

WORKSAFE

Energy Safety

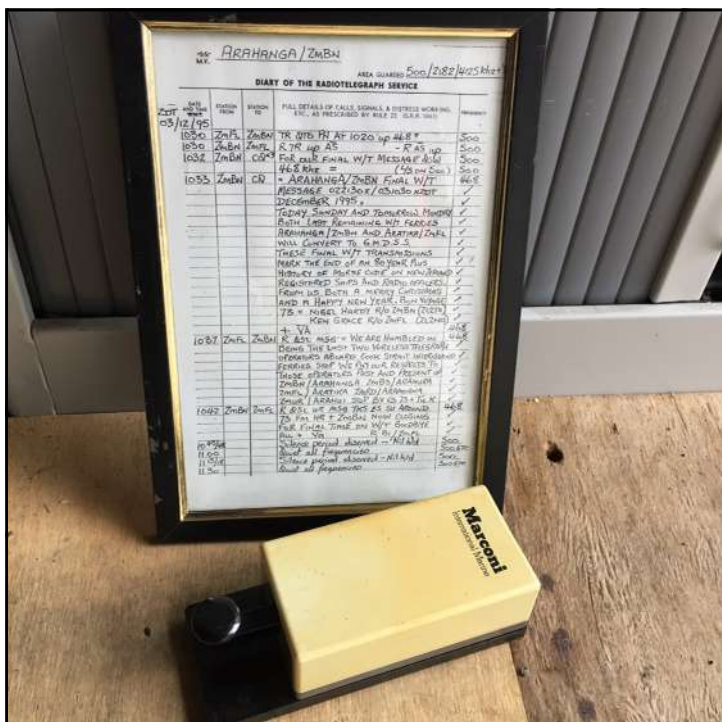
EEA Health & Safety Workshop 2017

Presenter: Mark Wogan

October 2017

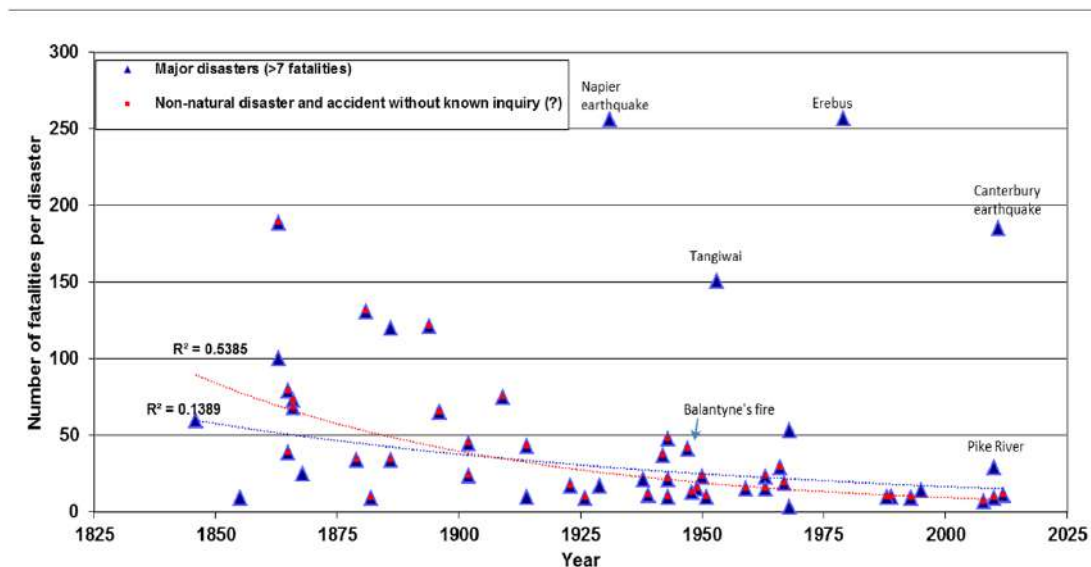


- **Energy Safety – The team**
- **Our work – what are we doing**
- **Electrical Data Analysis, NZ Safety performance and benchmarking**
- **Electrical sector – common findings**
- **Review of Electric Vehicle Charging Safety Guidelines**
- **Safety Campaigns**



NZ Societal Tolerance

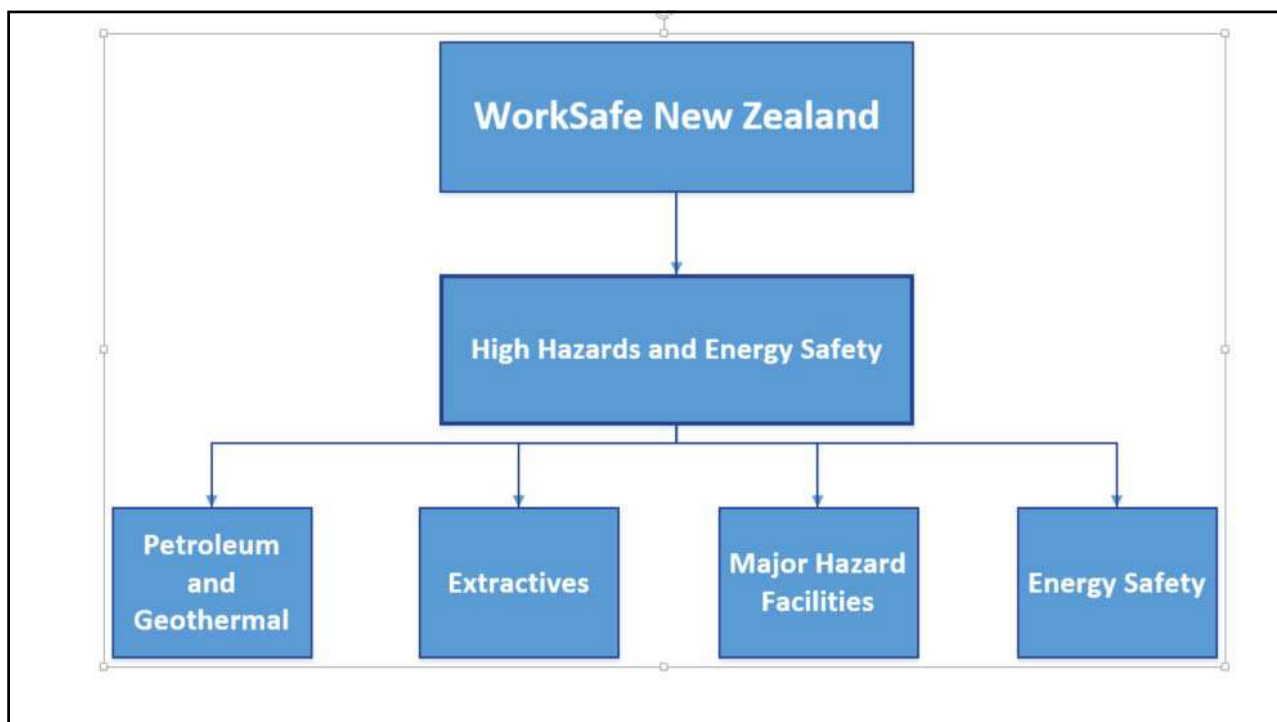
NZ society exposed to major disasters with more than 7 fatalities



1 Who are we & what are we up to

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Introducing the ENERGY SAFETY team

Wellington



Mark Wogan
Manager



Peter Morfee
Principal
Technical
Advisor



Paul Stannard
Technical Officer
Operational Policy
& Gas



Anthony Christenhusz
Technical Officer
Gas



Keith Rodgers
Technical Officer
Gas



David McLaughlan
Technical Officer
Electricity



Gaby Taube
Publishing and
Administration
Coordinator



Veerendra Bhim
Technical Officer
Electricity



Vallabh Patel
Senior Research
Analyst



Vacancy
Technical
Officer
Wellington



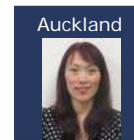
Vacancy
Specialist
Inspector



Vacancy
Specialist
Inspector



Miles Bonfield
Senior Technical
Officer Electricity



Lucy He
Technical Officer



Vacancy
Technical
Officer



Vacancy
Compliance
Officer



Vacancy
Specialist
Inspector

Work Program

Targeting Risk

- ✓ 50+ investigations into Accidents notifiable under the Electricity and Gas Acts
- ✓ 250+ investigations into non notifiable events and unsafes
- ✓ 300+ Audits of Electrical and Gas appliance/fitting Suppliers
- ✓ 500+ Appliance audits
- ✓ 50+ Installation/network/distribution system audits
- ✓ 100+ High Risk Database desktop audits

Work Program - Targeting Risk

Targeted proactive and reactive work themes:

- EVSE
- PV
- Flammable refrigerants
- High energy storage systems
- BWC – TPS,
- Aging network Assets
- Private lines
- Seasonal safety campaigns
- Industry sector and public engagement
- Regulations review work
- Standards contract work
- International strategic engagement
- Team capacity recruitment and training
- succession planning

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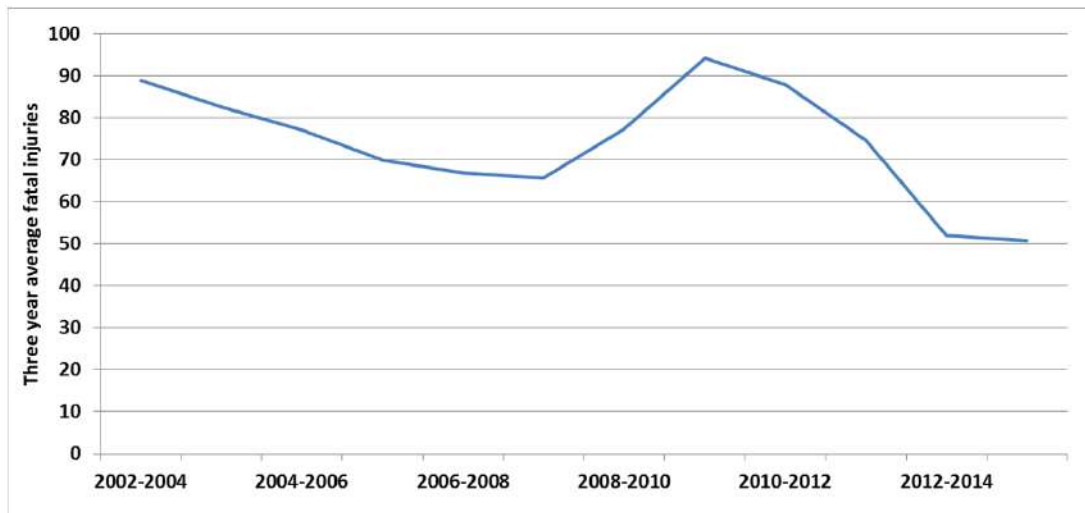
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2 Worker accidents rates & targets

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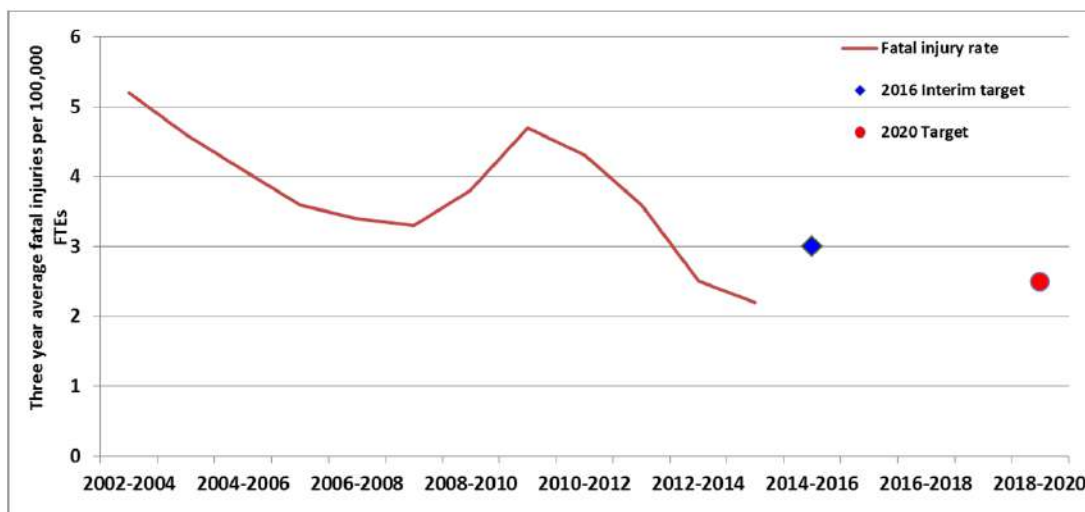
Workplace Deaths (Three Year Moving Average)



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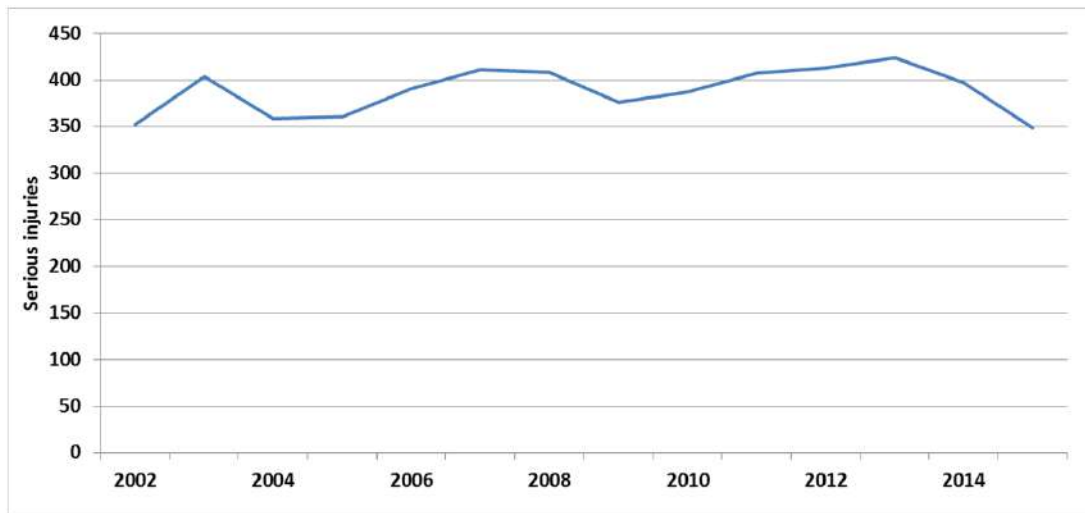
Workplace Death Rate (Three Year Moving Average per 100,000 FTE)



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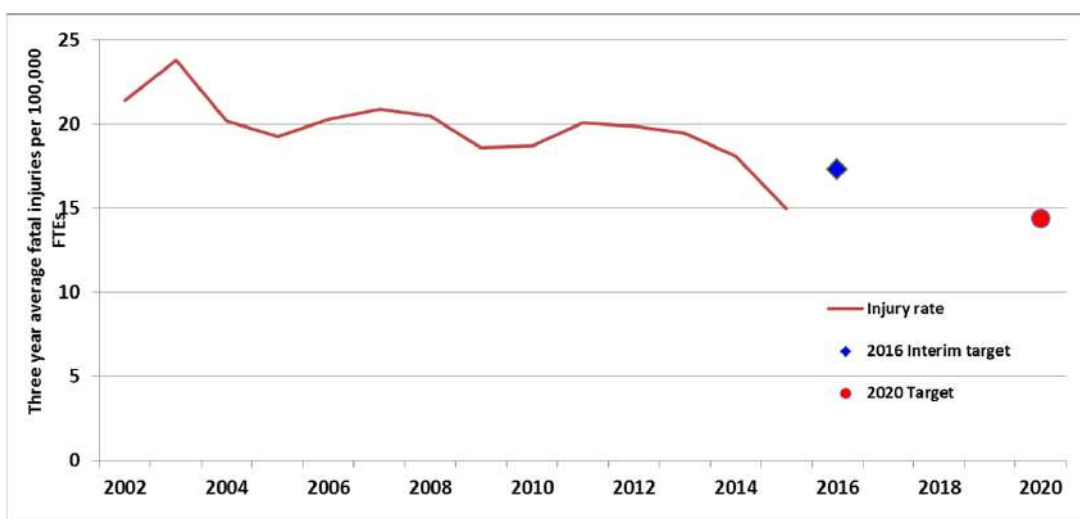
Workplace Serious Injuries



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Workplace Serious Injury Rate (Three Year Moving Average per 100,000 FTE)

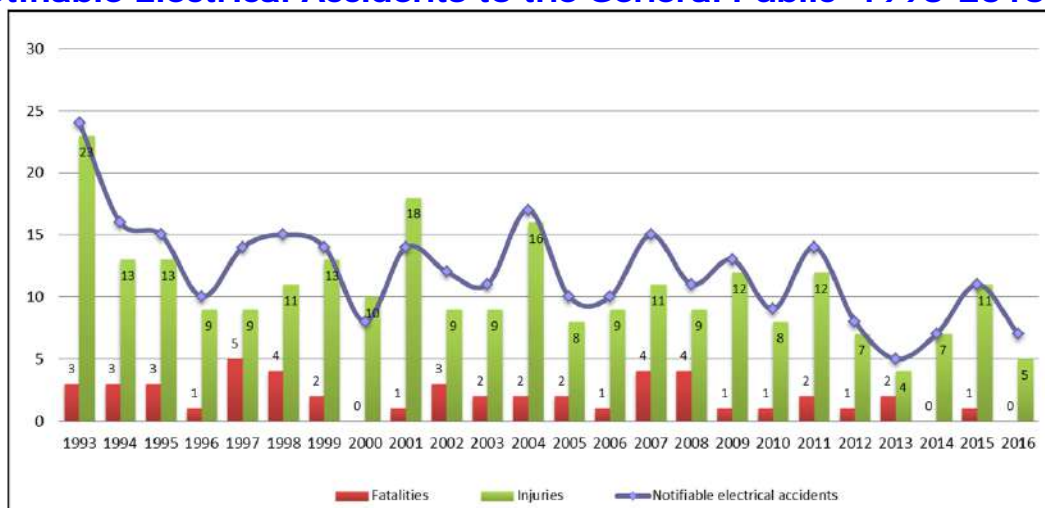


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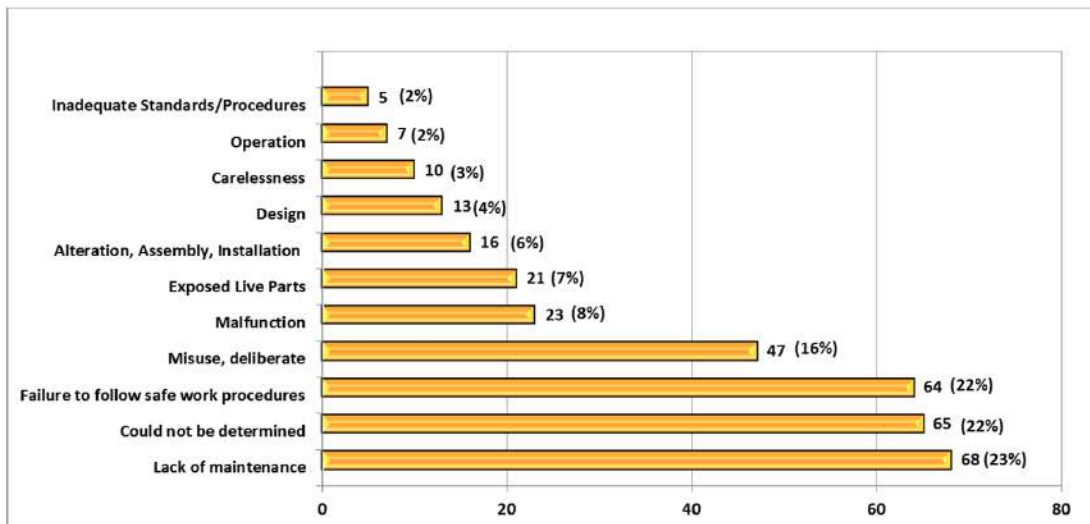
3 Notifiable Electrical Accidents to the General Public (NZ)

Notifiable Electrical Accidents to the General Public 1993-2016



	Total (24 year)	Average per year
Fatalities:	48	2.0
Injuries:	256	10.7
Notifiable accidents:	290	12.1

Notifiable Electrical Accidents to the General Public 1993-2016 - By causal factor



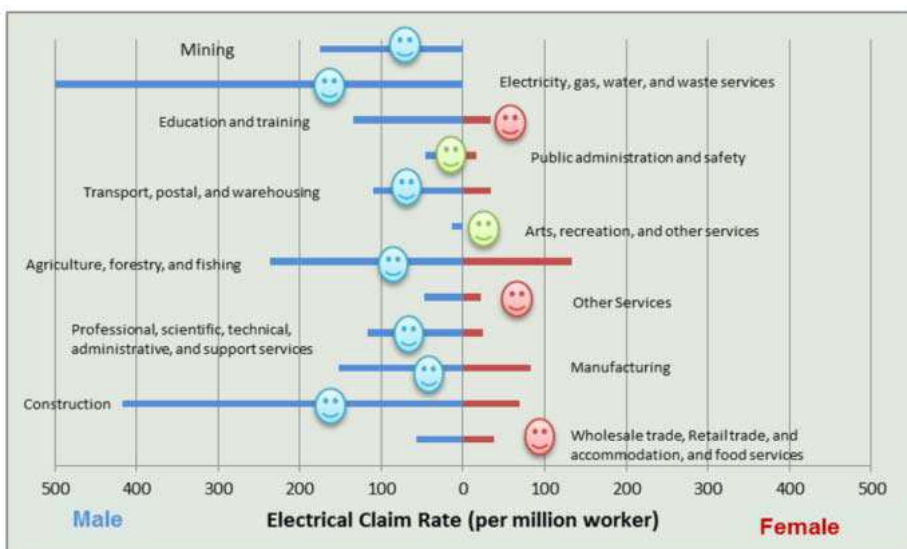
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4 ERAC Benchmarking Project - Analysis of fatal electrical accidents

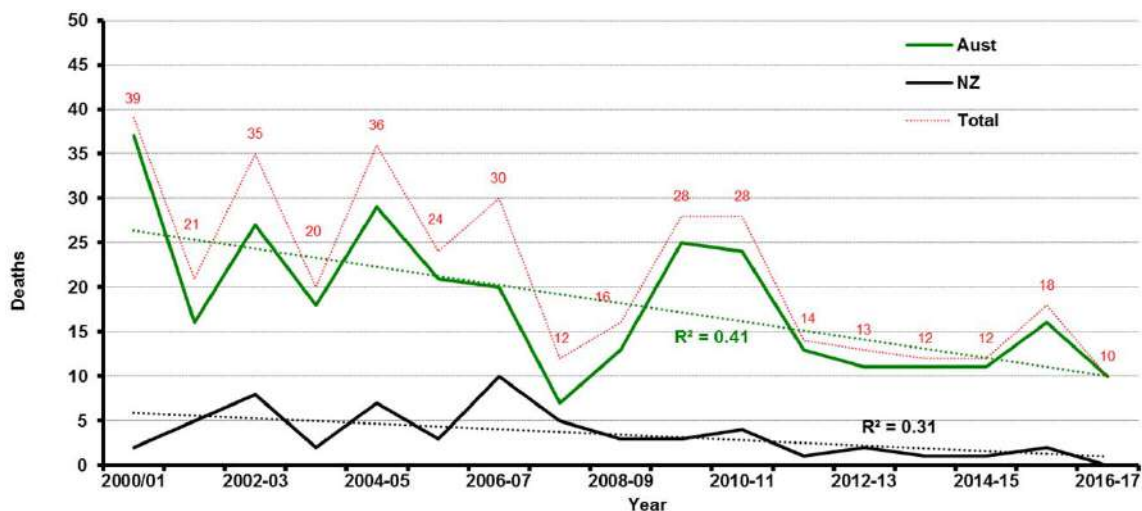
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Children's Toys LiPo Batteries
 Economy Risk product Project
 Gender Bias in Standardisation

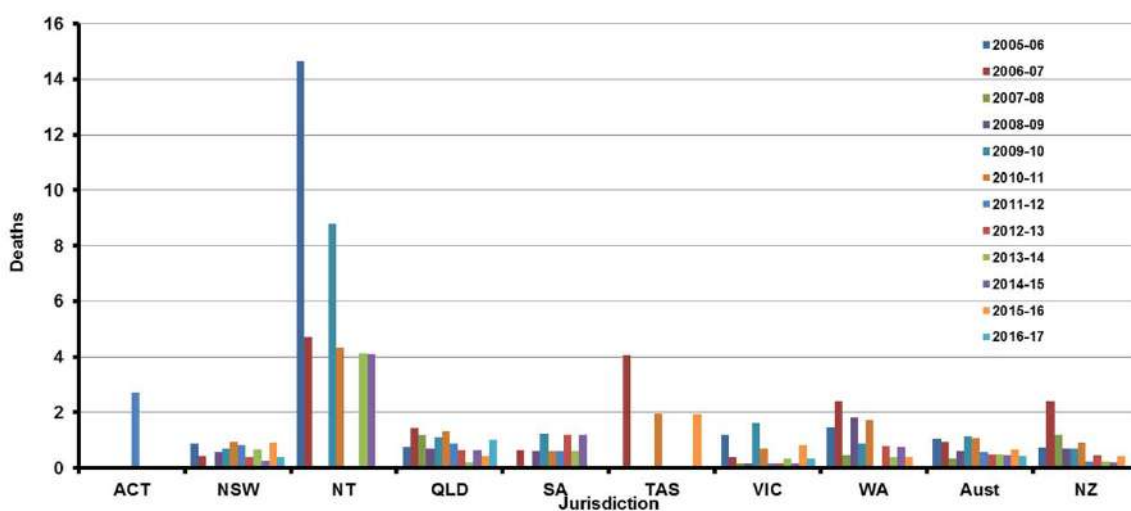
Number of Electrical Deaths in Australia and New Zealand Since 2000-2001



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Electrical Deaths per Million Population Since 2005-06

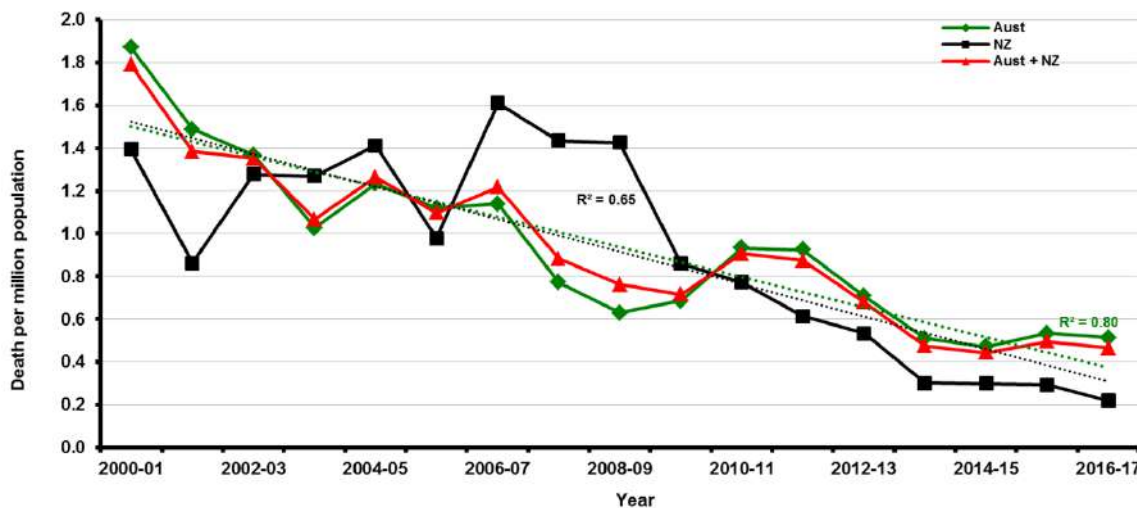


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Trend in Electrical Deaths

(Three Year Moving Average per Million Population in Australia and New Zealand)



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Case study: under-floor insulation

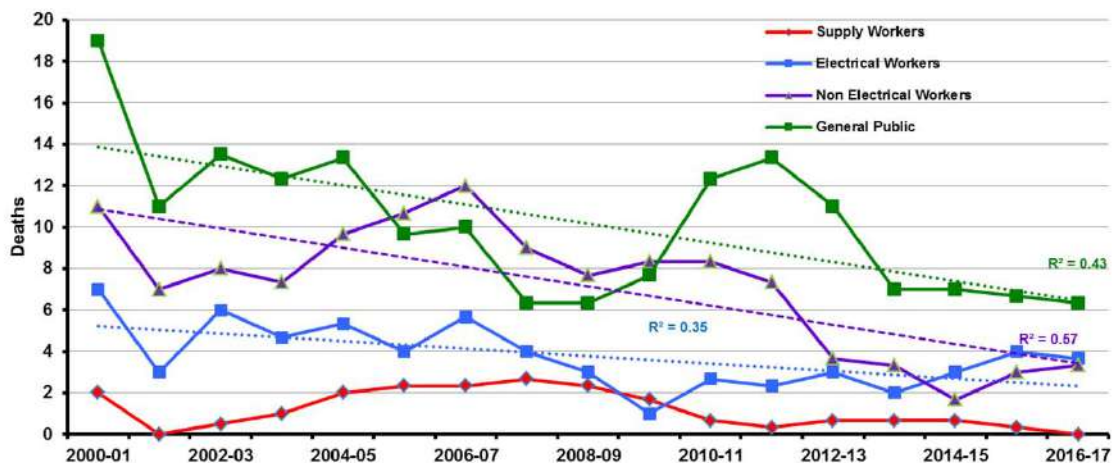


View of staple in cable.

In 2007 a home owner installing aluminum foil thermal insulation under his house stapled through a live TPS cable and received a fatal electric shock.

Trends by Victim Categories Since 2000-01 (Australia and New Zealand)

(Three-Year Moving Average)

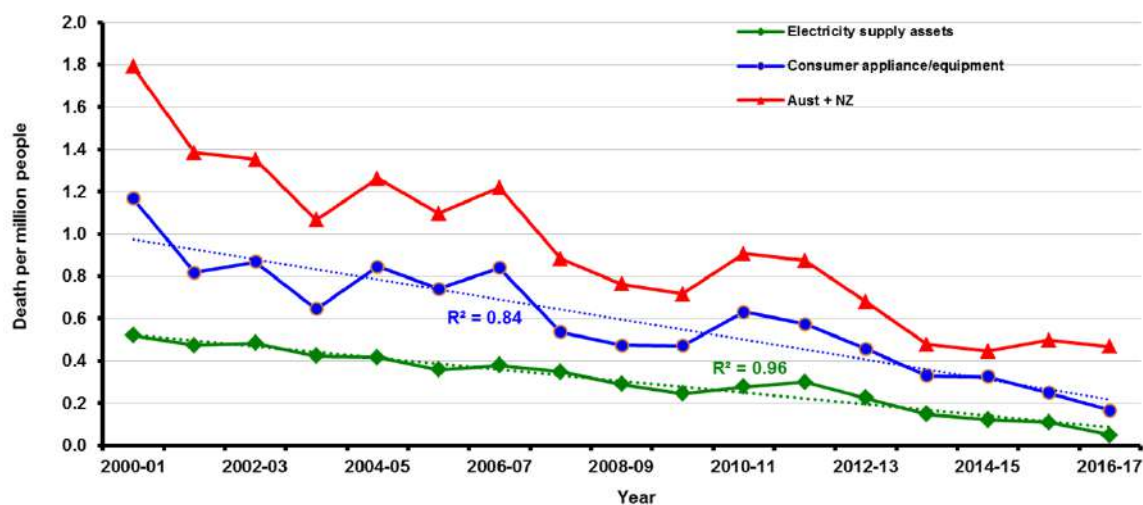


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Trends by Asset Since 2000-01 (Australia and New Zealand)

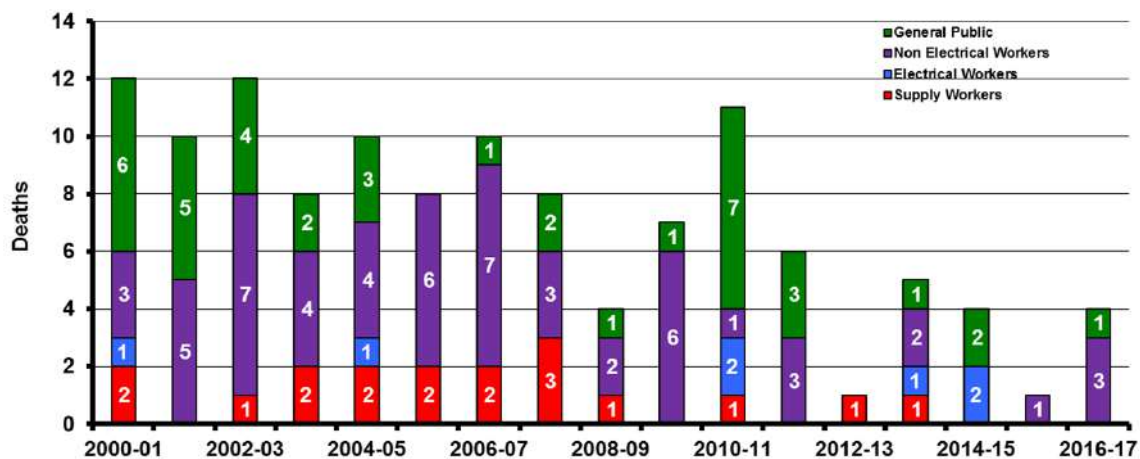
(Three-Year Moving Average)



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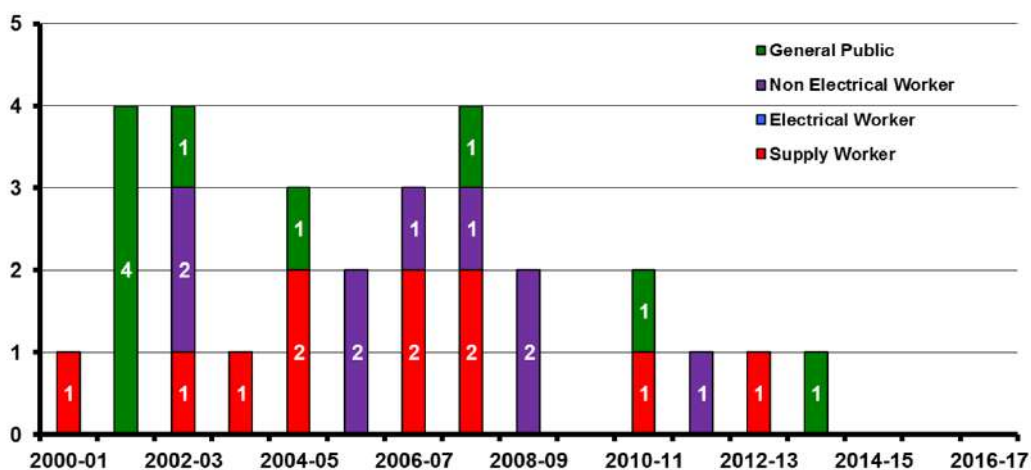
Deaths Involving Electricity Supply Assets Since 2000-01 by Victim Categories (Aust & NZ)



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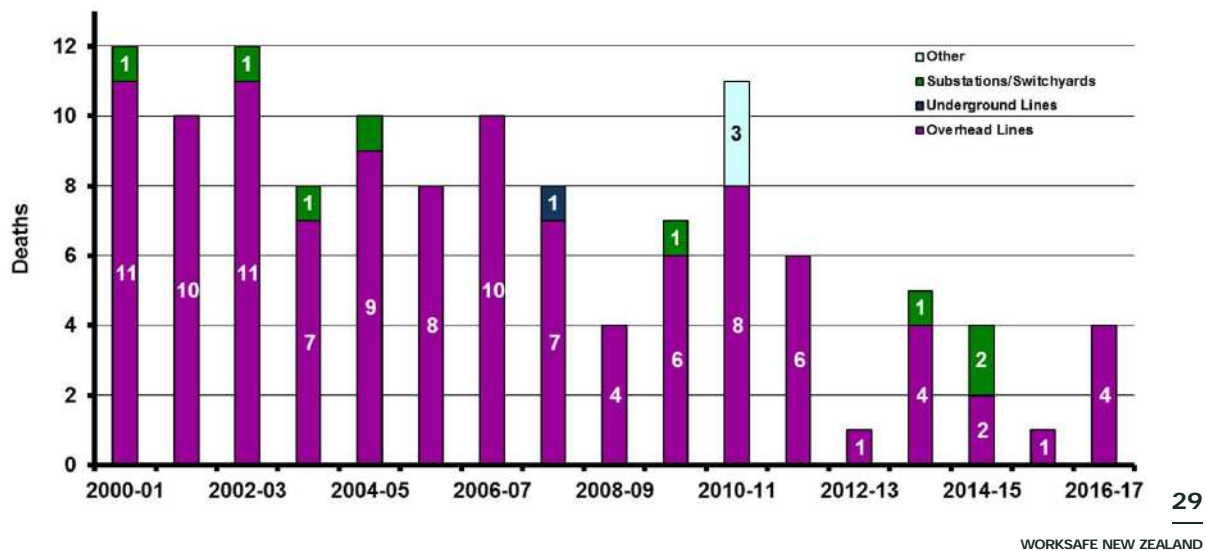
Deaths Involving Electricity Supply Assets Since 2000-01 by Victim Categories (NZ only)



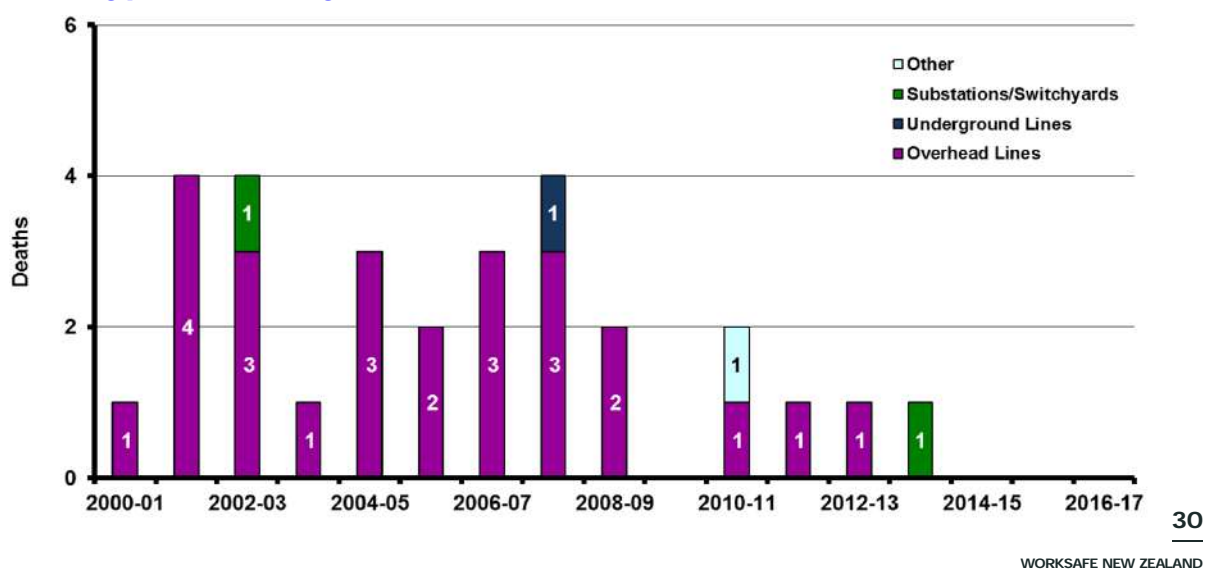
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Deaths Involving Electricity Supply Assets Since 2000-01 Sorted by Asset Types (Australia & New Zealand)

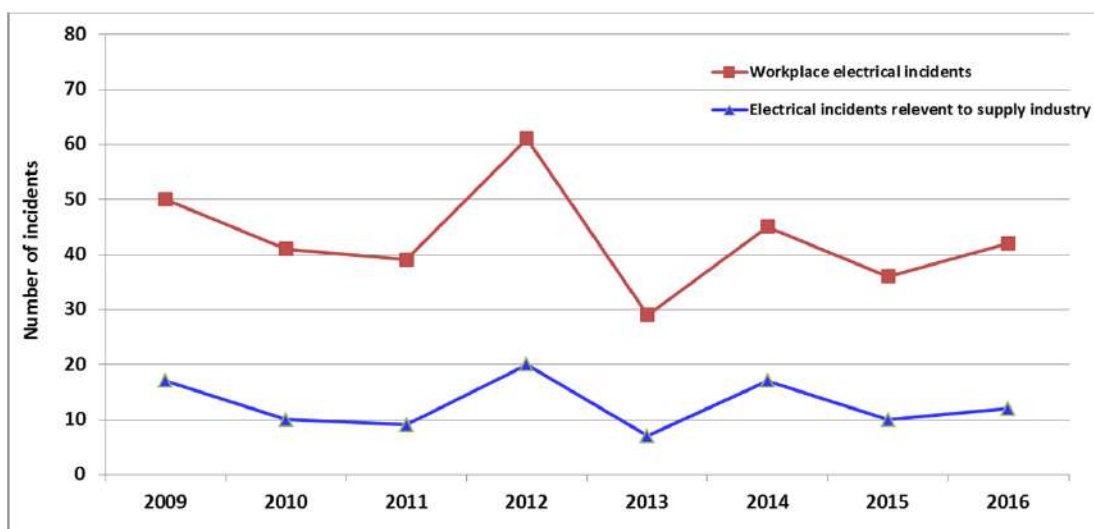


Deaths Involving Electricity Supply Assets Since 2000-01 Sorted by Asset Types (NZ only)



5 Workplace electrical accidents (WorkSafe) data

Workplace (Worker) Electrical Incidents (WorkSafe data)



Common findings from accident investigations:

Work-packs for assigned work have been found to be **missing key information**

- Job planning needs improvement (including at senior leadership level)
- Site specific risk assessment and hazard identification lacking (identification - elimination – minimisation)
- Work instructions failing to present Key safety information so it is obvious and clear
- Instructions not including variation contingencies – stop work exit strategies

Trainees carry out work **beyond their skill** set or outside what they are authorised to do (even under supervision)

Employer licence holders operating **outside of their conditions** & worker competencies

Aging assets – unassisted pole failures – (Asset assessment and management concerns)

Lack of identification of key public safety issues during internal and third party auditing (SMS)

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6 Safety Campaigns

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Energy Safety - Safety Campaigns (Winter & Summer 2017)

- The winter Energy Safety gas and electricity campaign, introducing 'Claude the spokescat' animation, launched on 31 July running for 11 weeks.



- The campaign has a broad reach media strategy which includes digital, radio and print and is tracking well above expected performance.



Top 5 messages

- ✓ Electric blanket safety
- ✓ Powerboards (EPODS)
- ✓ If you smell gas
- ✓ LPG heater safety
- ✓ Installing gas appliances safely

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17,994,683 Impressions (opportunities to view the advertising)

42,036 unique page views of campaign website pages

32,159 clicks from advertising

\$1.46 Average cost per click, strong performance vs industry average

425,439 Completed video views

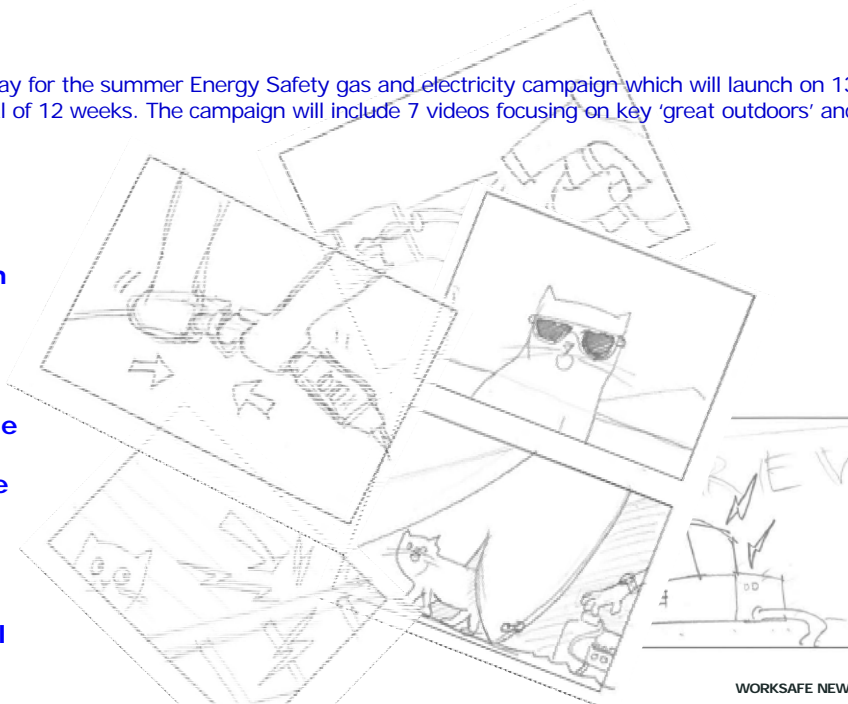
\$0.07 cost per view of video

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Planning is currently underway for the summer Energy Safety gas and electricity campaign which will launch on 13 November and run for a total of 12 weeks. The campaign will include 7 videos focusing on key 'great outdoors' and 'DIY' risks.

- ✓ **Gas Safety in Caravans**
- ✓ **Gas Safety when camping**
- ✓ **LPG leaks**
- ✓ **Use RCDs outside**
- ✓ **Look up and Live**
- ✓ **Battery use and charging**
- ✓ **Buying electrical products online**



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Future opportunities

- Looking to work with more partners to share our safety messages
- Investigating point of sale messages on LPG and electrical products



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7 Review of Electric Vehicle Charging Safety Guidelines

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Review of Electric Vehicle Charging Safety Guidelines

- Guidelines support the safe implementation of Government's objective to have 64,000 EVs on the road by 2021
- Guidelines give suppliers, installers, users, and others advice about how to achieve electrical safety for EV charging consistent with NZ electricity supply arrangements
- The guidelines are supported by making the EVSE medium risk declared articles (Sdoc & test report)
- Review to commence November 2017
- Consultation on proposed revision November 2017 – February 2018
- Circulation to stakeholder organisations such as EEA
 - [
 - EEA technical input welcomed

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8 Misc

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Challenges

- **Collectively EEA and Energy Safety will be challenged by:**
 - The introduction of new technology
 - And an expectation of improved safety
- **Regulation Review**
 - Working with MBIE on a work program, resourcing, budget and timing
 - We are not expecting to have a comprehensive regulatory amendment completed next year, but there continued need for some changes resulting from technological developments for example:
 - **flammable refrigerants** – NZs participation in International agreements and conventions like the Montreal Protocol)
 - Ongoing challenges to Standards and the Standards process to address fast moving technological innovation in particular the imbedding of **PV, domestic energy storage and embedded networks** and the challenges that they will create to the MEN system
 - Potential to amend the Regulations to permit the TT system to be used as an alternative to MEN within an installation. The TNC system would be retained for the supply system.
 - The TT system could be initially adopted for installations that are significantly self sufficient, where safety cannot be reliant on the connected distribution system, and also for rural systems with dedicated supply transformers."

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- The NZ BWC - TPS cable situation has been a timely reminder of the need for the sector and the Regulator to be vigilant and prepared to act quickly



- International standardisation and cooperation beyond Australia is becoming a focus. And recognition of US benchmarks – recognising NZ variations is becoming increasingly necessary (Evs, PV, DC product – energy storage, and Switched mode power supplies etc)

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[Landlord sentenced to home detention after gas fire death |](#)

[Worksafe](#)

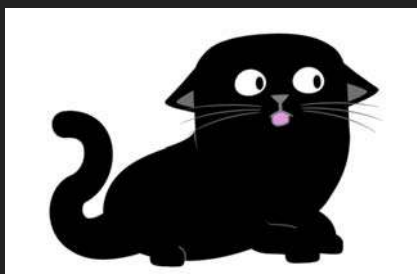
1.www.worksafe.govt.nz/.../landlord-sentenced-to-home-detention-after-gas-fire-death

Jun 25, 2014 - He was sentenced today at the Whangarei District Court. Energy Safety manager, **Mark Wogan**, says Lesley Wehi-Jack's death was completely ..

“avoidable and a tragic waste of a young life.”

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Questions

Getting you home healthy and safe.
That's what we're working for.

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NEW ZEALAND | MADE KAUNGMARY
KOTI KAWA