

MALCONTENTS AND MONOPOLY RENTS:
AN ANALYSIS OF THE NATURE AND QUALITY OF DISCOURSE AROUND, AND
THE DRIVERS OF, POLICY CHANGE IN THE NEW ZEALAND ELECTRICITY
SECTOR

BY

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Abstract

New Zealand's electricity sector has undergone considerable change in the three decades to 2015. Those changes are part of a broader shift within the political landscape, from state intervention to market dominance and the view of individuals as consumers. An ill-fated policy proposal in 2013 called NZ Power sought to reduce electricity prices, and implement structural reform that would reverse decades of change within the sector.

This thesis examines the context in which the reforms to the sector occurred so as to understand better why some policies are successfully implemented and other proposals fail. Specifically, this thesis examines the triumvirate of principal goals the sector has sought to achieve, and the political discourse around them: security of supply, economically efficient prices, and minimising environmental damage. From these insights, a framework is constructed against which future policies can be assessed as to the likelihood of their successful implementation.

Key words: Electricity; NZ Power; governmentality; Overton Window; policy incrementalism; markets.

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Introduction

Laws are not created in a vacuum; rather they are created in response to, and moulded by, various different stakeholders, and economic and social drivers, including ideas which are the conventional wisdom or the cutting edge notions of the day. Understanding these circumstances and stakeholders can provide insight into the way policy is crafted, and the probable reception new policy will have among affected groups.

In April 2013, the Labour and Green opposition parties announced separate but related policies for the management of New Zealand's electricity sector – called NZ Power. Coming after more than two decades of increased emphasis on the role of the market in the sector, the proposal sought to limit the role of market forces in the industry. At the same time, with the seemingly related increases in the retail price of electricity, the policy seeks to minimise the price paid by residential consumers to retailers for electricity, to reduce the bargaining position of established electricity providers, and to decrease “fuel poverty” amongst New Zealanders.

Over the past two decades, New Zealand has witnessed some of the fastest-growing residential retail prices in electricity, relative to other nations in the OECD. This is in a context where commercial and industrial prices have been relatively flat. The NZ Power policy was crafted to attempt to remedy this situation, and to increase the sustainability of electricity generation in New Zealand by putting an effective price on the use of water as a resource.

There has been considerable and ongoing academic and professional discussion on the necessity for reform in New Zealand's electricity sector. Dr Geoff Bertram, an energy economist and commentator, has described New Zealand's electricity sector as a mechanism for massive wealth transfer from consumers to ‘gentailers’ – companies like Contact Energy or Meridian Energy that generate and sell electricity on the wholesale market, but also act as electricity retailers (Bertram 2006). Bertram and others describe it as a failed market, where residential and small-business consumers lack countervailing power against what is effectively a gentailer cartel, and government has been “out of touch” (New Zealand Labour Party 2013) with its response to rising prices.

By contrast, key electricity sector spokespeople have maintained that the status quo allows for competition within the market, resulting in reliable electricity provision at the lowest economic price for consumers:

“[T]he 2013 results indicate that stronger competition in the electricity market is bringing results... The new analysis shows the costs incurred by electricity retailers over the last three years increased by 21.5% whereas prices charged to consumers over the same period went up by 12.5%...this shows competition is forcing electricity retailers to absorb some of the cost increases” (Electricity Authority 2014).

Any policy that would effect change in the energy sector will be constructed in a competitive policy environment: where consumers, generators and retailers, industry experts, and politicians are vying to communicate their views and ensure that their interests are maximised, even at a cost to other stakeholders. There is also a range of goals espoused – some stakeholders emphasise equity, some price efficiency, some efficiency, and others environmental and economic sustainability.

This research is concerned with the depth, breadth, and nature of discourse about policy changes in the electricity sector. It examines, in particular, the debate on the likely efficacy of, and justification for, the NZ Power proposal in addressing the sector’s goals. The NZ Power debate can be used as a representation of the state of the debate on policy change within the sector, illuminating the wider interests in the electricity market of New Zealand, and the nature of free debate that gives rise to new policy. In short: is this a debate driven by reason and logic, and the careful weighing of objectives, or one dominated by emotion and special interests? In particular, have environmental concerns and issues been considered, or adequately articulated; or are other concerns dominant? In these debates, whose perspectives are being privileged, and do the media contribute constructively to debate, or are they means for other actors to control the debate?

While a broad understanding of the efficacy of the proposal in a technical sense will be useful in examining some of the issues under discussion, this research does not develop a full technical analysis of the proposal.

Part A: Context and a review of the relevant literature

Chapter 1: Context -- An Environment of Change

1.1 The electricity market

The New Zealand electricity sector has shifted radically over the past two decades. Starting from a government owned and operated network, where prices and consumption were dictated by the Electricity Division of the Ministry of Energy, the sector is now a largely unregulated market, with prices, consumption, and other facets controlled by generators and retailers, influenced by demand. The aspects of that market that retain considerable regulation are largely the natural monopolies involved with distribution and transmission.

In the 1990s, New Zealand's electricity sector was deregulated and broken into several different components, with the goal of increasing competitive forces, and in so doing, lowering prices for consumers.

There are six key components of the electricity sector in New Zealand (see Figure 1). The first is **generation**, whose role is to provide electricity for consumers, and to use their revenues for maintenance of existing plants, and to invest in future generation capacity. The second component is **transmission**, which is responsible for maintaining the “grid” - the high voltage network of power-lines that criss-cross New Zealand. The transmission monopoly – Transpower - is also responsible for operating the market for electricity. The third component is **distribution**, which is responsible for the local delivery of electricity from the high-voltage grid, into a format that is more easily used by consumers. Fourthly, there is the **retail** market, which is responsible for buying electricity from generators, and on-selling that to consumers. Fifthly there are **consumers**, whose consumption for the most part is met by retailers, and whose demands alter the behaviour of other actors in the market. The final major component is the **regulators** – largely the Electricity Authority – which is responsible for ensuring the first four components of the sector are acting in accordance with the law, and in a manner that is beneficial for consumers. The following will go further into the role of these components.

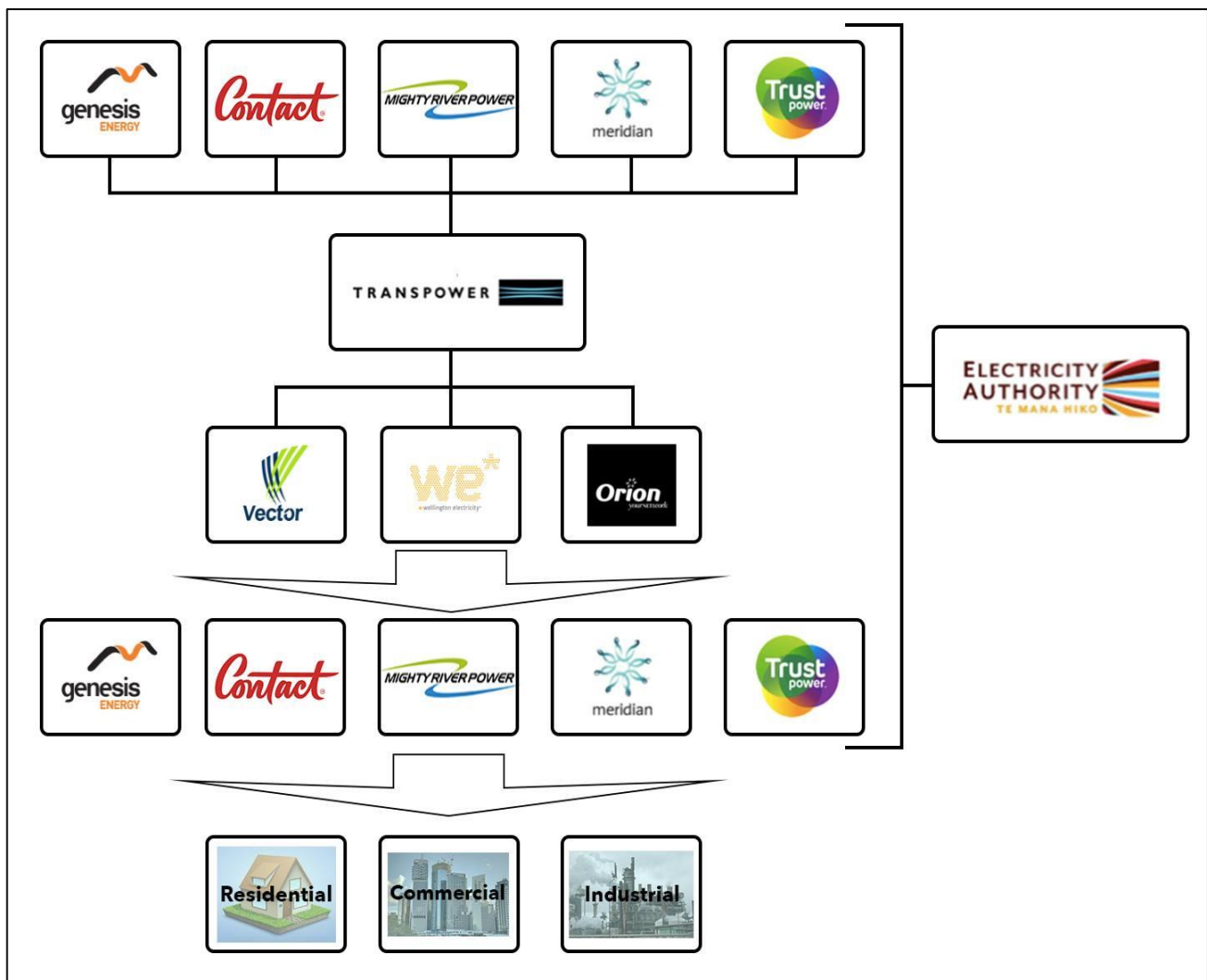


Figure 1: simplified version of New Zealand's electricity market structure.
Note: only major generators and retailers are noted, and three (3)
distribution companies listed.

New Zealand's electricity generation is highly centralised, with at least 95% of electricity production coming from major generation plants (MBIE 2014), rather than distributed generation sources such as solar photovoltaics (PV) – as is more commonly seen overseas (B. V. Mathiesen 2011). Examples of major plant include Mighty River Power's hydroelectric dams, Genesis Energy's Huntly power plants, and Contact Energy's hydro- and geothermal power plants.

The bulk (75%) of generation is from renewable sources (MBIE 2014), with the balance made up of thermal generation. Of this, the share of relatively more environmentally harmful coal

has been decreasing, with the relatively less harmful (but still carbon-intensive) natural gas filling the gap in generation requirements.

It is important to note, particularly for the discussion in Part 3, that as much as three quarters of New Zealand's electricity is supplied by hydroelectric power stations (MBIE 2014). This matters, as rainfall and inflows into the hydrolakes vary from year to year, and within a year. Instances of high inflows into the lakes generally means greater generation capacity and output of those plants. As hydroelectricity accounts for such a considerable proportion of New Zealand's generation capacity, even minor changes in lake inflow levels can have considerable impacts on nationwide generation capacity and wholesale electricity prices.

The transmission component of electricity across the national grid is owned and administered by a state owned enterprise, Transpower. The company owns and manages the inter-regional transmission of electricity. Transmission of electricity is a natural monopoly, and as such, the company is highly regulated to prevent it from extracting monopoly rents from the market. Transpower also acts as the System Operator of the electricity supply on the national grid. This means Transpower manages the second-to-second demand and supply in the electricity market so as to ensure supply meets demand, and there are no problematic fluctuations or interruptions in voltage, or other aspects of the supply of electricity (Bertram 2007).

Intra-regional transmission – 'distribution' – is managed by a network of small companies that are either privately owned, or owned in trust for the region they service. Again, the companies providing distribution are tightly regulated regarding the prices they can set, and the investment into infrastructure they must make. Unlike overseas examples – particularly the United States – distribution companies like Vector or WEL Networks do not sell retail consumers electricity. Rather, they provide the local lines infrastructure that allows the flow of electricity from Transpower to individual consumers (Evans and Meade 2005).

The bodies responsible for the sale of electricity to consumers are retailers. Companies such as Contact Energy or Meridian Energy purchase electricity from generators on the wholesale market. That electricity is then on-sold to end consumers. Sales are measured by metering individual Installation Control Points (ICPs), through which electricity must travel to get to a consumer from the distribution network (Reilly 2008).

It should be noted that the original intent of the crafters of New Zealand's current electricity sector was to create strong separation among these four parts of the energy sector; with high competition within the generation and retail sub-sectors, and high levels of protection for consumers in the natural monopolies of transmission and distribution. The aim in so doing was to ensure that prices reflect the economic cost of energy, or the cost of infrastructure. The first (structural) aspect of competitive separation has certainly not happened. New Zealand's retail and generation arms are controlled by the five large electricity companies – referred to as gentailers. These companies, as outlined in Figure 1, are Contact Energy, Genesis Energy, Might River Power, Meridian Energy, and Mercury Energy. The companies are vertically integrated, in that they have a presence in both the generation and retail sale of electricity. So, while transmission and distribution play clearly distinct roles, the generation and retail arms are integrated. Practically, it means that energy gentailers can hedge their economic performance across the two sectors: in situations where returns from the wholesale market are low, the retail arm can be used to maintain profit, and vice versa. In theory, it could mean that a gentailer's retailer arm purchases directly from its generator arm, exercising a degree of control over the market (NZX Energy 2009).

The lack of an arm's length transaction is monitored by the Electricity Authority (the Authority), which is the electricity market regulator. The Authority administers the Electricity Industry Participation Code, to which all actors on the supply side of the electricity industry must adhere. Part of the Code's function is to ensure that, as much as is practicable, the two arms of a gentailer remain separate. This is facilitated largely through the electricity auction system, where all generators must provide all of their generated electricity to the auction. This means that a gentailer cannot set aside electricity to sell directly to its retail arm. In the light of this, it can be argued that there is limited scope for any one gentailer to control the price of electricity, although (other) oligopolistic practices are not excluded (MBIE 2013).

As to the goal of ensuring competition: there are, as of 11 February 2015, 27 retail brands from 21 different retail companies comprise the retail market in New Zealand (Bridges 2015), whereas, before the reforms that led to the current market structure, there was one centrally-run organisation that had considerable influence – both in the sense of owning and operating infrastructure, and in the setting of the sector rules – in all four aspects of the New Zealand electricity industry (generation, transmission, distribution, and retail). There has certainly been

a growth in the competition pressures in the retail side of the electricity market as a consequence of a greater number of retailers competing for customers.

It is reasonable to ask whether this system could be simplified for an individual consumer wanting to avoid engaging with such a complex market. The reality of the sector, however, is that for the vast majority of consumers, all components of the sector are necessarily engaged – even if by proxy. Unless a consumer is ‘off the grid’, generating their own electricity, they will at minimum need to interact with the generation, transmission, and distribution components in order for them to have electricity made, and delivered to them. To then engage directly with the spot market for electricity (more on this later), and deal with generators directly requires an ability to absorb considerable financial risk and technical know-how. It is for these reasons that the vast majority of consumers buy their power from established, nation-wide retailers.

In generation, New Zealand’s electricity market is dominated by five large companies. These five companies are responsible for around 91% of installed capacity – or 10,000MW of capacity out of a national total of approximately 11,000MW (MBIE 2014). At the same time, at the retail end of the market, those same five companies – gentailers – account for approximately 93.4% of electricity connections (ICPs):

Generators	Share of Market	Retailers	Share of Market
Genesis Energy	14%	Genesis Energy	27%
Contact Energy	24%	Contact Energy	22%
Mighty River Power (including subsidiaries)	15%	Mighty River Power (including subsidiaries)	19%
Meridian Energy	33%	Meridian Energy	14%
Trustpower	5%	Trustpower	11%
Others	9%	Others	6%

Table 1: Generator and retailer market shares, 2014 (MBIE 2014).

The established retailers are losing market share: in 2005, these five gentailers supplied 97.7% of ICPs, whereas in 2013, the percent controlled by that group was 93.6% (Energy Information and Modelling Group 2011). But the growth of competition is slow. While 20% of residential customers in 2013 changed their retailer (Electricity Authority 2014), the data suggests the bulk of those shifts occurred *within* the top five retailers.

The advantage which established gentailers have is further enhanced with new competition being focused in specific geographies. Pulse Energy, for instance, is a retailer whose customer base as of March 2014 is almost entirely within the Nelson-Buller region – owing largely to the Buller Electricity distribution company’s majority stake holding in the company. – Until early 2015, Flick Energy was only available in Wellington. It remains to be seen how much further competition will grow within the retail sector. Within the generation sector, owing to the high costs of investing in large-scale energy production, there has not been a growth in competition since the 2008 market review. This is largely as the established generators have the capital available to invest in new generation capacity, and in so doing, ensure their own market position (Interview with Gareth Hughes 2014).

1.2 A Short History of Reform

Prior to 1987, the New Zealand electricity sector was managed through a centralised system. Through the Electricity Department, Ministry of Works, and The Treasury; different parts of central government were responsible for generation, transmission, and investment in electricity; while distribution was managed by local body departments. Before 1984, electricity in New Zealand was not considered a commodity like computers or phones (or whatever the pre-1980s version of that was). Rather, electricity was something closer to healthcare or policing: where, either because of populist leaders (Interview with Business New Zealand 2014), or idealist governments (Interview with Jessica Wilson and Susan Guthrie 2014), the state was responsible for all aspects of the sector.

In a functional sense, this meant that, as regards investment in infrastructure, the state (and therefore: taxpayers) bore the cost of investment. This was particularly evident in the 1970s where Muldoon’s “Think Big” policies culminated in the construction of the Clyde Dam. In addition to paying for new generation, the government also set prices for electricity. This

resulted in prices being tailored not to the long-term marginal cost of production, but to a system where prices were lowest to those who had the greatest political capital: “As companies cannot vote, they didn’t get [the cheaper prices]” (Interview with Business New Zealand 2014). This led to a cross-subsidisation of residential power prices, while industry paid higher prices. The impetus for change from this point on will be explored in chapter 3.

Across the years of policy change, there have been five main tranches of reforms (Hansen 2014; Evans and Meade 2005; Bertram 2006; Martin, 1991):

1. From 1984 to 1986, the McLachlan report to Treasury (Interview with Nick Wilson 2014; Interview with Business New Zealand 2014) encouraged the adoption of a corporate model for the running of the electricity sector;
2. Between 1987 and 1995, the Electricity Corporation of New Zealand (ECNZ) and Transpower were established, and a broader corporatisation of the sector developed to influence prices and investment decisions. The ECNZ was set up as a company under the State-Owned Enterprises (SOE) Act, to own and operate the generation and transmission assets of the Ministry of Energy. Policy and regulatory responsibilities were separated out and largely retained in the Ministry of Energy.

The SOE Act was a component of the then Government's moves to improve the performance and accountability of the public sector. SOEs are companies in which nominated Ministers hold all the shares, and the enterprises negotiate annual Statements of Corporate Intent (SCIs) with shareholding Ministers. SOEs operate with commercial structures and incentives and with the principal objective of being successful businesses. This moves pricing decisions away from being a political tool (Interview with Business New Zealand 2014), to more reflecting the actual long-run marginal cost of production. The reforms in the electricity sector were consistent with wider, market-based reforms across the New Zealand energy sector (*Rogernomics*). (Ring & Read, 1996). Other such SOEs included State Insurance, BNZ, and Tranz Rail.

3. From 1996 to 2001, a wholesale market for electricity was established, and the sector saw a light-handed government approach to regulation. The transitional ECNZ was broken into several corporations, in order to stimulate competition. These include Contact Energy (which was privatised in 1999), Meridian Energy, Mercury Energy, and Genesis Energy. Individual retail companies entered into long-term hedge contract with wholesalers. Owing to the relative strength of the established Gentailers, there has

been fairly limited competition that has emerged, resulting in a quasi-oligopoly emerging in the market.

4. From 2002-2008, a scaling back of the light-handed government approach to regulation in the market. Establishment of the Electricity Commission (2003), mandated asset-swaps for Gentailers (2006), investigation into establishment of a single-buyer model for electricity (2006), which was eventually rejected. Establishment of the Electricity Commission.
5. From 2008-present, reforms put a far larger emphasis on implementing market tools, such as a heavier reliance on the spot market, futures market, and other ancillary services. The establishment of first the Electricity Commission, and then the Electricity Authority fettered some of the extremes of the electricity market, aligning market players with the Electricity Industry Participation Code.

In 1984, the McLachlan report to the Minister for Energy recommended an overhaul of the electricity sector, noting in particular inaccurate pricing leading to poor investment decisions – threatening future supply. Economists, such as Nobel-Prize winner Vernon Smith, and Paul Joskow provided additional intellectual impetus for market-based reform to, in part, better protect supply security (Joskow 2008). Additionally, the overarching set of tools used by governments during this period across the OECD was that of market principles. While there were other factors that led to a market for electricity, that markets were *de rigueur* as regards policy at the time no doubt played a central role (Interview with Business New Zealand 2014).

The retreat from a centrally planned electricity sector proved a complex process. The New Zealand Electricity Department became the Electricity Corporation of New Zealand (ECNZ) on 1 April 1987. ECNZ was a vertically integrated single-buyer and seller, established in part as a transition entity through the deregulation period. (L. Evans 2014) In 1994, transmission of electricity fell under the purview of a separate entity; Transpower. In 1996, ECNZ was divided further, with Contact Energy being sold and becoming the second major generator in the electricity market, and ECNZ being divided into three State Owned Enterprises, namely Meridian Energy, Genesis Energy, and Mighty River Power.

Since 2005, the level of competition in the electricity sector has increased significantly. This has been because of an increase in the number of market players, and an increase in consumer choice causing companies to be more competitive in their behaviour to ensure customers'

loyalty. The Electricity Authority and government policy more broadly, has lowered barriers to entry, increasing levels of competition.

In addition to increased competition, NZX Energy (the electricity market operator) has developed new market products which have been adopted by the market. These include the ability to trade in electricity futures, with the most recent tranche of reforms undertaken in 2009.

The spot market was volatile in its early stages, and posed risks to unhedged market participants (L. Evans 2014). The market – spot and hedge combined – is now seen by Evans and the Authority as maturing. Dry years have not caused the high prices they once did (Hansen 2014). New financial instruments, such as the futures market introduced in 2009 through the Australian Stock Exchange, and trades through this market now account for 50% of hedge contracts. Additionally, of the remaining trade, 98% of the number of electricity trades have been done via the spot market since the 2009 reforms. (Hansen 2014). The market has a much greater level of liquidity, as indicated by the number and value of trades. This increase in liquidity, coupled with a rise in the use of price hedging has seen a decrease in price volatility.

In short, reforms to the New Zealand Electricity Sector have seen:

- The corporations that own the generation and retail sale of electricity develop from the NZED, to the ECNZ, to fifteen electricity retailers operating between them 29 retail brands;
- The privatisation (either partial or whole) of those electricity retailers/wholesalers/gentailers.

The legislative and regulatory history for the industry has been varied, with major governing acts and bodies including:

The Energy Companies Act 1992 commercialised the existing Electricity Power Boards and Municipal Electricity Departments, establishing organisations responsible for the distribution and retail sale of electricity. The successor legislation, the Electricity Industry Reform Act 1998, sought to distribute the electricity companies' power, by forcing companies to retain only their lines assets, or retail assets. This was done with the intention of decreasing power held by established and vertically integrated companies. This was seen as being especially important

as lines assets act as a natural monopoly, and separating those companies into independent companies made for easier regulation of pricing and other activity.

The Electricity Commission was established in 2003. As the market facilitator, the Commission was responsible for developing and enforcing the specific rules of the market. While this did not involve competition-related aspects of the industry (as this was the purview of the Commerce Commission), it did oversee the enforcement of trades, and managed broader market opportunities within the industry. In addition to these responsibilities, the Commission oversaw the investment into the national grid through facilitating and approving investment proposals.

The Commission was also responsible for promoting electricity efficiency, and managing reserve energy and emergency campaigns. This is a role that has largely been replaced by the Energy Efficiency and Conservation Authority (EECA), for policy developers saw the roles of the market operator, and of promoting of policies that might affect consumer choice, as being different. (NZX Energy 2009). The reasons for the changes will be further discussed in the third chapter of this thesis.

The successor to the Commission was the Electricity Authority. Established under the Electricity Industry Act 2010, The Authority shares many of the same market functions as the Commission, particularly around rule management and enforcement. However, many of the other rules have been pared to other government agencies.

The Electricity Industry Participation Code was introduced in 2010 as part of the reform of the Commission. The Code sets out the duties and responsibilities that apply to industry participants and the Authority. The Code is the most recent iteration of the ‘rules’ which govern the Electricity Market, as created and enforced by the Authority.

Another way of considering the reforms is to categorise the intended consequence of the change (NZX Energy 2009). The sector’s development can be broadly categorised into three main areas of focus – referred to by the World Energy Council as the “trilemma”. The “tri-” refers to the three goals of an electricity sector – equity (or: the ability for consumers, especially residential and poorer consumers, to pay); security (or: ensuring the people can access power when they want it), and sustainability (or: ensuring as much as possible that natural state of the environment is protected. This does not necessarily mean ensuring, for instance, carbon neutrality, but is in fact broader. By way of example: the development of wind farms is a low-

carbon way to generate energy, but many – particularly those who can see the farms – believe they are an unacceptable blight on the natural environment). The “-lemma” component refers to the idea that the three goals are to an extent incompatible, and policy can only ever achieve two of the three goals at any one time. (Henze 2009). Having cheap and secure electricity usually necessitates an increase in investment in relatively cheap and highly reliable thermal plants, powered by coal or oil (Interview with James Flannery 2014). Cheap and environmentally sustainable energy limits the amount of investment available for increased generation, increasing the risk that supply of electricity will outstrip demand, causing blackouts (Interview with Nick Wilson 2014). Environmentally sustainable, secure energy usually requires significant investment – increasing the financial cost to consumers (Interview with Dr. Andrew Kerr and Alannah MacShane 2014). All of these outcomes require trade-offs and will result in financial and non-financial impacts on end-users and the environment.

The following table (Table 2) summarises the above changes, and some other important sector events.

Year		Important events	Equity	Security	Sustainability
1984			McLauchlan Report: significant overspend on electricity.	Highest security margins.	
1985					
1986		The State Owned Enterprises Act given Royal Ascent.	State-Owned institutions had to act as if they were privately held companies – generating a return to its shareholder (the government).		
1987		ECNZ created under State Owned Enterprises Act.			
1988		Transpower set up as an SOE from within ECNZ (though the split took until April 1994 to realise).			
1989					

Year		Important events	Equity	Security	Sustainability
1990		May 1990 (Labour) – regional electricity companies corporatized.			
1991					
1992		Government releases energy policy framework: <i>"The Government's key objective in the energy area is to ensure that energy services continue to be available at the lowest cost to the economy, consistent with sustainable development. "This will be achieved by the efficient and effective provision of energy services through properly functioning commercial systems with competitive incentives. These systems will work within an effective and stable regulatory environment and take energy conservation into account."</i>		1992 Winter Power Crisis: voluntary savings of 10% of demand were called for by ECNZ.	
1993		Electricity Act passed to deregulate regional electricity companies, removing their statutory monopoly	Trustpower – New Zealand's first private electricity company – formed.	Wholesale Market Development Group: Considered single buyer.	Government Policy Statement on Renewable Energy.

Year		Important events	Equity	Security	Sustainability
		and requiring them to maintain line services until 2013.			
1994			Removal of statutory monopoly over supply of power to consumers.		
1995					
1996		Contact Energy separated from ECNZ; Wholesale market established.		Auckland CBD Crisis.	
1997					
1998					
1999		Mighty River Power, Genesis, and Meridian Energy formed.	Separation of competitive, and non-competitive components of electricity companies – i.e., lines companies from energy retailers.		
2000			2000 Ministerial Inquiry: price control introduced for distribution component.		2000 Ministerial Inquiry: Encourages distributed renewable generation.
2001				2001 Winter Power Crisis.	
2002		Electricity Complaints Commission established to hear and resolve consumer complaints.	The development of an index for fixed price electricity contracts to provide some means of establishing a forward price curve for electricity.		

Year		Important events	Equity	Security	Sustainability
2003		<p>End of "light handed" regulatory regime: the Electricity Commission was announced to take over governance of the industry.</p> <p>The government established a government-owned diesel powered generation plant (Whirinaki).</p>	<p>The EC started in September 2003 and by 2009 had charged electricity consumers nearly \$150m, recovered through consumers' electricity bills.</p> <p>Whirinaki used when spot prices for electricity were 'too high'.</p>	<p>2003 Winter Power Crisis: Emphasis on dry year risk by Government leads to investment in Whirinaki.</p> <p>Maui Gas price renegotiated from price legacy contract to more market-based prices.</p> <p>The EC was charged with ensuring security of supply and approving the capital investment plans of industry players for generation and transmission.</p>	
2004					
2005			2005 Commerce Commission investigation into prices.		
2006		2006 Ministerial Electricity Market Review: Considers increasing retail prices and security of supply. Recommends continuation of market; rejects single-buyer model.	<p>Review endorsed: transferring Tekapo A and B power stations from Meridian Energy to Genesis Energy, and transferring the government-owned Whirinaki to Meridian Energy</p> <p>requiring Meridian Energy, Genesis Energy and Mighty</p>	<p>Requiring generators or retailers to compensate consumers in the event of conservation campaigns or a dry-year power cut; abolishing the reserve energy scheme; and increasing the attractiveness of gas</p>	

Year		Important events	Equity	Security	Sustainability
			River Power to undertake a "virtual asset swap" through a 15 year contract, ensuring the ability of each company to provide increased competition in the island where they currently had little or no generation capacity; requiring all major electricity generators to put in place an accessible electricity hedge market; allowing lines companies back into electricity retailing, subject to strict controls; and establishing a \$15 million fund over three years to promote customer switching between retailers.	exploration and development.	
2007					
2008			2008 Electricity Commission review of market design.	2008 Winter supply shortage. EC approval for Transpower to spend up to \$672 million in upgrading Pole One of the HVDC link between the South and North Islands	2008 Act passed establishing ETS, and prohibiting thermal generation (later repealed). 90% renewables by 2025 target passed. Moratorium on coal-fired power plans.

Year		Important events	Equity	Security	Sustainability
2009		Establishment of Electricity Authority (EA).	2009 Ministerial Review: Pro-Competitive reforms.	HVDC Pole 3 / NIGUP approved. Transpower announced a \$50 million programme of upgrading work on the national transmission grid.	
2010					
2011					National Policy Statement on Renewable Electricity Generation under the Resource Management Act.
2012				2012 Lowest first half inflows on record. The Authority notes security of supply and prices robust in spite of these challenges.	
2013		Sale of SOEs as part of partial privatisation programme.	Labour/Greens propose separate but related NZ Power proposals.	Summer drought - no supply impact.	
2014		Continued partial sale of SOEs.			

	Labour-led Government
	National-led Government

1.3 Electricity Prices

1.3(a) How does the market work in 2015?

There are two significant markets for electricity: the spot market, and long-term hedge market. The spot market offers generators and retailers to trade in real-time for electricity to supply demand. The long-term hedge market allows for market players to agree on a price for, and a quantity of, electricity over a longer period – typically years. This section briefly explains both these markets.

In the spot market, individual generators provide prices to the market at 52 different Grid Injection Points (GIPs). Retailers then bid for and buy that electricity, which then leaves the grid (and thus enters distribution networks) at 196 different Grid Exit Points (GXPs).

The mechanism by which the price for electricity is set is through a process called “Local Marginal Pricing”. Marginal pricing is where the price paid for a good is equivalent to the cost of the next unit of that good, and reflects the system used in most markets to price goods. The “Local” part of local marginal pricing refers to prices being set across 248 nodes (Bertram, Restructuring the New Zealand Electricity Sector 1984-2005 2007). GIPs and GXPs are the specific places in the grid where power enters the grid from plants, leaves the high voltage transmission component, and enters the lower-voltage distribution networks. Bidding—explained below – happens in regard to these specific locations. The large number of differentiated prices is to reflect the different cost in providing electricity in those areas. In short, the further demand is from a power source, the greater the energy losses that are incurred. Those losses, even though not powering anything, have to be accounted for as their generation still costs money. The consumers in a sense cause those losses, and so pay for them.

This is particularly relevant in the New Zealand electricity market, owing to the nature of the product. When one buys electricity from the likes of Contact Energy, one is not buying the power “Contact Energy” makes in their power plants. Rather, what happens is that electricity enters a common pool, alongside all the other electricity produced by all the other generators that are connected to the grid – making each kilowatt hour that is available indistinguishable and completely fungible. As David Parker says: “An electron is an electron” (Interview with the Hon. Dr David Parker 2014). Individual electricity retailers then “bid” for that electricity,

and on-sell that to individual customers. The price paid for the electricity by retailers is the marginal price for electricity – i.e. whatever the price would be for an additional unit of electricity to be added to that common pool. Once the retailers' bids have been accepted by generators, the market is said to have "cleared". Retailers place their own mark-up or premium on that price to cover the costs of access to that market that they face. Retailers also add on the cost of the network and distribution charges that they incur. Finally, that electricity is billed to the customer, with that price incorporating all of those costs (Interview with Professor Lewis Evans 2014).

A simplified explanation to provide some understanding of the market mechanisms as follows. In a simplified market for electricity, there are three wholesalers of electricity, generators A, B, and C. At a given GXP, generator A offers 30MWh at 5c/kWh, generator B offers 40MWh at 10c/kWh, and generator C offers 30MWh at 20c/kWh. Purchasers of electricity do not purchase generator A's electricity at 5c/kWh, and then some of generator B's electricity at 10c/kWh. Rather, because of the marginal pricing mechanism, they must pay the marginal price for electricity.

In the instance where a given selection of retailers requires (demands) 69MWh of electricity, they will bid for the cheapest 69MWh – here produced by generators A and B. As such, the marginal price for electricity will be 10c/kWh, even though 30MWh is offered at 5c/kWh. In an instance where 100MWh is required, all three generators' offers will be needed, and as the highest price bid is 20c/kWh, that will be the price paid for each kWh (NZX Energy 2009). As in other jurisdictions, marginal pricing is done in New Zealand as our generation infrastructure comprises some generation with low marginal costs – such as hydroelectric dams, and some with very high marginal costs, such as coal.

The second market is the long-term hedge market. This is largely a more informal set of agreements between electricity wholesalers, who will contract to provide a fixed amount of electricity to the purchaser at a fixed price. Contracting with a generator to provide a set amount of electricity at a set price functionally increases the 'supply' capacity of the purchaser; and reduces the amount available to the seller. It is done because the purchaser must have access to that electricity, and control over to whom that electricity is sold. The generators will agree to sell energy at a set rate and volume because they believe that the actual cost of production for that electricity at the point when it is supplied will be less than the contract price at which it is

sold to the purchaser. They will endeavour to do this through refining their generation practices to make the average cost of production lower; or will use that fixed revenue as an avenue to invest in new production sources. Broadly, purchasers will buy into the hedge as they believe that the electricity will be provided to them at a price below the (future) price that they could otherwise purchase from the spot market, or achieve with their own means of generation (NZX Energy 2009).

Hedge contracts are important for companies as they increase certainty in costs and revenues. This certainty can result in lower prices for consumers. Additionally, the hedge market provides clear signals to generators on whether they should invest in new sources of electricity: in instances where the hedged price per unit is higher than the cost of the unit from a new generation source, then it makes sense to invest in that source. Hedge prices lower than the cost of new production clearly signals that investment is not wise.

1.3(b) A history of Prices

The five-year annual average electricity price from 1979 to 2011 is shown below on Figure 2:

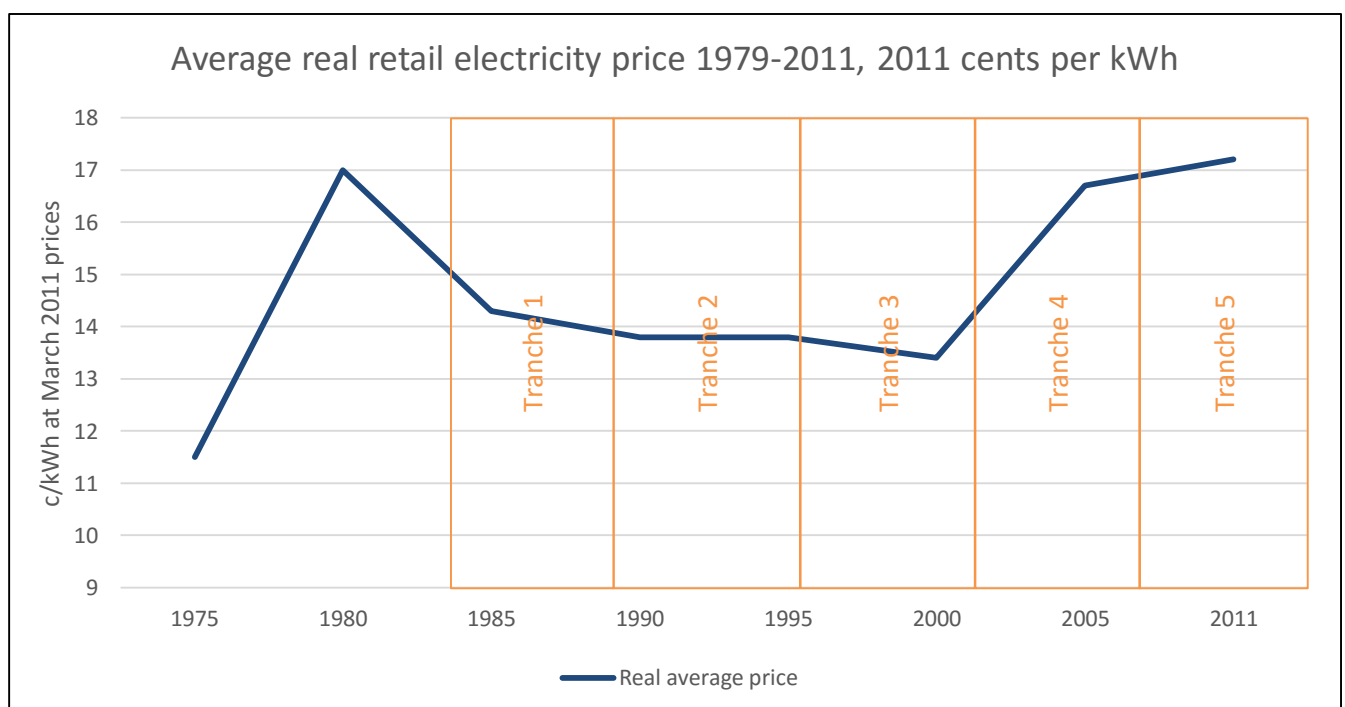


Figure 2: Average real electricity price 1979-2011, 2011 cents per kWh. (Bertram 2013)

As implied above, electricity is sold in discrete units – typically megawatt ‘hours or kilowatt hours. To be charged for one kilowatt hour, for instance, means that, across the course of an hour, what is consumed is one kilowatt of electricity. In New Zealand, the prices charged to all consumers for those units of electricity have increased in nominal terms by an average of 4% per annum since 1996 (Electricity Authority 2014). However, in real terms, prices are not much higher now on average than they were in the early 1980s.

This is not true for individual consumer types. Residential consumers have seen significant increases in real terms, while commercial consumers have experienced a significant reduction in charges (Electricity Authority 2014).

In 1984, the average real price paid for electricity was for a residential customer, 13.28 c/kWh; for industry 10.54 c/kWh, and for commercial entities 20.89 c/kWh (all figures in 2012 dollars). As noted above, prices were set in large part by the government, based on advice from officials and political judgment. In 2012, the most recent figure on prices available at time of writing, prices for a residential customer were 27.38 c/kWh; for industry 10.57 c/kWh, and for commercial entities 17.19 c/kWh (in 2012 dollars) (Ministry of Business, Innovation and Employment 2013).

In 1984, the price paid by residential consumers was approximately 126% of that paid by industrial consumers. The price paid by residential consumers was approximately 64% of that paid by commercial consumers. In 2012, the price paid by residential consumers was approximately 259% of that paid by industrial consumers – more than twice the 1984 proportion. The price paid by residential consumers was approximately 159% of that paid by commercial consumers – again, more than twice the 1984 proportion.

The reasons suggested for this shift in burden-carrying include:

1. **Bargaining power.** In most trades for goods or services, when one party has greater power in the bargain, the party can use that power to exact a better deal for themselves. It is posited that gentailers are a) in a position of power over some consumers, and b) that they use or exploit that power. There is certainly a perception that electricity retailers do have a significant power imbalance in their favour,¹ and that they use that

¹ A stated impetus for NZ Power, as well as numerous other publications, is that gentailers have used their market power to extract excessive rents from their customers. (Bertram, Is there a ‘regulatory compact’ regarding gentailer asset values and revenues? If so, what does it say? 2013; Bertram, Restructuing the New Zealand Electricity Sector 1984-2005 2006; New Zealand Labour Party 2013)

power to their benefit. However, the presence of the Commerce Commission,² which enforces laws against monopolist pricing, and growing (albeit limited) competition, indicates that this might not be correct.³ This will be analysed further below in Part 3.

2. **Profile of consumption.** As a general rule, it is cheaper to produce a constant amount of electricity than to have the production vary. This is because there are costs associated with ramping up and down the production of electricity – especially where electricity generation already has high costs of production, such as with coal-fired power plants. In New Zealand, as with most electricity sectors, there are two broad categories of electricity consumption. Base load demand is met by geothermal plants, with low variable costs, and whose production is difficult to increase or decrease. Conversely, peak generation is what is produced when demand in a given market exceeds the base load. In New Zealand, consumption is lowest during the night, and higher during the day; with particular peaks in the mid-morning, and in the early evening. Peak load is usually met by gas-fired generators, or by hydro – both of which can be relatively easily varied.

As discussed above, higher demand leads to broadly higher prices for electricity. Residential and commercial consumers account for the higher demand during the day, but it is largely residential consumers who account for the two daily peaks. The explanation given by the industry for the higher prices paid by residential consumers is that, on average, the bulk of their consumption occurs at the same time, requiring the highest prices for electricity (MBIE 2014).

This is not the complete story, however, because while the prices on the spot market for electricity peak in this manner, most New Zealand residential customers are on what is called a fixed-price/variable quantity contract – essentially a hedge – where

² The Commerce Commission has a multi-faced role in the electricity sector. Governed by the Commerce Act and the Fair Trading Act, the Commission specifically addresses: Investigations into concerns an electricity business has undertaken misleading behaviour, acted in an anti-competitive manner against new market entrants, and increase information on Transpower's performance and pricing structure. It specifically cannot govern what prices should be outside of these parameters. For individual consumers on a day-to-day basis, the Fair Trading Act component of the Commission's role has a far greater influence on Retailer behaviour. The Commerce Act empowerment deals more with industry-wide issues of competitive behaviour – of relevance to transmission and distribution.

³ The number of electricity retailers in New Zealand has been growing since the liberalisation of the sector. At present, there are 19 operating retailers in New Zealand, however the market is dominated by Genesis Energy and its subsidiaries, Contact Energy, Mercury Energy and its subsidiaries, and Meridian Energy and its subsidiaries. These companies account for around 83% of the connections in New Zealand. This percentage is, however, declining.

regardless of the time of day, the price is fixed, and is usually fixed at a price that reflects the price of electricity at peak times, or close to peak. This hedge is to insulate retailers from price variations during the day, and is considerably easier for most consumers to understand than varying prices. What this means, though, is that when a customer is consuming at peak times, they will be paying approximately what they would on the spot market, or less; in times of lower (spot) prices, they are paying considerably more than they would in the spot market. Of course, this cuts both ways – in instances where, because of exceptionally high demand, or short supply, spot prices are *above* that fixed hedge price, customers are essentially subsidised by the retail company for consuming electricity. This is, however, a rare occurrence. The typical advertised price for residential consumers in 2014 is around 27.59 cents per kWh (MBIE 2014). The spot market price for electricity has exceeded 27 cents per kWh for a half hour period in the 12 months to 31 March 2014 only twice (Interest.co.nz 2015), and averaged around one third of that price at 8c/kWh (Transpower 2015). One could interpret these data to suggest that the typical retail tariff compensates the retailers very well for supplying consumers with electricity, and that rarely are retailers out of pocket.

According to the Electricity Authority, a typical residential electricity bill comprises the following cost components:

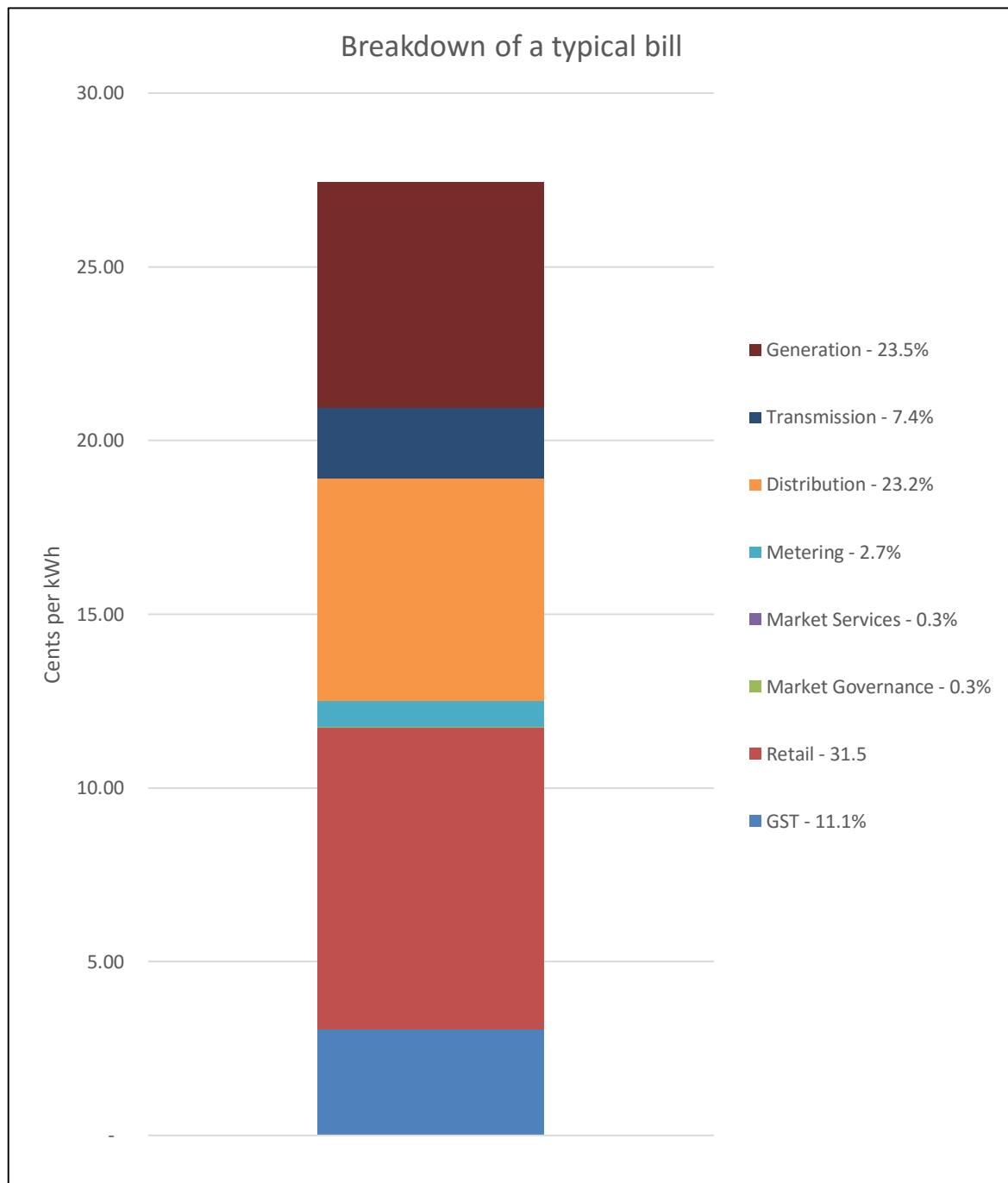


Figure 3: simplified version of a typical electricity bill, listing the cost components of that bill for a given kilowatt hour (The Electricity Authority 2013)

That retail residential prices have doubled over the past 30 years is a source of concern for many. Some commentators have said that the price increase faced by consumers in that period is unjustified, and an unfair consequence of the introduction of a market place (Interview with Gareth Hughes 2014; Interview with Jessica Wilson and Susan Guthrie 2014). Geoff Bertram put it rather emphatically, “If it's highway robbery, we lock those guys up. But if companies

put a gun to your head and take your money, it's knighthoods and bonuses for the CEO” (Edmunds 2013).

This anger, however, begs the question of whether the price that existed before the electricity reforms was an appropriate price for the resource. This debate will be examined in closer detail in Part 3.

Prices paid on the spot market can fluctuate wildly. A large driver of this variability is the cost of production for electricity. As New Zealand’s generation capacity is substantially conditional upon lake inflow levels, consumers of electricity hope for consistent and sufficient inflow levels, so that – in short – dams can allow the same volume of water to flow through at all times, and produce the maximum MWh of electricity at all times. Because of the weather, this does not happen. Even within a day inflows can fluctuate considerably, and that variation causes much of the variation in the end price for electricity.

Since the introduction of the spot market into New Zealand’s electricity sector, it has been easy to track, in real time, the wholesale price of electricity. What has been more difficult has been tracking the net retail price to residential consumers. This is for a number of reasons

1. The spot market price does not necessarily reflect the advertised price of electricity to residential consumers. The vast majority of residential account holders in New Zealand do not have direct access to spot market prices. Rather, they pay for electricity under one of two general sets of pricing
 - a. Time of Use pricing (sometimes known as “smart metering”). This is where the customer pays the marginal price for electricity in a given half hour period. In instances of high market demand, prices paid will be higher, and in instances of low demand prices are cheaper. The prices offered tend to reflect Spot Market prices.
 - b. Non-half hourly pricing (sometimes known as fixed price / variable quantity pricing). This is where for a fixed price, customers can consume electricity at any time and pay a given price – regardless of the Spot Market prices.

In both of these instances, prices are typically ‘hedged’ at a rate that is similar to the average Spot Market rate during a peak consumption period. This is so that Retailers are insulated against prolonged price spikes – particularly in winter. This also means

that Retailers enjoy typically very high prices at times when national consumption – and in turn prices on the Spot Market – are low.

To accurately track the cost of electricity to retailers, it is not enough to simply monitor the Spot Market. Rather, an interrogation of prices offered from different Grid Exit Points to customers by various Retailers is needed.

2. The prices quoted to many retail customers may still not reflect the true cost of a kilowatt hour of electricity. Many Retailers offer different discounts to customers in the form of prompt-payment discounts, lump-sum discounts (particularly to new customers), and other discounts to particularly large residential consumers. Without access to this information, the true price of electricity for residential consumers cannot be known, and the price of electricity without this information is only an approximation.

There are some, however, who believe that the pricing mechanism is one that – rather than being an important pricing mechanism – acts to deliver “super-profits” for low-marginal cost generators (Bertram, Interview with Geoff Bertram 2015). Commentators believe that in instances where electricity can be generated for a low price such as 5c/kWh, the price paid for that electricity should be equal, or at least close, to it. The disagreement about the importance and accuracy of pricing mechanisms is an important touchstone in the debate on the role of the market in the electricity sector.

Use of marginal pricing is not the only option available by which a market can operate. Some individuals have advocated for average pricing, whereby the unit charge is not what the next unit of electricity would cost; rather it is the average cost of the sources of electricity fed into that common pool. Taking the example from above, the average per kWh price would be approximately 8c/kWh. In the example above: marginal pricing is cheaper for customers than average price. This is not usually the case, as seen in markets that do have average pricing for electricity (Rassenti, Smith and Wilson 2003).

Shane Dinnan, of NZX Energy, notes that what is typically the case is that support for marginal pricing or average pricing turns on whichever would be cheaper at a given time. He says, moreover, that in the long term the two pricing mechanisms should come “very close”, and an

efficient and competitive market will reflect that (Interview with Shane Dinnan 2014). The challenge he and others see is achieving that efficiency and competitiveness (Interview with Professor L. Evans 2014; Interview with Molly Melhuish 2014; Perspective 2014).

An alternative to both marginal pricing and average pricing is what is called “Pay As You Bid” (PAUB) pricing. This is where the buyer actually does in essence “buy” the electricity from a particular generator, despite the fungible nature of the good. In a PAUB system, using the above three-generator example again: the electricity retailer will buy the first tranche of electricity at the lower price, and the second tranche – to meet demand – at the higher price. Some people support this model, and indeed on the surface it is appealing to customers, as it seems a fair system, where producers are paid in line with the marginal cost of what they are selling. The PAUB model, however, is unlikely to decrease the short-term price for wholesale electricity, will misalign incentives in the long- and short-term for investment, possibly decrease the efficiencies in electricity dispatch, and increase the barriers to entry for new market players (Tierney, Schatzki and Mukerji 2008; Kahn 2001; Cramton 2006; Newbery 2002). The following explains these claims.

Despite its apparent complexity, and the appeal of a system where generators are paid at a lower rate, marginal pricing is important for three reasons. Firstly, it allows for efficient outcomes in the short term. In short, while electricity needs to be produced at the lowest economic cost, it needs to be consumed by those most willing to pay for it, and there should be no shortage or overproduction of electricity. A marginal price model better facilitates this.⁴ Practically, when wholesalers know that the next unit of electricity will cost a certain amount,

⁴ For more on this, see (Tierney, Schatzki and Mukerji 2008, 8). In short – the incentives under a PAUB model are different to those under a Marginal Pricing (MP) model. In the auction for electricity under MP, low-cost generators are incentivized to keep their prices that reflect the marginal cost of production and to not exceed that. The market clearing price is revealed when all generators and all consumers meet in the one auction space. If generators bid above their marginal price, there is a risk that they will attempt to charge too much, and the market will not clear (as no purchaser will be found). In a PAUB model, generators seek to maximize revenue through *guessing* what the market clearing price will be (Interview with Stephen Poletti 2015). They will try to pick an offer price that balances their chance of winning (by being at or below the offer price of the last bidder whose supplies are needed to meet customer demand) against the decreased profits from bidding a lower offer price. In short: companies will seek to guess what other companies will sell at; rather than deciding what is the most economic for their own companies. The overall market consequence of implementing this model, in the short term, is most likely not considerably different from the MP in price to consumers. However, in response to concerns identified by Bertram *et al* about delivering super-profits to generators: the PAUB model is likely to *increase* the margins many generators receive – especially those with low Long-Term Marginal-Cost structures. (Mount 2001; Abbink, Brandts and McDaniel 2003; Rassenti, Smith and Wilson 2003)

marginal pricing will allow them to turn on their more expensive generators as the real value of turning on their plant will be immediately realised.

Secondly, marginal pricing prices at the long-term cost of additional generation of electricity. This pricing mechanism is important signalling to generators, as it allows them to better anticipate future revenue at differing levels of consumption; and makes the production of electricity – particularly at peak consumption times – economic.

The cost of generation is more expensive when generation has a rising average cost of production – typical when supplying a peak demand period, facilitating a market that incentivises the lowest economic cost to supply that peak is fundamentally important. As with any good, long-term pricing under the average cost of production is economically unsustainable as it provides too little incentive to invest in new generation (Interview with Professor Lewis Evans 2014), but the generation of that electricity is necessary for New Zealand's needs. A PAUB alternative also creates barriers to assurance of long term security of supply. The cost of forecasting for small generators is perceived by many to be too burdensome, further entrenching the established gentailers. Secondly, larger generators, with a more diversified fuel-base can better hedge against variations in the market clearing price:

“Because pay-as-bid auctions create the incentive for all suppliers to bid the expected market-clearing price, rather than submitting bids reflecting each facility's individual marginal costs, variation in bid prices within any given period is substantially reduced by a pay-as-bid auction.” (Tierney, Schatzki and Mukerji 2008)

This decrease in possible competition may lead to less pressure to push prices down to marginal costs owing to first principles of market competition.

Thirdly, marginal pricing gives a price to the opportunity cost of the energy resource (Layton 2013). This means that controllers of the energy resource – particularly of water – can know the cost of using their resource now, rather than in the future. This is important, as hydro-levels shift considerably over the course of a year, which is the largest factor in electricity price levels in New Zealand. In short: in summer, when levels are generally high, electricity is generally comparatively cheap as generators can rely on the cheap source of electricity; in winter, with

lower lake levels, other forms of power generation – notably natural gas – become more necessary to meet demand. Without accurate pricing signals, generators might provide “too much” cheap electricity to the market in times where lake levels are high. In doing so, they reduce their capacity to provide hydro power later in the year, increasing the cost of electricity to consumers at that point. This was seen in practice in 2002, where the operators of major hydroelectric power stations generated vast quantities of electricity in summer from the hydroelectric plants, which severely depleted the lake levels such that, come winter, prices were at an all-time high (NZX Energy 2014). Better understanding of the importance of pricing is said by some to have led to fewer instances of 2002’s price spikes (L. Evans 2014).

1.3(c) Other cost components

When a customer receives their power bill at the end of every month, they are quoted the price for electricity they have consumed in a given period, and are quoted a price for the availability of that electricity. Most people, when looking at the price that is quoted, assume that price is just for the power. It is for that reason that when complaints are made about the price for electricity, it is the retailers who bear the brunt of that anger. The reality, however, is that almost half of the cost for electricity comes not from the actual electricity, but rather the transmission and distribution of that power. Moreover, the Electricity Authority’s research leads them to believe as much as 72% of the increases in electricity prices in the past three years alone have come from this component of the cost (Gaffaney 2014). Additional key drivers include the increase in the price of natural gas from 2001 to 2008 of 95%.

The transmission and distribution component of the above cost chart are highly regulated. Total transmission and distribution costs have increased by 4.5 percent in real terms since 2002, which is 0.6 percent per year on average (The Electricity Authority 2013).

Retailers disagree with distribution and transmission companies as to who is to blame for increased prices. Speaking with representatives of both sides of the debate shows that the industry is divided: both in its appreciation of the problem, and in possible solutions. What is clear, though, is that there is a need for better data to resolve the debate – at least at a high, industry level. The early indications from the data are not positive for the distribution and transmission components. Despite this, the information that is received by most customers is

that the retailers are to blame. In Chapter 3 I will address this issue, and possible steps retailers could take to change the focus of pressure for change.

Finally, the market governance component reflects the costs of the Electricity Authority and energy efficiency and consumer switching activities. Again, this price is regulated.

One of the justifications for NZ Power has been that the price for electricity to a residential customer has increased out of step with the rest of the OECD. While promoting NZ Power, the Labour Party referred to the following graph regularly:

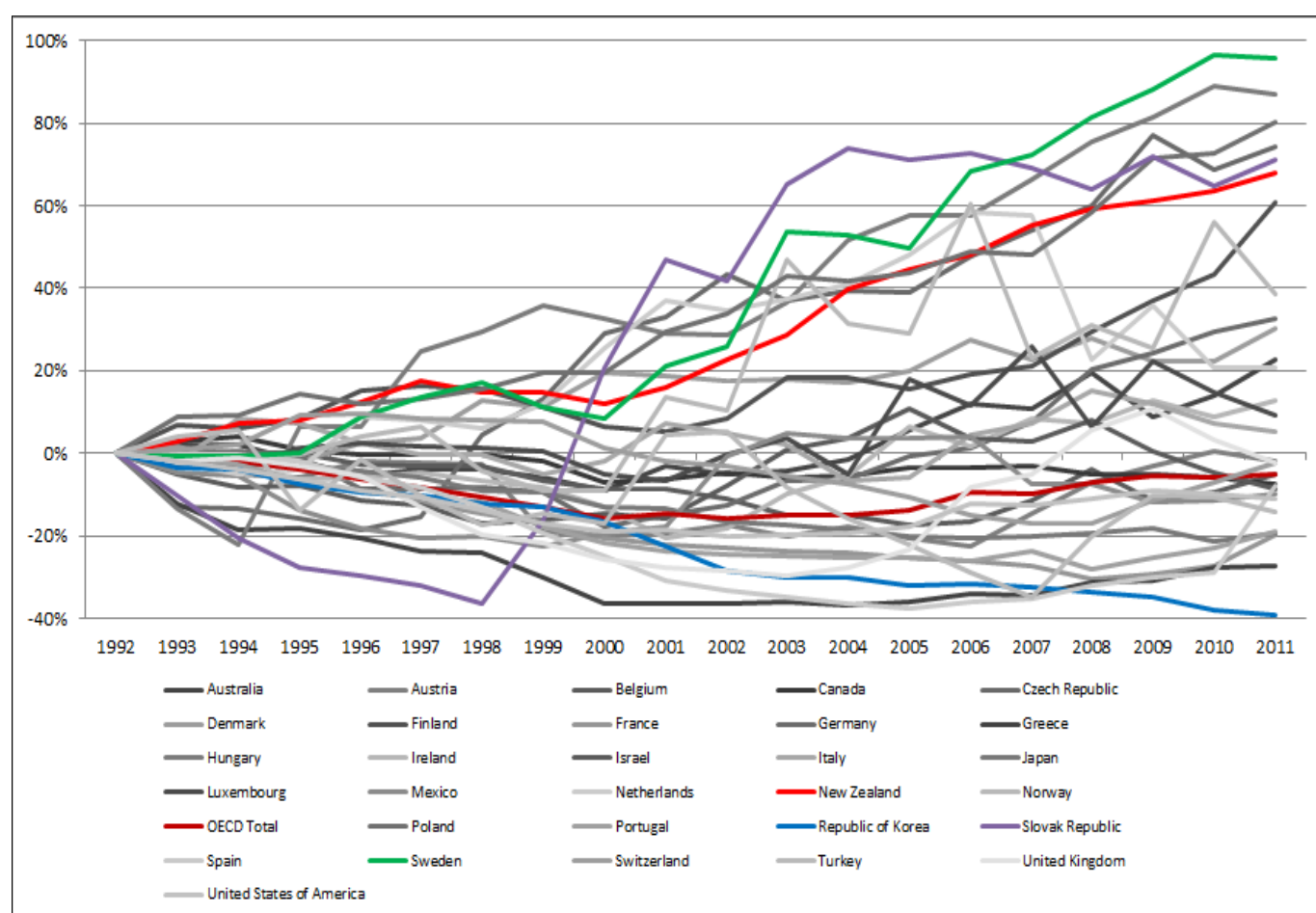


Figure 4: Percentage movement in electricity prices for OECD Nations from 1992 up to 2011.

It is important to note that, while the percentage change in New Zealand electricity prices seems marked, the statistics hide the reality that New Zealand customers face, in an international sense, relatively cheap prices for electricity, even for residential electricity use (Electricity Authority 2010). The most recent set that has comprehensive data for the OECD uses data from 2010. From that dataset, New Zealand is below the OECD average (Energy Information Administration 2010; International Energy Agency 2009). Additionally, it is lower than other

nations with similarly significant reliance on hydroelectricity, including Sweden (Energy Supply Association of Australia 2012).

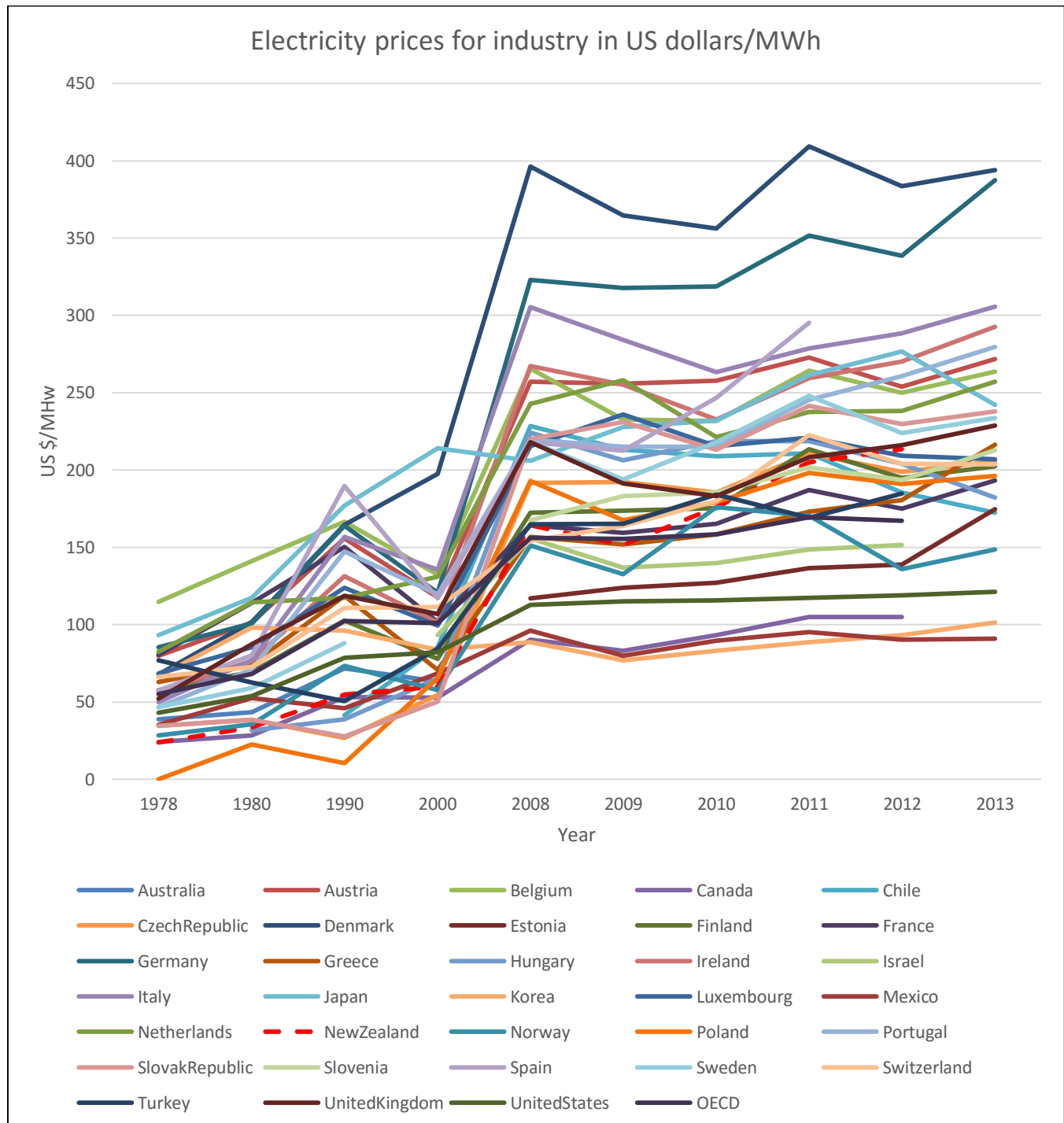


Figure 5: Changes in electricity prices between 1978 and 2013. Prices are in United States Dollars, and account for inflation. New Zealand is marked in the red dashed line. Where data is incomplete, spaces have been left in the trend (International Energy Agency 2014). A table of this data can be found in Appendix 1

While it is true there has been a considerable increase in the real price of electricity; the base price of that electricity – particularly for residential consumers – was very low. “The pricing of electricity was very political” Ralph Matthes says: “companies can’t vote but people can – so of course you would give cheaper prices to them” (Interview with Ralph Matthes of MEUG 2014), referring to the pre-1990s price setting system. Other people spoke to this same issue, where it was “common” for prices to be held low just before an election, then spiked up shortly after a new government was formed (Summary of Industry Representatives’ Comments, 2014). To be clearer: despite the notable increase in residential electricity prices over the past quarter century, the starting price was very low. This explains why the prices today are still low in an international sense.

The price paid for electricity before the reforms in the 1980s and early 1990s was heavily subsidised by taxpayers, and in the case of residential customers: cross-subsidised by commercial and industrial users (Interview with Business New Zealand 2014). From a public policy perspective, questions have been asked about why there has been such a marked increase in price. Specifically, questions focussed on what the prices *ought* to be, considering the nature of electricity as a commodity, and the unique generation of it in New Zealand.

Even ardent critics of the market believe prices are, for the large part, accurate reflections of the real marginal cost of electricity (Interview with Molly Melhuish 2014; Interview with Gareth Hughes MP 2014). What Hughes, Melhuish, and others believe, however, is that electricity is a special category of good in New Zealand – like healthcare or education – and like those goods, ideas of efficiency and market operations should take a definite back-seat to ideas of equity.

Electricity is undoubtedly fundamental to the operation of modern life. Without it, perishable food cannot be stored long-term; lights cannot turn on; smartphones cannot charge. Some – like Bryan Leyland and Hughes – suggest it could be considered a special good, whose delivery to citizens should not be left to market forces as they currently exist to dictate supply, price, and other factors. The inference behind this view is that the state should heavily regulate or provide the electricity. Others, like Molly Melhuish call for a more simple removal of barriers to entry for non-electric alternatives. These positions beg the question of whether the state is capable of providing or facilitating abundant, secure, cheap electricity. When the government has had a reduced role in the market, history points to a greater security of supply. The history does show, at the same time, an increased price to (especially) residential consumers as the role

of government has reduced. The trade-off is clearly one that does not appeal to these commentators. That Labour and the Greens were not able to make political traction in the proposing of NZ Power may suggest (although in no way definitively) that the electorate may be happy with the trade-off that has been made in this respect. As will be explored in Part 3, the lack of traction could also reflect that a large part of the voting public did not understand the NZ Power concept. On the idea that prices ought to be lower to reflect the relatively cheaper sources of generation, it is true that New Zealand's generation system is one with a comparatively low long-run marginal cost (Interview with Electricity Authority 2014). It would seem that, from a political perspective, establishing this point, while at the same time showing that prices have increased, would be an effective weapon against the status quo. And indeed, the Labour and the Greens did try to run this line in support of the NZ Power proposal. The success of this strategy, however, was undermined by research by the Electricity Authority, which showed that the price of electricity in New Zealand – despite being “high” – was actually lower than the current long-run marginal cost of production (Electricity Authority 2014). This means that – while electricity prices may seem expensive – they are still too low to recover the cost of the initial investment, plus the ongoing running costs of production.

In addition to this finding, the Labour and Greens arguments for NZ Power were focussed on other aspects of the industry they found problematic. A broader discussion of this can be found in Part 3.

The numbers in Figures 4 and 5 are a reflection of the price increases observed, insofar as they reflect the stated price of electricity to residential customers, but according to the Electricity Authority, and to Gentailers, they might not reflect the true cost of electricity to residential customers because of hidden discounts which are not advertised, but do influence the price of electricity. As shown in Figure 6, research by the Authority and MBIE (Electricity Authority 2014) suggests that prices have increased over the past decade, but not uniformly, or to the extent the above figures might suggest (MBIE 2014). The data is limited to price information collected by the government, which goes back as far as 2002:

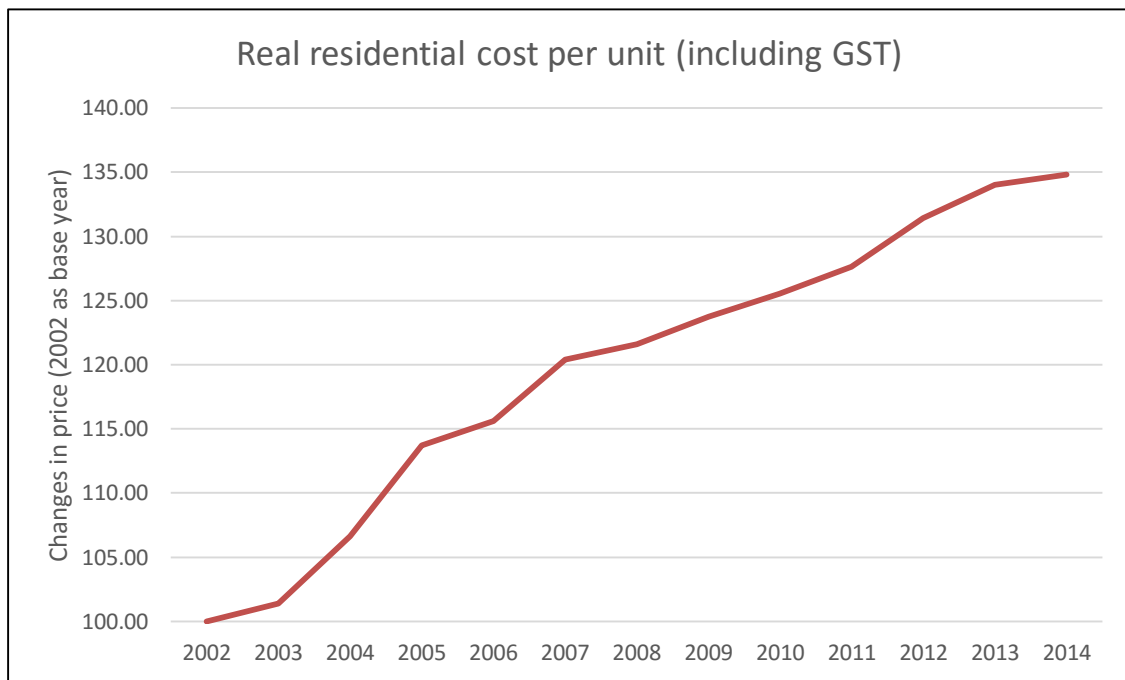


Figure 6: Inflation-adjusted price increases in electricity.

Of particular note is the slowing rate of growth since 2011. As noted on the chart, this coincides with two steps undertaken by the Authority to increase competition in the sector. The first measure was the beginning of the “What’s My Number” campaign, which sought to increase the information available to consumers as to which retailer would provide them with the cheapest power prices. The Authority believes that this programme – as well as more general increases in awareness of power prices – has increased the level of consumer awareness, potentially saving customers almost \$170 million as of August 2015 (Electricity Authority - What's My Number 2014). However, others believe the impact has been more muted:

Electricity firms don't bother trying to compete on price and differentiate themselves with puffery like Newsboy and energy conscious pukekos; thank heavens the Government is here to help. (Grant 2014)

The other action taken was a Virtual Asset Swap (VAS) between Meridian Energy, Contact Energy, and Mighty River Power. Meridian Energy had little generation capacity in the North Island, and MRP and Contact Energy had limited generation capacity in the South Island.

It was perceived that this led to limited competition between the retailers:

The virtual asset swaps provide a more stable wholesale purchase price for retailers in the island where they have little or no generation, thereby

encouraging additional retail competition in both islands. The virtual asset swaps have ramp-up and ramp-down volumes to avoid abrupt changes to retail portfolios. (New Zealand Government 2010)

The VAS was functionally a long-term hedge contract as described above. Actual ownership of the plants did not change, but companies were compelled to give a set amount of MWh to their competitors from set plants, at prices agreed to and set by MBIE. As noted before, this allows those who purchase the electricity to have control over it – as if they actually controlled the power plant. Functionally, this increases the competition in a given area. It is difficult for a power plant in the south of the South Island to provide electricity to Auckland, primarily as the losses in the lines are substantial, and too little electricity will reach customers for it to be worth the cost. Before the VAS, Meridian generated most of the electricity needed for the South Island; and Contact had considerable market share for the North Island – stifling competition. Increasing the distribution of each company’s generation capacity across New Zealand increased the competition between electricity wholesalers.

Either the asset swap, or the “What’s My Number” campaign, or both of these measures seems to have had a measurable impact on prices for consumers in the past three years. Price has increased over the past 30 years since the growing role of the market in the electricity sector. The rate of growth, however, has slowed in recent years. Between 2004 and 2008, the average annual rate of growth was 5.4%; from 2009 to 2013 this had dropped to an annual growth rate of 3.3%. There is insufficient evidence to conclude whether this downturn in price was affected by the Global Financial Crisis.

1.4 The NZ Power Proposal

The Wolak report to the Commerce Commission on the activities of electricity gentailers in the New Zealand electricity market described a series of abuses of market power by gentailers that allowed for \$4.3 billion in rents being taken from consumers over the previous six and a half years (F. A. Wolak 2009). To stop the gentailers from generating super profits at the expense of consumers, the Labour and the Green parties released the NZ Power proposal in April of 2013.

NZ Power is a complex proposal. It is not, as some commentators have suggested, a pure single-buyer model in the style of Pharmac; nor is it (at least not immediately) a “re-nationalisation”

of the sector as some opponents have framed it. Nor is it in fact just one proposal. The first notable aspect of the NZ Power proposal is that, even though most people understood that the proposal was a major joint policy by the Labour and Green parties in New Zealand, or at least two very similar proposals, it was, in fact, two discrete and sometimes distinct policies that sought to achieve mostly overlapping yet sometimes different goals. Nevertheless, there was sufficient overlap of policy objectives to allow this analysis to refer to them as essentially one proposal, with a common name. After all, the two parties felt comfortable launching the ‘policy proposal’ at the same press conference.

This section will address the major goals, and their various implications. What is consistent across both versions of the proposal, however, is that NZ Power sought to roll back many of the market developments currently seen in the sector, and give greater emphasis to concepts of equity for consumers.

The proposal’s (common) core elements seek to minimise prices through three mechanisms. First, NZ Power would capitalise on the leverage one large buyer can have in the market place, and on behalf of New Zealand residential consumers, bulk-purchase the first 300kWh of electricity each household consumes in a month – or 3,600 kWh per annum. NZ Power would then, through its retail function, sell that electricity to residential consumers. According to the Electricity Authority, a typical household consumes 8,000 kWh, so NZ Power would be responsible for 45% of a typical household’s power consumption *ceteris paribus*. This mechanism responds to the concern that individual residential consumers have less bargaining power than larger commercial or industrial consumers. The threshold of 300 kWh has been vaguely justified on the grounds that marginal pricing should continue to have a role in incentivising future investment in the industry. The body established by NZ Power would also replace the functions currently carried out by the Electricity Authority (New Zealand Labour Party 2013). Figure 7 offers an adapted version of Figure 1 from earlier in this chapter on how NZ Power would affect the sector’s structure.

Second, the government would engage with investors who would tender to produce new generation capacity in New Zealand. The government would sign long-term agreements for supply, with fixed prices for that electricity. The Labour spokesman David Parker believed that this was economically viable, as it would allow actors to enter the market who had until that point faced too high barriers to entry from the established gentailers. The barriers would be lowered as potential entrants could be assured of their future revenue, and at the same time the

government could use its market position to ensure an economical price for that capacity (Interview with the Hon. Dr David Parker 2014).

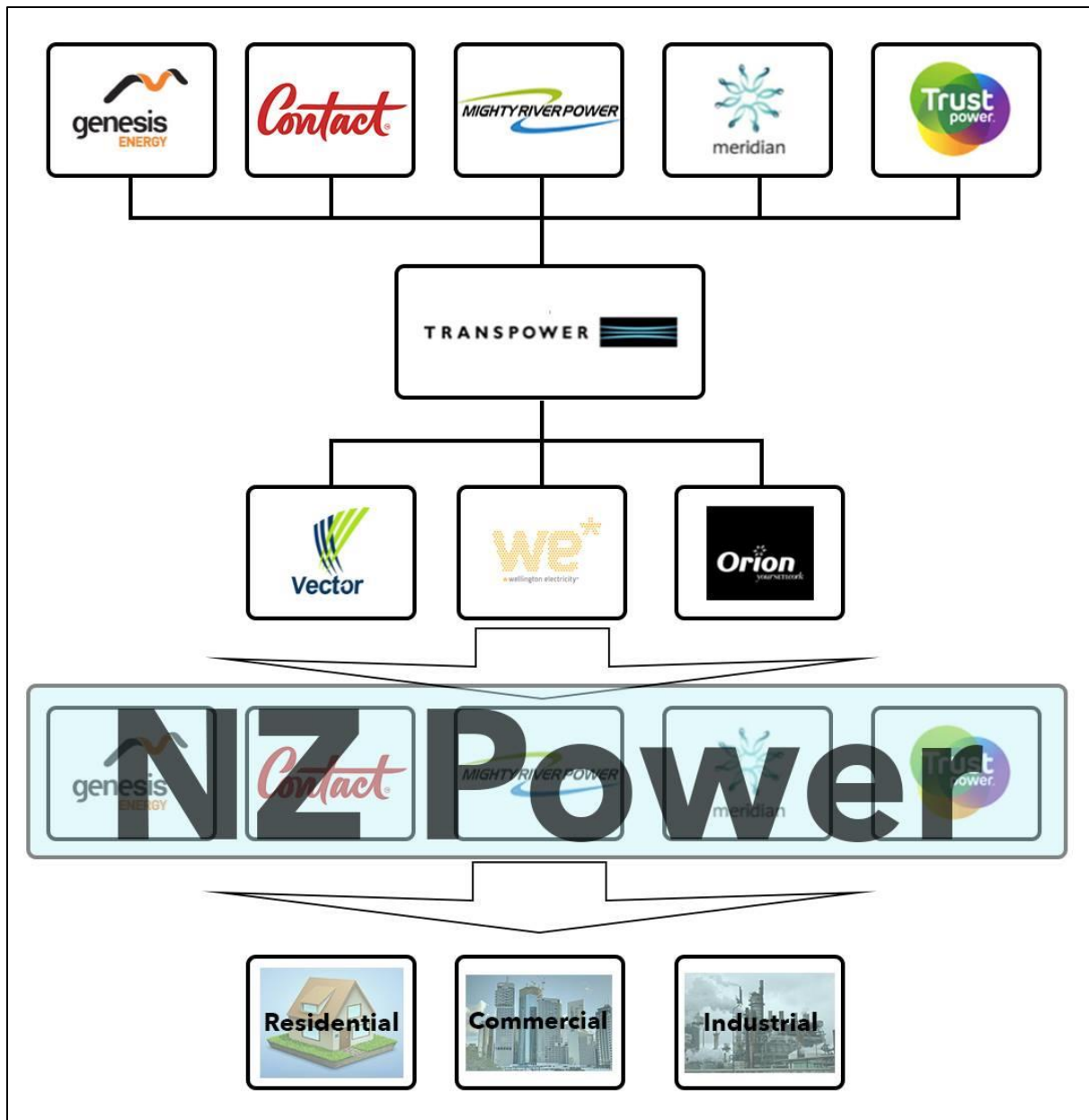


Figure 1.3: simplified version of New Zealand's electricity market structure. The position that NZ Power proposal would have added to the current sector structure is shown. Note: only major generators and retailers are shown, and only three distribution companies listed.

Third, and this was a component only included in Labour's proposal, the body established by NZ Power would be empowered to set the price at which electricity is purchased in the retail market, so consumers would pay a price for electricity that reflects the marginal cost of

production. The full mechanism for this was not released, so the long-term consequences of these investment incentives, and the role of marginal pricing, is still to be established.

David Parker is widely regarded as the author of the NZ Power proposal (Interview with Brian Fallow 2014). In 2006, there was a review of the state of the electricity sector, and David Parker was, at the time, Minister for Energy. A single-buyer model was one of the proposals for change that were considered, alongside refining the market as it currently stands (Interview with the Hon. Dr David Parker 2014). The second key goal was one that was driven largely by Parker, and it sought to put a price on the use of water. Parker's contention was that water should be a public good, and its use should either create benefit to the public, or its users should pay to use it. Pricing water would seek to ensure that a public good's private benefit was transferred to the public. In short, because of the pricing mechanism established by a future NZ Power-empowered body, the monopoly rents that Parker and others believe users of water were enjoying would be stripped away through paying generators the marginal cost of production for that fuel source, rather than at the wider industry marginal cost price.

The two goals seek to radically redesign the underlying mechanism of the New Zealand electricity sector. But more than that: it seeks to redesign the underlying premise of the sector; away from viewing electricity as any other commodity, and reverting it to something akin to the public good it was once considered. The success of the proposal is assessed in Part 3. Its success will be assessed against the frameworks established in Chapter 2, namely governmentality and policy incrementalism.

What Chapter 1 has shown is how the electricity market system New Zealand operates, and the path of legislative and regulatory changes that led to it. It built upon the literature available on the sector, and added some findings from research conducted in the production of this thesis. In short: New Zealand has a highly developed market structure, with mature market products used by a range of established, and fledgling, market players. While prices have increased in the time since deregulation, the Electricity Authority believes that these prices are yet to reflect the true cost of production. The Authority does not comment as to whether it believes prices should – or will – rise in the future. At the same time the Authority sees the market as competitive. Others disagree, and NZ Power arose from a scepticism about the level of competition in what is clearly an oligopolistic market.

The next chapter is a review of literature on public policy development. First, it seeks to identify the literature analysing the process of policy reform, and the nature of the discourse

surrounding reforms and their communication. The relevant literature is grouped around the two broad themes of governmentality and policy change through incremental reform. Second, it will build on the meagre literature on policy reform of the electricity market in New Zealand, and notes that there is a gap in the literature relating to debate over electricity policy reform in NZ. Finally, Chapter 2 will identify the key elements of a framework with which the debate over the NZ Power proposal can be analysed.

Chapter 2: Literature Review

This review first addresses how laws are changed in a very general sense. It draws upon domestic and international literature on the law change, and policy development, process. It then seeks to drive deeper into policy development, and to ask *why* particular policies come about. Specifically applied to this thesis, the view draws upon governmentality and policy incrementalism literature to help better understand policy development in the sector. These two framing tools hope to illuminate what competing interests intersect to generate the political and economic conditions we see in that sector. Through investigating the economic interests at play, we can begin to understand the current status of the sector and, moreover, suggest how future policies might be received by different actors. We can then assess the frameworks adopted in public communications about the proposal, and the communicative strategies we see in the debate on the proposal.

2.1 Broad literature on law change

It can be argued that there is a typical process by which ideas for policy reform are created, and the reforms implemented. New Zealand's leading legal textbook, *The New Zealand Legal System: Structures and Processes* (Morag MacDowell 2006) outlines these steps:

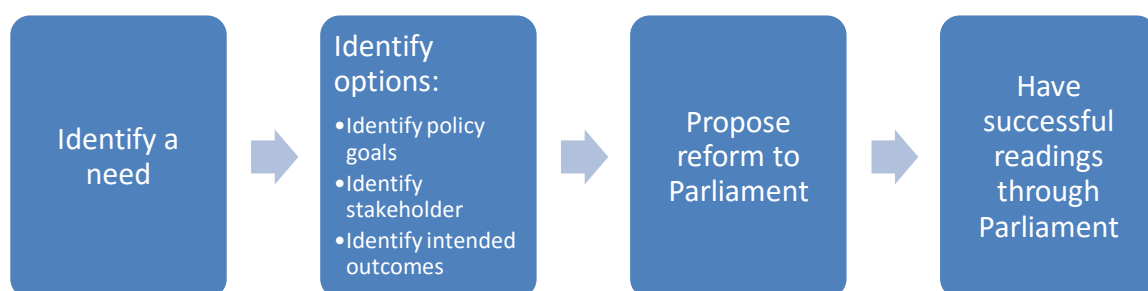


Figure 8: Simplified path of a bill's journey to becoming law (Morag MacDowell 2006).

While technically a correct description of the law change process, these steps are an unrealistic overview of policy change: the reality of any policy change is far more chaotic, and reflects the complex interactions between stakeholders at each stage. While it is true that there is a prescribed process through which legislation must pass to become law, the intricacies of each stage, and indeed the success which proposals have or do not have at each stage, are far less clear.

Adger and others (W Neil Adger 2003) suggest that any regulatory or legislative change on environmental policy issues is “likely to be the product of a particular configuration of institutions (that is, both formal and informal), scale (whether it is local, national, or global), and cultural and historical context”. So that, while in theory MacDowell’s four steps will be followed, the practical implementation of the stages will be more complex and contingent on institutional and other pre-requisites. Adger described environmental policy change as “thick” decision making: he saw a multi-disciplinary approach which conceptualised four key questions of policy across the economic, social, and environmental dimensions of development. These questions involved economic efficiency, environmental effectiveness, equity, and political legitimacy. In short, Adger suggests that the development of policy is not a simple matter of an individual proposing legislation, and that then being enacted. Rather, policy generally must meet hurdles of efficiency, effectiveness, legitimacy and so on; and there are different views and concerns interacting – sometimes competitively, and other times to mutual benefit – throughout all stages of policy development.

What this means, in practical terms, for policy development, is that a more realistic appreciation of the context of law or regulatory changes is needed, and this context reflects various stakeholders’ view of efficiency, legitimacy, and so on. For this reason, an important component of this thesis seeks to understand the different stakeholders and their views that affect policy development – in short, this research project seeks to gain a ‘thick’ understanding of electricity sector decision making in New Zealand.

Current literature on electricity policy change covers a number of these stages. Bertram’s chapter in *Electricity Market Reform*, for instance, offers a précis of the policy changes in New Zealand between 1994 and 2005. Bertram suggests that the drive for “efficient” pricing underpinned most of the changes that were observed in the sector – especially in the context of wider economic reforms in the direction of a greater role for market-based ideas. (Bertram

2006) Additionally, organisations such as NZX Energy in their teaching material (NZX Energy 2009), and the Electricity Authority in their public statements (Hansen 2014) offer additional – if conflicting – overviews of their position on the outcomes of successive reforms. The variation in position taken on the reforms, and the justifications for them, speak in large part to the themes of literature that will be addressed below – specifically those of governmentality, and policy incrementalism.

Various groups, such as political parties (New Zealand Labour Party 2013), and academics (L. Evans 2014; Bertram 2013) give grounding in terms of the need for past reform, and the necessity for future reform. The question here is what they have emphasised, and how that feeds into an emerging framework for assessing policy development within the sector. This will be developed now.

2.2 On how policy evolves

2.2(a) Governmentality, framing and communication

Governmentality is a concept created by Michel Foucault that seeks to understand the institutions and procedures that allow for the exercise of power. Attempting to explain the “art of governing”, governmentality examines how individuals, communities, interest groups, and nations can be shaped by public policies and the operation of government, and how governments can use knowledge about the electorate to effect policy change. Of particular note, governmentality seeks to examine the role that a neoliberal paradigm plays in modern governance, and how leaders use framing to achieve policy ends.

Governmentality also seeks to analyse how governments use established networks to make policy change. Understanding how a stakeholder or interest group might respond to a given action by government increases the ability of the state to govern, as outcomes and success can be anticipated.

There is debate on the legitimacy of the use of the word neoliberal. It is typical that those who would be considered neoliberal reject that label as being insufficiently (or indeed: misleadingly) descriptive of their views. In a New Zealand context, for instance, one of the

longest standing and respected advocate for “neoliberal” views is the late Roger Kerr, the former head of the New Zealand Business Roundtable. On the term, Kerr said “I have struggled to fathom its origin and meaning” (R. Kerr 2002). To answer Kerr is Milton Friedman. The conception of neoliberalism Friedman envisaged was a society that “must give high place to a severe limitation on the power of the state to interfere in the detailed activities of individuals; at the same time, it must explicitly recognize that there are important positive functions that must be performed by the state” (Friedman, *Neo-Liberalism and its Prospects* 1951). Rather than simply being a construct that seeks to limit the role of the state, neoliberal ideals seek to maximise the liberty of the individual. Friedman, in later years, described himself as a liberal, and came to criticise the neoliberal policies enacted as “develop[ing] machinery that would make possible a government that I would come to criticize severely as too large, too intrusive, too destructive of freedom.” (Friedman and Friedman 1998). The governmentality conception of neoliberalism is similar (Protevi 2009; Cotoi 2011). For the purposes of clarity, this thesis will broadly consider the rise of an emphasis on market forces in New Zealand as an expression of the development of neoliberalism – even if it is a title unappreciated by some.

Nisbet used governmentality concepts to analyse the state of the discussion of climate change in the USA (Nisbet 2009). He illustrated how, while it is important to have clear policy objectives, it is even more important to understand how to implement that policy in the relevant political environment. For instance, Nisbet noted that “Although the Obama administration is committed to addressing climate change, the necessary level of public engagement with the issue still appears to be missing” (Nisbet 2009, 14). Nisbet’s analysis was premised almost explicitly upon governmentality concepts that seek to explain why the implementation of policy initiatives fail or succeed. He did this through analysing the framing and communication of the proposals – the communication of both the impetus for change, and the impact of particular policies. In this article, Nisbet showed that the framing of the debate at that stage had failed to effect the change the policy makers sought.

Hickman builds on these themes in his investigation into changing commuter’s behaviours in Auckland, to prioritise public transport over personal car use (Hickman, Austin and Banister 2014). He notes that embedded processes generate their own inertia; with particular framing making “[some] elements seem fixed others inappropriate”. Hickman suggests that the only way to see progress towards the policy goals he and others support is to push for a redefinition of established frames; and refocussing on others – in this instance environmental concerns and social equity.

Tapping into and articulating public concerns are critical for policy reform. A Department of Energy and Climate Change (DECC 2012) report analysed public attitudes towards a number of energy-related issues. The report explicitly grappled with public opinion, what guides it, and what can effect change to entrenched positionality within a populace. It found, in brief, that when asked what concerns respondents, very few responded with climate and environmental issues. However, when asked directly, energy security was a matter for concern for around half of respondents. What this highlights is that the framing of particular concerns and policy issues can directly affect how they are perceived within the electorate, and how policy can be formed to respond to those concerns. For instance, when questions focused on potentially sharp increases in electricity prices, or a need for greater dependence on renewable sources of energy, there was a far greater positive response from respondents. Another example is Myers et al, whose 2012 paper speaks to the difficulty of engaging the public in discussions of climate change. The study shows that a given framing will elicit a different response from the public: framing climate change as a national security issue was likely to result in some antipathy towards mitigation of climate change; framing climate change as one affecting health concerns resulted in greater levels of support for action (Myers, et al. 2012).

In rather verbose and colourful language, Rutland builds on this literature with an appraisal of the City of Portland's response to climate change issues (Rutland and Aylett 2008). "However, in specific constellations of power in which state objectives require behaviour change and where the use of force (legislative or physical) is deemed politically or ethically untenable, governmentality may prove to be a productive approach to analysing state actions". It seems that Rutland is trying to show how governmentality can be used to gain an holistic understanding of the way policy develops and is implemented. Specifically applied here, this framing of governmentality speaks to the broader point of this study, whereby we seek to show that the development of the sector as it is today did not come from a vacuum; but rather a developing and realised policy base, and one which has had a good measure of public support.

Policy makers can learn from this to see how buy-in for particular policy changes can be formed. Similarly, they can project the impact of a communication strategy. This has particular application to this study, as the framing of issues such as fuel poverty are central to a view on NZ Power.

A US psychologist, Weber, describes how perceptions of climate change are formed. Weber describes the relationships between various stakeholders, and how these impact upon policy

outcomes. In this instance, the perceptions of climate change arise from interactions with ‘things’ – such as weather phenomena – and with people, their views, and their science (Weber 2010). People have learned of climate change from personal experience and from statistics, and these stimuli result in affect-based and analysis-based decisions. Applied to the context of this thesis, these ‘things’ may include the price of electricity, issues of carbon intensity, and prior views about the role government should play in the sector.

Hoffman sought in part to describe the way in which particular positions on climate change are subscribed to by individuals. The author did this by examining the media and debate to which individuals and groups are exposed (Hoffman 2011). The framework is similar in some respects to Weber’s approach, in the sense that it builds on the understanding of interactive processes which determine the scope for governmentality: stakeholders form positions based upon the position and behaviour of various other actors, both in the sense of what those different actors believe, but also in the way those actors interact with others.

Applied to this particular research, it is important to understand which stakeholders have a position of influence, and the historic basis for such a position, before we can fully understand the influence they wield. The ability of government to use those actors and networks is important to understanding the workings of governmentality.

Experts are particular stakeholders. The use of experts, and their ability to influence discussion is fundamental to aspects of governmentality. Research by Johnston and Ballard indicate that there are “meaningful changes in public opinion in the direction of expert consensus when citizens are given explicit information about expert opinion” (Johnston and Ballard 2014). The sometimes high-level discussions that are associated with policy decisions can often be out of reach of many in the electorate. Government actors can exploit that informational gap, and effect policy that few understand, sometimes by citing or appealing to experts understood by only a few. Johnston and Ballard indicate that this is possible as “that exposure to highly technical, means-oriented issues makes one’s lack of knowledge salient, and perhaps engenders greater respect for experts” (Johnston and Ballard 2014, 26). The New Zealand electricity sector – particularly around pricing mechanisms – is very complex.

Crafting discourse in such a way as to keep that policy discussion at a high level could give greater control to privileged academic or industry perspectives, a stratum in which there are few dissident voices.

The investigation in the following chapters will speak to the applicability of this research for the energy sector. Specifically the idea explored is that reducing the degree of technical complexity in the discourse on public policy can increase buy-in from the wider electorate, and thus can provide for more representative policy development.

For the purposes of this study, governmentality can illuminate how governments seek to become aware of the various actors and networks in play, so as to best know what policy concerns can be allowed and what reforms can be advanced or resisted at a given time, and what can plausibly be achieved through policy. Governmentality can provide insight into how particular reforms have been successfully implemented – and by corollary those that have not been successful – including how such reforms can be cast in a positive light.

The history of reform in a range of sectors in New Zealand suggests that not all policies proposed for reform have been accepted by the electorate, whereas others have. For example, the proposed flat tax reforms of Roger Douglas in the late 1980s are an instance where the reforms stalled as the pragmatism of New Zealanders led to increasing scepticism about the market ideology driving the reforms (Brooking 2004). This is despite the fact that the Lange Government had already implemented considerable supply-side reforms in the period leading up to this proposal. The particulars of this example – that Lange had to eventually fire Douglas in order to stop the proposal – speaks to the idea that policies, whether or not they are good ones, cannot be enacted *carte blanche* by a government seeking reform.

The delineation between successfully implemented policies and unsuccessful ones may be able to be ascribed to the success of governments in mastering the principles behind governmentality.

In addition to the nature of the broad mechanisms by which state institutions govern, some writers on governmentality are also concerned with the role of neoliberalism in the development of policy. Neoliberalism, in the context in which Foucault originally discussed governmentality, spoke to two concepts: first, the continued devolving of power within a state to individuals; and second, the increasing role market forces have within policy making (Gupta 2002). Neoliberal governmentality offers a critique of the tools used by governors to effect policy, with particular regard to the diminishing role of the state coinciding with the increased relevance and power of the market (Lemke 2002). The history of the past 30 years of public policy in New Zealand has been one of the increased role of markets, and the relatively diminished role of government. The reforms of the Fourth Labour Government (1984-1990)

began a process for public policy in New Zealand that, in most facets of society, continues to this day. This is particularly true as regards the New Zealand electricity sector. As discussed above, the sector has been transformed into one that is heavily dependent upon the effective operation of market forces, and is only lightly regulated. NZ Power represents a challenge to the established role of markets within the electricity sector – it would explicitly remove a considerable portion of the pricing mechanism which generators and retailers use to trade electricity.

The purpose of this thesis is to better understand the debate and discourse that surrounds policy reform within the electricity sector. The framework of governmentality is of particular value for this thesis. The specific lens of neoliberal governmentality can be used to better examine the progressive rise of the market in the New Zealand policy context, and critique this progression. The tools provided by governmentality help to interrogate the intentions and actions of stakeholders within the reform process to better understand why past reforms happened. We can also use the knowledge gained about the framing and political “selling” of the idea for the implementation and understanding of future reform.

The questions, introduced in the next chapter, put to individual stakeholders in this research study seek to better understand how they believe the reform process has been enacted in the past. Understanding the drivers of policy reform (both stated and unstated) gives greater insight into the reform process than simply reading Hansard, or a chronology of legislation and regulation. By seeking industry, political, and academic insight into future reform, a sense of the processes through which reformers are likely to act can provide direction as to the future of reforms. Drawing themes from those discussions gives a better understanding of the role of markets and of government in the sector; and in so doing, it can speak to the claims that underpin governmentality – of how policy manifests.

On Frameworks and Cognitive Linguistics

Discussions on frameworks intersect with governmentality. Successful governing, according to both framing and governmentality writings, requires the governors to identify issues, and then construct a narrative around those issues to position them in a way that makes acceptance of the problem – or usually, of the proposed solution – more likely. Put another way, successful governing requires policy makers to convince people that there is an issue in need of resolving, and that their proposal is the best resolution to the problem. It does this by presenting the nature

of the problem in a way that is both believable, but also tailored in a way that lends itself immediately to the solution proposed. (Barr, Gilg and Shaw 2011) Through speeches, education, and campaigns, framing allows for leaders to control the discourse on issues. (Lakoff 2010)

Building on the literature surrounding governmentality, and that on the Overton Window (discussed below), it is evident that framing is important. For example, efficiency tends to be framed in the New Zealand discourse as essential for sound policy, and is strongly associated with economic growth, emphasised by both major parties, but particularly successive National governments. Equity is clearly much more emphasised by Labour governments, particularly the Fifth Labour government (1999-2008), but – consistent with the Overton window – rapid changes in perceived equity of policies are unlikely to be acceptable.

The main points of emphasis in the discourse around the electricity sector have been issues of price (or to some, equity); security of supply; and environmental concerns. As discussed in chapter 1, prior to 1984, the government was responsible for the provision of electricity. The concern for them at that point was to ensure the security of supply, and – to a lesser extent – ensure prices were ‘affordable’. Then, once the Fourth Labour Government took control, there was a shift – led by Roger Douglas, Richard Prebble, and the Treasury – to have greater concern for return on government investment, i.e. ‘efficiency’ in resource allocation. In short, provisions such as the State Owned Enterprises Act of 1986 empowered government institutions to act as if they were private organisations – needing to generate a return for their stockholder (at this point, the government). This shift in the way the sector was viewed by policy makers added prices as a second driver for the sector. Finally, with concerns surrounding the environmental impact flowing from the large-scale developments such as the Clyde Dam, broader NIMBY concerns from the electorate, and more recently climate change concerns, environmental impacts – in the broadest sense – have also moved to the fore. Policy makers, and those with influence within the sector outside policy circles, have been affected by these key frames. The impact of those frames on discourse and the ability to develop the sector is explored further in the next section, and in Part 3.

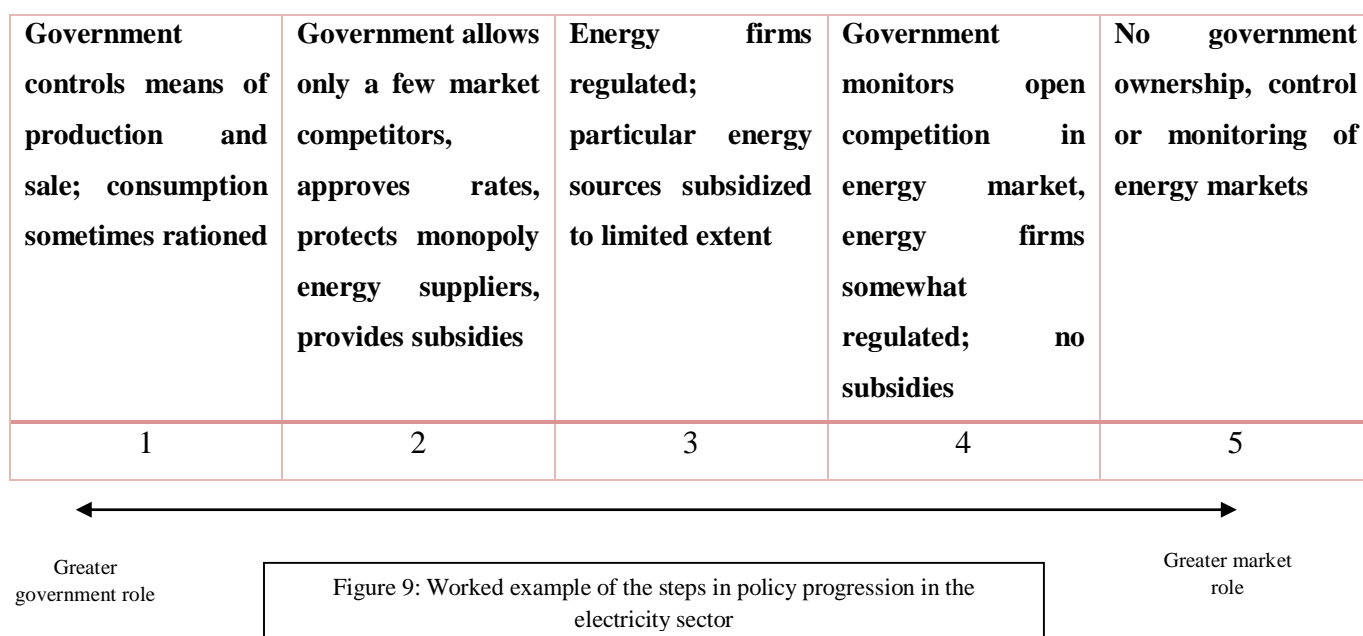
2.2(b) Policy Incrementalism and the Overton Window

The current state of the New Zealand electricity sector has evolved over 30 years into its present state. This change has, as discussed earlier in this thesis, been characterised by several material

changes over this time period. The sort of policy change that happens in a progressive manner is sometimes referred to as policy incrementalism (Lindblom 1979; Bevir 2007). In short, policy incrementalism refers to the process by which a larger shift in government approach is achieved through a number of smaller shifts in a particular direction (M. T. Hayes 2006). One of the key reasons for this approach to policy development is that it allows for the trial of new policy arrangements in a given sector, which – owing to their relatively small deviation from the previous setup – can be wound back should the change lead to adverse outcomes. Indeed, in the New Zealand electricity sector, some of the reforms have been wound back, as the implications for consumers were found to be negative. For instance, the ability of the Electricity Commission to properly oversee the sector was found to be lacking, due to the very wide scope the Commission was given, and some overlap with other agencies such as EECA. This led to many of the responsibilities of the Commission – including managing energy efficiency and oversight of the market maker – either being stripped from the Commission, or changed in scope. The Commission's name was eventually changed to the current 'Electricity Authority'. This progressive, almost *ad hoc* approach to changing the sector is advantageous in a situation where there are possibilities for change to the sector, but the exact mechanism which can lead to better outcomes is not clear (Yanarella and Bartilow 2000; Pralle 2009).

Alternatively, policy incrementalism can be adopted by policy makers in order to slowly but strategically change a given sector while maintaining support within the electorate. This realpolitik appreciation of the limitations on the power of government, and the need to slowly move policy within the acceptable limits of the electorate is sometimes referred to as the Overton Window. The Window imagines the decisions available to policy makers as existing on a spectrum which represents all of the possible policy choices for a given issue. While for many public policy issues there is a wide range of possible policy solutions, the Overton Window suggests that only a small number of those choices are available at any one time to policy makers. Overton suggests that radical change is, for the large part, very difficult for policy makers to implement, and rather, change will be far more progressive – even piecemeal – in order to be successfully implemented (Russell 2006). This is because politicians are self-interested, and want to get re-elected, and should they implement something outside what the electorate considers to be acceptable, they will reduce their chances of being re-elected. The majority of the public do not appreciate significant change to the status quo – especially in areas of policy that directly impact upon their lives (like education, health, or energy), as their lives have been planned around the previous rules.

Figure 9 offers a simplified, applied version of the Overton Window, and suggests there is a range of different structures the industry could take. While Figure 9 is displayed with greater government control on the left, and lower government control on the right, this is purely for formatting reasons, rather than as a reflection of the right/left divide in political discourse.



New Zealand's electricity sector sits around 4 in Figure 2. In 1980, the sector in New Zealand sat around number 1. The reforms of the late 1980s did not immediately shift New Zealand from 1 to 4; rather it slowly saw a shift to the right on that continuum over years of successive pro-market reforms. The Overton Window political theory would suggest the slowness of the shift was not for want of policy direction on the part of individual, pro-market politicians and other stakeholders, but rather a lack of perceived political feasibility to radically shift the sector in a short period of time. This in turn reflected substantial pressure to retain government involvement, and a broader scepticism about market competition.

NZ Power would represent a shift to the left on the above spectrum. It seeks to set prices, and to curtail the market power individual retailers have in the market. The relative success or failure of the proposal could speak to the legitimacy of the Overton Window theory: if the electorate is accustomed to sitting at position 4, as they seem to be at present, and the ability of proponents to shift policy either left along the spectrum is limited, then we might expect to see significant resistance to a shift significantly leftward, if the theory has legitimacy.

The Overton Window theory is used to frame part of Chapter 5's discussion on the debate over electricity policy in New Zealand. Overton suggests that there is a spectrum or "degree of acceptance" for policy ideas, ranking over time through the following stages (Atkins 2006):

- Unthinkable
- Radical
- Acceptable
- Sensible
- Popular
- Policy

Politicians and other stakeholders who seek to shape policy need to shift the public discourse on a topic in order to actually implement that policy. Part 3 in this study seeks to investigate whether key stakeholders and individuals are able to craft discourse, and explores examples of how this has actually been done.

Free market policies have become *de rigueur* in many OECD nations over the past 30 years. This recent (2014) general election, and the policies offered by left-leaning parties during the election, sought to halt or reverse that trend, particularly in the electricity sector. If the Overton Window theory holds, it would suggest that effecting such a leftward change is difficult.

Part B: An explanation of methodology and sampling

Chapter 3: Methodology and Research Questions

3.1 Location

This research was based in Wellington, with scope available for travel that allowed meeting with stakeholders and experts. The choice in location was justified on the grounds that Wellington is the location where the head offices of most of the relevant parties are located. This thesis has involved key market players to see what they would predict to be the consequences of NZ Power if it were implemented. Beginning with the gentailers themselves: privately owned gentailers such as Contact Energy, and (part)-publicly owned gentailers such as Meridian Energy are headquartered in Wellington. Speaking with them was a necessity, and was possible within a Wellington context. More broadly, prominent business groups such as Business New Zealand, who have already expressed an opinion on NZ Power were important to meet with, and are accessible in Wellington.

This thesis has engaged politicians on the issue – both proponents and opponents of the policy. Again, Wellington was the relevant location as the capital. Speaking with the crafters of the proposed policy, i.e. Gareth Hughes MP, and Hon. David Parker, was important for understanding the political context from which the policy originates, and the intended impact. Speaking with Members who took a position against the proposal gave a fuller understanding of the political dimension of the proposal.

Finally, experts such as Dr Geoff Bertram and Prof Lew Evans are Wellington-based. Gleaning from them their own analysis of the New Zealand electricity market was important for adding depth and context to my research. While other experts, like Dr Stephen Poletti, are not based in Wellington, they were accessible at minimal travel cost.

3.2 Why a qualitative approach?

The emphasis on discourse in this study required a largely qualitative approach – with some quantitative analysis to supplement parts of it. Qualitative research is concerned with

developing explanations of social phenomena. It goes beyond simply discovering the state of something, in this instance the electricity sector, and provides tools to understand why the sector is arranged as it is, how people perceive the sector, and how people believe change can be effected within the sector. (Hancock B. 2009).

Building on this is critical qualitative research, which provides tools to investigate whose interests are being served by the current structure of the system, or by any proposed changes to the current system. (Merriam 2002) Applied to this research, a more critical approach to qualitative research was appropriate, as I sought to understand the justifications behind policy changes.

Quantitative analysis has a limited but still valid role to play in this research. Quantitative analysis uses statistical techniques that illustrate broader trends and positions on a particular issue. Applied to this research, my chosen approach examined media reporting on the electricity sector, and extracted trends from the data.

This research involved interviews with parties who would have been affected by NZ Power, as well as experts who do not have a direct interest. Meeting with the range of aforementioned parties ensured that a range of perspectives are understood. A wider range of viewpoints increased the legitimacy of conclusions formed from this research. A qualitative approach is appropriate as the purpose of this investigation is to better understand the environment within which energy policy is formulated and implemented. The study has essentially been qualitative.

Semi-structured interviews was the appropriate way of discussing in-depth the issues relevant to this research with all stakeholders. Understanding both the economic theory and the political reality was important to this research.

3.3 How samples are developed

The complete set of people and organisations whom this research engaged is listed in Table 3 below. :

Organisation or Individual	Category
Lew Evans	Academic
Stephen Poletti	Academic
Geoff Bertram	Academic
John Carnegie of Business New Zealand	Business sector / consumer advocate
Ralph Matthes of the Major Electricity Users Group	Consumer advocate
Molly Melhuish	Consumer advocate
Bryan Leyland	Consumer advocate
Dominic Milicich of The Treasury	Government department
Gareth Wilson of the Ministry of Business, Innovation and Employment	Government department
James Flanner of Contact Energy	Industry/gentailer
Nick Wilson of Mighty River Power	Industry/gentailer
Dr Andrew Kerr and Alannah MacShane of Meridian Energy	Industry/gentailer
Paul Baker of Nova Energy	Industry/gentailer
James Tipping of Trustpower	Industry/gentailer
Graeme Everett of Norske Skogg	Major user
Shane Dinnan of NZX Energy	Market clearer/data providers
John Rampton of the Electricity Authority	Market Regulator
Consumer Magazine	Media
Brian Fallow of the New Zealand Herald	Media
Hon. David Parker	Politician (Labour minister)
Hon. David Caygill	Politician (Labour minister)
Hon. Max Bradford	Politician (National minister)
Hon. Simon Bridges	Politician (National minister)
Gareth Hughes MP	Politician (Green MP)
Ross Parry of Transpower	Transmission/market operator

As noted, these organisations or people can be categorised into a number of groups: representatives from the sector, including gentailers and Transpower; politicians, academics,

media representatives, and consumer/business advocates. These people were chosen in an attempt to get as wide a set of informed views as possible on the sector, and policy development within.

3.4 The role of thematic analysis

A thematic analysis approach is used for drawing out the important patterns of discourse and hence the conclusions in this thesis. Thematic analysis is considered by many to be the “foundational method” for qualitative analysis (Braun and Clarke 2006), and allows for the examination of particular dominant themes arising from qualitative research.

Broadly, thematic analysis acknowledges that, drawing from a number of different sources, similar answers or information may arise, which can be categorised into dominant themes. Using a thematic approach, one can draw key ideas from the minutiae of points which a series of in-depth interviews may develop. In doing so, answers suggested by one interview can be examined against other similar points from other interviews or sources. This allows for those points to be assessed for their relevancy and applicability. In short: it is a way of identifying, analysing and reporting salient patterns within data.

Part C: Results, Analysis, and Discussion:

I spoke with 25 representatives from gentailers, consumer advocacy groups, politicians, regulators, and academics. I have also drawn on a large amount of analysis that has already been carried out – and reported in news media – about the sector, although I found little discourse analysis as such. What is clear from these primary and secondary sources is that there is diversity of opinion about what the electricity sector is currently doing, how it should be structured, and the goals for which the sector and government should be striving.

Despite the diversity of opinion, these opinions can be categorised thematically in a way that clearly frames the debate on those particular issues. What I seek to do in this section is to look at those key categories and analyse the debate within. Specifically, I will address four aspects:

1. The drivers behind change in the electricity sector that we have seen, before the 2014 general election campaign;
2. The stakeholders who have historically had influence in the development of policy, and the implications of that influence;
3. The lessons we can take from the NZ Power proposal; and
4. The future roads down which policy can be expected to go.

Chapter 4: Drivers of Change

Chapter 1 of this thesis described the changes to the electricity sector over the past 25 years. Three common themes of these changes align with the trilemma discussed in chapter 1.2, which those in the electricity sector describe as the accomplishments of the industry, and successive governments, in the 30-year period to 2014:

1. **Securing supply.** Security of supply means that whenever a customer tries to turn their lights on, they turn on. In several different occasions in the past 20 years, New Zealand has not had guaranteed supply – either because of faults within the network, or more fundamentally, insufficient generation capacity (Interview with Hon/ David Caygill 2014; Interview with Brian Fallow 2014). Regulators and the industry have worked through a variety of new regulations and business practices as described above to

attempt to remedy these problems (Interview with James Tipping 2014; Toby Stevenson 2014; Blackwell 2009);

2. **Achieving economic prices.** As noted above, there is concern in New Zealand that customers – particularly residential customers – are paying too high a price for their electricity. Economic prices has been defined by many as ensuring that consumers pay “the real, long-run marginal cost price” for electricity, so as to maintain the incentives to invest, but also to ensure that consumers do not face prices above the long-run marginal cost of production (Interview with Ralph Matthes of MEUG 2014; Interview with Molly Melhuish 2014; Interview with Dominic Milicich 2014; Interview with Shane Dinnan 2014).
3. **Maintaining and advancing environmental concerns.** For many, this is the primary concern for the modern electricity sector, with a particular concern about carbon dioxide emissions from generation (Interview with Gareth Hughes 2014). As interest over climate change accelerates, so too does the relevance of this concern.

These categories have arisen as a consequence of four key drivers of policy change observed over the years of policy change. (Interview with Paul Baker 2014; Interview with Ross Parry 2014). Specifically, there have been four key drivers behind the development of New Zealand’s electricity sector in the past 30 years. They are **ideology**, **crisis**, **technology**, and **consumers** (Interview with Gareth Wilson 2014; Interview with Electricity Authority 2014; Interview with Ralph Matthes of MEUG 2014). The interviews conducted for this thesis have confirmed the picture suggested by the literature. It is evident that an overriding ideological push towards market mechanisms for the wider economy has influenced the sector, but that was a necessary but not sufficient condition in itself to generate wholesale change. The changes to the sector came in response to a series of crises that saw blackouts across the country in the 1980s, or very high prices in the 2000s. The failures of the various ‘status quos’ facilitated the changes seen in the sector. The specifics of the changes were achievable thanks to the rise of new technologies at the time. Historically, the advent of real-time, high volume trading, and more recently the promise of distributed generation, reflect the role technology has and continues to play in the sector. Finally consumers have driven change through influencing government, or the industry itself.

These drivers are ordered in a way that reflect their relative importance, in accordance with the relative emphasis placed on them by study respondents. A more detailed discussion of each follows.

4.1 Ideology

Nobel Laureate Vernon Smith was involved with the development of the market for electricity in both Australia and New Zealand. When talking of the changes in the structure of the industry, and of changing mind-sets from pro-intervention to pro-market, the economist says that “people did not believe that you could have a market for electric power”. But after extensive modelling, and real-world application, he says “we won a series of battles; and the war” (Smith 2014).

These comments lend themselves to the arguments, made most often by the reform’s detractors, that the state of the sector as it is today comes from a drive to impose market concepts in a wide range of sectors of the New Zealand economy. This is certainly arguable for the first three tranches of policy change, which saw each time a growing role for the market in the sector (Table 2).

Until the 1970s, New Zealand’s traditional economic partner was the United Kingdom – the latter’s economic wealth meant a high standard of living for New Zealand as the country’s export-led economy delivered considerable income to citizens and the government. This beneficial trade relationship New Zealand enjoyed with the United Kingdom came to an abrupt end with the latter’s entrance into the then European Economic Community in 1973 (McKinnon 1997).

The response to this significant shift in economic fortune, the Third National Government undertook a series of large-scale, centrally-led economic reforms called Think Big. These sought to increase the diversity of the New Zealand economy, and in doing so, safeguard future sources of revenue for citizens and the state. For a variety of factors, contemporary views of Think Big range from it being “unsuccessful” (Reserve Bank of New Zealand 2007) to a “disaster for New Zealand” (Easton 1989).

By the mid-1980s, New Zealand was facing financial collapse. Part of the legacy of Muldoon was considerable fiscal overreach by the government, which severely constrained the government’s ability to generate sufficient revenue from state-owned investments (Schwartz 1994). New Zealand had high levels of fiscal debt, combined with poor fiscal management which had created a structural deficit. Additionally, due to heavy regulation and an overvalued currency (which itself caused a currency crisis in 1984), the country was regarded by some as

the “Albania of the South” (Hazledine 1998). This was an acknowledgement that successive governments had generated obligations on the state which could not be fulfilled.

The response to Thing Big, and broader Muldoonist policies, was the succeeding Fourth Labour Government (1984-1990), which enacted policies that reflected classic or neoliberal economic theory – meaning greater free markets, an independent and strong central bank, and broadly a smaller role for the state. Given the moniker Rogernomics (after the Finance Minister Sir Roger Douglas), the Government’s policies radically reversed the strategy and policies of the 1970s and early 1980s:

“Between 1984 and 1993, New Zealand underwent radical economic reform, moving from what had probably been the most protected, regulated and state-dominated system of any capitalist democracy to an extreme position at the open, competitive, free-market end of the spectrum” (Nagel 1998).

A fundamental tenet of greater economic liberalism with regard to the role of government is that individual consumers and businesses are best placed to make investment and purchasing decisions for themselves and the country than the state is (Friedman and Friedman, *Free to Choose* 1980).

This ideological shift occurred across the whole of the economy, with the electricity sector not exempt (Interview with Stephen Poletti 2015) as outlined in Chapter 1. Ensuring politically advantageous pricing to consumers was a central goal of the sector for a long period of time. The change in ideology meant that, rather than prices reflecting the whim of politicians, or the design of an official, prices had to reflect the economic realities of supply and demand (Interview with Business New Zealand 2014). This is consistent with the wider policy shift seen in New Zealand and throughout the developed world, where prices were to reflect a combination of the cost to produce, and consumers’ willingness to pay. This divergence in views highlights the ongoing dispute between those who believe that market principles will lead to the best outcome for consumers, and those who see the sector as providing an essential public service which necessitates government participation or at least firm regulation.

Some in the sector⁵ felt that the reforms were a natural part of the broader change seen in New Zealand – and the sector would inevitably feel the effects of the predispositions of the Fourth

⁵ Including Molly Melhuish (Interview with Molly Melhuish 2014), Dr. Geoff Bertram (Bertram, *Restructuring the New Zealand Electricity Sector 1984-2005* 2007), and Bryan Leyland (Interview with Bryan Leyland 2014).

Labour Government. Others⁶ believed that individuals like David Caygill, Max Bradford, and organisations like The Treasury had been consistently seeking to implement their version of a market for electricity, as their conception of electricity was that it was like any other commodity.

To that suggestion, Caygill, Bradford, a Treasury official and others have responded by saying their key objective was to secure supply and price, and that the ideology behind the change was secondary:

One asks the question: Why did country after country opt to introduce competitive electricity markets in the 1990s? An answer that starts with Margaret Thatcher or Ronald Reagan is in my view ultimately unconvincing, or at best partial. Yes, countries learn from each other. And policy can be the subject of fashion as much as other areas of human endeavour. But electricity has been around for a century. Why didn't we run competitive markets to supply it decades ago? Because we didn't know how to. (Interview with Hon David Caygill 2014).

The concession in this statement by David Caygill, and from discussions with others involved in changing the sector, is that while ideology may not have been the key driver, it was for many an important aspect. Subsequent comments by Bradford corroborates this suggestion; he believes choice and competition will always give better outcomes than state intervention – the two options seen to be available to policy makers since 1984 (Bradford, Article for NZ Institute of Chartered Accountants 2013; Bradford, *Power Play or Power Reforms?* 1998; Interview with Max Bradford 2014; Bradford, *The 1998/99 Electricity Reforms* 2002; Bradford 2003; Roughnan 2002; Baldwin, *Making sense of the mess* 2003; Bradford, *Electricity reform - facts and fiction* 2011).

Ideology as a driver can mean to some observers that individuals are zealots, passionately pursuing policies and objectives; with the implementation of those policies being seen – at least in part – as an end unto itself. The conception that politicians – particularly those of a neoliberal bent – care only about implementing their conception of the ideal policy cocktail is not uncommon. Sometimes this perception is legitimate. An article by former Finance Minister Sir Roger Douglas “The Politics of Successful Structural Reform” (Douglas 1989), which includes points such as “Speed is essential: it is impossible to go too fast”, spell out his conception of

⁶ Including Consumer Magazine (Interview with Jessica Wilson and Susan Guthrie 2014), and Gareth Hughes (Interview with Gareth Hughes 2014)

the political advantages to implementing a set of policies by pushing for them as soon as “a window of opportunity opens”. This at least gives rise to a perception that the motivation is ideological, rather than based on a more balanced analysis.

Douglas’s comments, of course, do not limit themselves to market or neoliberal ideas, but there is a notable perception that those pushing for neoliberal policies are ideological in their views; whereas others pushing for more leftish policies are seen as being less ideological. The fact that, really, any political position or idea is an ideology seems to be lost on many.

The unique aspect of the beginning of the neoliberalisation of New Zealand’s electricity sector is that it was implemented by a Labour government. The ideology of that party – and particularly of people like Caygill and Douglas – was not Thatcher or Reagan-esque, where the intention was to overhaul those nations’ societies to fit a Chicago-school style economy. Rather, it was in their view rooted deeply in the Labour party’s principles (Douglas, *Completing the Circle* 1996). To illustrate the differences in ideology: while Reagan destroyed the power of the Air Traffic Controllers Union, and Thatcher the miners’ union, the Lange Government made no such destructive moves of a similar ilk, despite using similar policy tools to those two leaders. Indeed, Geoff Bertram describes the sector as not being neoliberal, but rather “pragmatic, but brutally pro-business” (Bertram, Interview with Geoff Bertram 2015).

This undermines any simple concept of ideologically driven policy. When the policies are more associated with left-wing goals (for instance, equity), but the actual policies are more associated with right-wing principles (for instance, markets), what, then can the ideology of the people and policies be described as? It is not sufficient for people to describe politicians as “really just wanting to push a neoliberal agenda” (Interview with Jessica Wilson and Susan Guthrie 2014; Interview with Gareth Hughes 2014) to fully articulate the ideology of those responsible for the development of the sector. A more nuanced appreciation of policy makers’ goals and approaches is needed.

In this instance, Caygill, Douglas, Bradford and others have all stated publicly that their intention was to protect consumers. The policy tools that had been used in the past – that is, state interventionism – had in their eyes failed to bring about good outcomes for consumers, as it was, for example, associated with poor investment performance in generation. Thus, a new policy mix was required. The global and domestic tool *de rigueur* was markets. Simply adopting the widely used tools of competition and applying them to this sector does not, in this analysis, suggest an overwhelming drive based purely on ideological commitments to markets.

As to the question in Chapter 1, of whether the prices that existed before the electricity reforms were the appropriate prices for the resource, the ideological shift in mainstream discourse has provided an answer. Namely, the prices before the shift were seen as illegitimate, and the mechanisms used to generate those prices, too, were illegitimate. The appropriate prices for electricity were seen as those which are set by a confluence of supply and demand side utility maximisation – or *the market*.

The fourth tranche of policy change saw a reversal of sorts to the trend of policy change seen to that point. A moderate Labour Government was in power in the 1999-2008 period, seeking to achieve a “Third Way” of politics, and implementing more traditional Labour party principles within the new neoliberal framework⁷. The policy intentions behind this tranche were to empower consumers so to ensure lower prices for them, while at the same time protecting supply, and making a nod to environmental goals such as increasing the penetration of renewables and increasing energy efficiency. Specifically, the Electricity Commission was established with the intention of providing greater regulatory oversight of the sector, and a firmer hand was placed on the sector as a whole. Additionally, measures to improve competition in the sector – including the aforementioned VAS – and the 2006 Ministerial Electricity Market Review’s endorsement of the market pushed for better outcomes for consumers. Notably, the abolition of the reserve energy scheme marked a departure of the government from providing dry-year energy reserves.

The notable thing to draw from this is that the changes during this period were not a substantive change to the market structure that existed before it, but rather a limited adjustment of the institutions already established. The Fourth Tranche of change showed that the market approach to the sector had become the acceptable approach to managing supply, price, and environmental concerns. The “neoliberal paradigm” described in Chapter 2 had become entrenched within the sector, and those outside the sector viewed that paradigm favourably. David Parker, a notable opponent of the market as it stands (and an architect of NZ Power), was minister at the time of the 2006 Review. Despite his personal opposition to the fundamental premise of the structure, the policy consequence of his actions was to actually *increase* reliance on market concepts such as competition.

Governmentality and policy incrementalism suggest reasons for this. Policy change can only happen within a window that is acceptable to the electorate. That window is one that, in a New

⁷ (P. J. Hayes 2012; Porter and Craig 2004; Nolan 2010).

Zealand policy environment in the 2000s, had a clear orientation towards neoliberalism. Years of successive messaging from policy makers and advocates had (and arguably still have) made neoliberal concepts palatable to the electorate. Tranche three (1996-2001) happened in the 1990s after six years of the Fourth Labour Government and its Rogernomics policies, and during nine years of the Fourth National Government whose economic policies – caricatured today by Ruth Richardson’s Mother of All Budgets – resembled a harder version of the preceding policy set. The Labour Government under Helen Clark came immediately after that shifted paradigm, and was unable to easily alter or reverse it.

In addition to fifteen years of messaging to the effect that neoliberal concepts were the best framework to provide good outcomes for consumers, those years had also changed the way in which issues in the sector were considered. Framing of issues is important as it decides the conditions that are considered important, and those that are not. The framing of the electricity sector had put security of supply and price as being the first metrics upon which the success of the sector could be assessed. Considering that frame, it was comparatively easier to argue for markets, as under government management, there had been several supply concerns. Additionally, as shown in graphs 1.1, 1.2, and 1.3, prices had remained lower and more stable under the market system up until 2001, with a rapid rise until the more recent changes in 2009. With that frame, and with those outcomes, it is clear why the changes that were possible were not what David Parker wanted, but rather continued to refine the institutions that existed.

The final set of change from 2008 to the present saw a development of the sector along established market lines, catalysed by the 2009 Ministerial Review on the sector. As discussed, these changes saw an enhancement of market tools which is consistent with the neoliberal paradigm that existed. The explicit purpose of the Electricity Authority, established from this review, is to promise efficiency and competition within the sector. The other tools – especially through empowering the market operators to offer new products like electricity derivatives, furthers the notion of market ideology permeating the sector.

Moving forward to the NZ Power proposal, the Green Party attempted to argue the merits of NZ Power within this neoliberal framing, suggesting that the proposal could “break the power of the established gentailers” to “create electricity market competition” (Green Party Press Release 2013). That arguments were made on the ground of market principles, rather than attempting to shift the discourse, speaks to the point that the orthodoxy of neoliberalism is firmly established; but moreover, policy makers, in attempting to craft new policy, had to use

the established expectations of neoliberalism to attempt to effect change – a key point of governmentality.

Ideology influenced the development of the electricity sector in the same way it influenced the transformation of New Zealand's economy as a whole. It created a paradigm that made market tools more acceptable and policy makers took their lead from that (Rudman 2013). More recently, that shift in ideology meant that even a more left-leaning Labour Government 15 years after 1984 was not able to shift the policy frame back to a more interventionist approach. Indeed, the policy choices made by politicians over that period enhanced and refined the market structure that existed.

4.2 Crisis

Only a crisis—actual or perceived—produces real change. When that crisis occurs, the actions that are taken depend on the ideas that are lying around. (Friedman, *Capitalism and Freedom* 1982).

Building on the literature from policy incrementalism and the Overton Window, there are grounds for believing that radical policy shifts by government are usually either very difficult to enact, or if enacted, do not stay in place due to backlash from the electorate. The exceptions to this, writers such as Naomi Klein, in *The Shock Doctrine*, and others suggest, are instances where the status quo has been sufficiently disrupted. Previously radical or unpopular policies are said to become more palatable to the electorate, as they are seen as a necessary response to catastrophe or crisis.

Many commentators have applied this premise to the action taken by government to effect policy change in the New Zealand electricity sector. A series of crises of supply, price, or sustainability preceded many of the policy changes seen in the sector, and some believe these changes could have only happened because of these extreme events. The idea that crisis was the driving force behind development of policy in the sector can be considered both within the context of a wider ideological push within the sector, or seen as independent of any particular political bent – with policy makers simply struggling pragmatically to fix the problems arising. This section argues that there is at least a loose correlation between observed crises, and significant shifts in policy. It will also show that at times these crises are likely to have provided

the necessary exogenous push to advance political goals, but that this is not necessarily the case. An examination of the discourse used at times of previous crisis does, however, suggest that pre-existing ideological dispositions and frameworks supply ammunition and agendas that are used at times of crisis (Blackwell 2009).

As summarised in Chapter 1, there were five key tranches of reforms:

1. From 1984 to 1986, a greater presence of market forces to exert influence on the government as a result of the McLachlan report to Treasury (Interview with Business New Zealand 2014),
2. Over 1987-1995, the establishment of ECNZ, of Transpower, and the broader corporatisation of the sector.
3. From 1996-2001, a very light-handed government approach to regulation in the sector. Wholesale market for electricity established.
4. From 2002-2008, a scaling back of the light-handed government approach to regulation in the market. Establishment of the Electricity Commission
5. From 2008-present, development of new market tools, the Electricity Authority, and the Electricity Industry Participation Code.

Consider the context before these changes.

There were two crises that facilitated tranche one of changes. First, the economy was in a broad state of stasis, which itself allowed for a change in the ideological drivers for the wider economy. This has been discussed above at 4.1(a). The notable failure of the established doctrine of governance facilitated the shift in approach to free market concepts.

Second, there were supply challenges which faced the electricity sector, for which established practices to resolve were either insufficient, or lacked credibility within the new ideological narratives. For decades, government decided in investment in generation capacity, but also encouraged demand, and made negligible provision for dry hydro years. This led to several instances where supply was insufficient to meet demand. In the 1970s, there were four different instances of the government requesting “voluntary” savings, which constituted limitations on the use of electricity for, amongst other things, heating water for domestic use (New Zealand Electricity Shortage Review Committee 1992; Baldwin, History of electricity security in New

Zealand 2005). These restrictions came on the back of several decades of rolling blackouts, and stringent controls on usage.

These instances of a lack of resilience of the nation's infrastructure were problematic for proponents of the status quo. Combine this with the broader change in support for interventionist government meant that other structures for the sector became more palatable (Interview with Jessica Wilson and Susan Guthrie 2014). The literature of policy incrementalism suggests that policy change will only happen to the extent the electorate will allow it. When people flick the switch in their kitchens and the lights do not turn on, there will be a quick and intense response from those affected to those in charge. The 29 October 2014 central Auckland power cut supports that view: a fire at a substation caused an outage for thousands of people for three days. Several articles⁸ were written about this episode, all carrying a sentiment for "something to be done" to fix the problem. Rotherham's article in the NBR illustrates this most clearly, with the Prime Minister John Key explicitly stating that some new process would be put in place to avoid this occurring again.

What is important to note is that this outage did not arise as a result of inadequate supply; rather a rare and unexpected fire. Put another way: the blackout was not a consequence of structural failure; rather it was a black-swan event.

For policy development, a recognition that the underlying structure is flawed facilitates an even greater policy change. This is because if the electorate believes that simply tinkering on existing policy (by, say, installing a fire retardant system at the substation) is insufficient to resolve the problem, policy makers are empowered to act in a more sweeping manner. If the literature supporting the Overton Window and policy incrementalism is correct, it explains how the government was able to reverse decades of established policy for the sector for a model that was new both domestically, and on an international scale.

Understanding the implications of governmentality show why it is that a market was the solution chosen. It was consistent with the wider changes that were occurring. But more importantly, it would mean that the government of the day would be less responsible for the running of the system. Thus, if anything were to go wrong, they would bear less of the cost of that failure. This was agreeable even to politicians not disposed to the market.

⁸ (Stuff.co.nz 2014; Manning 2014; Field and Walters 2014; Manning b 2014; APNZ Staff 2014; Rotherham 2014).

The pattern that began with Tranche One was developed further before the second Tranche of change. The developing institutions that appeared after 1984 were apportioned considerable power over the sector. Transpower, a new SOE, was empowered as the market operator. Transpower as an institution was undeveloped, which became problematic over this time as the country was seeing uncommonly variable hydroelectric levels, adding to the complexity of managing supply of electricity (The Electricity Commission 2008). In 1992, a drought caused inflow levels into hydro lakes to be in the lowest quartile of historic data (Morrison & Co. 2003). In order to “keep the lights on”, water heating was generally cut for two thirds of the day, and Comalco – an aluminium smelter now owned by Rio Tinto, and big power user – closed one of its three production lines.

At this time, there were price caps of 15c/kWh imposed on retail residential electricity. This restricted investment in new generation capacity (for the reasons discussed in 1.3(b)). Spot prices on electricity were decided a week in advance, and the process to determine those prices was confidential. The 1992 Electricity Shortage Review Committee Report recommended several changes to the established institutions and practices. Notably, it was recommended that the 15c/kWh price ceiling be removed; longer, and more flexible contracts should be facilitated by ECNZ (itself an early version of the hedge market); and there should be greater communication of ECNZ’s activities to the public. Again, however, for many⁹ these changes were seen as merely tinkering with a still-flawed system. The changes that eventuated, as documented in Chapter 1, show the extent to which the Overton Window was opened in response to the large challenges the electorate saw within the sector.

The mid-1990s period before the third Tranche of reforms was the first regulatory framework that resembled the structure of the market seen today in New Zealand. In the prelude to the changes, there were a number of issues that facilitated additional policy change within the sector – and of note was one of the first instances of environmental issues having an impact.

First, there were the seemingly perennial issues of security of supply. In 2001, there was a drought worse than any in the preceding 71 years, with a winter that was very cold (Infratil NZ Limited 2001). These conditions combined to put considerable constraints on electricity supply. There was, however, no need for compulsory usage restrictions (Evans and Meade 2005, 173). With a now uncapped price for electricity, the spot price for electricity was high (Evans and Meade 2005, 75). In addition to this market force, government instituted a voluntary

⁹ And importantly: for Mark Bradford

“10% reduction for 10 weeks” campaign. The combination of market and government signals saw a reduction in prices, and supported the view that the established system works (Mandow 2003). In 2003, there was another shortage, with similar prices increase (Morrison & Co. 2003). Despite the market signalling the constraints of a dry season, and prices functioning in the appropriate manner, there was a building perception that there were still some flaws within the established model.

In addition to problems with hydroelectricity capacity in New Zealand, there was an emerging risk with thermal plants as well. By 2002, natural gas supplies in the Maui gas field were determined to be considerably less than was previously forecast. Prior to 2002, prices for natural gas were held low due to a long-term contract negotiated and enforced by the government. In response to the realisation of significantly lower supply, this ceiling on price was removed, and the price for natural gas climbed inexorably. In 2002, the price in 2009 dollars for a GJ of natural gas was \$4, and by the end of the year it was \$5. The real value of gas had doubled in value by 2009 (Stanford and Alfred 2011). A considerably proportion of New Zealand’s peaker capacity was provided by natural gas (Bertram 2007). This contributed to concerns over price in New Zealand.

Finally, the High Voltage Direct Current (HVDC) connection that allows for electricity generated in the South Island to be transmitted to the North Island failed in 2004. Again, the market functioned by increasing prices in the North Island due to constrained supply – from \$50/MWh to \$810/MWh at one point; and as high as \$1,083/MWh (Evans and Meade 2005).

The culmination of these crises was a sense that reform was needed. However, with a National government in place, the solution chosen was a policy cocktail that aimed to improve market functioning, particularly with the VAS deal implemented in 2006. In addition to supply and price concerns, environmental concerns also had an impact. The crisis that is climate change was gaining greater mainstream acceptance, along with the political capital generated to do something to resolve it. An Emissions Trading Scheme (ETS) developed in the mid-2000s and enacted by the Labour Government in 2008 was designed to include electricity generation – increasing the cost of thermal plants. Additionally, a moratorium on new thermal generation was implemented.

That the ETS was pared back in 2009 and 2012, following the change of government, and the moratorium repealed outright, speaks to the legitimacy aspect of the Overton window. The moratorium represented a considerable shift from the permissive status quo in terms of

allowable generation sources. That it was so promptly repealed speaks to the central premise of the need for incremental change, in line with the ideological tide. The ETS as it was first proposed also represented something that was rather too significant a shift for the electorate – but that changes, to make it considerably milder, were passed by the succeeding government speaks to the need, again, for incremental change to ensure policies stick.

Crises have occurred through the history of the sector since the 1980s start of the reforms. They have necessitated a response from government to refine and fix the causes of the crises. The responses that did come from successive governments existed within the paradigms that had previously been established. Put another way – policy makers had only a limited set of tools in the policy toolbox from which they could select responses. No more clearly was this seen than in the Fifth Labour Government’s response to supply and price crises in the early 2000s; where despite being a centre-left government, the policies enacted enhanced the nature of the market in New Zealand. What this shows is that ideology, informed by governmentality, is limited by the possibilities of policy incrementalism. Crises empower governments to take action, but those actions are necessarily limited.

4.3 Technology

As with all markets, the rise of different technologies has facilitated a number of different opportunities for disruptive innovation within the electricity sector. There are two key examples of the role technology has played in altering the electricity sector. In the 1990s, the rise of computers facilitated the introduction of high-frequency trading on the spot market that is still functionally in use today. More recently, the rise of distributed generation has the potential for disrupting the market again. This section will look at the role technology has in driving policy change within the sector.

In the electricity system, there is a unique need for the supply of electricity to at all times be in exact balance with the amount demanded. If this balance is not met, the electrical frequency will either rise or fall in response to that mismatch. The consequence of any imbalance is, in very short order, a collapse of the infrastructure – leading to blackouts and damage to power plants. The practical consequence of this is a need for either a very controlled demand side, or a very responsive supply side. Controlling demand can be easy, through the establishment of quotas for consumption. This has meant that electricity systems world-wide were originally

run as monopolies - typically, but not invariably state-owned. But even where they were not state-owned, they were monopolies (Interview with Hon/ David Caygill 2014).

Having a responsive supply-side requires the ability to signal clearly and quickly to producers to ramp up or down their production. This is heavily dependent upon high-speed computing power to both understand both sides of the supply/demand equation. By the early 1990s, computers became sufficiently cheap and ubiquitous that they were being employed in number of previously-unused capacities. In short: it allowed for competition between generators - essentially competing for the right to supply - in real time. This was not something unique to New Zealand: electricity wholesale markets sprang up around the world; in Norway in the United Kingdom, and at a regional level in the US.

Starting in 1996, New Zealand saw a similar roll-out of a real-time wholesale market for electricity. Different wholesalers were able to now – in real-time – able to compete for the provision of electricity to what was a government monopsony.

The natural progression was from competition among generators to the possibility of competition at the retail level. According to David Caygill:

“There has never been an inherent reason why different entities didn't retail electricity, but if it couldn't be purchased for other than a single price then there wasn't much point to retail competition.... Why didn't we run competitive markets to supply it decades ago? Because we didn't know how to - until computers became fast enough and cheap enough to run the algorithms needed for real time auctions. That happened in the 1990s.” (Interview with Hon/ David Caygill 2014)

Few other commentators have spoken to the role which technology played in the development of the sector, yet it makes intuitive sense. Ideological bents or crises have generated change in the sector, but as with any set of ideas, they have to be applied in the real world.

The possibility of wholesale and retail competition was facilitated by structural change; and this was change seen not only in New Zealand, but across the world, as the splitting of electricity systems into component parts occurred. The precise details of the market systems and structures have varied from country to country, reflecting different circumstances and

policy choices. But the underlying principle of technology facilitating this change cannot be ignored, and the broad similarities are more significant than the precise differences. It is clear that the process of reform was driven at least in part by the technical possibility of competition, rather than pure ideology.

“Put another way, if we had been able to deliver electricity competitively all along, we would have – just as other goods and services are delivered almost universally via markets of producers, distributors, and consumers”
(Interview with Hon/ David Caygill 2014).

This view neglects, of course, that many more complex or heterogeneous goods or services, such as aspects of health care, are more difficult to deliver competitively, which is why they are either delivered by the government or are heavily regulated.

The contemporary technology that has the potential to disrupt the established electricity sector is distributed generation (Bertram, Interview with Geoff Bertram 2015). Facilitated by developments in Smart Meters (Interview with Stephen Poletti 2015), distributed generation involves consumers developing their own generation capacity – typically through the installation of solar PV panels on their property. It is viewed by some as the future of not only renewable electricity, but efficient and effective electricity management more generally (B. V. Mathiesen 2011). In Germany alone, renewable electricity accounts at times for over 50% of that nation’s generation capacity, where in 2000 the proportion was only 6.3% (Economist 2013).

When distributed generation is implemented correctly, it allows for consumers of electricity to produce some or all of their electricity needs at a particular time, or even produce surplus electricity to their needs, and so become micro-generators for the grid as a whole. This threatens established electricity providers as it increases competition and complexity on the supply side, but also has the potential to upset the demand side of the market.

New Zealand’s investment into distributed generation, both politically and economically, is considerably behind that of many other developed nations. This is largely due to an absence of

subsidies and legislation to incentivise investment into distributed generation that are present in many other nations (EECA 2013).

These subsidies and regulatory frameworks can be best categorised as feed-in tariffs, net metering, net billing, and regular investment subsidies. Different levels of government – central, state, and local – have across the world provided for various combinations of these incentives to distributed generation, with varying degrees of uptake. There is limited drive for the development of this technology from politicians, and even less from the industry itself; indeed, there is sometimes resistance. However, some consumers are pushing for greater uptake. There are considerable barriers to uptake – including cost and a lack of awareness of the technology (East Harbour Management Services 2006) – but the environment created by retailers and government in which distributed generation exists has not lowered those barriers.

	Grid-connected system 2kWp	Off-grid system capable of generating between 5-7kWh/day
PV modules (2kW)	\$8,000 - \$16,000	\$8,000 - \$16,000
Inverter/charger	\$2,500 - \$5,500	\$3,000 - \$8,000
Framing	\$1,000 - \$2,000	\$1,000 - \$2,000
Batteries	Not required	\$6,500 - \$14,000
Diesel generator	Not required	\$3,000 - \$11,000
Balance of system	+\$1,000	+\$4000
Installation	\$1,000 - \$2,000	\$3,000 - \$6,000
TOTAL	\$13,500 - \$26,500	\$28,500 - \$61,000
\$ per Wp installed (incl. GST)	\$7 - \$13	\$14 - \$30

Table 4: Indicative costs of setting up a PV-based system (EECA 2010).

The above table illustrates the financial barrier to distributed generation's uptake on the most common form of distributed generation – a solar photovoltaic system. There are presently no official subsidy schemes for distributed generation; however there has been a trial programme in 2008/2009 that sought to “kick start” distributed generation in New Zealand (EECA 2013). This was largely unsuccessful. EECA's attitude to distributed generation could be described as

at best ambivalent and at worst negative (Boyles 2013). A clear indication of EECA's support of distributed generation is that the most recent information on the cost of establishing distributed generation at a property is a half-decade old. In that time, cost are now nearly \$1/w in Australia (APVI 2014).

In contrast to New Zealand's lack of government support, there is some support, even if sporadic, in Australian states¹⁰. The wider uptake of distributed generation shows that even small support for Distributed Generation by government can reduce the barriers to uptake of distributed generation (Edis 2014).

EECA states that the growth of distributed generation is desirable, in order to increase the levels of renewable energy in New Zealand. If this is indeed the case (considering the revealed stance of EECA this is disputable), it would make EECA's position consistent with international literature and government policy. But it would then require a shift in the current position by New Zealand's government. National and Act party spokespeople have both commented that distributed generation is something that is desirable, but their ambivalence is suggested by the lack of a concrete plan to promote the use of this technology (Bridges, Speech to NZ Energy Conference 2014 2014). The Labour Party, too, gives at-best luke-warm support for government subsidies for the technology, saying it should be at the "forefront" of their energy policy, but again offer no substantive proposals in this regard (NZ Labour Party 2014). When asked of his party's position on distributed generation, Gareth Hughes, the Green Party's spokesperson on energy, said there was "no official party policy" on the role of distributed generation (Interview with Gareth Hughes 2014). This is surprising from a party with a strong environmental focus.

In addition to sclerotic support by government is a broad status quo bias that infects both the electricity industry, and regular consumers. As stated above, the electricity industry is opposed to distributed generation as it has the potential to negatively impact revenue for the companies, and so they act to ensure the status quo. This is done subtly, for example by having no mention of distributed generation on the energy retailers' websites. A search on Contact Energy, Genesis Energy, Mercury Energy, Trustpower, and Meridian Energy websites for "distributed generation" reveals sparse results.¹¹ Making it relatively more difficult for a residential

¹⁰ It should be noted that there is growing opposition within the Australian public to distributed generation, owing to hidden costs (Taylor 2014).

¹¹ Search done on the first of the months of September, October, November and December 2014, and January 2015 for "distributed generation". **Contact Energy** offers no results. **Genesis Energy** has one result, which is a

consumer to learn more about distributed generation, and to see how it could work for them, means that distributed generation becomes less accessible for the marginal consumer. Active discussions as part of this thesis with gentailers suggests that access to net metering is low.

Technology has played an historic role in facilitating the change to the sector over the past 25 years. The question for the industry and for policy makers in the near future will be the extent to which technology changes will be able to take hold in the sector again. Distributed generation together with a smarter grid is the most widely available technology on offer at the moment, and as such, offers the prospect of disruption to the status quo, but also environmental benefits and, for some households, a welcome prospect of energy independence and greater price security. Considering the want for government action here, and the (understandable) unwillingness of the established gentailers to lead the charge on this issue, this, as with many changes seen, will come down to consumer preferences. The next section will discuss the role of consumers in facilitating this, and other changes, in the sector.

4.4 Consumers

Consumers have been, and are able to influence the actions and development of the New Zealand electricity sector in two key ways. First, consumers are in large part also the voting public, and their political wants translate into change for the sector. Second, consumers through their revealed preferences shape the sector through changing the behavior of sellers.

4.1(d) i: Consumers as voters:

The political influence of consumers can be divided into two distinct periods – before the market, and after it. Before the market, as noted, prices were set by state fiat. Those consumers who wielded the most political power were able to use that power to get better prices for themselves than would be the case under a market system. We know this is true, because of the relative price changes to industrial, commercial, and residential consumers since deregulation.

link to a page outlining the fees for services from Genesis. Two lines correspond to DG. **Meridian Energy** has a number of results for DG – many of which link to reports produced by Meridian. There is one page available to show how customers can take up solar panels (<https://www.meridianenergy.co.nz/your-home/generating-solar-energy/>). **Mercury Energy** does not even have a search function. Its list of FAQs does not yield any information on DG. **Mighty River Power** yields no results.

The point is that residential consumers can vote, and it behooved the state to make prices artificially lower (Interview with Graeme Everett 2014).

Since the market, the ability for consumers who vote to wield that power in a way to cap prices has been removed. This has had the implication of changing the way consumers influence the political landscape, and widening the range of views that get heard in the political arena – specifically by increasing the voice of commercial and industrial concerns (Easton, *Electric Rhetoric: Sneering Instead of Thinking* 1999). This thesis has already discussed the implications for resident consumers on this change. This sub-section will discuss how this has impacted the commercial and industrial views.

2012 Republican Presidential Nominee Mitt Romney may have thought that “corporations are people”, but the Electoral Act 1993 disagrees. So when voting becomes a less important metric of influence over government policy, those with less of a vote can gain a comparatively greater influence. In the electricity, this is seen through corporations flexing their proverbial muscle to get particular concessions from the government. Most recently, the Rio Tinto Tiwai smelting plant gained a 30 million dollar subsidy from the government (Santhebennur 2013). This was in part to secure jobs in the region that is dependent on the plant for its economy. But there is also suggestion that the subsidy was implemented to protect the value of the electricity sector, particular in the lead up to the partial asset sale (Oram 2013). The subsidy was seen by Finance Minister Bill English as a "one off incentive payment to help secure agreement on the revised contract because of the importance of the smelter to the stability of the New Zealand electricity market" (Fairfax Media 2013).

Tiwai smelter is New Zealand’s largest single consumer of electricity, and the closure of the plant would have cut approximately 15% of New Zealand’s total demand (Bennett 2007). This would have hurt the value of all electricity companies as the freed capacity would have resulted in reduced prices; but particularly Meridian Energy who was the sole provider of electricity to the plant.

This example helps to illustrate the wider point that, while individual prices cannot be set through lobbying of government, sufficient political weight can be leveraged to gain economic advantage.

4.1(d) i: Consumers as actors in a market:

Since the breakup of the sector into competing gentailers and smaller, more niche retailer companies, consumers have been given more choice over their electricity supplier. As covered, many consumers are exercising that choice, with approximately 1.8% of ICPs changing retailers in December of 2014; and a total of 19.09% changing in all of 2014. This trend is increasing over time (Figure 10).

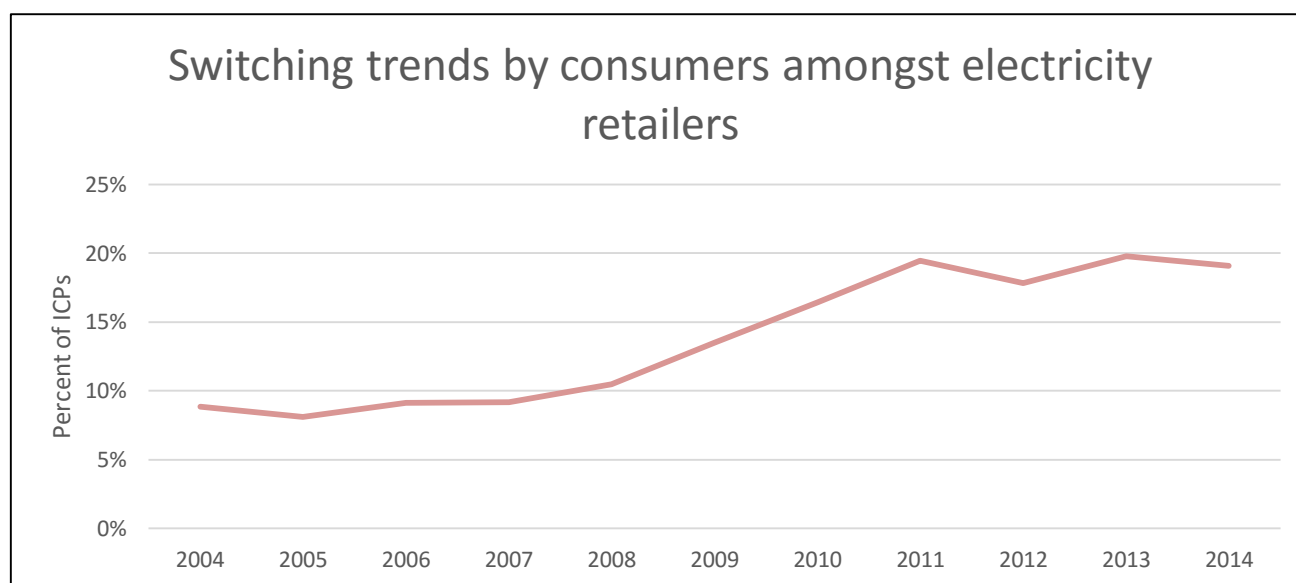


Figure 10: Proportion of customers, as measured by ICPs, changing electricity retailer every year (EA 2014).

With consumers able to exercise their preference for alternative service, price, or feature, it places pressure on retailers to also provide services, prices, or features to customers to maintain and grow their market share. This competition – even if only at the margins – pushes down prices, and encourages retailers to offer innovative products.

Two recent examples of genuinely innovative retailers are Powershop and Flick. As noted in Chapter 1, retailers typically offer (particularly to smaller customers) “fixed price, variable quantity” hedge-type contracts, whereby consumers can generally consume as much electricity as they want, for a fixed priced. Powershop and Flick offer different products Powershop offer customers the ability to buy parcels of electricity at prices that vary across the course of the year. Consumers are able to play the market, and attempt to pre-purchase electricity at one price, and use it at a later time where the electricity would otherwise be more expensive. Flick allows small consumers direct access to the spot market. This allows consumers to change their behavior, and use more energy-intensive appliances at times where electricity is cheaper.

Typically the spot price at non-peak times is lower than the typical hedge price offered by other retailers. In becoming more aware of the cost of consumption at different times, customers can save money.

In addition to the market creating new ways to selling electricity to consumers, it is also facilitating a (slow) uptake of new technology. As discussed above, distributed generation and its associated technology offers consumers an ability to reduce their dependency on established – or even new – retailers.

A central question is whether electricity retailers are price setters, or price takers. These terms can be used to describe the relative market power of a company. Price setting companies have an ability to force customers to accept a given price, because of the outstanding nature of their commodities, or lack of alternatives (Khemani and Shapiro 1993) (a typical example is Apple iPhones, which are largely immune to broader supply and demand pressures in the wider smartphone market). Price taking companies can only expect to receive the market price for their good, owing to the fungible nature of their commodity (Khemani and Shapiro 1993) (a typical example is wheat, where there is very little ability to differentiate goods, and there is considerable international competition for the good). Having a market of price setting companies typically describes a failed market (Salop 1979).

In the time of ECNZ, and arguably for a considerable proportion of the recent history of the electricity sector, retailers – and particularly the gentailers – were likely price setters (Bradford 2004). The limited competition, the considerably barriers to entry for competitors, and the general confused state of the market limited the ability for customers (particularly residential customers) to exercise market power.

This is shifting.

The rise of new retailing companies offering new and innovative products to customers – significantly reducing their costs – is breaking the power of the five gentailers, and making them more susceptible to competition (P. Smellie 2009). The rise of new technology – some of which (like the internet) facilitates the new retailers; some of which (like distributed generation) decreases the dependency on established retailers – is changing retailers from setters to takers. This is a sign of a healthy (or at least: less sick) market. The rise of consumer choice will lead to better outcomes for consumers; and indeed already is.

Chapter 5: People with influence

For a sector with a history of decades of change, and with a far reaching scope that affects all New Zealanders, it could be difficult to pin down an answer to the question “Who has, and has had, material influence in the development of policy in the electricity sector?”.

However, conjecture in response to this question has been diverse. “Roger Douglas”, “David Caygill”, “Max Bradford”, “Carl Hansen”, and “David Parker” are names that are commonly stated when the question is asked. Respondents from across industry, academia, the media, and politics point to these individuals and a few other organisations when attempting to pinpoint exactly who has had influence in the development of the sector, and at what time. This section examines who is perceived to have had influence in the sector since the beginning of the 1980s reform, looking specifically at government (both politicians and government bodies), the media, and industry. The role of consumers has already been discussed, but as noted, their role in influencing the sector is shifting and developing.

5.1 Government

This thesis has described the ways in which government and its agencies have had influence in the development of the electricity sector. Specifically, government has influenced and developed the framing in which policy is made, and against which new proposals are assessed. As discussed, the role that government plays in a day to day sense has reduced, but the influence at a higher policy most certainly has not. What has not been discussed as deeply is the role government agencies play in the sector, specifically that of the Electricity Authority.

As discussed in Chapter 1, the Authority enforces the Electricity Industry Participation Code, and acts as an independent entity overseeing conduct within the market. Ostensibly independent, the Authority was established to enhance competition, reliability, and efficiency (Electricity Authority n.d.). Sometimes, the independent status of the Authority, and its mission to support market structures, have led to some internal conflict. In a context where a market structure is accepted by most in the sector as the correct framework, it is easy for the Authority to maintain both. In a situation where a stakeholder seeks to challenge that market premise, the authority has a decision of whether independence or its other missions are more important.

NZ Power was a challenge to the neoliberal paradigm which in itself led to accusations that the Authority's independence was illusory: it had a vested interest. More specifically, NZ Power was a direct challenge to the existence of the Authority – in that NZ Power would subsume and replace the Authority (New Zealand Labour Party 2013). Labour and the Greens explicitly stated that the Authority had failed in controlling “the unjustifiable rise in electricity prices” (Green Party 2013). In response to this, the Authority went on the offensive against NZ Power. A report released in January of 2014 explaining how electricity price changes were below the changes in the cost of production, sought to challenge the premise of NZ Power (Electricity Authority 2014), and spread those arguments within the media¹². Additionally, between the release of NZ Power, and the election, the Authority challenged assertions of Greens, Labour, and their associates: “Conclusions based on inadequate research are not a basis for sound economic policy”, said Dr Brent Layton, then head of the Authority. Proposals like NZ Power were “found wanting in terms of what would be of long term benefit to consumers” (Business Desk 2013).

At that point the Authority not only offered analysis consistent with its purview, but actively sought to undermine a disruptive policy proposal, it brought into question its independence. Considering the stature of the Authority within the sector, and wider perceptions of it, it is reasonable to conclude that the position of, and arguments made by, the Authority carry considerable weight.

5.2 The Media

Most people do not get their information on policy through reading press releases posted to the Beehive website, or through attending public events hosted by politicians (American Press Institute 2014); rather, they receive information as presented in the news and social media. What this means is the way in which the news and arguments are presented in those media is often more important than the original intent or arguments set forth by policy makers.

The media, then, has a central role in the construction and facilitation of the debate on policy proposals. Hostile media makes it more difficult for those to whom they are hostile to get positive coverage – or indeed coverage at all. Incompetent or disinterested media makes for a

¹² An example of which includes: (BusinessDesk 2014),

debate that is shallow, and does not further the policy discourse. Media that are supportive of a particular proposal or idea can, through sustained pressure, bring about change (Hallin 2004).

The consequence of this is that if someone wants to propose policy such as NZ Power, that is somewhat nebulous, complex, and arguably '*wonkish*', there need to be media which can absorb the implication of the proposal and lay the resulting debate out in a way that hits on the main issues, and provide an avenue for finding a resolution.

Examining how the media interacts with the electricity sector in New Zealand is complex. It requires not only a quantitative measure of how often the sector is mentioned, or upon which issues the articles focus; it requires a more qualitative appraisal of the balance and depth of those articles. This section will set out how the media have engaged with issues in the sector – with particular reference to NZ Power.

The first question is how often electricity issues are discussed in the media. Media here is defined as all electrically accessible resources, including newspapers, television and radio sources, and blogs.

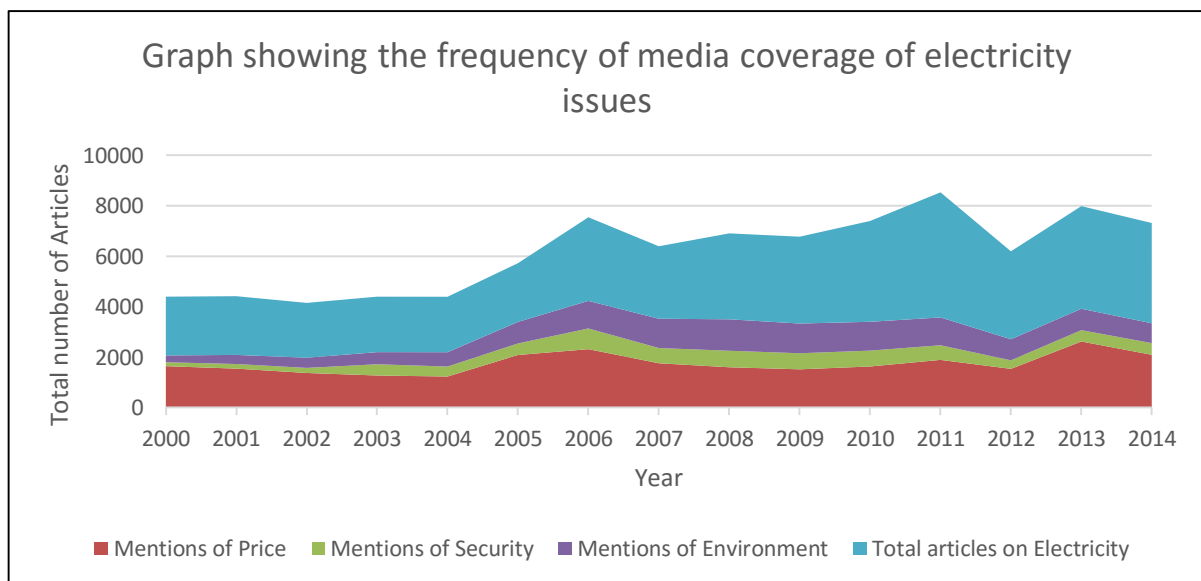


Figure 11: Graph showing the composition of articles discussing electricity issues. Graph compiled from data gathered by media aggregator and research tool Factiva (data valid as of 1 January 2015).

The number of articles in Figure 11 shows how often news articles mention electricity; and of those articles, how many address specific key words. There are some notable peaks: in 2006 there were 7544 articles on the electricity sector, almost 2000 more than in 2005, and a number not met again until 2011 – an election year. The year 2006 was one of substantial change in the

electricity sector that flowed from the 2006 Ministerial review on the sector. It makes sense for there to be a peak in articles generated from this review, as it was an important change for consumers and the industry alike. There is also a notable increase in articles on environmental issues. Again, considering the nature of the Review, this is an understandable outcome.

In Chapter 1, I showed how 2012 was a relatively quiet year for issues in the sector, but 2013 saw the introduction of the NZ Power proposal. Notably, price as a proportion and total number of articles saw a significant rise in 2013. This shows the Proposal both increased the coverage of the sector from both the previous years, and against the average from the previous five years.

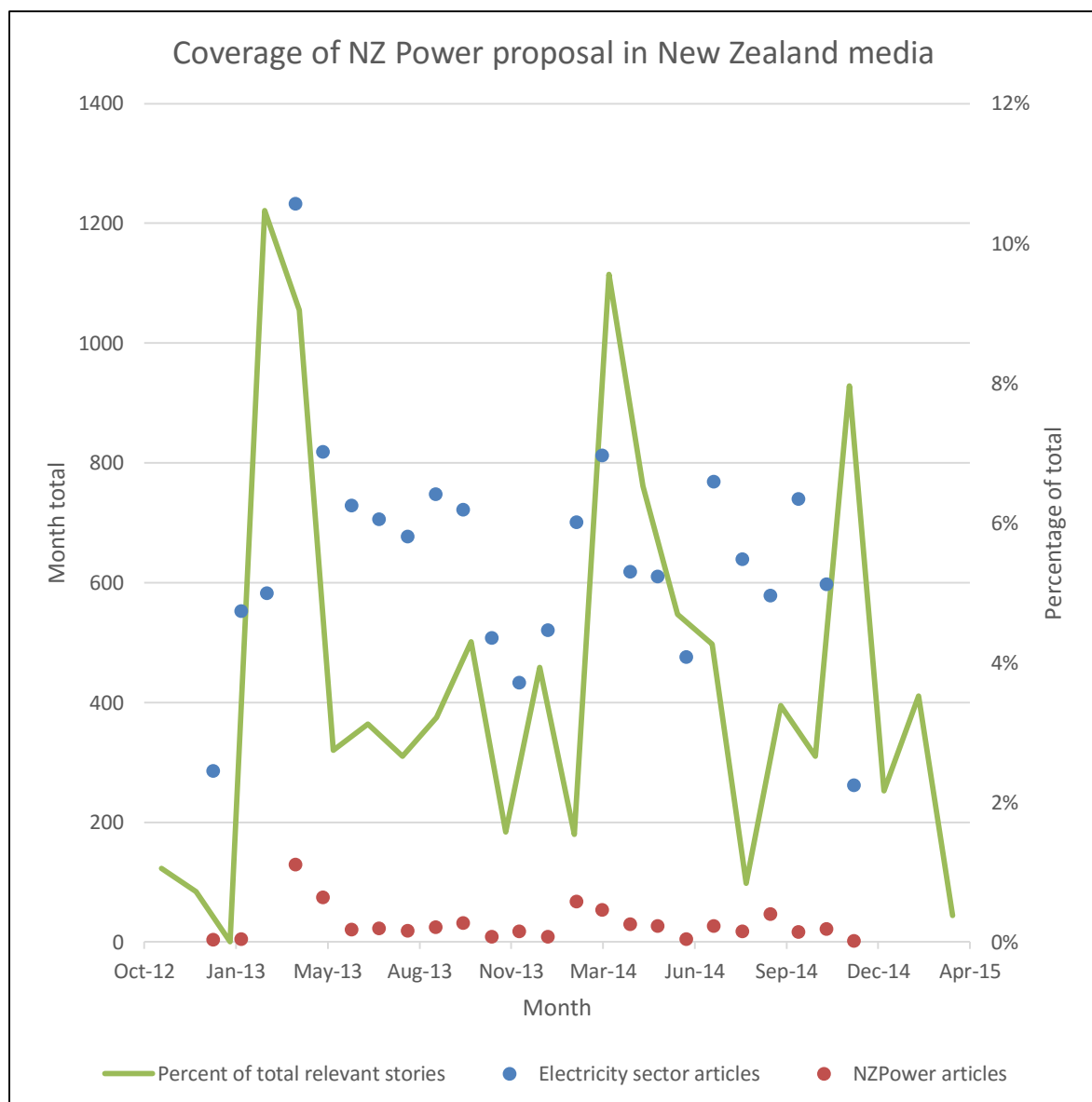


Figure 12: Graph showing the number of articles on the electricity sector from 1 January 2013 until 31 December 2014 (left axis), and the proportion of those articles mentioning NZ Power (right axis, with the denominator being total relevant stories). Graph compiled from data gathered by media aggregator and research tool Factiva (data valid as of 1 January 2015).

What this indicates is a) the proposal could have been the cause of greater coverage of the sector, and b) that price became a greater emphasis for the sector.

There were 328 unique articles written on NZ Power in the two years to 31 December 2014. There were an additional 340 reprintings of those articles in regional subsidiaries of national publications. It is clear that NZ Power was directly responsible for a considerable number of articles, and considering the surrounding uptick in articles mentioning electricity, it is not unreasonable to suggest that NZ Power had flow-on effects in the wider discussion about the role of electricity within the lives of New Zealanders.

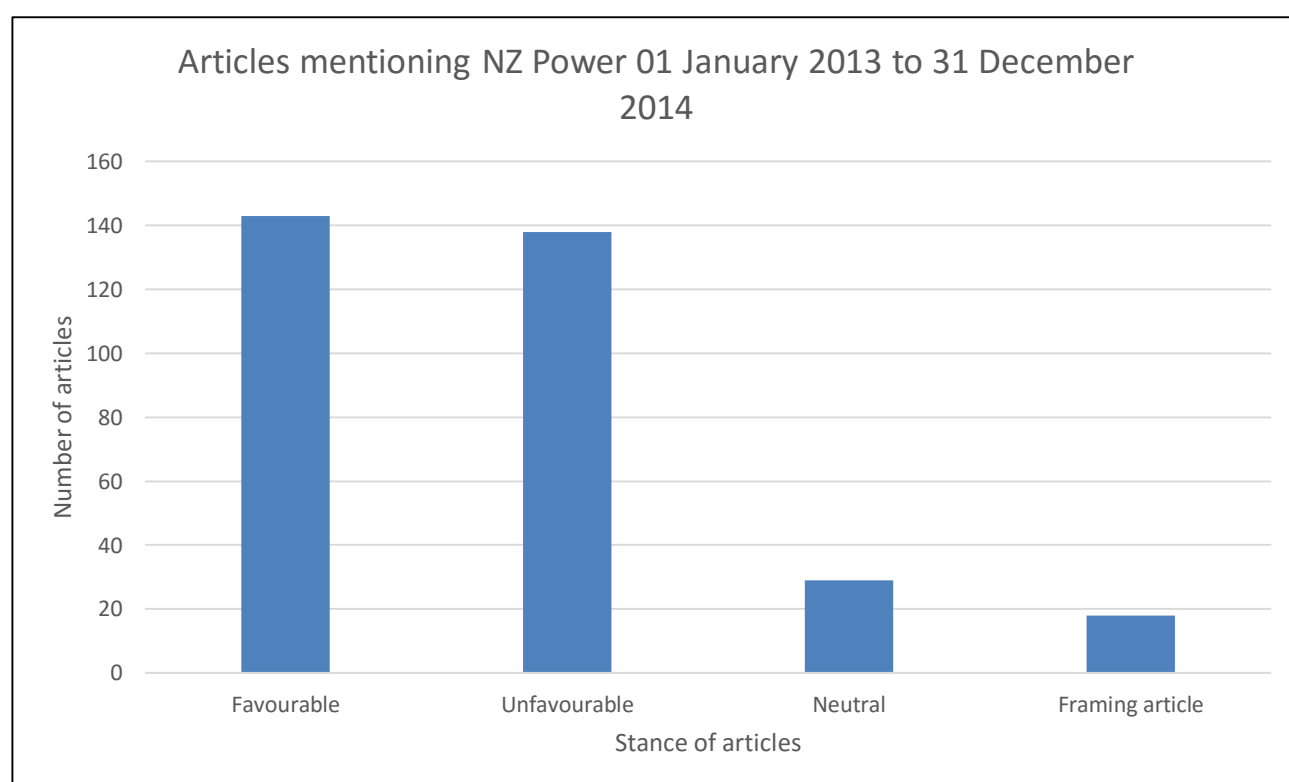


Figure 13: Graph showing the relative balance of articles mentioning NZ Power. Articles labelled “Favourable” took a favourable stance towards NZ Power. Articles labelled “Unfavourable” took an unfavourable stance towards NZ Power. Articles labelled “Neutral” mention NZ Power, but take no stance on the proposal. Articles labelled “Framing article” offer arguments for and against NZ Power, without offering commentary on which argument should be preferred. Graph compiled from data gathered by media aggregator and research tool Factiva (data valid as of 1 January 2015).

Simply noting that NZ Power was mentioned, and did alter the media’s discussion electricity issues not sufficient to answer whether the media can have an impact on the sector. When

examining those 328 articles, the positionality of those articles can be observed. When doing so, Figure 13 shows the balance that is seen.

There are some who criticise the media of having a particular agenda when discussing issues (Fenby 1986), and that is true, too, for NZ Power. To the extent the media can influence whether the public support or oppose a proposal, it is legitimate for policy makers to be concerned of any perceived bias within the reporting. Examining the explicit mentioning of NZ Power in articles reveals that – by a metric of the number of articles with a particular bias – there were similar numbers of articles taking a favourable view as opposed to an unfavourable view of the proposal. If the impact of coverage can be decided simply by measuring the number of articles written about a proposal, then, by a slight margin, there should be more favourable views of the proposal in the wider public.

Of course, this is not entirely how political influence works. What matters more is the impact individual articles have on the wider public. This is something that is very hard to measure, as the impact of just the media on the formation of political views is difficult to separate from any other impact. To the extent the impact the media can have on views is measurable, possibly the best metric is to measure the ‘reach’ of particular articles on the proposal. Reach measures how many people read a given article, and took actions such as sharing it on social media. Articles that have a greater reach can be seen to be more influential, and implicitly, biased articles with greater reach also have more influence.

One study has been carried out on the reach of NZ Power through online media between 18 April 2013 and 2 May 2013 (Stoddart 2013). By the end of their reporting period, articles mentioning NZ Power had an audience of 15,000,000 non-unique visits to articles:

“In terms of volume, there were more favourable reports than unfavourable (38% to 35%); but unfavourable coverage reached a larger share of the audience (35% to 43%). About half the audience was reached by coverage about the policy (49%), with significantly less focused on its effect on the markets (34%) and still less on the political strategy (16%). The tone of coverage focused on each of these themes differed. Reports focused on the share markets were overwhelmingly unfavourable towards NZ Power, while those focused on the policy merits or political strategy were more favourable than unfavourable.”

It is clear that the media are accessed by a large proportion of the public, and the views they espouse can influence their audience. In the case of the electricity sector, issues of price, and

of security of supply constitute a considerable proportion of those issues discussed; with an emerging role played by the environment. With particular reference to NZ Power: the proposal was directly responsible for a considerable increase in the role of electricity in the media, and pushed particularly issues of price – a key concern of the proposal.

Some have called for the media to play a stronger role in the protection of consumer rights. Consumer Magazine, for instance, said that it was vital for someone to “finally start advocating for consumers – particularly poorer ones”. Notwithstanding the irony of a publication whose name is literally “Consumer Magazine” calling upon another body or media organisation to advocate for greater consumer rights, it also misses that a plurality of articles mentioning NZ Power did so in a way that supported the proposal. To the extent that articles were against NZ Power, a subset of those articles were also advocating the protection of consumers, but were simply noting that NZ Power was not the mechanism to do that. To the extent that Consumer Magazine and others articulated concern about the apparently neoliberal orientation within the sector, it has not been compellingly articulated why neoliberal policies could lead to the desired outcome they support. Frequently, correlation is cited, for instance “Political risk takes shine off power”, where it is suggested that prices have increased in the previous 12 months, and that this shows that there is a failed market for electricity in New Zealand. A proper investigation into why the market is – in the writer’s mind – failing is lacking in mainstream publications.

5.3 Industry

This subsection seeks to understand how the electricity sector has influenced the development of the sector, and considers the industry after 1999, as that date marked the establishment of the five gentailers, and an industry conceptually independent from government. Historically, gentailers have had dominant power within the sector. Owing to their entrenched market positions, relatively high barriers to entry for competition, and a regulatory environment which was not conducive to large numbers of new entrants, the gentailers sat comfortably within the sector, maintaining market share and influence until fairly recently with the rise of consumer power described in 4.1(c) and (d).

This influence was not without its drawbacks. The bill consumers get every month for their electricity use comes with the letterhead and styling of the gentailer. And yet, less than half of

the cost of electricity that comes on that bill is actually the costs associated with the gentailer (as discussed in Chapter 1.3(b)). For a typical consumer, however, the breakdown of the bill to include GST, network charges, losses, Electricity Authority levy, and other fees is rather complex to understand. The fact these elements are attributable to non-gentailer entities is for many consumers immaterial.

What this means is that – largely incorrectly – gentailers (and more recently independent retailers) bear the brunt of criticism of prices, and indeed other problems that develop within the sector. The perception that these companies are bad for consumers has limited the scope of these companies to shape public discourse in a way that is positive for them. It is for that reason that companies like Flick and Powershop have used marketing campaigns that focus on how much they are not like established retailers. Powershop's motto, "Same power, different attitude", goes with posters depicting typical villains (like Darth Vader) in more positive imagery. Flick focuses on a message that says consumer can "take back control of their power bill". The growing success of these companies speaks in part to the dissatisfaction with the established retailers.

Distribution and transmission components of the sector enjoy comparative anonymity, and because their responsibility is bringing, in the words of the Hamilton-based distribution company WEL Energy "Power to the People", then, to the extent they are known, it is for more positive reasons. The exceptions are when the power fails (as in the aforementioned central Auckland cut of 2014), but as those events are comparatively rare, these companies have an easier job of maintaining a positive image. Being natural monopolies, the companies also do not face competition pressure. Their fee structure is regulated by the Commerce Commission, but the lack of competition has stifled innovation. With the adoption of distributed generation, their weak record of innovation is likely to become an issue for them. The legal obligation on distribution companies to provide connection to the grid is a recent phenomenon (having been established in 2007 (EECA 2010)), and the companies are perceived to have not facilitated broader change within the sector (Interview with Ralph Matthes of MUEG 2014). Chapter 4.4 will discuss in further detail the desire by some within the sector to improve the perception of retailers and generators, and to facilitate better practices by distribution companies for the betterment of consumers.

Chapter 6: Lessons from New Zealand Power

NZ Power was not a successful proposal. First, it has not been put into law, not surprisingly perhaps as National won the general election. But this in itself is not conclusive, as first, NZ Power was not the only issue of the 2014 election (indeed, by Election Day it was definitely a background issue); and second, the policy was associated with, and only with, parties that failed to win the election. More significantly, a clear signal of the proposal's failure is that polling suggests the NZ Power proposal was not popular among voters. Two out of three publicly-released opinion polls conducted immediately before the announcement of NZ Power on 18 April 2013 showed a sharp drop in support for National, with the Labour and Green parties enjoying the spoils of that (Roy Morgan Research 2013; ONE News 2013; Gower 2013). Two weeks later, on 2 May, Roy Morgan released a poll taken mostly after the NZ Power announcement, which showed the government back up six points, and Labour and the Greens down a combined 6.5 points (Roy Morgan Research.b 2013). National went on to form a government approximately 18 months later. However, again, this is correlational evidence, from a complex period in which a number of other policies were coming and going from the limelight fairly rapidly, and thus inconclusive.

There was one publicly available poll, commissioned by the Green party, which showed support for NZ Power at 40%, and opposition at 34%, from a sample of 750 people. This poll was conducted between May 5 and 7 (Timaru Herald 2013). To the extent these data points can suggest the public's level of support for the proposal, it would seem the proposal had, at best, a mixed reception.

An additional signal is that the proposal is likely to be dropped by the Labour Party now that the proposal's architect – David Parker (Interview with Brian Fallow 2014) – lost the Labour Party leadership battle, and new leader, Andrew Little, has called for a review of all policies – including NZ Power (Small and Watkins, Andrew Little confirms Labour leadership bid 2014, Little 2014). The Green Party's support for the policy seems less dented (Interview with Gareth Hughes 2014), but will still be subject to a review.

There are many more important questions to ask in assessing the success of a given proposal than asking “did it become a law?” There are a multitude of causes for a proposal to fail to gain support – not least of which was the unique nature of the 2014 general election in New Zealand.

The broader considerations in assessing a proposal's success should look to more holistic questions, and in this study we focus particularly on the debate and discourse surrounding the proposal. Specifically, we question whether the justifications for the proposal were made clear by proponents and the media; whether or not the proposal went some way to resolving the problems laid out in the justifications; and whether the proponents were able to facilitate a debate on those issues. This section sets out to address those broader questions

6.1 What is necessary for successful policies, and did NZ Power achieve that?

It is as a result of the many interviews conducted for this thesis that this author believes NZ Power was not articulated well, and the media and politicians did not facilitate the debate over the policy in a constructive way. The one upside to which supporters of the policy can point is that the proposal brought into the spotlight the idea of “fuel poverty”; which had been largely absent from wider policy discussion since 2007 (NZ Herald; NZPA; Newstalk ZB 2007), although academics had raised it (Lloyd 2006; Howden-Chapman, et al. 2012) The Labour and Green parties were thus able to raise the issue of equity in relation to the electricity market. But considering that NZ Power was a major plank of the two parties' 2014 campaign, and given the effort and energies that went into formulating the proposal, the outcomes must have been disappointing to the Labour and Green parties.

Furthering discourse on a subject can be a legitimate goal and achievement for a policy proposal. The next section will assess whether NZ Power as a proposal was able to do this, by investigating first whether the proponents managed to successfully present a justification for an intervention in the sector; whether the proposal was something that addressed the established problem; and whether the proponents were able to facilitate a positive debate on the issue. Again, I concentrate more on the issues of discourse than on the technical issues.

6.1(a) Outlining a problem, or: justifying intervention?

In Chapter 1, I outlined the NZ Power proposal, as was described by its authors. According to the documentation provided, and speeches given, on the proposal, there are two key justifications for intervention in the sector; namely prices and environmental considerations – including a price for water.

Regarding the need to better provide equitable prices for consumers, a number of arguments were made. The first was that gentailers were able to exploit their position in the market to generate windfall (or super) profits for themselves. The consequence of this was rapidly rising electricity prices for (predominantly) residential consumers. This aspect of the policy justification was successfully made. As noted in Chapter 1; residential prices have indeed increased. The Labour and Green parties were, *prima facie*, successful in showing there is a need to address those prices.

A considerable proportion of the justification for intervention in the electricity market came from the Wolak report. The report, as noted, points to rents extracted from consumers over a period of time. The report, commissioned by the Commerce Commission, did at first seem like a considerable weapon in the arsenal against the actions of gentailers, and of the established regulations. Problematically for the Greens and Labour, insufficient links were drawn between the problems highlighted in the Wolak Report, and how the NZ Power proposal would remedy that.

First, there were academic arguments made that the Wolak report was flawed in its findings¹³. That high-level discussion filtered down to the media¹⁴. The major ‘problem’ for NZ Power was Wolak himself saying that NZ Power is “bass-ackwards [sic]”, and that the NZ Power proposal “may not even solve the problem, which is runaway retail prices.” (P. Smellie, 2013). What Wolak called for instead was greater competition in the market, and better regulation of the whole sector (F. Wolak 2014). Considering a key justification for NZ Power was the work of Wolak, these announcements and debates harmed the very premise of the proposal.

As to the environmental concerns facing the sector, the Greens’ policy document indicated that a fully-realised version of the NZ Power proposal would allow for considerable control over investment decisions made by generation companies in the future. Specifically “NZ Power will be explicitly mandated to facilitate energy efficiency and favour renewable generation.” (Green Party of Aotearoa New Zealand 2013).

The more nuanced approach to environmental concerns came from Labour, with the policy being used as a tool to price the use of water. David Parker believed that the current way in which water was handled meant that a public resource (but to be clear: not a public good in the

¹³ For instance: (Hogan and Jackson 2010; Electricity Technical Advisory Group 2009; NZIER 2009; University of Auckland Energy Centre and University of Auckland Electric Power Optimization Centre 2009)

¹⁴ For instance: (P. Smellie 2013)

economic sense) was being used to deliver private benefits. Putting a price on water meant that the “windfall” profits Parker thought companies like Meridian and Mighty River Power enjoyed would be captured by that price, and put back into the public sphere. Parker also believed that the most efficient way to price the use of the public resource was to remove the windfall profits directly, by reducing the revenue they earned from each kWh of electricity they generated. There was no discussion about the option of leaving that revenue intact, and placing a tax on it – and in so doing capturing some of the generators’ profit.

The environmental consequence of doing this would be to change attitudes toward the use of water away from it being an under-priced resource useful for maximising profit, and towards something usable in the public interest (Interview with the Hon. David Parker 2014). Parker’s logic on this point was sound. However, it was not a central argument used by either Labour or the Greens, who were, as previously discussed, focussed on issues of equity, energy security and environmental concerns. Moreover, it is an argument that can be accused of being fairly “policy wonk-ish”; these issues are rather ethereal to the wider public. Arguments that are considering wonkish are not easily presented to the electorate (Henderson 1997). It is for that reason that this argument was scarcely used by Labour or the Greens in their policy documents; or why Parker himself seldom used the argument in public.

6.1(b) Policy articulation

Policy articulation builds from the literature on governmentality and the Overton Window. Policy articulation is the need for proponents to very clearly spell out the need for the policy, the specifics of the policy, the change it will effect, and who would benefit. In doing so, it becomes easier for the proponents to garner support for policy, and eventually get that policy enacted (Nisbet 2009).

One of the key criticisms of the proposal – particularly from media representatives – is that the proposals were not clear in their objectives, and were lacking in specific detail. A charitable explanation was given by Ralph Matthes, of the Major Electricity Users Group who said that “[David Parker] was unfortunate in that he wanted to deliver such a significant change to the sector, but no one really understands how it worked”. Brian Fallow, Economics Editor of the NZ Herald, was sceptical about whether the policy was fully thought out: “Oh it was clear they [NZ Power’s architects] had no idea what was going on”.

Whether or not the proposal's architects actually understood the finer details of the policy is secondary: what mattered was the wider belief in the electorate – at least among those who were engaged in the debate – that the proposal was incompletely thought through; and the justifications given were lacking substance¹⁵. This was problematic for proponents of the legislation for two reasons. First, it became difficult to have an informed debate on the needs for, and consequences of, the policy. Second: it led people to believe it was politicking, undermining the legitimacy of the claims made by, especially, David Parker.

As noted, the metrics for determining whether the policy arrangement for the electricity sector made sense requires an assessment of security of supply, equity (price), and environmental issues. As also noted, these metrics exist largely within the neoliberal paradigm described by governmentality principles. Specifically, there was an expectation that supply must be met, and that prices were an important, with secondary consideration to that. Environmental concerns are a clear third concern. When proponents of the status quo are defending, say, prices and their fluctuations, they point to two aspects. First, that there is secure supply – and this is taken as evidence that the market is working. Second, that there are growing efficiencies found within the market that indicate prices are exactly where they should be.

The Labour and the Greens were unable to shift perceptions away from a concern about efficiency, and the line that competition was sufficient to justify the cost of electricity. Indeed, arguments originally made that NZ Power would reduce prices eventually played into the hands of the status quo defenders who argued that prices would rise under a quasi-single buyer. For example, status quo defenders argued that lower prices would necessitate lower investment, which would lead to supply concerns, and eventually higher prices. This line played to concerns about poor state planning of supply in the past. Moreover, it is the sort of argument that Hoffman described when saying that, regardless of the accuracy of either position, conservative arguments are more easily made. This line appealed to the belief in the electorate that the government is incompetent – and indeed, considering the history of poor investment in the electricity sector in the past, this was not necessarily unfounded.

¹⁵ As noted above, there have been 328 unique articles discussing NZ Power in media articles. Articles supporting the assertion in the text about the perception of NZ Power include: (Interview with Brian Fallow 2014; B. Fallow 2014; Malpass 2014; New Zealand Energy & Environment Business Alert 2014; New Zealand Energy & Environment Business Alert 2014; Business Desk 2013; NBR Staff 2013; TransTasman 2013; Bradley 2014; Miller 2014).

Perhaps an even more important reason for the success of the status quo defenders was that the Government had succeeded in framing the electricity debate in terms of its own push towards greater competition. In terms of governmentality, the Government had emphasised repeatedly the neoliberal themes of competition and choice, for example with its campaigns about savings from switching electricity retailers through the “What’s My Number” campaign (the irony of this having been implemented under the previous Labour Government notwithstanding). This is likely to have conditioned consumers to thinking that competition was vital, that the government was doing everything it could to promote competition. Moreover, it bolstered the argument that heavy handed government intervention would undo some 25 years of fine-tuning. Possibly the clearest reason for the success here was rather than framing the sector as being complete and utterly successful for all customers, Ministers, the EA, and other authorities such as Prof Lew Evans underlined that time was still needed for even greater competition to come into effect. The concession that the system was not perfect gives an air of credibility to the defenders of the system, when people perceive it to not be perfectly functioning. To then use that premise to argue for a continuation of the work built on that legitimacy; and furthered the argumentation for greater – not less – competition.

To the extent that an attempt was made to challenge the orthodoxy within the sector, it allowed National to paint the Greens and Labour as shifting further to the left. In a paradigm whereby neoliberalism is accepted by a significant proportion of the public, this was successful in “othering” the arguments made by the NZ Power proponents.

Gentailers’ response to the proposal used the concerns raised by the Labour and Greens but within a framing similar to National’s. Specifically, they pointed to concerns over equity, and over security of supply, and spent their energies arguing that the proposal would hamper progress made in advancing both of those concerns. All gentailers promulgated this view in the media – suggesting that the proposal was not a genuine attempt at helping New Zealanders, but rather a brazen attempt at disrupting the partial sale of SOEs. The arguments made by gentailers were less successful than those made by National, even though they were largely consistent. The failure of the gentailers to create significant success can probably be ascribed to the fact that, to the extent there are perceived problems in the sector, they can largely be sheeted back to the gentailers.

Labour and the Greens did use environmental framing, and emphasised environmental concerns. For Labour, this was attempted through highlighting the anti-environmental actions

taken by National; particularly in the implementation of the ETS. For the Greens, it built upon the party's broader environmental credentials. What the parties failed to sell to the electorate was that "doing more" to help the environment was necessary or vital, and that the Government was to blame for relatively little positive action to reduce emissions, and foster renewable electricity generation investment. National was able to point to the growth in renewables such as wind and geothermal as evidence of "doing enough", despite the fact that this growth may well have been due to actions initiated by Labour before late 2008. National also argued that the economic cost of an ETS meant that "doing more" would be problematic for New Zealand, sowing seeds of doubt about the robustness of the economic recovery if Labour were re-elected. Again, considering the lessons from governmentality, these results should not have been unexpected. Framing concerns for the environment in the fashion Labour and the Greens did – as a purely environmental concern, rather than, say, an economic one – is consistent with the evidence (DECC 2012) that this sort of framing is insufficient to foster considerable public support.

Labour and the Greens failed to exploit the role of technology in the sector, and how that could be advantaged by NZ Power – particularly that of distributed generation. This could in part be because it was not central to their line of argument. Labour and the Greens did not take the opportunity to frame NZ Power as a proposal that challenged the gentailers acting in a cartel-like manner in discouraging distributed generation. The practical consequence of this argument, had it been run, is hard to gauge. NZ Power raised the presence of fuel poverty within New Zealand (as noted above). If technology had been given the same platform, then again it could have entered wider discourse.

Of final note is the timing of the proposal. From the 2011 Election, National worked to sell-down a minority stake in the electricity SOEs. The timing of the release of the NZ Power proposal came immediately before the Initial Public Offering (IPO) for Mighty River Power – the first electricity company to be (part) sold. Had NZ Power been successful in reducing the rents extracted by particularly hydroelectric generators, then revenues to these companies – especially Meridian Energy, whose generation portfolio is heavily reliant upon hydrogenation – would reduce, and so to their value. Shares in Contact Energy and Trustpower – the two publicly listed electricity companies – slumped following the announcement of the NZ Power proposal (P. Smellie 2013). Additionally, market commentators suggested that the IPO for Mighty River Power suggested that the value of the company should be reduced to reflect the risk that NZ Power would be implemented, and that its implementation would reduce the value

of the company (Manawatu Standard 2013). What the price reduction indicated was that the market perceived NZ Power as being a threat to the underlying value of the gentailers. Without commenting as to whether NZ Power was actually a proposal primary driven to disrupt the partial asset sale, it is the perception that was created through the timing of NZ Power's launch that carries weight.

Some in the media and in the public suggested that the NZ Power proposal was a last-ditch attempt at disrupting the partial privatisation of the SOEs. If the first IPO was deemed a failure, then successive IPOs for the other electricity companies – Genesis, Mercury, and Meridian – could be postponed or abandoned. Coverage in the media suggests this was a possible motivator, and comments by industry and other stakeholders indicate this to be the broader perception. The Greens essentially confirmed this to be accurate, when energy spokesman Gareth Hughes' gave an interview subsequently dubbed "Hey Clint!" in which Hughes was asked whether they, the Greens, were "pleased" that the proposal disrupted the planned asset sales. Hughes paused, called to his political advisor (Clint), asking him what the answer to the question was. The response was "That's not why we did the policy...but we don't want [the assets] sold". Whether or not this was a political gaffe as some in the media painted it, it gave an insight into the motivations of the party. Labour's David Cunliffe also suggested that NZ Power would reduce the value of the SOEs, and investors should decide whether "the shares are as gold-plated as the Government is making out" (Radio New Zealand News 2014).

That revelation – which was the night the lead story on 3 News – dented the credibility of the NZ Power proposal, as rather than being able to cast the proposal as one with genuine intentions to help suffering New Zealanders, it was just another instance of politicking from inside the beltway.

6.1(c) Conclusions

There is an informal advantage that an incumbent government has over the opposition. They have better access to resources, like the various Ministries and Departments that report to Ministers. Additionally, owing to the influence governments have in framing discourse, as discussed in Part 2, they can encourage parties into the debate to advance their case. In an example of the extension of governmentality, the Electricity Authority was drawn into a discussion over the legitimacy of NZ Power. This was probably in breach of the independence the Authority should show.

The main lessons to be drawn from the experience of NZ Power for application in any future proposal are:

1. That the electorate, the industry, a number of academic experts, and influential journalists currently support the market sufficiently that any debate over policy will be assessed against market principles and performance. To the extent that security of supply, equity, and environmental issues are of political importance (and history would suggest that at least the first two are), they too will be assessed within this paradigm. Attempts to challenge this framework failed with NZ Power, despite concerted efforts from the second and third most supported political parties in New Zealand, and despite misgivings among some experts about the extent of competition in the electricity market;
2. Considering this, policy makers need to tailor their arguments for policy against that neoliberal framework. This means proponents of alternative policy proposals need to show how their proposals increase competition and efficiency, and improve outcomes for consumers (in terms of supply and price, and environmental outcomes) using the language and logic of markets. To an extent, this was attempted by proponents of NZ Power – and indeed, to an extent it was successful. It took a spirited defence on those fronts by National and other supporters of the status quo to deflect the arguments made by Labour and the Greens, and their expert supporters.
3. The arguments that need to be made within an alternative framework need to be accessible to the electorate. National was able to use appealing and simple claims to explain how NZ Power would, in the long term, be detrimental to the goals of the sector. This framing approach would need to be emulated for successful proposals in the future.
4. Assuming one can make arguments that fit within the current market-based framework, and they can be made in a way that is easily accessible, the individuals and organisation responsible for leading the campaigns needs to be perceived as being insofar as it is possible, objective on the issues. National was able to point to individuals such as Prof Lew Evans, bodies such as the independent Electricity Authority, and in the end Prof Wolak himself to argue NZ Power was flawed. Labour and the Greens were able to point to evidence from experts such as Dr Geoff Bertram, but the NZ Power proposal lacked effective articulation by politicians.
5. Finally, it is clear the intention of the NZ Power proponents was genuine. When arguments are constructed consistent with the above four points in a context where there

is no ulterior motive, the chances of getting buy-in are greater. In the case of NZ Power, it was possible for opponents to suggest that the proposal was merely a last-ditch effort to disrupt the partial asset sales. To get the final buy in, the public needs to trust the proponents, which is made easier when they are perceived as coming “from a good place.” Their opposition to the asset sales muddied the waters, and may have to some extent weakened support

Chapter 7: Future avenues for reform – and who would do it?

An interesting and important consequence of this study was to hear the industry, the government, and other stakeholder comment on what they believe to be the likely developments in policy within the sector. Two key components of the discussion emerged – the first is who would be responsible for the developments within the sector; the second was the shape those developments would take. The final section of this thesis will deal with these projections, and the debate that they might generate. The likelihood of the concepts becoming full proposals, or indeed being implemented, will be assessed against the framework established across this thesis, with NZ Power as a particular frame of reference.

7.1 Increases in transparency on customer bills

As noted in 4.2(c), a consumer's electricity bill typically contains several cost components: GST, associated costs with retailing, costs of generation, Electricity Authority costs, metering, distribution fees, transmission charges, and market services all combine into the one bill. The gentailers spoken to for this thesis, and the Authority itself, wants to see consumers better informed of the cost components of their bills. The Authority, because it gives consumers a better appreciation of what is occurring within the sector, and how the institutions within it can be refined in the long term. Gentailers support it, for if the concept is successful, the burden of carrying the perception of pushing high prices on to consumers will be shared amongst other parts of the sector, and not just themselves.

Change in this direction is important. It would actually empower consumers to become more aware of what they're paying, and in doing, might increase their satisfaction with the sector (Bridges, Interview with Hon. Simon Bridges MP, Minister for Energy 2015). Greater awareness of the actual cost of electricity being delivered to a home empowers the Authority to act within their mandate to increase efficiency within the sector. Currently, with those component costs being less clear, it is difficult for the Authority to direct their work to fix those cost issues. Examining, say, a 27 cents/kWh price and seeking to make sure that price reflect a competitive and efficient market is a very indirect. Finding that 5 cents of that cost can be attributable to a component those costs should really be 4 cents means the Authority can direct their attention to the components, and in doing so, have a greater likelihood of success.

On 11 February 2015, the Authority released a draft proposal to increase consumer's awareness of the costs associated with the provision of electricity (EA 2015). Proposals include:

- **Retailers** should provide accurate and timely information to consumers of tariff components, so that consumers can know any changes to tariff structures, and whether those changes come from the competitive, or non-competitive aspects.
- **Retailers** should invite customers to contact them for additional information on their bill, and show, at an aggregate level, how much distributor's charges have changed so that customers have a meaningful access to information on prices.
- **Distributors** should provide information to retailers so that the above information can easily be transmitted to end consumers.
- **All industry participants** should act to ensure that all statements to the media and consumers are consistent with what other participants will say. This is to be ensured by requiring all participants to use the same calculation methodology, and that all official contact with consumers or the media should be cleared by the relevant participants at fewest three days before the release of that information.

As it stands, the proposal will not legally compel participants to follow the proposal; rather the proposal forms part of a set of guidelines participants should strive to meet. The Authority will monitor participants' actions to measure compliance with the guidelines, and will "name and shame" those who do not. The proposal suggests that the Authority will reconsider the need for the guidelines to be compulsory should participants not follow the guidelines compulsorily

Considering this proposal, we can assess the likelihood of a successful implementation. The conclusions from 6.1(c) provide a framework against which we can assess this proposal. Specifically:

1. An understanding and explanation of the framework against which the proposal will be assessed;
2. Development of arguments for the proposal that fit said framework;
3. Construct arguments that use easy logic
4. Have the argumentation done by parties who can provide a degree of objectivity; and
5. Have those parties be seen as lacking an ulterior motive.

For the purposes of this section, it is assumed The Authority is aware of the neoliberal framework, as the proposal explicitly seeks to enhance competition and efficiency, and to increase consumer choice and information.

To the second point, in a market situation, it is preferable to give consumers greater information over their purchasing decisions. Consumers, generally, prefer to know where it is their money is going. For instance, there is support in the airline industry for fare structures that offer greater transparency on what services passengers are purchasing (Lawton 2002), as compared to a situation where tickets are all-inclusive. Arguing for this particular change in the sector is consistent with the expectations efficient, dynamic, and informed markets that the framework requires. Additionally, the Authority is striving to maintain a “light handed regulatory approach”, an approach which is consistent with the neoliberal approach of less unnecessary government intervention.

As to the third point, the argument is straightforward. Consumers want to know for what it is they’re paying. Requiring retailers to include a clearer breakdown of the costs associated with their bills would accomplish that, with minimal work required by said retailers.

As the methodology of calculating prices will be consistent across all participants, the results that are communicated will offer a degree of openness and objectivity. The ability for distributors to review the information provided by retailers offers a check on the ability of retailers to mislead consumers and the media.

It is likely that this proposal would be successfully implemented into the New Zealand electricity sector. The proposal that exist now developed from the draft proposal from June of 2014 that sought to require that retailers provide information, in a standard form, to consumers. Retailers and distributors alike felt that the proposal was too restrictive in its requirements on those parties, and the mechanism that sought to increase transparency lacked clarity. The Authority received this feedback, and in the February 2015 proposal, loosened the requirements on retailers and distributors.

The Authority has, in the mind of this author, considered the lessons of NZ Power, and the broader history of change within the sector. The Authority was viewed by some as being non-objective during the debate for NZ Power for the reasons discussed above. The Authority can regain some of the reputation for being objective through acting in that manner on this proposal.

The Authority established a goal of increasing outcomes for consumers, and its first proposal was too restrictive and interventionist for the sector to accept. To get greater buy-in to the goals of the proposal, the February proposal pared the more stringent aspects of the proposal back. Considering that, it is likely that consumers, and sector, will accept the proposals

7.2 Other proposals

As established, there is a divergence in opinion on the state of the New Zealand electricity sector. Some, like Consumer Magazine, David Parker, and Gareth Hughes, spoke to a need for some changes to the practices of established gentailers, which they described as oligopolistic. Others, like the Authority, and Simon Bridges, spoke to the current system being “fundamentally strong, and advantageous for consumers” (Interview with Hon. Simon Bridges MP, Minister for Energy 2015), with small refinements – such as the increase in transparency described above – being all that is needed in the long term.

The consensus from all respondents in the course of this thesis research was that there is no major substantive reform anticipated for the sector. For the time of the Fifth National Government, all commentators believe that – short of a crisis – there will be no desire for any shift. This is particularly true considering the partial asset sale (Interview with Brian Fallow 2014). Beyond this, with Labour looking likely to drop NZ Power, and a reticence within the wider populace for an NZ Power-type proposal for the reasons established, the medium-term outlook seems to be for a continuation of the basic structure that currently exists.

To the extent disruption is expected within the sector, some expect it to come from distributed generation. Bertram particularly expects disruption to come from outside the market. Cheap solar PV technology will become more visible and viable, and he anticipates companies with limited or no history in the energy sector to use their capital to enter this market (Interview with Geoff Bertram 2015). The defensive stance of established gentailers against distributed generation may prove a barrier to this, but ultimately gentailers would face considerable pressure to change their practices. That the locus of likely change for the sector is exogenous speaks to the conclusions of governmentality. Within the frame set by those in power, there will be little change to the status quo. But should something outside that frame be influential enough to shift discourse – like, for instance, cheap alternatives to gentailers – then the frame can shift, and new practices be accepted.

Chapter 8: Limitations and future work

Limitations

The key limitation in this research was the lack of representation from distribution companies. Repeated attempts were made to contact large distribution companies, and the Energy Trusts of New Zealand Inc. – an organisation that acts on behalf of 22 different distribution companies. Many of those companies contacted to join the study did not reply to email or phone communication. Those that did, did not agree to participate. Particularly in light of Chapter 7, considering the role distribution plays in the sector, this is an unfortunate outcome.

An additional limitation was in attempting to disentangle political factors, and questions of governmentality and discourse. Specifically, there is an element of uncertainty which remains about factors in the analysis because of the underlying confidence of the incumbent government during the election campaign. The ability for successive governments to further entrench the role of the market in the sector makes it difficult for contrary views to be given much credence. Because of that, there is a natural bias towards arguments made by and for the status quo. For the purposes of this study, this limitation speaks to the conclusions of the thesis, and of governmentality. For a greater appreciation of the options the sector has for achieving the triumvirate goals for the sector, this is a handicap.

Future work

As has been discussed, the New Zealand electricity sector comprises both competitive, and non-competitive aspects. The research in this thesis has largely been concerned with the competitive aspects – specifically generation and retail. Future research into the drivers behind policy development in the sector could focus on the non-competitive aspects – particularly that of the distributors. There is ongoing debate regarding the non-competitive aspects of the sector – particularly as their perceived stagnancy sees the sector falling behind on innovation. There are questions as to the optimal form and quality of regulation to be developed by the Commerce Commission and the Authority. Government and policy frameworks do change over time. As the sector continues to develop, and new governments and bodies seek to reshape the sector, future research in a similar vein to this thesis could be conducted to provide a more contemporaneous appraisal of the development of the sector.

Part D: Conclusions

This research is concerned with the depth, breadth, and nature of discourse about policy changes in the electricity sector, drawing on an analysis of discourse on policy change. It sought to also understand why the New Zealand electricity sector takes the form it has, and what that means for future policy decisions. Through a combination of crises, technology, and the rise of neoliberalism within acceptable policy discourse, the sector has developed into a dynamic market system, with broad acceptance from politicians, academia, and the public.

The most important conclusion this thesis can draw is that the dominant discourse of neoliberalism has successfully established itself in the sector. As a consequence, debate on new policies happens within a construct that privileges ideas of efficiency and markets, gives prominence to electricity security, but puts little weight on environmental protection, equity and fuel poverty. It continues to see considerable sway held by gentailers, and their views, which have been well-aligned with those of central government in recent years.

There is divergence in views on what form the sector should take. Those who support the status quo maintain a privileged position within discourse. Those who support the ambitions of the sector – in pushing for what they believe to be a genuine free market that breaks the perceived oligopolistic position of the gentailers – are not given much air time. Those who support a change to regulate the market are viewed as outsiders, whose views will hurt consumers.

The dominance of neoliberalism within the sector did not emerge from some vacuum; rather the sector was created in response to, and moulded by, various crises, technologies, and stakeholders which culminated in the shape we see today. It is understanding these circumstances and stakeholders that has granted insight into the way policy has been crafted, and how future proposal will be received by the industry and the public.

The ideas that flow from the literature on governmentality and policy incrementalism show why this is the case. Those in power are able to influence policy discourse in a direction they support. Through the use of the position governments have within the public sphere, they are granted a unique ability to influence discourse, and to advocate for their particular policies, as was seen throughout successive governments' work in the sector. Additionally, they can call upon the support of non-governmental actors – such as the Authority – to add legitimacy to the arguments they make on policy. Through successive incremental changes to the sector, the

frames used to determine the relative success of policies has changed, so that all proposals have come to be assessed against the market's presumed ability to secure cheap, reliable electricity, in the most economic means possible.

When reform proposals run radically counter to the direction of neoliberal ideology and conventional governmentality, attempting to change that frame, they do not fare well. NZ Power failed as a proposal in large part because the proponents were unsuccessful in challenging that orthodoxy. That failure reinforces the idea that for a proposal to be successful in the sector, it will need to act within a limited window of acceptability for new policy. Prospectively, developers of policy need to be aware of the failings of NZ Power, and ensure that they act within the orthodoxy. The governmentality at work means that it is difficult for those on the “outside” to influence policy in the direction they desire. They lack the implicit and explicit power that those on the inside –the industry and politicians – have in shaping the discourse.

Even for those on the inside, having the influence to challenge market orthodoxy is limited. An example of a body attempting this to a limited extent is the Authority, whose recent proposal to increase transparency in the sector is a much less interventionist proposal than was first mooted. In attempting to ensure success of the policy, the policy was tailored to better suit the orthodoxy.

The short title of this thesis is “Malcontents and Monopoly Rents”, reflecting an aim to gain a better understanding of those whose views were not accepted in the discourse, and discover why that is the case. These “outlier” views matter – not only because they better clarify the dominant views, but because they have value in their own right. The bottom line, though, for this sector is that there is not much room for those voices. To the extent those outlier voices have influence, it is within the established framework against which the sector is judged.

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Appendices

Appendix 1:

Electricity prices for industry in US dollars/MWh										
	1978	1980	1990	2000	2008	2009	2010	2011	2012	2013
Australia	38.735	43.325	71.696	63.191						
Austria	79.83	101.277	155.69	117.512	257.018	255.682	257.629	272.66	253.924	271.9
Belgium	114.853	140.966	166.586	132.258	265.643	232.565	231.656	264.182	249.936	263.773
Canada	24.108	28.391	53.123	52.926	90.296	82.968	93.283	104.944	104.773	
Chile			41.226	85.421	228.492	213.189	208.826	210.793	185.384	172.339
Czech Republic	34.375	38.542	26.741	54.352	191.474	192.126	185.535	210.502	198.946	205.573
Denmark	67.899	101.583	164.474	197.441	396.352	364.78	356.292	409.192	383.426	393.926
Estonia					117.132	123.767	127.087	136.541	138.946	174.764
Finland	57.742	69.329	102.799	77.788	172.405	173.729	175.391	213.466	194.867	202.275
France	80.523	114.13	150.12	101.659	164.327	159.211	165.279	186.96	175.138	193.359
Germany	85.394	100.538	163.801	120.645	322.807	317.866	318.742	351.71	338.753	387.628
Greece	62.963	74.4	118.534	70.814	156.871	151.848	158.411	172.97	180.527	216.381
Hungary		31.755	38.76	65.306	224.177	206.228	218.625	218.53	204.156	182.006
Ireland	56.344	76.699	131.25	101.382	267.152	255.013	232.583	259.288	270.322	292.661
Israel				93.037	155.62	136.769	139.833	148.752	151.616	
Italy	50	76.923	156.704	135.484	305.263	284.218	263.166	278.685	288.401	305.564
Japan	93.138	117.336	176.796	214.041	206.016	227.64	232.158	261.356	276.758	242.14
Korea	66.529	98.115	96.186	83.776	88.64	76.921	83.172	88.684	93.079	101.422
Luxembourg	68.502	85.517	123.764	99.263	215.497	235.899	215.364	220.94	209.254	206.823
Mexico	35.242	52.402	45.834	68.284	96.053	79.875	89.67	95.163	90.195	90.85
Netherlands	82.383	114.523	117.191	131.06	242.642	258.024	221.154	237.732	238.238	257.201
New Zealand	23.936	33.489	54.652	60.054	164.368	151.428	176.126	204.883	213.384	
Norway	28.427	35.447	73.343	57.814	151.262	132.605	175.829	170.521	135.984	148.512
Poland	..	22.624	10.316	65.467	192.954	167.489	179.125	198.21	190.868	196.299
Portugal	46.575	71.084	147.324	119.539	219.664	215.199	215.232	245.497	260.668	279.57
Slovak Republic	34.372	38.523	27.685	50.124	219.887	230.897	212.98	241.553	229.64	238.052
Slovenia					167.575	183.049	185.472	201.711	193.443	212.76
Spain	57.267	80.046	189.723	117.143	218.013	212.337	246.715	295.106		
Sweden	46.491	59.116	87.868		218.433	194.042	217.995	247.912	223.962	233.656
Switzerland	65.984	72.549	110.735	111.322	154.3	163.917	179.989	222.723	204.16	203.695
Turkey	77	62.625	50.64	84.419	164.801	165.095	184.141	169.072	184.749	
United Kingdom	52.167	87.169	118.472	106.721	217.927	191.204	183.065	208.182	216.106	228.863
United States	43.1	53.6	78.5	82	112.634	115.071	115.765	117.169	118.785	121.159
OECD	55.186	68.206	102.418	100.94	156.16	155.489	158.307	169.306	167.306	