

Electricity – a pretty good deal

Winter is here and New Zealanders are turning on their heaters to stay warm. Electricity consumption obviously goes up at this time of year – and so does suspicion among some people that power in this country is more expensive than it should be. We thought it was a good time to review basic facts about electricity prices and about how much we actually spend on a form of energy that is fundamental to our standard of living. It’s hard not to come to one clear conclusion: overall, New Zealanders are getting a pretty good deal on their power at home and at work.

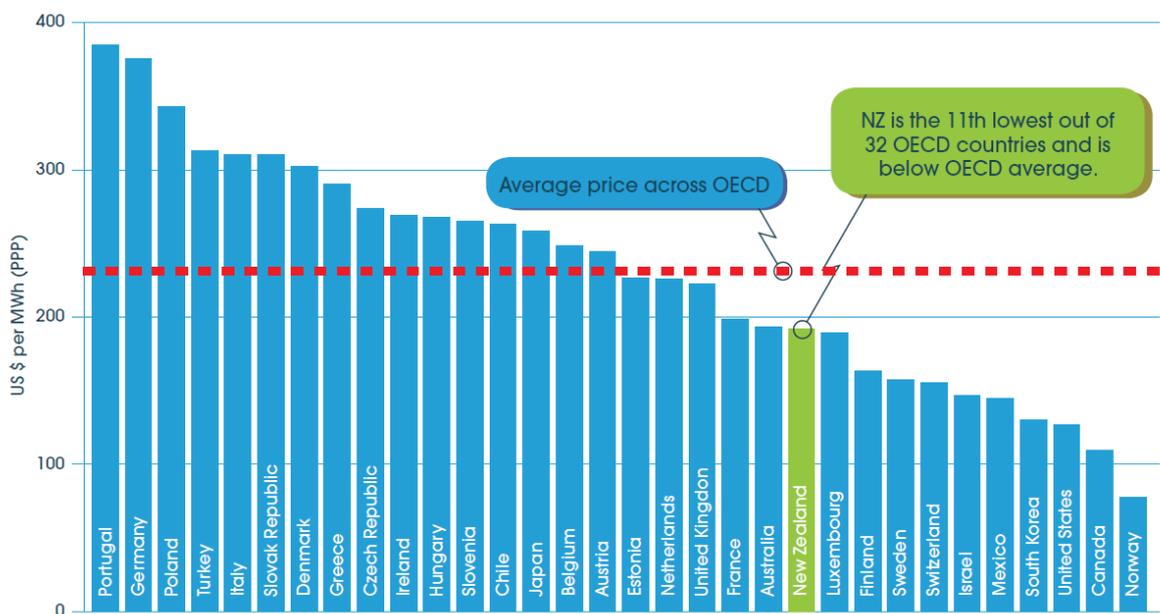
Let’s consider six facts.

(1) The most recent international data shows that New Zealand prices are lower than most other OECD countries

Only 10 of the other 31 countries in the OECD have lower prices for residential electricity supply. New Zealand’s benchmark price is 17% lower than the OECD average calculated based on purchasing power parity of the relevant currencies. We are slightly lower than Australia and significantly cheaper than Britain and most of the European countries. Furthermore, since 2009 the average nominal worldwide household price rise has been slightly less than 6 cents/kWh while the New Zealand price rise was just over 3 cents/kWh. New Zealand compares even more favourably on supply to industrial users at fourth lowest in the OECD.

New Zealand prices are low compared with other OECD countries

Graph: International Comparison of Residential Electricity Costs (2015)

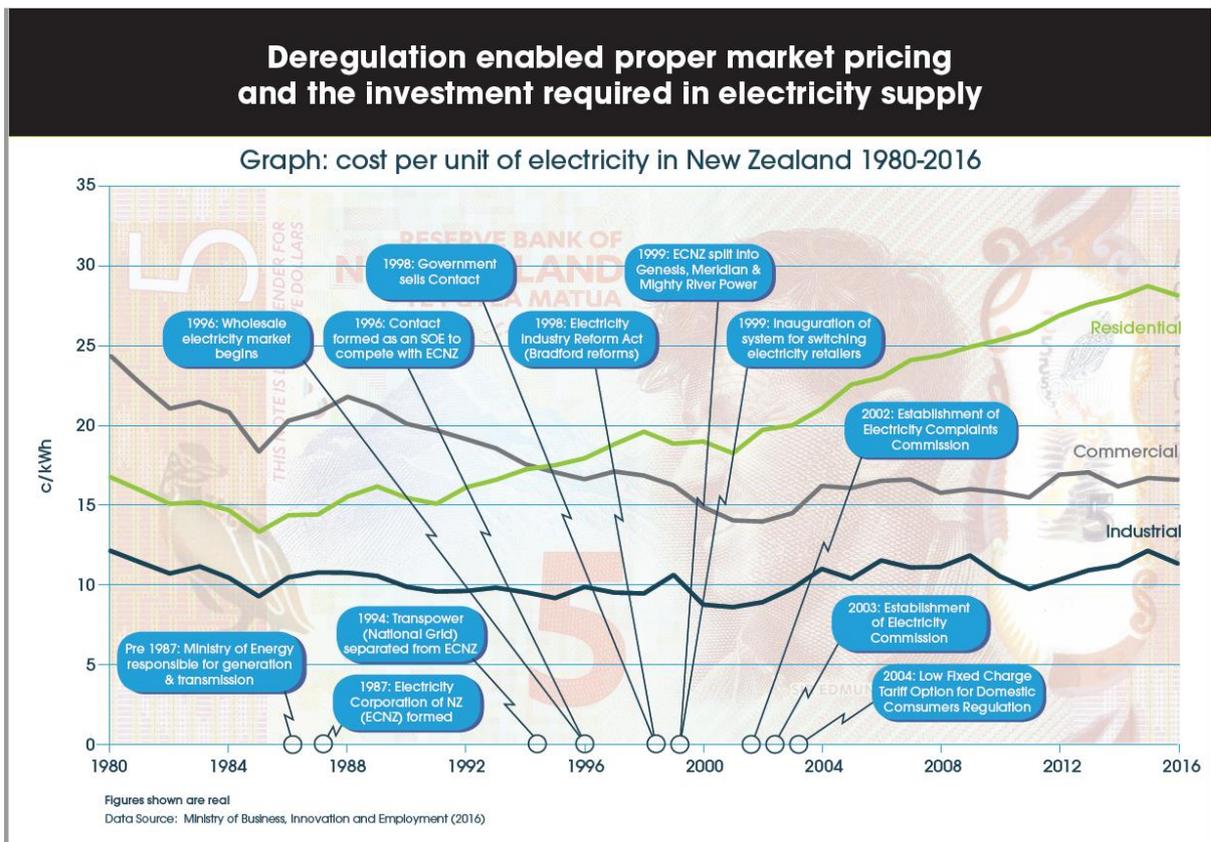


Price comparisons between are on a purchasing power parity (PPP) basis
Data Source: Ministry of Business, Innovation, and Employment (2017)

(2) We did have a big increase in residential electricity prices after market deregulation in the 1990s – much of that was to unwind the cross-subsidisation between commercial and residential consumers

Deregulation gave New Zealand proper market pricing of electricity. This meant that the real costs of supply was reflected in the prices paid by users. Those costs included the capital costs associated with investment required in new generation plants and in National Grid upgrading. We needed both from the late 1990s onward for New Zealand to achieve the goals of having a reliable, secure, efficient and affordable electricity supply. New Zealand is in the top 10 in the world in terms of these measures. Whilst some of the shares in generation, distribution and retailing businesses were sold to private investors, over half of the industry is still owned by the state or local communities.

Prices did rise for residential users on absolute and relative measures along the path of restructuring. Much of that increase reflected the unwinding of cross-subsidisation of lines charges that had over-charged business and under-charged residential users. Several factors make it cheaper, per unit of power consumed, to distribute electricity to businesses rather than to households, including the fact that businesses tend to have a stable demand profile over the day.



The differential in the end charges to residential and industrial are explainable by GST at 15% being applicable to residential but reclaimable by other groups and differences in costs of retailers to serve, transmission charges, liability for distribution charges, metering costs and EA levies to operate and govern the market. For example, the difference in residential and commercial prices include significant increases in the cost of natural gas for thermal

generation, which is largely used during peak residential demand; and increased investment in expansion of the grid coupled with the ability for industrial and commercial users to alter their consumption profile to minimise transmission charges.

As the chart (above) shows, both commercial and industrial electricity prices have remained stable (in real terms) over the past 20 years. That, of course, has been beneficial for the international competitiveness of the New Zealand economy and our productivity.

(3) New Zealand households are big consumers of electricity compared with households in most other countries

For most New Zealanders electricity is the main source of energy in their home. We predominantly use it for space and water heating. Generally, our homes are less well insulated, so they need more heating. That we are so reliant on electricity at home makes New Zealanders more aware of price changes: when the per kilowatt hour cost was rising, people were definitely paying more in their monthly bills. That memory probably accounts for lingering beliefs about the affordability of power in this country. The good news is that this source of energy is one of the cleanest and most sustainable, given around 80% of our electricity is renewably generated.

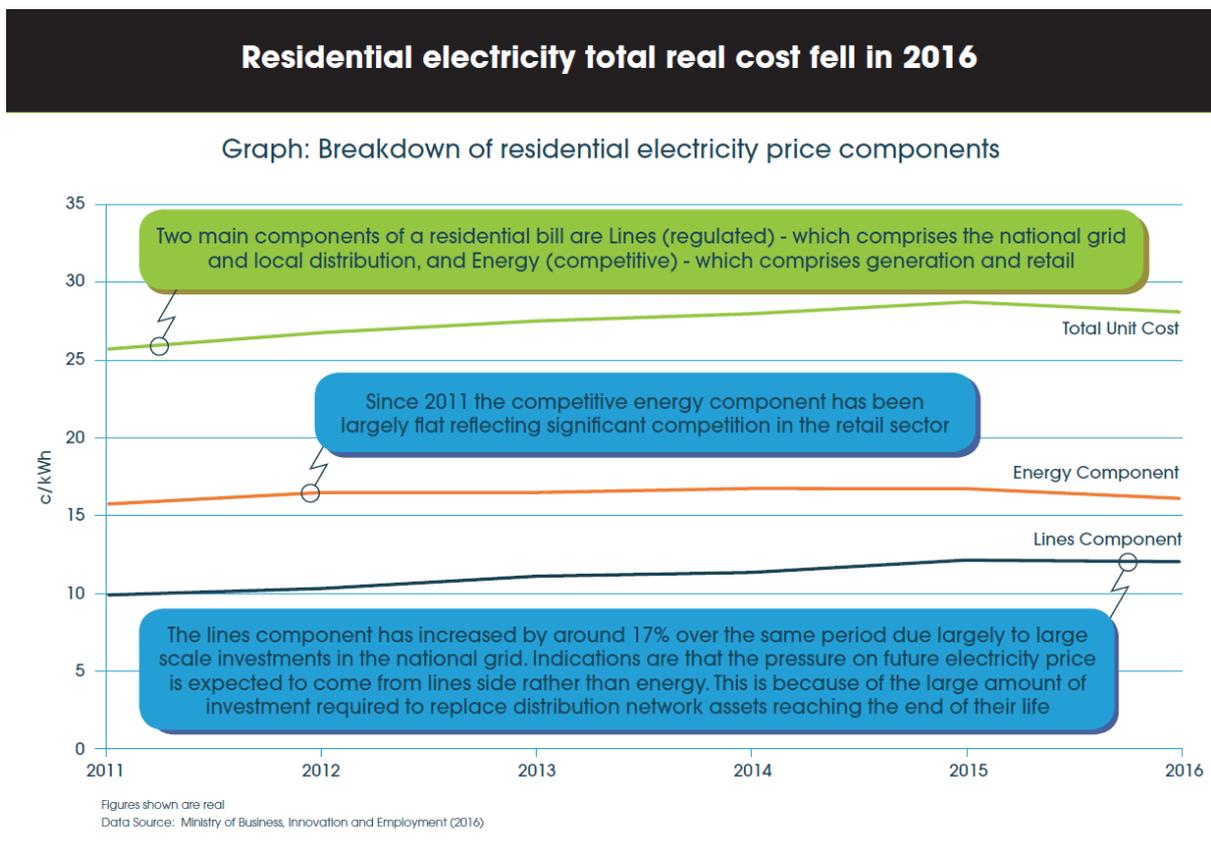
New Zealand households are relatively high electricity consumers

Graph: International Comparison of Residential Electricity Consumption



(4) Analysis of official statistics shows that the real cost of electricity to New Zealand householders fell in 2016 – the first fall for many years

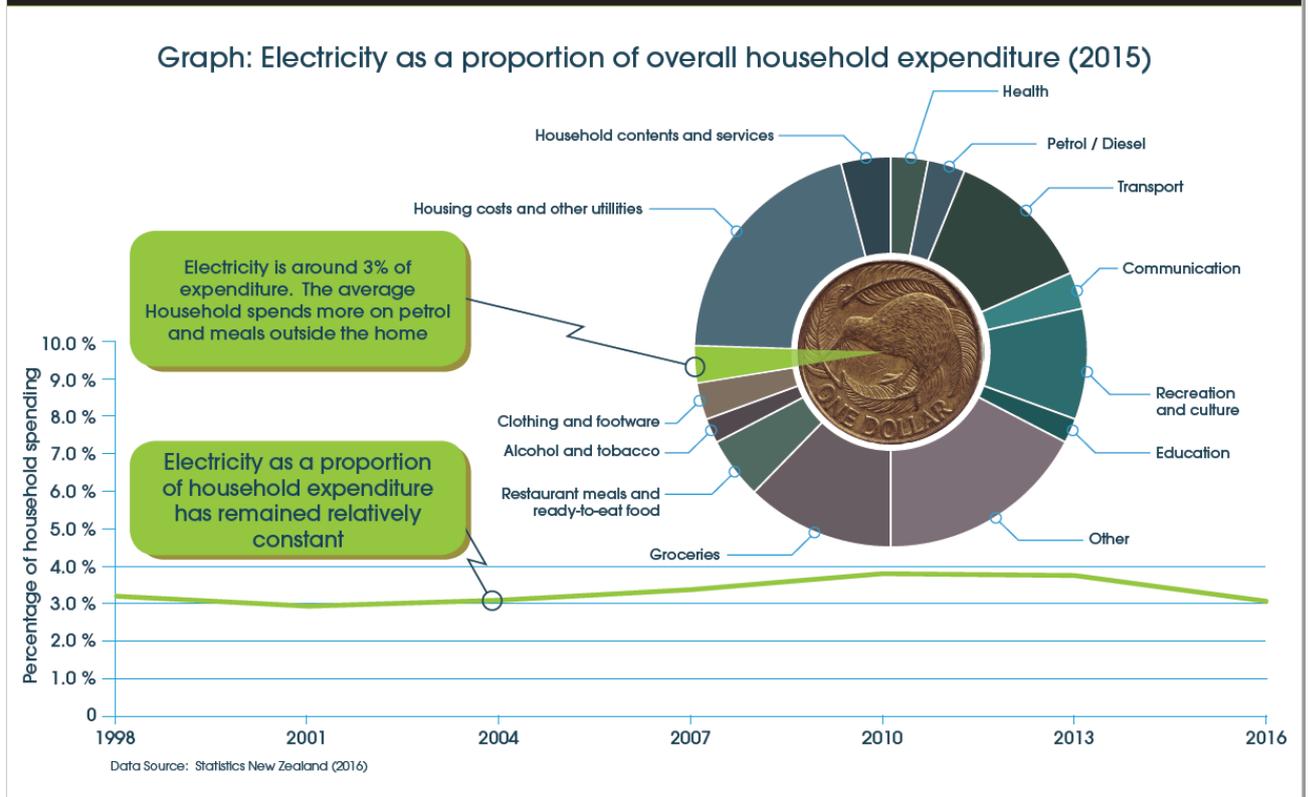
Our analysis of data from the Ministry of Business, Innovation and Employment puts the real cost of electricity to the average residential user at 28.1 cents per kilowatt hour in 2016. That compares with 28.7 cents in 2015 and so we have seen the first fall in prices from one year to the next since the 1980s (in constant dollar terms). The energy component of the average cost to residential users fell around 3% last year. The decline reflects all supply and demand factors in New Zealand's efficient electricity market, including the competition now occurring amongst generators and retailers. New, more energy efficient appliances in the home are part of the picture as well.



(5) Electricity is a relatively small component of total weekly expenditure in the average New Zealand household budget

The Statistics New Zealand Household Economic Survey shows average spending on electricity in 2016 was \$37.90 per week, this being one component of total average expenditure (\$1299.50). This means power took just 2.9% of the average household budget in 2016. Since surveys began in 1998 the percentage spent on electricity has only been between 3-4%. The latest survey data shows we spend four times as much on groceries than we do on electricity. This is a pretty good deal given the role that electricity plays to heat and cook food, heat water and space, as well as provide lighting and power to the television, computer and other appliances in the home.

Electricity is a relatively small component of the average household budget

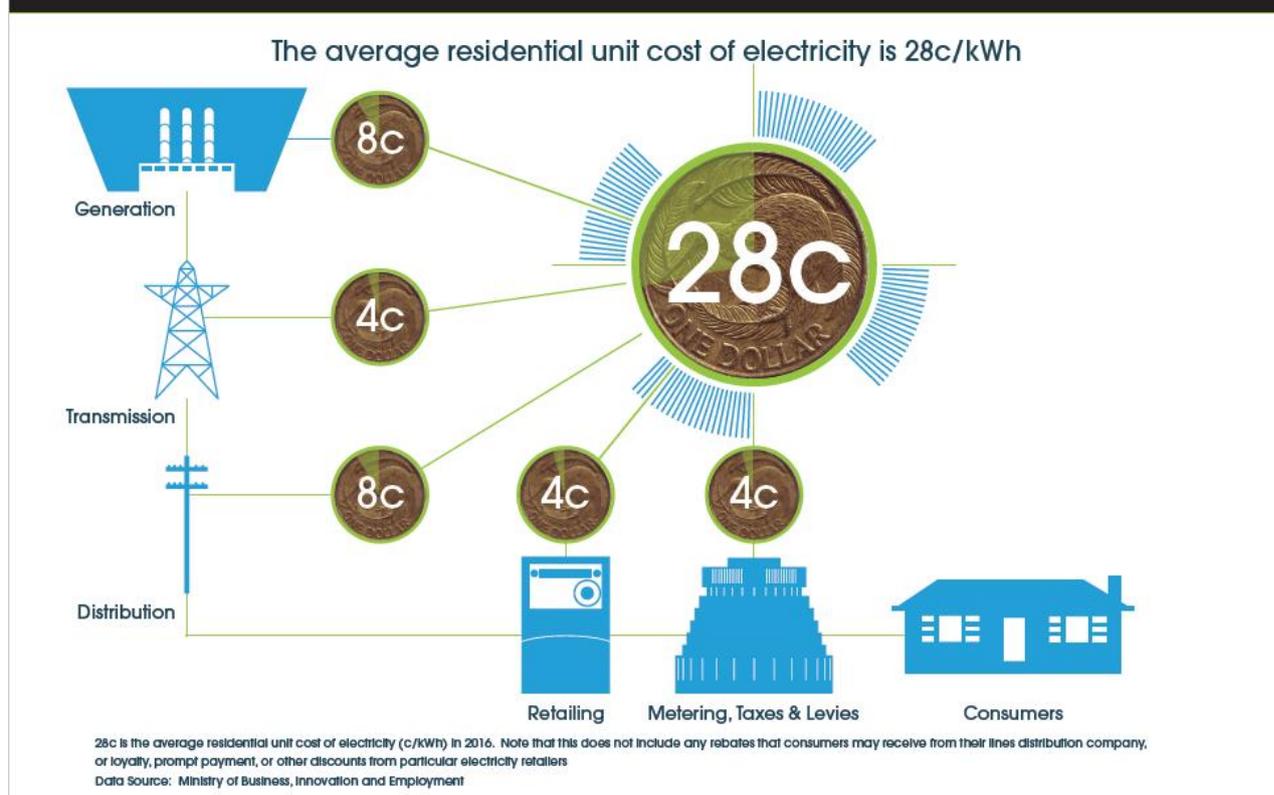


(6) New Zealand has highly reliable electricity supply by world standards and this has supported our higher level of dependency on this form of energy

New Zealanders have invested in robust generation and national distribution over the past 100 years, and our system today is amongst the most robust in the world. Indeed, we have come to rely heavily on electricity in our homes, as well as for industry and commerce. New Zealand places 9th in the world in terms of the World Energy Council measures of energy security, energy equity (accessibility and affordability), and environmental sustainability.

Homes would be a lot less comfortable without the ability to always flick on the power for our heating needs, and for all the appliances that save us labour, entertain us and connect us to the world, and increasingly for our transport. For an average cost of just 28 cents per kilowatt hour, there are many parts of a complex and intricate system that are supported.

Breakdown of residential electricity unit price



In summary

These six facts put electricity pricing and affordability in proper context. New Zealand has efficient and reliable generation and supply systems, and consumers have wide choice in who they can purchase their power from, and on what basis.

At the same time, there are undoubtedly New Zealand households where affordability is a real issue – affordability not just of electricity but also of rent, food, petrol, and other day to day costs. There is constant pressure on the electricity sector to keep prices as low and efficient as possible, and rightly so for this essential service.

There is however an important difference between the unit cost of electricity and the total bill which counts how much, and in some cases when, energy has been used. When it comes to electricity in New Zealand, the facts are that our unit cost prices are relatively low compared to many other countries, we have a highly reliable system and, on average, we spend much less on household supply than other items. Overall, it's a pretty good deal.

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