsdocument/20821>

<sup>18</sup> [https://www.google.co.nz/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&uact=8&ved=0ahUKEwj834OCmtnOAhWlppQKHaoNC\\_UQFggjMAE&url=https%3A%2F%2Fwww.comcom.govt.nz%2Fdmsdocument%2F14337&usq=AFOjCNFikbbm4cpt5c-W8yUGC0\\_6w1XSGw](https://www.google.co.nz/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&uact=8&ved=0ahUKEwj834OCmtnOAhWlppQKHaoNC_UQFggjMAE&url=https%3A%2F%2Fwww.comcom.govt.nz%2Fdmsdocument%2F14337&usq=AFOjCNFikbbm4cpt5c-W8yUGC0_6w1XSGw)

of the Commission's decisions.<sup>19</sup> For example, the Authority is unlikely to be able to restrict network participation in DR markets through the Code.

---

<sup>19</sup> Electricity Industry Act, s 32(2).

## 4 Lessons for Telecommunications Regulation

The telecommunications sector is seeing an increasing convergence between fixed line, fixed wireless and mobile technologies. Mobile, rather than fixed line, connection is increasingly a must have for consumers. Clearly, there is potential for fixed wireless and mobile technologies to act as substitute for and to reduce the uptake of fixed line connections. At the same time, fixed line is not a substitute, but more of a complement, to mobile technologies, with certain elements of fixed line network required to enable fixed wireless and mobile connections.

In this environment, the boundary between monopoly and competitive segments will be increasingly difficult to define. Fixed line providers may be tempted to invest on alternative technologies to maintain their market share and to enhance the service on the fixed line network.

As with the electricity sector, the key issue will be whether the regulation is defined to apply to a specific technology or a specific service. If the regulation applies to specific technology (fixed line), the boundary between regulated and competitive segments will be relatively clear and easy to maintain. However, such approach creates the risk that the provider of the fixed line network may find it difficult to utilise emerging technologies to optimise the overall service.

The alternative is to define the regulation by reference to the access service (as the Commission appears to be doing with respect to electricity distribution). However, such an approach creates problems for maintaining the boundary between competition and regulation. A service-based approach to regulation would enable Chorus to include technologies provided in the competitive segment into its regulatory asset base. This creates the potential for cross-subsidy and distortion of competition.

There is no easy way to resolve the tension between the need to preserve competition and the need for flexibility in allowing the network service provider to optimise the use of various technologies. Moreover, since technologies are developing rapidly, it would be impossible to anticipate the specific circumstances and trade-offs that may arise.

This suggests that the legislative framework needs to build in sufficient flexibility to address these issues and to provide clear guidance to the Commerce Commission.

### 4.1 Purpose of Telecommunications Act

The current purpose in s18 of the Telecommunications Act is to promote competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand by regulating, and providing for the regulation of, the supply of certain telecommunications services between service providers:

#### *18 Purpose*

*(1) The purpose of this Part and Schedules 1 to 3 is to promote competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand by regulating, and providing for the regulation of, the supply of certain telecommunications services between service providers.*



*(2) In determining whether or not, or the extent to which, any act or omission will result, or will be likely to result, in competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand, the efficiencies that will result, or will be likely to result, from that act or omission must be considered.*

*(2A) To avoid doubt, in determining whether or not, or the extent to which, competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand is promoted, consideration must be given to the incentives to innovate that exist for, and the risks faced by, investors in new telecommunications services that involve significant capital investment and that offer capabilities not available from established services.*

With the move to the utility-style regulatory framework, it appears that the Government is proposing to change the purpose statement to mirror the purpose of the Part 4 of the Commerce Act as applied to other utilities. This purpose statement would be as follows:

*52A Purpose of Part (1) The purpose of this Part is to promote the long-term benefit of consumers in markets referred to in section 52 by promoting outcomes that are consistent with outcomes produced in competitive markets, such that suppliers of regulated goods or services —*

*(a) have incentives to innovate and to invest, including in replacement, upgraded, and new assets; and*

*(b) have incentives to improve efficiency and provide services at a quality that reflects consumer demands; and*

*(c) share with consumers the benefits of efficiency gains in the supply of the regulated goods or services, including through lower prices; and*

*(d) are limited in their ability to extract excessive profits.*

*(2) In this Part, the purpose set out in subsection (1) applies in place of the purpose set out in section 1A.*

The problem with this approach is that it does not recognise the interaction between the competitive and monopoly segments of the sector. It also provides no guidance to the weight the Commission must give to each of these potentially incompatible purposes. For example, how should the Commission balance the need to provide incentives with the need to limit excessive profits.

A single purpose or objective that focus on economically efficient outcomes, rather than a multitude of inputs is likely to better manage the interaction between the competitive and monopoly elements of the sector.

In this regard, the Australian National Electricity Law which covers both the competitive and regulated electricity sectors has a single objective—the National Electricity Objective (NEO):

*The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—*

*(a) price, quality, safety, reliability and security of supply of electricity; and*

*(b) the reliability, safety and security of the national electricity system.*

In performing or exercising any function or power under the Law, the AEMC (rule maker) and AER (regulator) must have regard to the national electricity objective and perform or exercise that function or power in a manner that will or is likely to contribute to the achievement of the national electricity objective.

The Australian approach of a single high level economic efficiency based objective underpinned our advice to the Electricity Retailers' Association of New Zealand on emerging technologies in the electricity sector. We recommended that MBIE amend the Commerce Act so competition is clearly the primary focus of the entire Act, including Part 4.<sup>20</sup>

This would provide a clear guide for the Commission when deciding on monopoly interactions with competitive markets.

There is a general consensus that competition provides long-term value for consumers, and that regulatory interventions are a second-best solution that should only be pursued when competition is unlikely to deliver the best outcomes. This is particularly true for activities that involve innovation and investment, where the nature, timing, and location of investment can drive very different outcomes for consumers.

Conceptually, the best policy settings will start with competition to maximise benefits to consumers, and will only place restrictions where these are justified. This was the case as New Zealand electricity settings evolved. In New Zealand, statutory electricity monopolies were opened to competition and subjected to targeted information disclosure, ownership separation, and price controls as appropriate.<sup>21</sup>

### **There is no equivalent to the Authority in the telecommunication sector**

Arguably, the need to ensure that protection of competition is elevated in significance in the application of regulation is even greater in telecommunications than it is in the electricity sector. Unlike the telecommunications sector, in electricity the Electricity Authority has a clear purpose statement that calls for enhancement of competition.

Section 15 of the Electricity Industry Act 2010 states that:

*The objective of the Authority is to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers.*

The Electricity Authority has the flexibility to adjust market rules so that they best promote competition and efficiency.

In principle, the interaction between the Authority and the Commerce Commission should limit the risk of the overall purpose of sector regulation being lost. However, in practice, separating regulation from the promotion of competition leads to policy silos. This risk would be magnified in the telecommunications sector, where the pro-competitive role would no longer be defined.

## **4.2 Purpose statements should be simple, flexible and emphasise competition**

In the electricity sector, different purpose statements relevant to the Commerce Commission and to the Electricity Authority work as long as the separation between the market and monopoly is clear. When the separation blurs, at very least, the Authority has

---

<sup>20</sup> P 14

<sup>21</sup> See: <http://www.mbie.govt.nz/info-services/sectors-industries/energy/electricity-market/electricity-industry/chronology-of-new-zealand-electricity-reform/chronology-of-nz-electricity-reform.pdf> and <http://www.ena.asn.au/competition-policy-and-network-regulation-changing-energy-markets>

the role and the flexibility to influence outcomes in favour of competition, even if this process clearly does not work perfectly, as has been demonstrated in the recent review of the IMs.

In our view, a more appropriate model for both the telecommunications and electricity sectors would be to align the objectives of both the competitive and monopoly sector policies, so that both the market and monopoly interventions serve to promote competition. This would be in line with the approach taken in Australia with respect to the purposes of the AEMC and the AER as they both exercise their powers and functions with regard to the NEO. Also as discussed in Section 2.3;

- the AEMC both oversees competitive market rules and sets the framework for monopoly regulation of transmission and distribution; and
- The AER regulates both the competitive wholesale and retail markets and the monopoly transmission and distribution services.

Certainly, our observation is that in Australia, the regulatory authorities have been able to come up with a more coherent and fulsome response to the challenges posed by the emerging technologies in the electricity sector, compared to the New Zealand regulators. This has been assisted by the single objective and the absence of split and potentially overlapping regulator roles.

Eventually, the Commerce Commission will be faced with the challenge of developing the Input Methodologies for telecommunications services. Unless it receives clear policy directions, it will find itself in the same difficult predicament it finds itself now with respect to the electricity sector.

Policy choices should be explicit. Leaving these issues to the Commerce Commission does not work. The Government should emphasise competition.

## 5 Conclusions

We draw two main lessons for telecommunications from our review of the experience of applying the current regulatory framework to the electricity sector in the context of rapidly changing technologies.

The first lesson relates to how the regulation of the competitive and monopoly parts of the sector need to work together in a world where the traditional supply chain roles become blurred.

In this setting, the previously clear distinction between rule-making and monopoly regulation may be difficult to hold. The Commerce Commission has clearly struggled with these issues in the context of the review of the Input Methodologies.

The review of the Telecommunications Act is an opportunity for the Government to provide some flexibility and guidance to the Commerce Commission about how the regulation of monopolies fits into a wider competitive environment, with the promotion of competition being the primary goal. The Government should take care to avoid recreating in the new telecommunications legislation/regulatory regime confusion about the definition of the monopoly service, which may become out of date as technology changes, as appears to have occurred in electricity<sup>22</sup>.

The Australian experience also highlights that the new purpose statement for the new utilities style regulation of the fixed line services in the Telecommunications Act should also include broader objectives, such as the promotion of competition and the efficient operation of the industry, which would be in common with the objectives that may be applied to any broader rule-making in the sector.

The second lesson is that care also need to be taken to ensure that the roles and powers of the Telecommunications Commissioner monitoring and overseeing market regulation are aligned with the Commerce Commission's role in administering economic regulation.

It is helpful that both roles are proposed to be in the same Act (particularly if they are subject to the same purpose as recommended in this report). The Government should consider whether the objective statement similar to the Australian National Electricity Objectives, or the more adaptive market regulation powers of the Electricity Authority should be imported to align the rule-making and the monopoly regulation responsibilities.

Finally, there may be a case for policy makers to retain the power to address boundary issues, for example through government policy statements or the ability to amend definitions of the monopoly service to reflect market and technological developments. In particular, we suggest the Government should take a close look at the example of the Australian national electricity law that has a single objects clause for both the monopoly and competitive parts of the sector, and where AEMC sets the broad framework both for rule making and for monopoly regulation.

---

<sup>22</sup> We are aware that there is competing legal advice on the definition of the regulated services provided by the electricity lines businesses

## Appendix A: Electricity Institutional and Governance Arrangements

Table A.1: Institutional Arrangements in New Zealand and Australia

Function	Description	Australia	New Zealand
<b>Framework Development and Rules</b>	In both jurisdictions, independent bodies set the rules for operation of the wholesale and retail markets and the framework and approach for economic regulations: <ul style="list-style-type: none"> <li>▪ In Australia this is done by one body with a single objective and purpose statement</li> <li>▪ In New Zealand the responsibility is split and the two bodies each have a different objective and purpose</li> </ul>	AEMC	EA
<ul style="list-style-type: none"> <li>▪ Wholesale Market Development and Rules</li> <li>▪ Economic Regulation Framework Development and Rules</li> </ul>		AEMC	CC
<b>Enforcement and Economic Regulation</b>	In both jurisdictions, independent bodies enforce the wholesale market rules and make economic regulatory determinations: <ul style="list-style-type: none"> <li>▪ In Australia this is done by one body with a single objective and purpose statement</li> <li>▪ In New Zealand responsibility is split and the two bodies each have a different objective and purpose</li> </ul>		
<ul style="list-style-type: none"> <li>▪ Wholesale Market</li> <li>▪ Economic Regulation</li> </ul>		AER	EA
		AER	CC
<b>General Competition Law Enforcement</b>	In both jurisdictions, a single body enforces economy wide competition laws and rules. <ul style="list-style-type: none"> <li>▪ In Australia this is separate from wholesale market enforcement, although the AER and ACCC are associated</li> <li>▪ In New Zealand the CC does both general competition law and wholesale market enforcement</li> </ul>	ACCC	CC

**Table A.2: Governance Arrangements in New Zealand and Australia**

Institution	Governing Law	Objectives & Purpose
<b>Australia</b>		
▪ AEMC	National Electricity Law	The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—
▪ AER	National Electricity Law	<ul style="list-style-type: none"> <li>▪ price, quality, safety, reliability and security of supply of electricity; and</li> <li>▪ the reliability, safety and security of the national electricity system.</li> </ul> <p>In performing or exercising any function or power under this Law, the Regulations or the Rules, the <b>AEMC</b> must have regard to the national electricity objective</p> <p>The <b>AER</b> must, in performing or exercising its economic regulatory function or power perform or exercise that function or power in a manner that will or is likely to contribute to the achievement of the national electricity objective</p>
▪ ACCC	Competition and Consumer Act	The object of this Act is to enhance the welfare of Australians through the promotion of competition and fair trading and provision for consumer protection.
<b>New Zealand</b>		
▪ EA	Electricity Industry Act	The objective of the Authority is to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers.
▪ CC	Commerce Act Part 4	<p>The purpose of this Part is to promote the long-term benefit of consumers in markets referred to in section 52 by promoting outcomes that are consistent with outcomes produced in competitive markets, such that suppliers of regulated goods or services—</p> <ul style="list-style-type: none"> <li>▪ have incentives to innovate and to invest, including in replacement, upgraded, and new assets;</li> <li>▪ have incentives to improve efficiency and provide services at a quality that reflects consumer demands;</li> <li>▪ share with consumers the benefits of efficiency gains in the supply of the regulated goods or services, including through lower prices; and</li> <li>▪ are limited in their ability to extract excessive profits.</li> </ul>



T: +1 (202) 466-6790  
F: +1 (202) 466-6797  
1747 Pennsylvania Avenue  
NW 12th Floor  
WASHINGTON DC 20006  
United States of America

T: +1 (646) 632-3770  
F: +1 (212) 682-0278  
200 Park Avenue Suite 1744  
NEW YORK NY 10166  
United States of America

T: +61 (2) 9231 6862  
Level 1, 27-31 Macquarie Place  
SYDNEY NSW 2000  
Australia

T: +64 (4) 913 2800  
F: +64 (4) 913 2808  
Level 2, 88 The Terrace  
PO Box 10-225  
WELLINGTON 6143  
New Zealand

T: +57 (1) 646 6626  
F: +57 (1) 646 6850  
Calle 100 No. 7-33  
Torre 1, Piso 14  
BOGOTÁ  
Colombia

T: +33 (1) 73 44 26 97  
F: +33 (1) 73 44 26 01  
6, Rue Duret  
PARIS 75116  
France

----- [www.castalia-advisors.com](http://www.castalia-advisors.com)