

Australia – New Zealand Electricity Supply Industries Occupational Health & Safety Statistics Benchmarking Report 2007-2016

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Background

The report is a joint initiative between Australia and New Zealand to provide meaningful safety performance benchmarking, covering electricity supply industry asset owners and their contractors across the generation, transmission and distribution sectors. We acknowledge that Australian and New Zealand electricity supply industries have somewhat different injury reporting frameworks, which limits the feasibility of meaningful benchmarking to very high-level indicators. After careful consideration of our respective reporting frameworks and specifications, we have taken the decision to benchmark only *fatality* and *lost time injury* measurements.

Data

The data was reported on a financial year basis (ending 30 June). The report is presented with results *per 200,000 hours* and *per one million hours* worked to align with each country's benchmarking standard. Key notes:

1) Direct employees:

- **Generation sector:** The reported data covers operational staff only because the “non-operational” boundaries between retail and generation sectors are less well defined.
- **Distribution and transmission sector:** New Zealand's reported data does not differentiate between *operational* and *non-operational* employees, Australian reporting therefore aligned with New Zealand data requirements.
- **Networks sector:** Data presented under “Networks” includes the distribution and transmission sectors, in alignment with reporting specifications of AEC / Energy Networks Australia prior to 2013.
- **Electricity industry (all sectors):** Due to different working population coverage between generation and network sectors, we have taken the decision not to combine the calculations onto the same chart as a total industry sector.

2) Contractors:

- Data in all sectors represent operational contractors only. As such, *direct employees* and *contractors* are kept separated.

In New Zealand, all transmission and distribution asset owners (except one) are covered. For generation sector, a few small generation companies may be missing, however, the five main generators in New Zealand are included in the data. Reporting on number of operational contractors is also mostly covered: some companies do not track safety performance and provide an estimate of contractors instead (around 5 per cent of all people working in the industry).

In 2016, in Australia, 95 per cent of generator asset owners are covered. As such, operational contractor data covers 95 per cent in this generation sector. The data on number of employees and contractors includes all electricity transmission and distribution networks, excluding some small private networks owned by large corporations.

Benchmarking

We believe this report provides a suitable and relevant benchmarking overview, but we are mindful that, despite the fact that every effort has been made to provide “apples-to-apples” benchmarking analysis, some mismatches may remain and need to be disclosed, notably the contractor and Lost Time Injury definitions. (*Please see Definitions & Calculations to clarify further.*) For this reason, our analysis focuses on trends rather than performance results comparisons.

DEFINITIONS & CALCULATIONS

Definitions

	New Zealand	Australia
Contractor	<p><i>Contractors</i> are those working on assets that are owned, leased or managed by the reporting organisation.</p> <p><i>Operational personnel</i> employed full-time or part-time (prorated) by a contract company or subcontract company to work on assets associated with the generation, transmission and distribution of electricity.</p>	
	Contractor data may include some non-operational staff, including design work for instance.	-
Employee	<p>In distribution and transmission: Persons who work directly for the reporting organisation under a full-time or part-time (prorated) contract of employment to perform <i>operational or non-operational</i> work associated with the <i>transmission and distribution</i> of electricity. This excludes employees working in retail or trading functions.</p>	
	<p>In generation: Persons who work directly for the reporting organisation under a contract of employment to perform <i>operational</i> work associated with the <i>generation</i> of electricity (<u>excludes non-operational</u> work).</p>	<p>In generation: Australian companies can report on both their operational and non-operational employees separately, but for comparison purposes, the Australian results in this report have been aligned with New Zealand's reporting practice.</p>
Fatality	All cases of work-related death	
Lost Time Injury (LTI)	<p>The number of work-related injuries or illnesses that resulted in permanent disablement or one or more complete work days/shifts lost by the injured / ill person due to total incapacity.</p> <p>Commuting injuries (travelling to and from workplace and home whilst not 'on duty') and injuries occurring during authorised breaks are excluded.</p>	
	<p>The New Zealand definition of LTI does <u>not</u> specify that the injury or illness needs to be filed with the government's workplace accident insurance company (ACC). This differs from the Australian definition, however in practice very few injuries or illnesses would be reported that were not verified by a medical certificate and filed with ACC.</p>	<p>The injury or illness must be verified by a medical certificate issued by the treating medical practitioner and liability accepted in accordance with the requirements of the relevant state authority/insurer.</p>

Calculations

LTIFR – Lost Time Injury Frequency Rate (excludes fatalities)

TE – Total Employees (refers to the sector's total number of direct employees or its total number of contractors, where applicable)

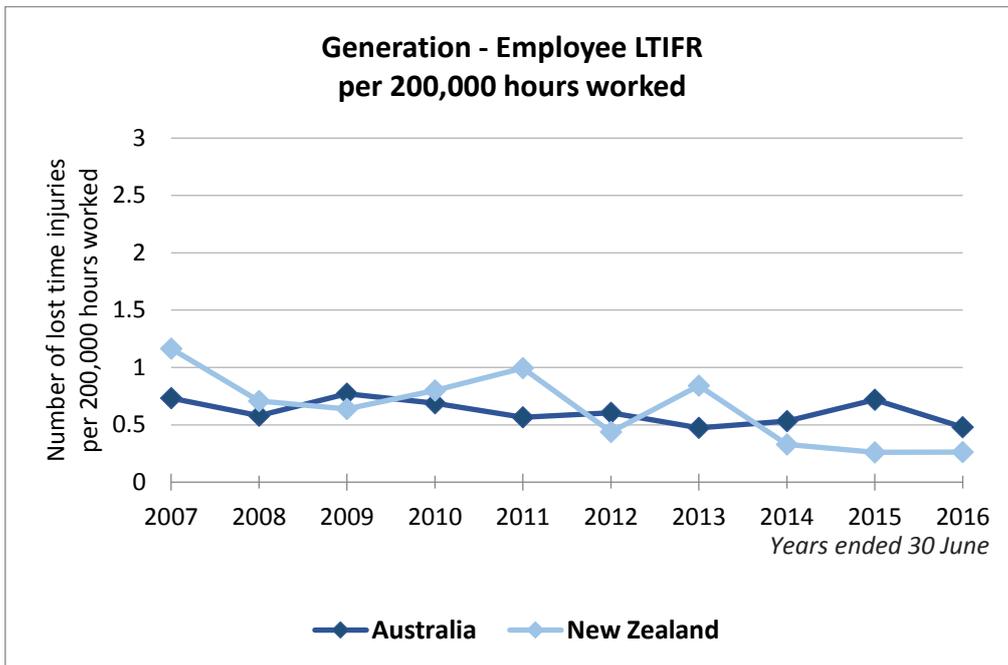
2000 – Average number of hours worked per employee per year

Reporting to Australian companies:
$$LTIFR = \frac{LTI \times 10^6}{TE \times 2000}$$

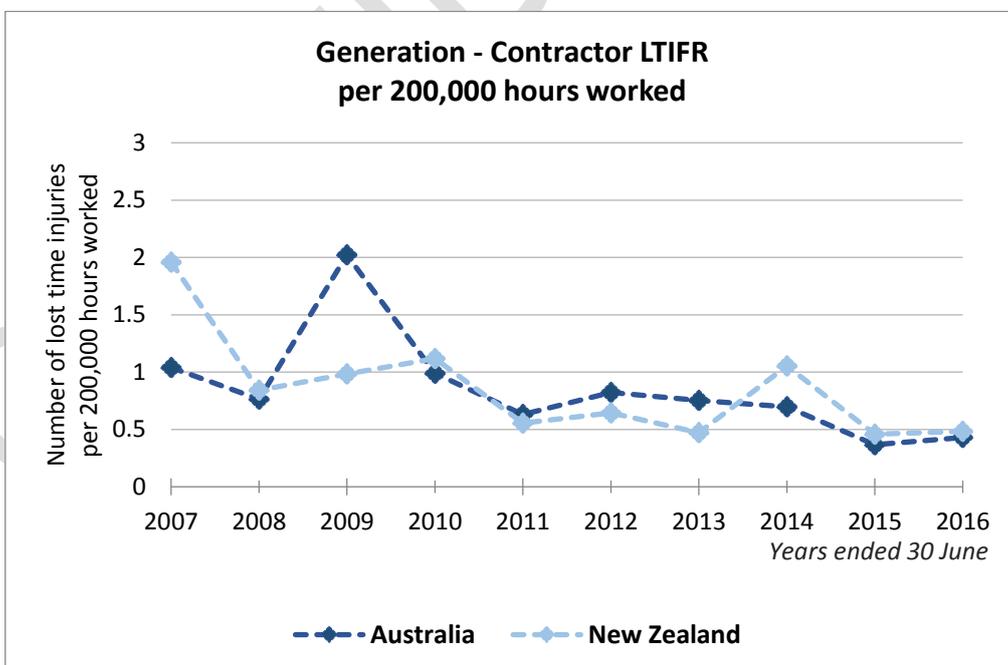
Reporting to New Zealand companies:
$$LTIFR = \frac{LTI \times 200,000}{TE \times 2000}$$

GENERATION

The below first chart *includes operational employees only* (please refer to Definitions)



- Over the 10-year period, Australia LTIFR ranged between 0.5 to 0.8, while New Zealand's rate varies greater, ranging from 0.3 to 1.2.
- Australia has about 6,000 employees while New Zealand has roughly 1,200. One employee LTI will cause a greater impact on the LTIFR in New Zealand.
- In the recent four years, New Zealand LTIFR dropped at a faster rate compared to Australia.

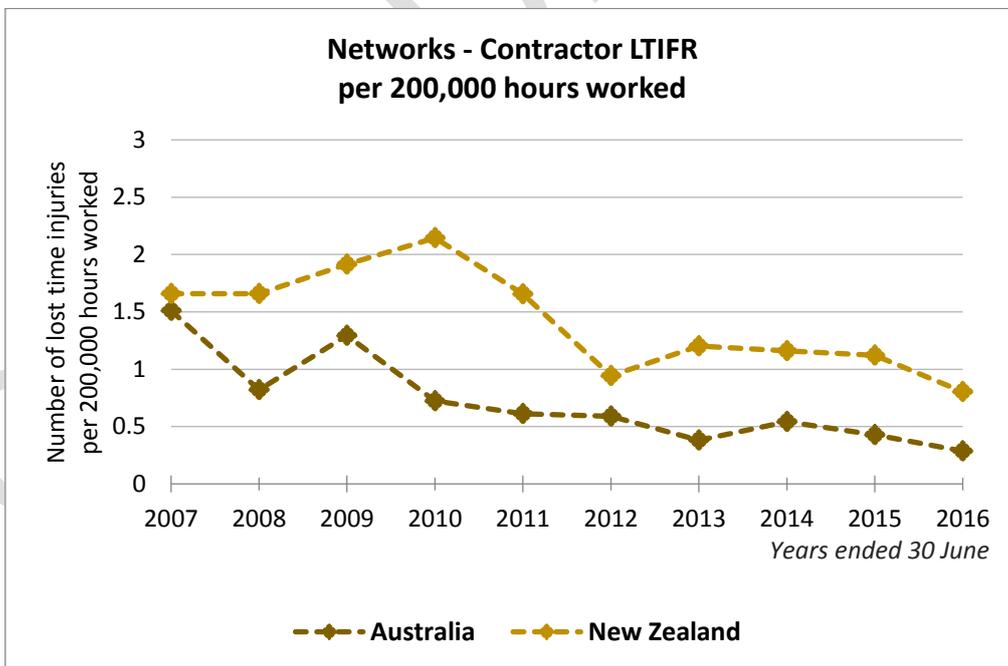


- Similarly, both countries show downward trends of contractor LTIFR.
- In 2016, the LTIFR dropped to 0.4 and 0.5 in Australia and New Zealand respectively, that is at least 75 per cent drop since the peakiest in 2007 (New Zealand) and in 2009 (Australia).

NETWORKS (TRANSMISSION & DISTRIBUTION)

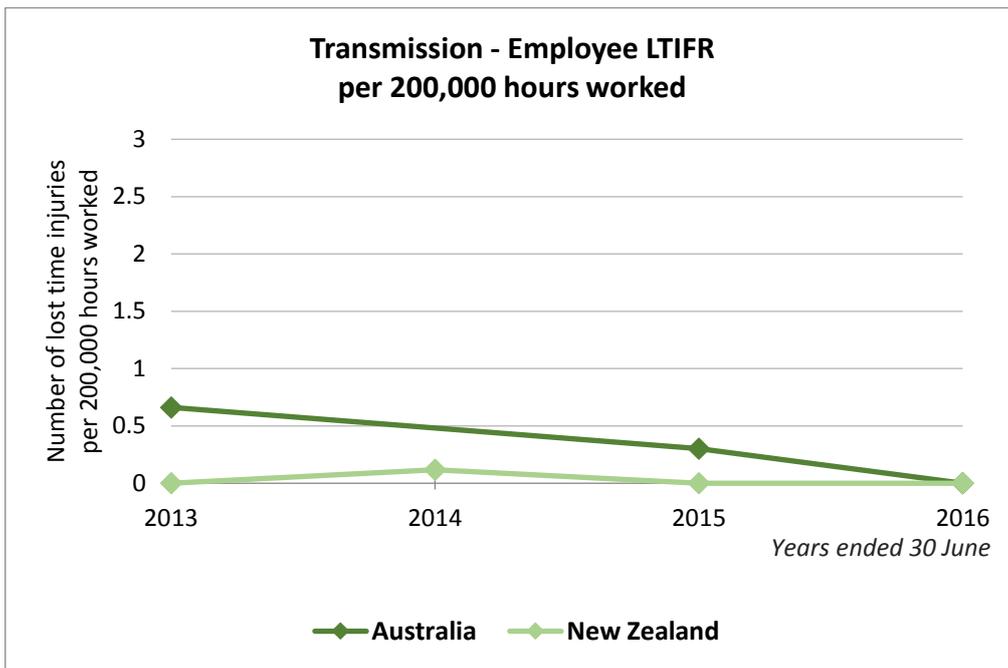


- Similar trends between the two countries with noticeable decrease from 2008-2009 to 2011
- Sharper decrease in New Zealand in the early years
- Since 2010, Australia's rate has been fairly stable, between 0.4 to 0.7 injury per 200,000 hours worked.
- Plateauing since 2011 in both cases – but with a rate of 1.5 injuries per 200,000 hours worked in 2016, there is still room for improvement in NZ

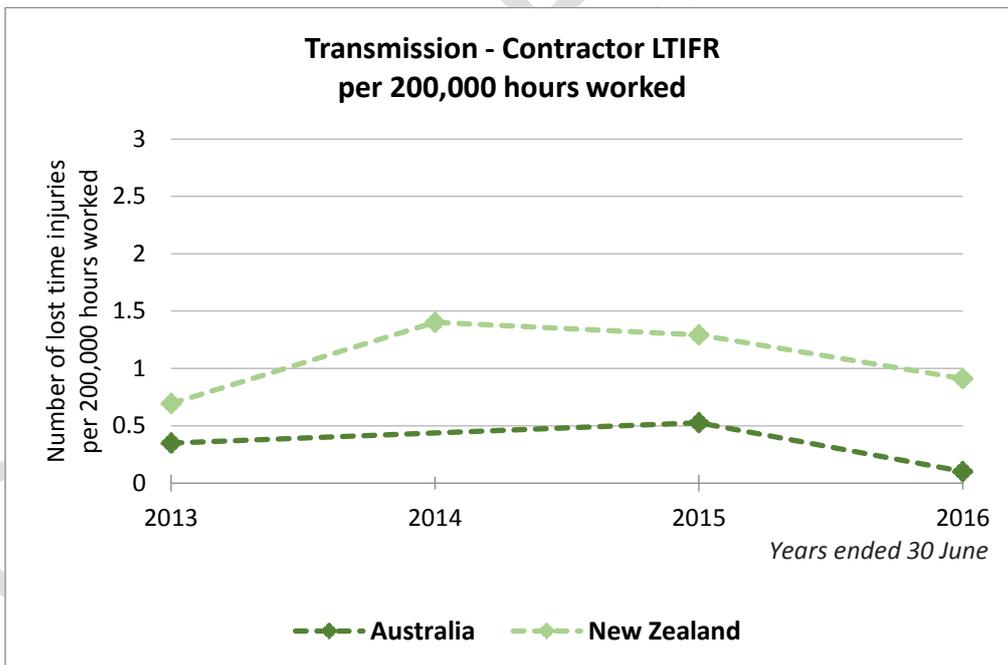


- Similar pattern between the two countries where both show continual decreasing trends.

TRANSMISSION

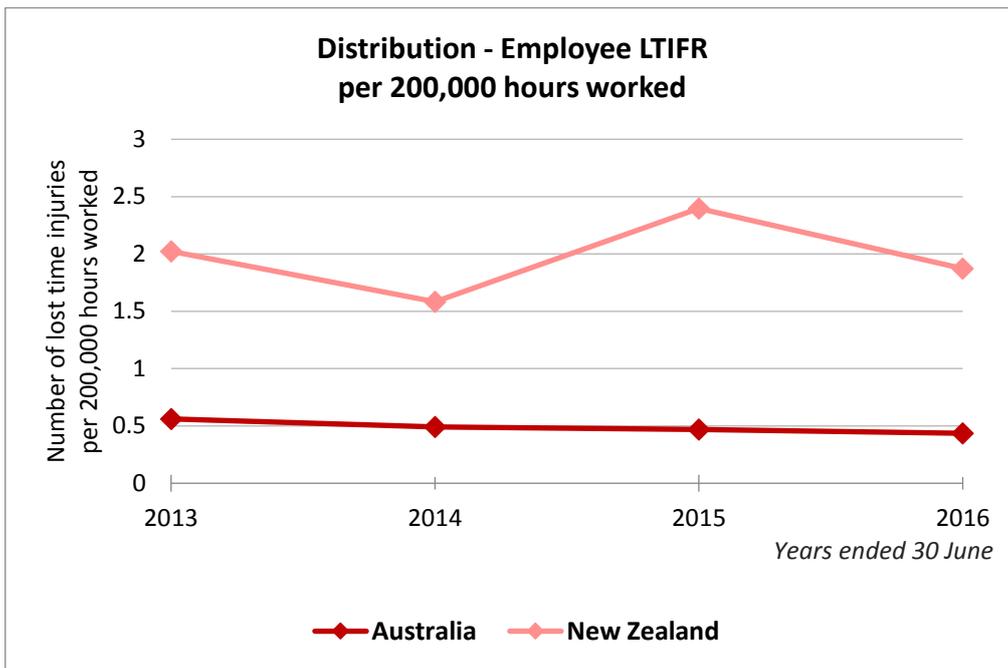


- No data for Australia in 2014
- In 2016, there were no injuries reported, hence 0 LTI, in Australia and New Zealand.
- Very low rates compared to the distribution sector

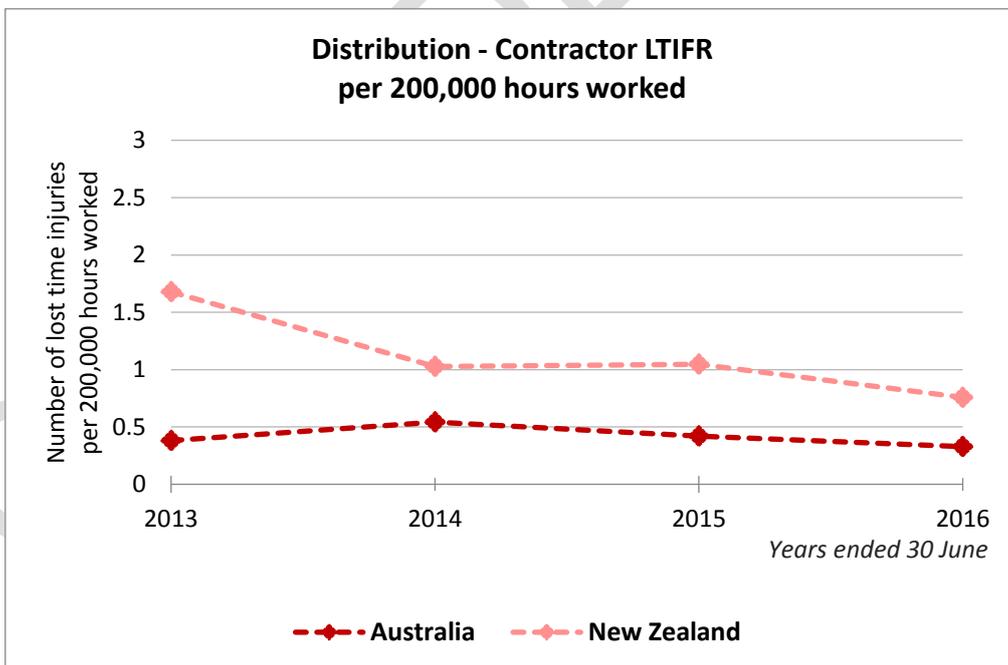


- No data for Australia in 2014
- New Zealand rates: sharp increase between 2013 and 2014 (+0.7), but noticeable year-to-year improvement in 2015-2016 (although not below its initial 2013 rate of 0.7 injury per 200,000 hours worked)
- Australia rates: plateauing around 0.3 in 2013-2015, only one injury in 2016

DISTRIBUTION

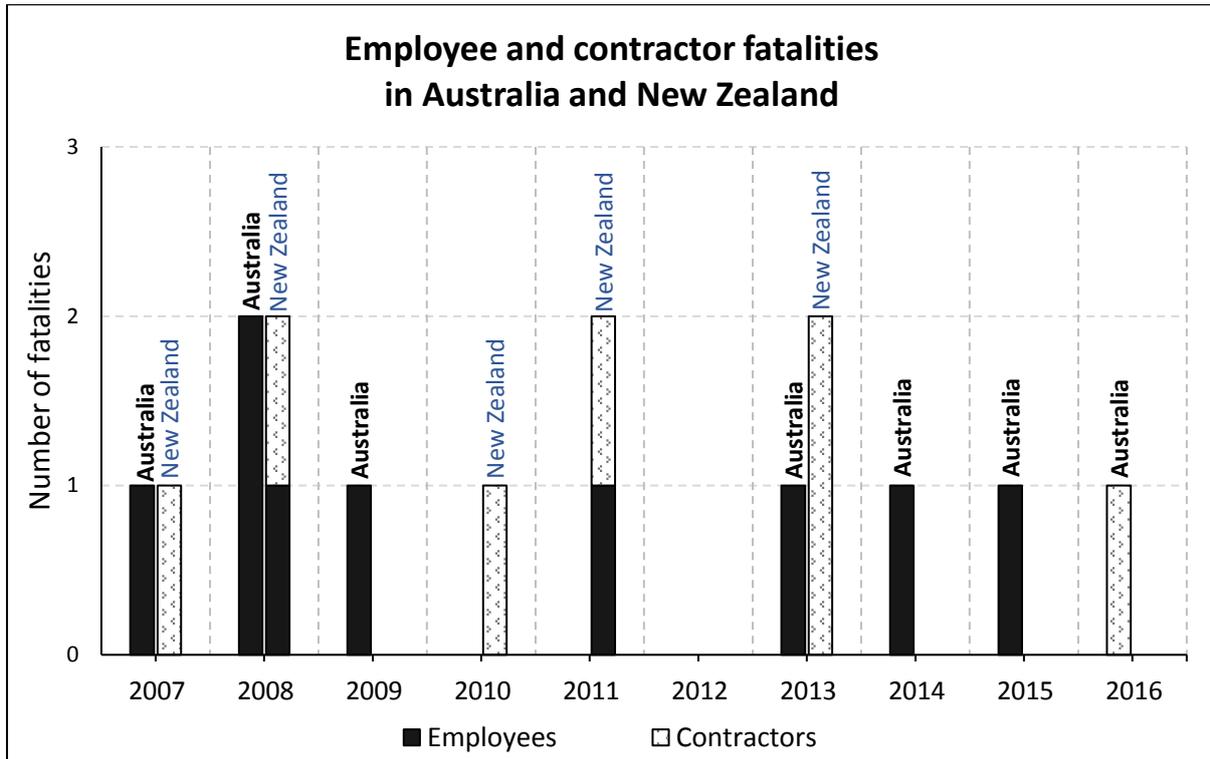


- New Zealand: in overall, there has been an increasing trend over 2013-2016 → an analysis of the data input shows roughly the same number of injuries over the years but a decreasing number of employees
- Australia: stable rate around 0.5 per 200,000 hours worked → lower injuries and lower number of employees



- New Zealand rate and injury number is halved over the reporting period.
- Australia: small decrease, contractor and injury number is also halved between 2014 and 2016.

INDUSTRY FATALITIES



Note: The above chart is included for information only. We recognise that fatality measures do not provide a full and adequate picture of industry safety developments, and should not be considered on their own when assessing performance.

- Over the 10-year reporting period, Australian companies reported 8 fatalities, mostly employees of the networks sector. There was one contractor fatality case in 2016 in Australia.
- New Zealand companies also reported 8 fatalities and all belonged to the network sectors, but they were mostly contractors (only 2 employee fatalities).
- Over the past three years, New Zealand reported no fatalities. However, there is no room for complacency: Australia also experienced three consecutive years without any fatalities between 2010 and 2012, and since then one case was reported for each year.