

Once upon a time





The tale of the Wizzards of DSM and the cure of energy addiction.

Rob Kool – Chair IA DSM/EGRD

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Implementing Agreement on Demand Side Management Technologies and Programmes



Abel Tasman

The discovery of “The Other Zealand”

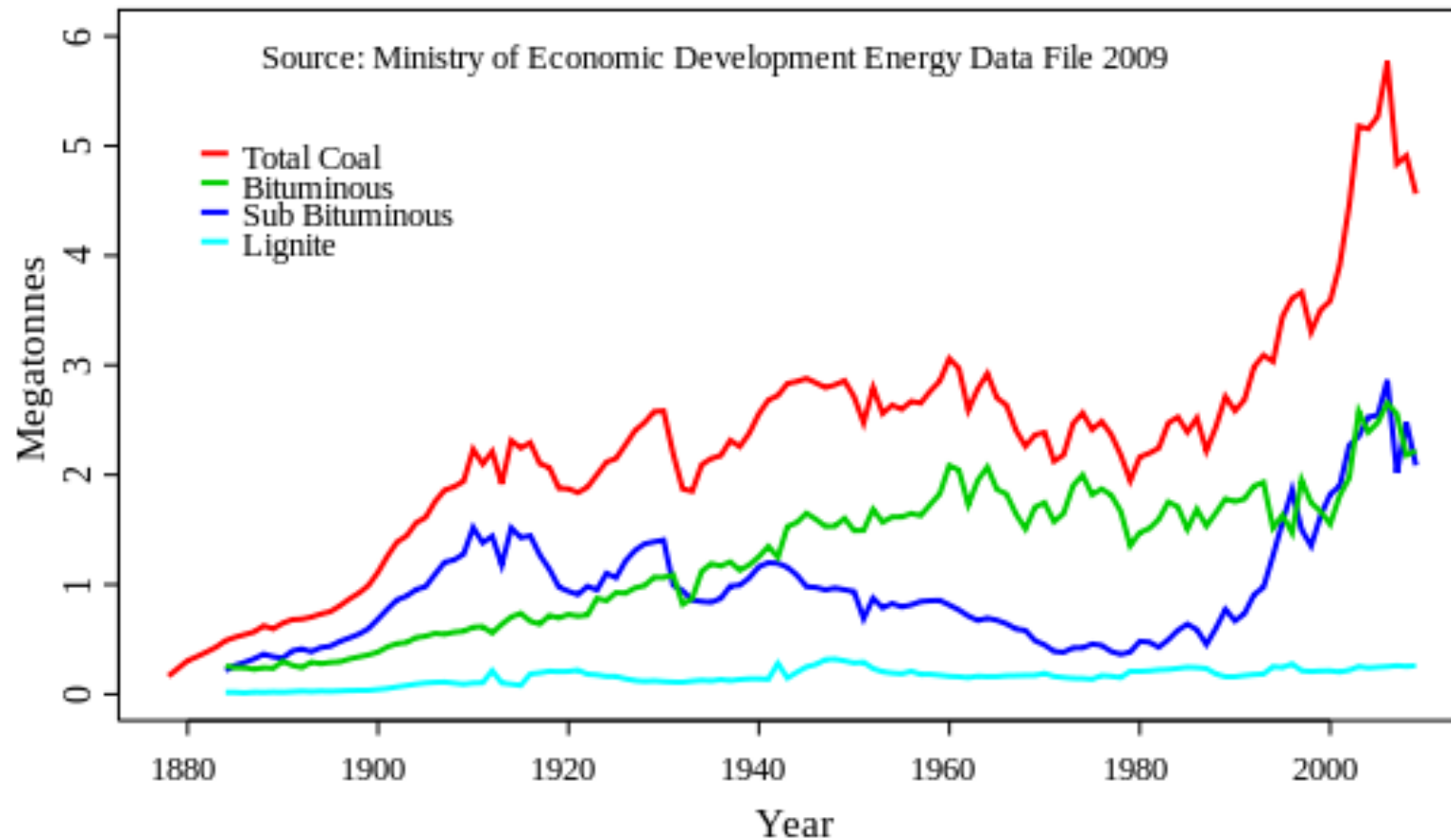


Society of “The Other Zealand” developed!



The Other Zealanders became energy rich..

New Zealand's Coal Consumption 1878 - 2009



Signs of Energy Addiction were noticed in The Other Zealand.



Trouble in paradise of the Other Zealand



The symptoms

- Anxiety
- Burning spots
- Head aches and breathing problems



Caused by

- On 30 July, due to a massive breakdown in the northern grid, there was a [major power failure](#) which affected seven north Indian states, including Delhi, Punjab, Haryana, Himachal Pradesh, Uttar Pradesh, Jammu and Kashmir, and Rajasthan.^[113]
- On 31 July, the [July 2012 India blackout](#), which is being called the biggest ever power failure in the world, left half of India without electricity supply. This affected hundreds of trains, hundreds of thousands of households and other establishments as the grid that connects generating stations with customers collapsed for the second time in two days.^[114]
- On 29–30 October, [Hurricane Sandy](#) brought high winds and coastal flooding to a large portion of the eastern United States, leaving millions of people without power. The storm, which came ashore near [Atlantic City, New Jersey](#) as a Category 1 hurricane, ultimately left scores of homes without power. The storm affected 23 million people in Pennsylvania (1.2 million), Connecticut (620,000), Massachusetts (400,000), Maryland (290,000), West Virginia (200,000), New York (2.2 million), and the District of Columbia (500,000). Power outages were also reported in a number of other states, including Virginia, Maine, Rhode Island, Vermont, and the District of Columbia.^[115]

List of major power outages

2013 [\[edit\]](#)

- Over the weekend of 26–27 January Ex Tropical Cyclone Oswald caused the loss of power to over 250000 customers in South East Queensland, Australia. Power was gradually restored over about 10 days.^[117]
- On 8–9 February, some 650,000 homes and businesses in the northeastern US lost power as the result of a [powerful nor'easter](#) that brought hurricane-force wind gusts and more than two feet of snow to New England.^[118]
- On 22 March 2013 200,000 homes in the [Greater Belfast](#) area lost power as the result of a fault with the high voltage transmission network during a snow storm.^[119]
- On 1 April 2013, 100,000 people in Poland suffered under power outages due to heavy snow falls.^[120] Warsaw Airport found the snow a bit difficult to operate in.^[121]
- On 5 May 2013, 40-50% of Luzon island in the Philippines was suffered in power outages because of several transmission lines tripped out, resulting in the isolation of Sta. Rita, San Lorenzo, Calaca, Ilijan, QPPL [Quezon Power Plant Philippines, Ltd.]^[122]
- On 21 May, the [2013 southern Thailand blackout](#) resulted when a power failure affected fourteen provinces (out of 76) in [Thailand](#), for four hours, starting at 19:00 local time.^[123]
- On 22 May, [2013 Southern Vietnam and Cambodia blackout](#). A careless move of a truck deployed to plant trees in New Binh Duong City urban area is the direct cause for the massive power outage in the southern part of Vietnam. The truck hit a high-voltage power line, causing the tree to fall onto a line in the national power grid (500 kV), causing the massive power outage.^[124]
- On 24 Sep 22.14, a power outage in the Balkans region (Bulgaria, Greece, and Turkey) occurred. The outage was caused by a failure in the substation of Hamitabat Gas (near the border between Bulgaria and Greece). The outage affected a large number of people in the region. The outage was caused by a failure in the substation of Hamitabat Gas (near the border between Bulgaria and Greece). The outage affected a large number of people in the region. The outage was caused by a failure in the substation of Hamitabat Gas (near the border between Bulgaria and Greece). The outage affected a large number of people in the region.^[125]
- On 22 December, a major [ice storm](#) covering much of mid-Michigan, caused power failures. According to reports, at its peak as many as 500,000 lost power with restoration efforts expected through 29 December.^[126]
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2006 Auckland Blackout

2014 [\[edit\]](#)

- On 27 February, parts of Mindanao island in the Philippines suffered power outages for 6 hours. As of 12:00PM (PST+8) around 70 percent of its entire grid has been restored. The Department of Energy (DOE) said its investigation of what caused the widespread blackout in Mindanao.^[129]

Caused

Other

Search keywords...

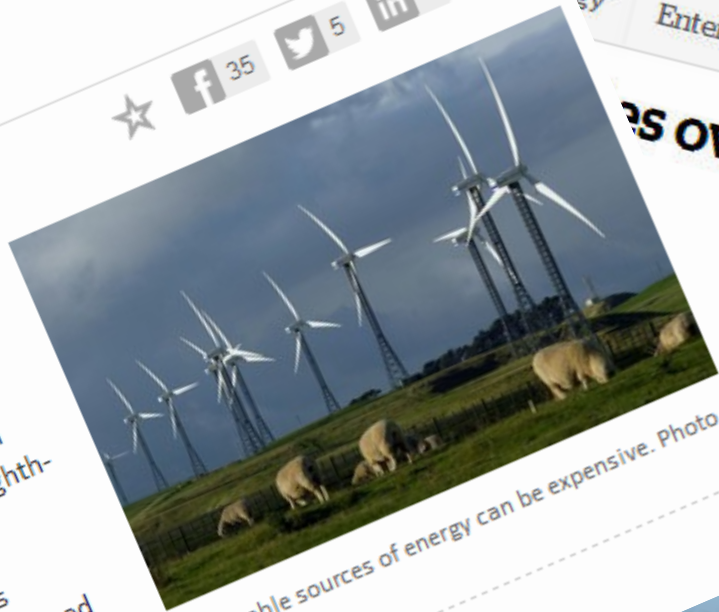
Power costs on the rise for Kiwis

By Susan Edmunds
5:30 AM Sunday Jan 22, 2012

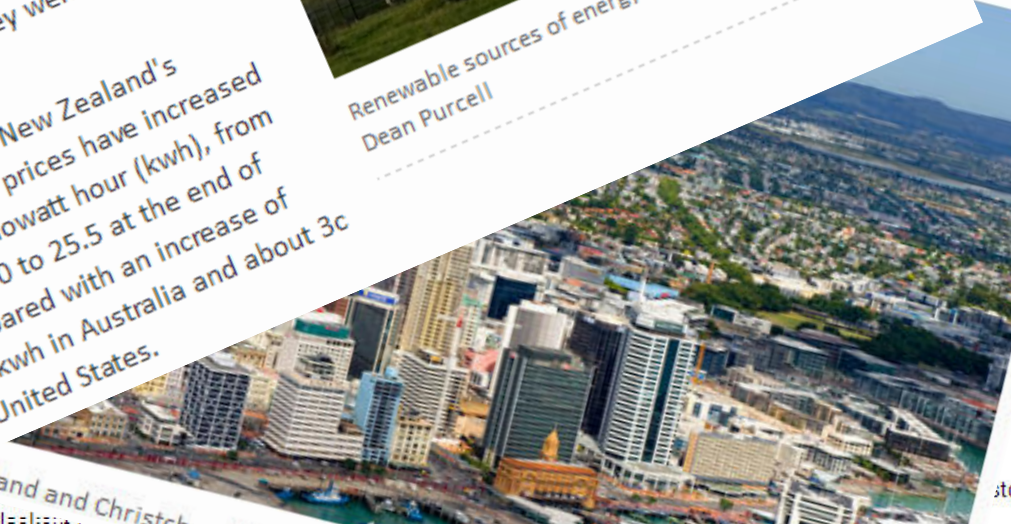
Electricity Energy

New Zealand power consumers have dealt with some of the sharpest price rises in the world over the past 20 years. Kiwi electricity tariffs are now average on a global scale but in 1990 they were the eighth-lowest.

Over the past 20 years, New Zealand's average annual power prices have increased more than 15c per kilowatt hour (kwh), from 9.2c per kwh in 1990 to 25.5 at the end of 2010. That's compared with an increase of less than 2c per kwh in Australia and about 3c per kwh in the United States.



Renewable sources of energy can be expensive. Photo / Dean Purcell



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- On 5 May 2013, 40-Calaca, Ilijan, QPPL
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Search keywords...

Entertainment Life & Style

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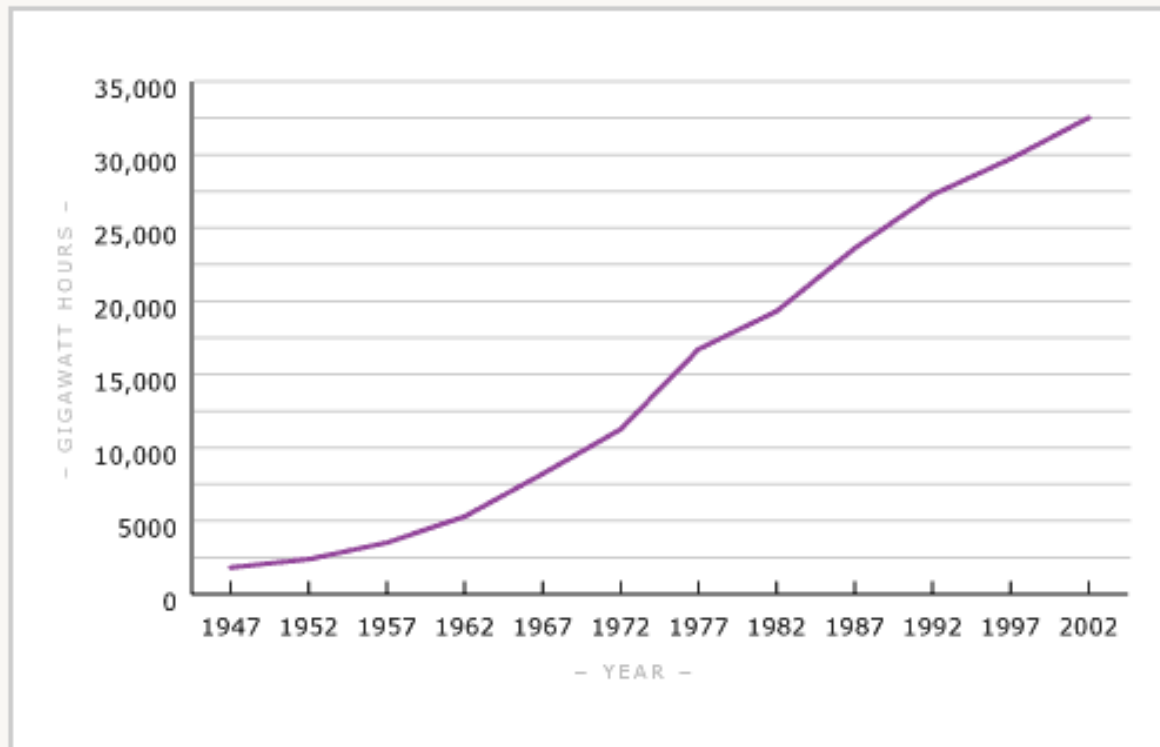
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ation efforts

stored. The Department

Conclusion: an Energy addiction

Electricity consumption in New Zealand, 1947–2002



Electricity consumption has risen steadily since the 1960s, increasing by about 5,000 gigawatt hours every six years.

Source: New Zealand Official Yearbook, 1947–2002

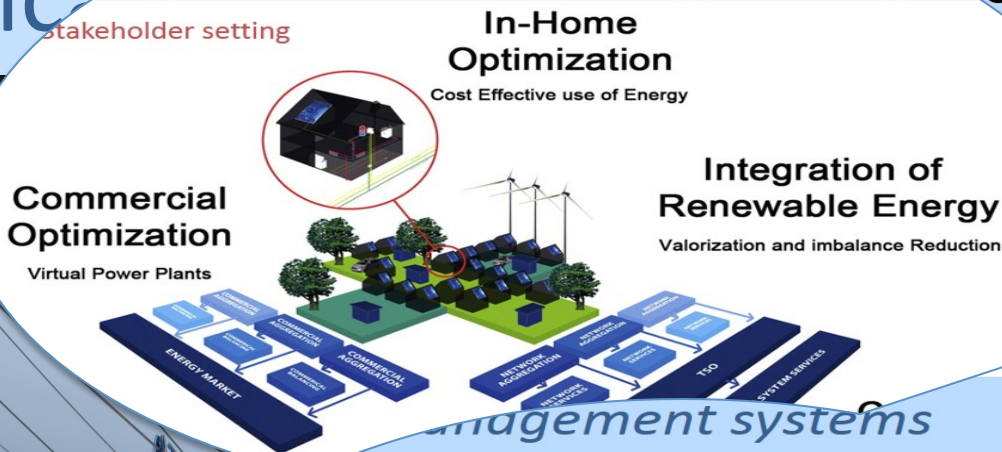
Consult...

- The wizards of DSM
 - Austria, Belgium, Finland, India, Italy, Netherlands, Norway, New Zealand, Korea, Spain, Sweden, Switzerland, United Kingdom, USA
 - European Copper Alliance, R.A.P.
 - And training in South Africa, China and Thailand

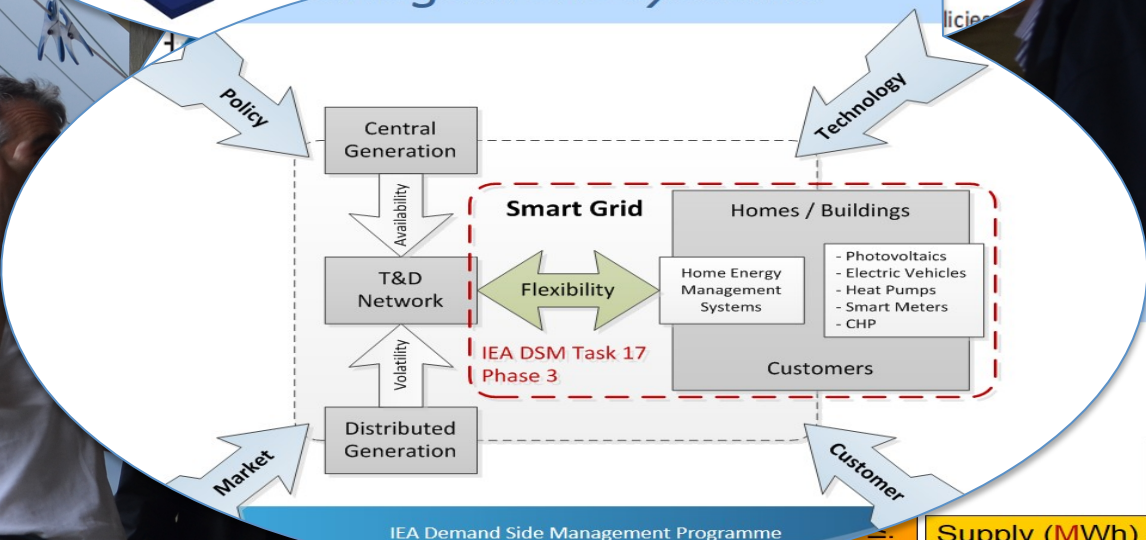


www.ieadsm.org

Magic Multiple PowerMatcher in living lab Hoogkerk 2012



CPS	NPS
7%	66%
5%	8%
12%	12%
16%	14%
1 479	2 4



IEA Demand Side Management Programme

- Gas, fuel oil, solar, woodchips ...
- Finance
TPF, equity, banks, leasing, subsidies ...

Supply (MWh) or savings (NWh) incl. function, performance + price guarantees

ESCO Client



IEA Demand Side Management Programme
Legislative Framework
Measurement, laws, technical rules ...

Source: after [Blevins] / Technology Network

The assistance of other folk

Smart Grids

I look cute!

Zero buildings!

Labels!



Rehab by the cure of the 3 kiwi's

Compare, and gather prove
Collaborate
Develop, improve
Make a local fit (invent your own story)

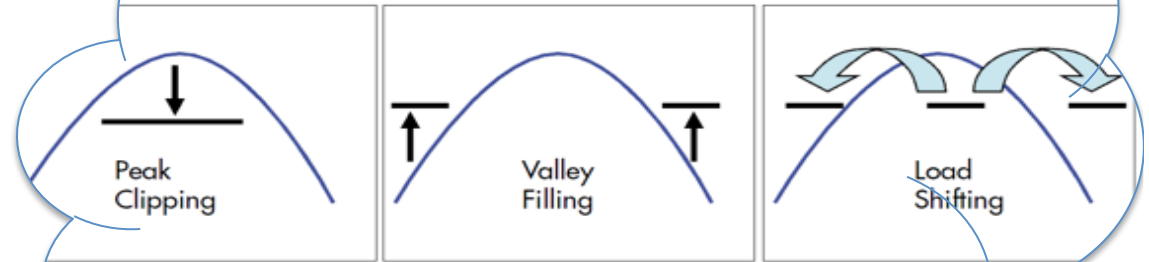


Because the Dark Lords of Energy Addiction still ruled!



1. The silent KIWI

Load Shape changes. (Adapted from Clark Gellings, speech made 1982)⁵



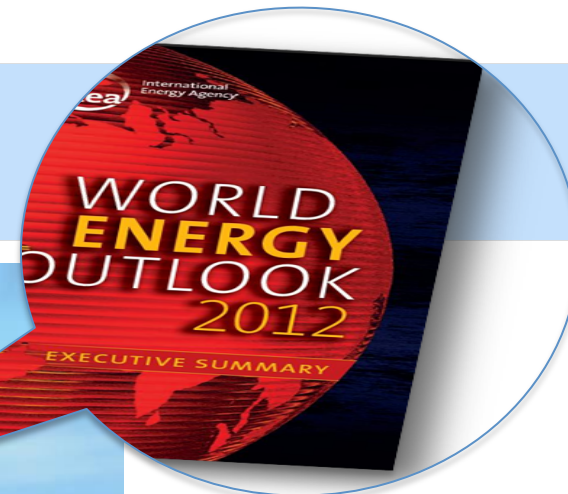
- DSM as a facilitator for a decentralized system with (la independent local grids
- DSM as a tool for matching local loads w grid



Integrate local renewables

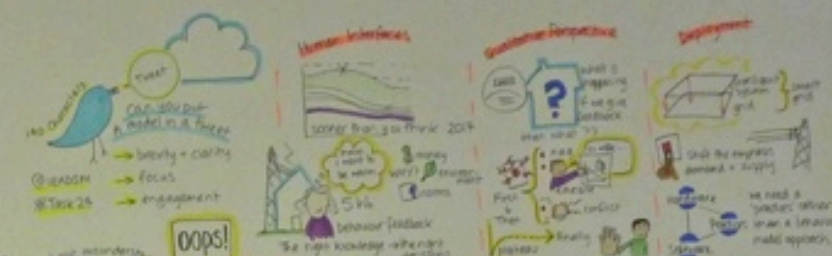
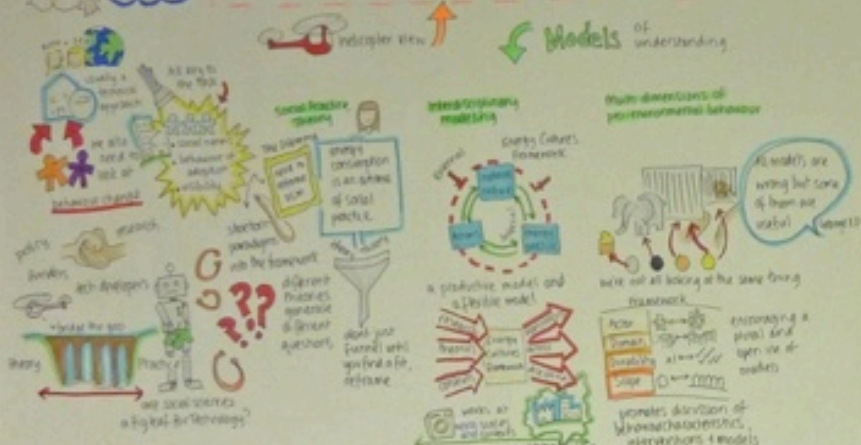
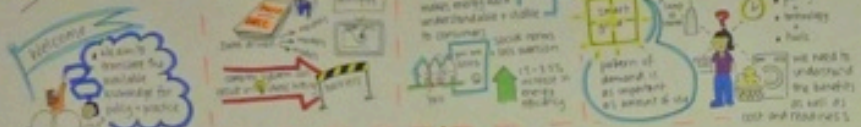


2. The loud kiwi

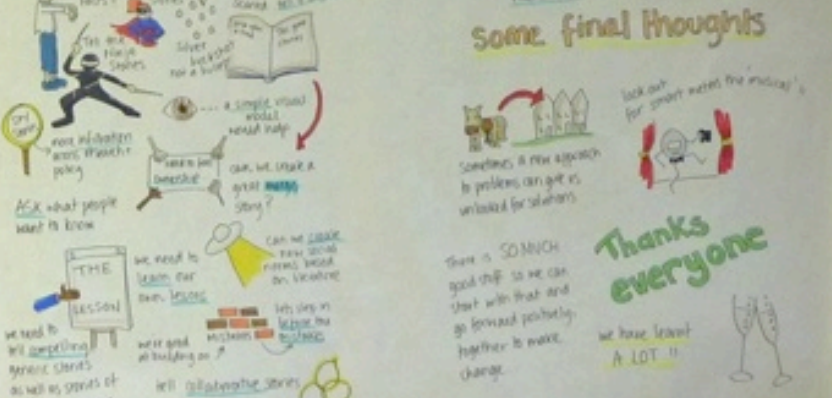
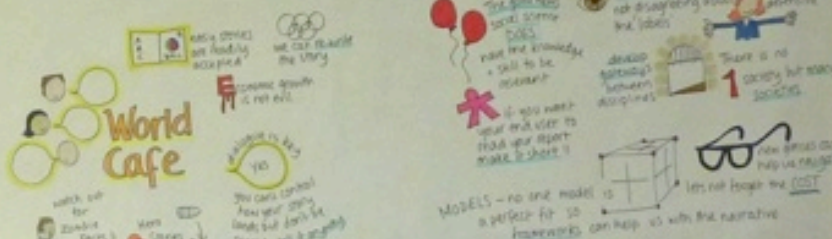
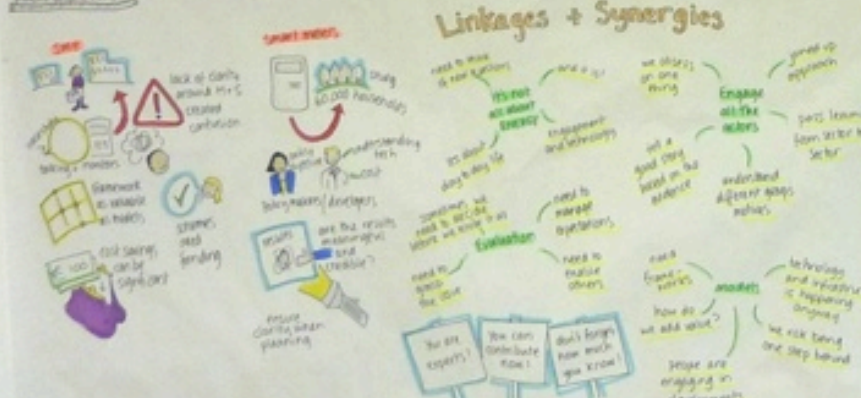


CLOSING the LOOP

DAY 1



DAY 2



3. The healthy kiwi



The Other Zealanders don't need energy



But the service it provides

And they insulated



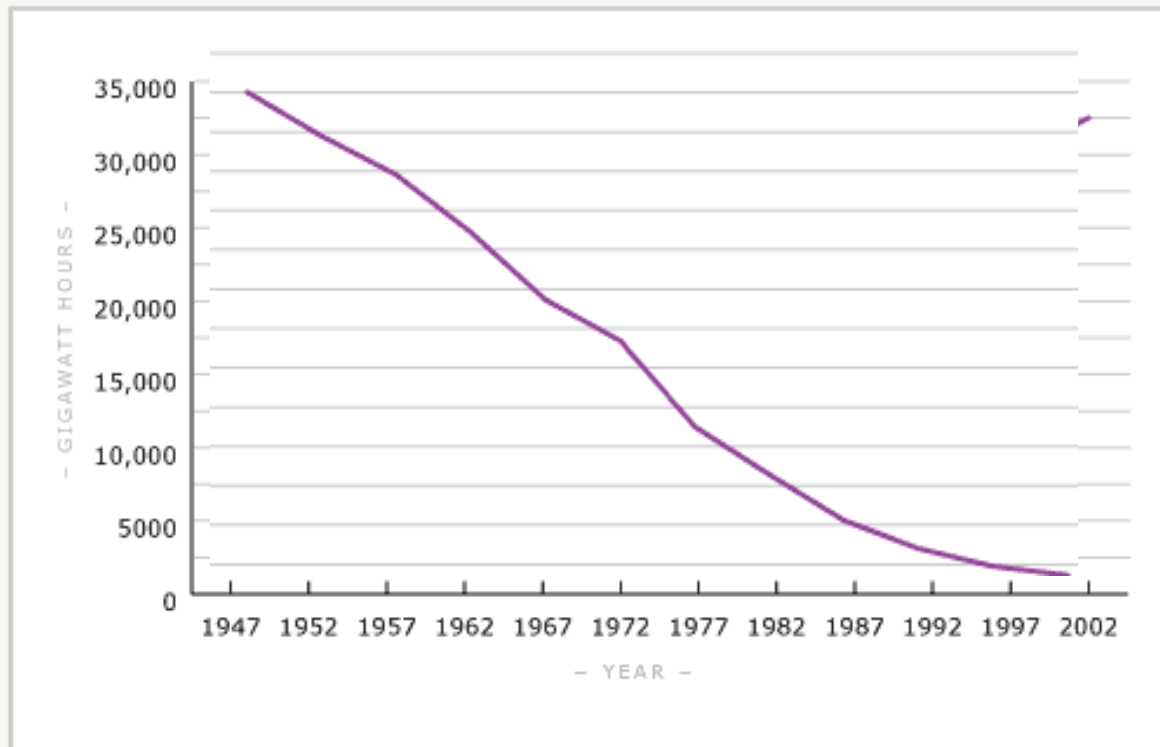
By using the three kiwi's



The other Zealanders got cured 😊

The Dark Lords of Energy backed away

Electricity consumption in New Zealand, 1947–2002



Electricity consumption has risen steadily since the 1960s, increasing by about 5,000 gigawatt hours every six years.

Source: New Zealand Official Yearbook, 1947–2002

And the Wizzards of DSM saved the day.

and the lives of the
Other Zealanders
had changed so
much, that from that
day they were known
as “New & Improved
Zealanders”
but, when in battle...

KIWI's!