



# Electrical and gas accidents

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ENERGY SAFETY  
ANNUAL REPORT

2025



New Zealand Government  
Te Kāwanatanga o Aotearoa

WORKSAFE  
Mahi Haumarū Aotearoa

***Energy Safety***

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# EXECUTIVE SUMMARY

## Overview of 2025

During 2025, 3 notifiable and 18 non-notifiable accidents<sup>1</sup> in New Zealand were reported to WorkSafe's Energy Safety team comprising of:

- For the first time in the last 33 years, no notifiable electrical shock accidents were reported during 2025. However, thirteen non-notifiable accidents (non-fire) were reported.
- Two notifiable and 3 non-notifiable LPG accidents were reported. There were no casualties from the notifiable accidents.
- One notifiable and 2 non-notifiable natural gas accidents were reported. The notifiable accident resulted in injuries to one person, with no fatalities.

## High-risk groups 1993–2025

Since 1993, electrical and gas (natural and LPG) accidents in New Zealand have been analysed according to high-risk groups to provide information about trends, frequency, common causes, and severity.

## Electrical accidents

The previously recorded public accidents (1993–2008), and all public electrical accidents investigated since 2009 by Energy Safety, are aggregated as a single electrical accident category to enable analysis.

Two categories of particular interest are accidents involving young people and electrical safety in domestic residential environments.

Only notifiable shock electrical accidents were recorded in the database until the end of 2007. A new database that has been in use since the beginning of 2008 allows Energy Safety to record non-notifiable electrical accidents.

### Young people (17 years old and under)

Since 1993 this age group has been involved in 35% (107) of the total notifiable public accidents (302), resulting in 19 fatalities and injuries to 97 people.

### Domestic environment

More than 55% (167 of 302) of notifiable electrical accidents involving the general public over the last 33 years occurred in a domestic environment, resulting in 33 fatalities (62% of the total 53 fatalities) and injuries to 136 people, representing 51% of the total of 266 injuries.

More than 56% (217 of 390) of non-notifiable accidents occurred in domestic environments in the last 17 years (2008–2025).

## Natural gas accidents

In the last 33 years, a total of 219 notifiable natural gas accidents and 666 non-notifiable accidents were reported to Energy Safety.

## EQUIPMENT

### Cookers and ovens

A total of 38 (17%) notifiable natural gas accidents involved cookers or ovens. Twelve accidents resulted in one fatality and injuries to fourteen people.

Cookers and ovens accounted for 79 (12%) reported non-notifiable natural gas accidents.

<sup>1</sup> See Appendix for definitions of 'notifiable' and 'non-notifiable' accidents.

### **Space heaters**

A total of 60 (27%) notifiable natural gas accidents involved space heaters. Of these incidents, 16 accidents resulted in 3 fatalities and injuries to 22 people.

Space heaters accounted for 135 (20%) of reported non-notifiable accidents.

### **Water heaters and boilers**

A total of 72 (33%) notifiable natural gas accidents reported, involved water heaters or boilers. Of these, 17 resulted in 1 fatality and injuries to 20 people.

Water heaters and boilers accounted for 41 (6%) reported non-notifiable accidents.

## **Liquefied Petroleum Gas (LPG)**

In the last 33 years, a total of 462 notifiable LPG accidents and 637 non-notifiable accidents were reported to Energy Safety.

### **EQUIPMENT**

#### **Cookers and ovens**

Of the 462 notifiable LPG accidents reported, 139 (30%) involved cookers or ovens.

Out of the 139 notifiable accidents involving cookers or ovens, 101 resulted in 19 fatalities and injuries to 130 people.

Cookers and ovens accounted for 107 (17%) of reported non-notifiable LPG accidents.

#### **Cabinet heaters**

There were 144 (31%) notifiable LPG accidents reported that involved cabinet heaters. Out of these, 67 accidents resulted in 13 fatalities and injuries to a further 67 people.

Cabinet heaters accounted for 173 (27%) of reported non-notifiable accidents.

#### **Containers (refillable)**

There were 26 (6%) notifiable accidents reported that involved LPG refillable containers. This resulted in 16 accidents that caused 4 fatalities and injured 20 people.

Refillable containers accounted for 94 (15%) of the reported non-notifiable accidents.

### **ENVIRONMENT**

#### **Caravans and campervans**

There were 49 (11%) of the 462 notifiable LPG accidents that occurred in caravans or campervans. Of these, 35 caused 11 fatalities and injuries to 41 people.

There were 22 (35%) reported non-notifiable accidents occurred in caravans or campervans.

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# 1.0

## Background

# Energy Safety is part of WorkSafe New Zealand – we are responsible for the administration of electricity and gas safety and related matters under the Electricity Act 1992 and the Gas Act 1992.

We aim to bring a clear focus on safety, supply quality and measurement across the electricity and gas sectors.

This publication focuses on public electrical and gas accidents since 1992. Up to 2009 it included workplace accidents. From January 2009, the responsibility for investigating and reporting on all worker and workplace related gas and electrical accidents was consolidated with general workplace regulatory activities. This reporting and responsibility change has likely affected reporting volumes and therefore may be reflected in this report.

This publication provides an analysis that highlights trends and risks. While the focus of the annual analyses is on notifiable accidents, trends in non-notifiable accidents are also examined.

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## 2.0

# Accident data collection and recording

### IN THIS SECTION:

#### 2.1 Accident analysis

## Energy Safety must be notified of certain accidents.<sup>2</sup>

These are high consequence accidents. This obligation falls on participants in the energy industry in the first instance. Notifications of gas and electricity related accidents also come from consumers and other agencies, such as the Fire and Emergency New Zealand (FENZ) for example.

We investigate accidents and record at least a basic set of data on all reported accidents, regardless of the scale of the investigation. In general, more comprehensive information is recorded for the more intensive investigations that follow significant accidents.

As there is no obligation, and no rationale that is consistently applied for industry or industry sectors to report non-notifiable accidents to us, a low proportion of these accidents are reported.

We do not in general, conduct in-depth investigations of electrically caused fires unless there is evidence of equipment failure. This is because a considerable number of fires that are related to the supply or use of electricity are either not reported or are not reported in a timely manner. Consequently, this does not allow for a meaningful investigation to be completed. In any case, many electrical fires, although covered by the Electricity Act 1992, occur from incorrect operation or misuse of electrical equipment.

The definitions of 'accident' are similar in the Electricity Act 1992 and the Gas Act 1992. However, there are significant differences in the collection and recording of electrical and gas accident data that affect the analysis of accidents and trends:

1. Electrically related fires are excluded from our analysis. As outlined above, there is evidence that there has historically been under-reporting to Energy Safety of less significant electrically related fires. In addition, our focus has been on electrical accidents<sup>3</sup> other than fire.
2. Energy Safety investigates and records gas-related accidents that involve fire, explosion, or gas 'poisoning'.<sup>4</sup> Only those accidents that involve deliberate inhalation of LPG are excluded from our analysis.
3. The electrical accident database in use up until 2008 allowed investigators to record only one major cause for an electrical accident. The database used for gas investigations allowed investigators to record up to four causes or factors for a gas-related accident. The accident investigation database that has been in use since the beginning of 2008 allows a range of factors to be considered, identified and recorded.

<sup>2</sup> See section 17 of the Gas Act 1992 and section 16 of the Electricity Act 1992.

<sup>3</sup> These electrical accidents relate to direct contact with electricity (that is, 'shock').

<sup>4</sup> Because modern reticulated gases do not contain carbon monoxide, this typically involves exposure to harmful products of combustion.

4. Only notifiable shock electrical accidents were recorded in the database until the end of 2007. A new database that has been in use since the beginning of 2008 allows the recording of non-notifiable electrical accidents.
5. Natural gas and liquefied petroleum gas (LPG) have distinct characteristics as fuels and differing distribution and utilisation patterns, so they are recorded and analysed separately.
6. The gas accident database contains information about fatalities, injuries, fires, explosions and minor accidents for natural gas and LPG. These accidents have been analysed for severity<sup>5</sup> and frequency of similar types of accidents.

## 2.1 Accident analysis

To identify trends and risk areas, this report examines data collected since 1993 on notifiable electrical accidents (other than fires) and both notifiable and non-notifiable gas accidents, and since 2008 on non-notifiable electrical accidents.

Since the implementation of the Electricity Act 1992 and the Gas Act 1992 came into force, comparisons have been made between five-year periods.

This report includes the latest information available at the time of preparation. In some cases, the investigations are complex and may not have been completed at the time of publication. This means that each annual analysis must review previous years' cases when further information has been obtained.

This report does not set out to explain the reasons behind the trends and variations found. These trends may be influenced by any number of factors, including changes in the way accidents are reported, reporting level, or some improvements in safety or safety practices. Establishing the reason behind these trends would require a more detailed analysis of comprehensive data that is not always available and some of which may or may not exist.

We use a system called Energy Safety Intelligence (ESI), which was introduced at the beginning of 2008. This system integrates case management of electricity and gas operational activities, and stores electricity and gas accident information in a single database. This system has more data fields and a more consistent classification facility than was previously used.

<sup>5</sup> For the purpose of analysis, severity is categorised broadly as 'fatal', 'notifiable – injury', 'notifiable – other' or 'non-notifiable'.

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# 3.0

## Electrical accidents

### IN THIS SECTION:

- 3.1 Current trends
- 3.2 Longer term trends
- 3.3 Age group
- 3.4 Voltage
- 3.5 Causal factors
- 3.6 Equipment
- 3.7 Environment

# Notifiable electrical accidents (non-fire) reported to us.

In a typical non-fire electrical accident, the victim receives an electric shock which may or may not require medical treatment. In general, these accidents are due to coming into proximity or contact with live electric lines, equipment, or components.

**Note:** Fire-related electrical accidents and accidents that involve workers are not included in this analysis.

Electrical accidents prior to 1 January 2009 were categorised under three main occupational headings: **electrical workers, workers in other (non-electrical) occupations, and the public**. About 50% of accidents involved electrical workers, 30% involved workers in other occupations, and 20% involved members of the public.

A notifiable electrical accident, as defined by the Electricity Act 1992, was modified by the Health and Safety at Work Act in 2015.<sup>6</sup> The threshold for the electrical notifiable accident was raised, so now fewer number of electrical accidents qualify as notifiable accidents.

This report examines accidents involving members of the public for 2025 and gives an overview of the last 33 years (period 1993 to 2025) notifiable accidents and an overview of the last 18 years (period 2008 to 2025) non-notifiable accidents.

It also compares rolling averages for the 5 year base period (1993-1997) and the current 5-year period (2019-2025).

One area of interest for electrical safety is protection of young people and the elderly. This section examines the number of accidents involving young people up to 17 years old and elderly people over 65 years.

A limited analysis of the non-notifiable accidents was conducted due to limited information available, especially the information related to victims.

## 3.1 Current trends

During 2025:

- For the first time in the last 33 years, there was no notifiable electrical shock accidents reported during 2025. However, thirteen non-notifiable accidents were reported. Over the past 33 years there has been an average of 1.7 fatalities per year attributed to electrical shock.
- Over the past 33 years, the average number of notifiable injury accidents was 7.8 per year, resulting in an average of 8.1 people injured per year.
- The average number of notifiable accidents involving 230V systems over the past 33 years is 6.1 per year.
- Nine of the 13 non-notifiable involved 230V system. An average of 16.9 non-notifiable accidents per year over the last 18 years involved 230V systems.

<sup>6</sup> The definition changed from 'receiving medical treatment from a registered health practitioner' to 'admitted to hospital for immediate treatment'.

3.2 Longer term trends

Observations are based on 33 years (period 1993–2025) of notifiable accidents and 18 years (period 2008–2025) of non-notifiable accident, examining trends, consequence, and frequency:

- There were 302 notifiable accidents involving members of the public, resulted in fatalities or injuries to 319 people (see Figure 1A and Table 1: Notifiable electrical accidents and casualties).
- Fifty-three of these were fatal accidents, with each fatal accident involving one fatality. In seven of the fatal accidents there was at least one other person injured.
- There were 256 injury accidents, causing injury to a total of 266 people.
- Figure 1A shows considerable year-on-year variation in the number of fatal and injury accidents and there is no clear long-term trend in the annual number of fatal and injury accidents in this period. A 5-year rolling average accident number shows some reduction over the last 33 years.
- One hundred and sixteen victims (36%) of the total 319 are young people (under 17), see Figure 1B.
- There were 390 non-notifiable accidents involving members of the public reported over the last 18 years, averaging 21.6 accidents per year (see Figure 1C).

|                     | NUMBER OF ACCIDENTS | NUMBER OF CASUALTIES |
|---------------------|---------------------|----------------------|
| Fatality            | 46                  | 46                   |
| Fatality and injury | 7                   | 15                   |
| Injury              | 249                 | 258                  |
| Total               | 302                 | 319                  |

TABLE 1:  
Notifiable electrical  
accidents and casualties

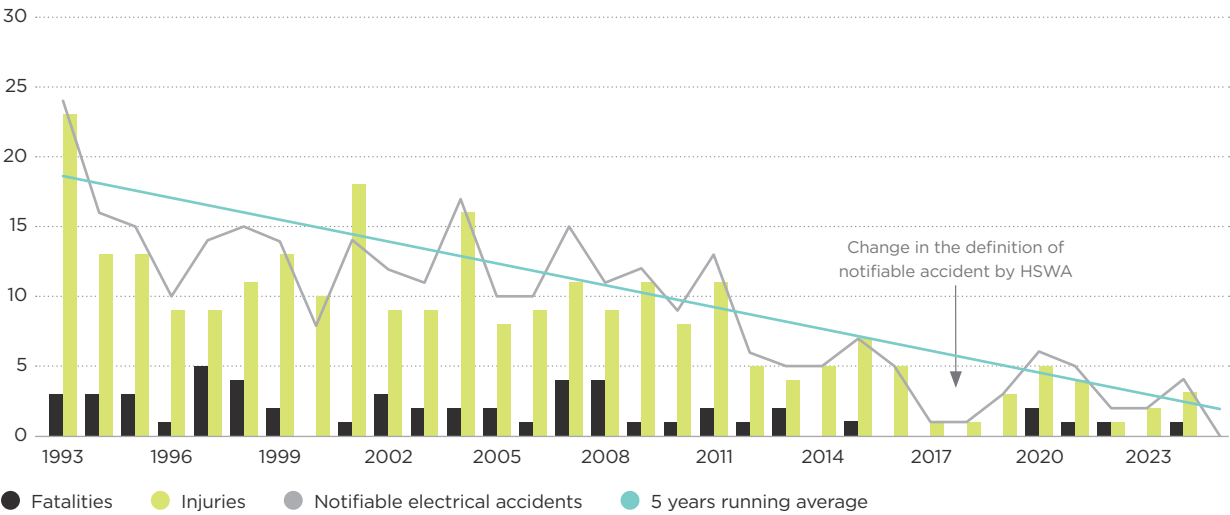
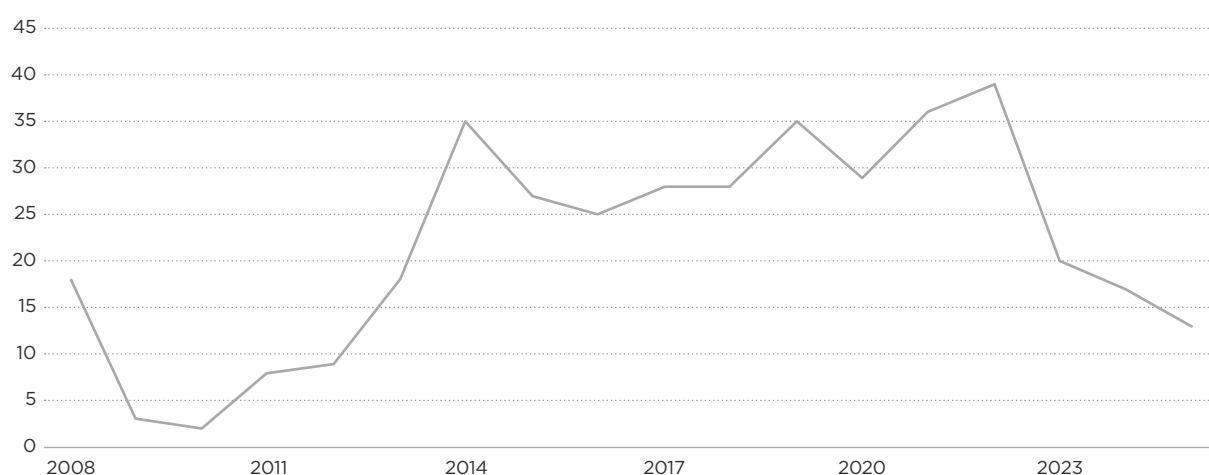
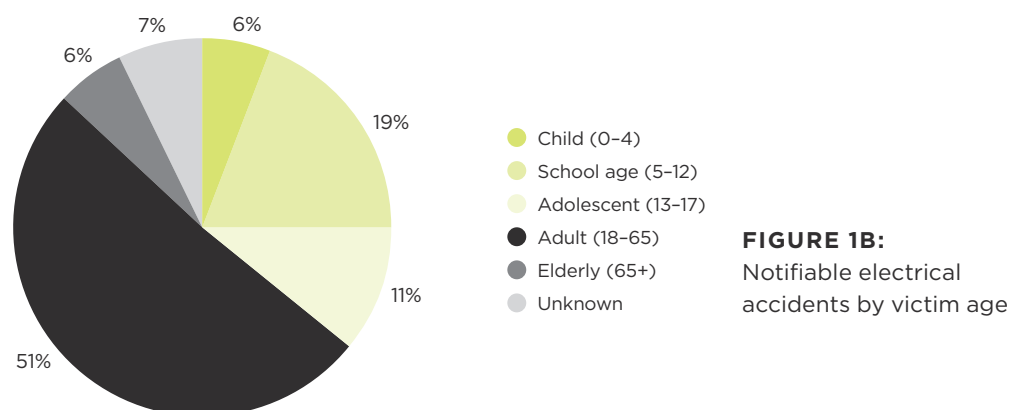


FIGURE 1A: Notifiable electrical accidents involving the public



**FIGURE 1C:** Non-notifiable electrical accidents involving the public

### 3.3 Age group

Notifiable accident data includes the general age group of involved parties (see Table 2) where it is known, or a reasonable estimate can be made.

| AGE GROUPS                 | FATAL                                   |                            | INJURY                     |                            |
|----------------------------|-----------------------------------------|----------------------------|----------------------------|----------------------------|
|                            | CONSEQUENCE <sup>7</sup><br>(frequency) | CONSEQUENCE<br>(frequency) | CONSEQUENCE<br>(frequency) | CONSEQUENCE<br>(frequency) |
|                            | 1993-2025                               | 2021-2025                  | 1993-2025                  | 2021-2025                  |
| <b>Young people (0-17)</b> | 19 (19)                                 | 2 (2)                      | 97 (90)                    | 1 (1)                      |
| Child (0-4)                | 6 (6)                                   | 2 (2)                      | 15 (13)                    | 0 (0)                      |
| School age (5-12)          | 5 (5)                                   | 0 (0)                      | 55 (54)                    | 0 (0)                      |
| Adolescent (13-17)         | 8 (8)                                   | 0 (0)                      | 27 (23)                    | 1 (1)                      |
| <b>Adult</b>               | 31 (31)                                 | 1 (1)                      | 131 (130)                  | 6 (6)                      |
| <b>Elderly (65+)</b>       | 3 (3)                                   | 0 (0)                      | 15 (15)                    | 1 (1)                      |
| <b>Total</b>               | 53 (53)                                 | 3 (3)                      | 266 (256)                  | 10 (10)                    |

**TABLE 2:** Age breakdown for notifiable electric shock accidents involving members of the public

<sup>7</sup> The first number represents casualties, and the bracketed number represents accidents.

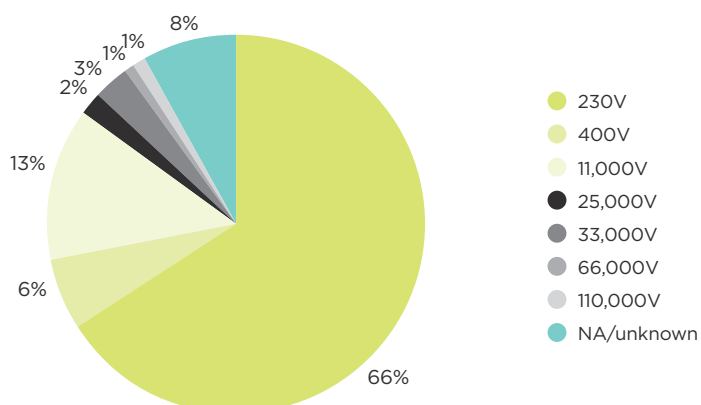
Our analysis shows:

- Thirty-six percent of fatal accidents (19 fatalities) involved young people aged under 17 years. There were two fatal accidents within this age group in the last 12 years.
- Ninety injury accidents involved 97 young people. One of these accidents, resulting in injury to one, occurred in the last 5 years.
- There has been a significant reduction in the number of young people who were injured in electrical accidents during the current period compared with the base period. In the current period (2021–2025), one (10%) out of 10 injuries involved young people compared with 30 (45%) out of 67 injuries in the base period (1993–97).
- Only 6% (18) of the total 302 accidents involved people aged 65 years or over. This represents a relatively small number compared with the age profile of the population. As numbers are small no further analysis has been conducted.

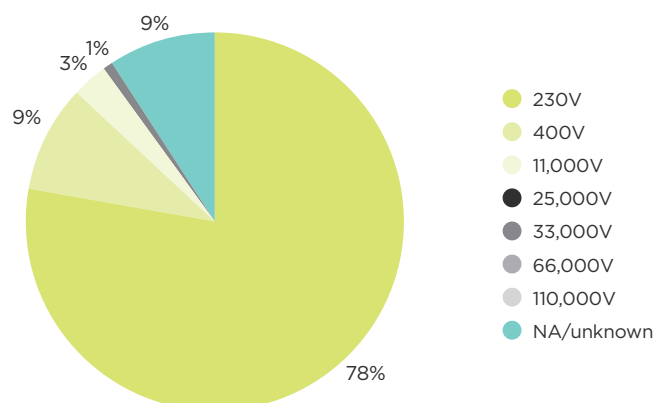
### 3.4 Voltage

Our analysis shows:

- The standard voltage in New Zealand domestic installations is 230V. This is the voltage that people normally interact with in their homes. Approximately two-thirds of fatal accidents and a similar proportion of total notifiable accidents involving members of the public involve 230V (see Figure 1D). Comparatively, three-quarters of non-notifiable accidents involved 230V (see Figure 1E)
- Thirty-five (66%) of the 53 fatal accidents and 168 (66%) of the 256 injury accidents involved 230V systems. Two (4%) fatal accidents and 17 (7%) injury accidents involved 400V systems. Eight (15%) fatal accidents and 36 (14%) injury accidents involved 11,000V systems (see Table 3).
- Of the 53 fatal accidents, 19 of the victims were young people. Thirteen of these cases involved 230V systems.
- Sixty-nine (35%) of the 200 fatal and injury accidents associated with 230V systems involved young people.
- Over three-quarters (304) of the 390 non-notifiable accidents involved 230V systems while 9% (35) of non-notifiable accidents involved 400V systems (see Table 4).



**FIGURE 1D:**  
Notifiable electrical  
accidents by voltages



**FIGURE 1E:**  
Non-notifiable electrical  
accidents by voltages

| VOLTAGE GROUPS | FATAL                                   |                            | INJURY                     |                            |
|----------------|-----------------------------------------|----------------------------|----------------------------|----------------------------|
|                | CONSEQUENCE <sup>8</sup><br>(frequency) | CONSEQUENCE<br>(frequency) | CONSEQUENCE<br>(frequency) | CONSEQUENCE<br>(frequency) |
|                | 1993-2025                               | 2021-2025                  | 1993-2025                  | 2021-2025                  |
| 230            | 35 (35)                                 | 3 (3)                      | 170 (168)                  | 6 (6)                      |
| 400            | 2 (2)                                   | 0 (0)                      | 17 (17)                    | 2 (2)                      |
| 11,000         | 8 (8)                                   | 0 (0)                      | 38 (36)                    | 0 (0)                      |
| 25,000         | 2 (2)                                   | 0 (0)                      | 3 (3)                      | 0 (0)                      |
| 33,000         | 2 (2)                                   | 0 (0)                      | 7 (7)                      | 0 (0)                      |
| 66,000         | 1 (1)                                   | 0 (0)                      | 1 (1)                      | 0 (0)                      |
| 110,000        | 0 (0)                                   | 0 (0)                      | 6 (2)                      | 1 (1)                      |
| Total          | 53 (53)                                 | 3 (3)                      | 266 (256)                  | 10 (10)                    |

**TABLE 3:** Voltage breakdown for notifiable electric shock casualty involving members of the public

| VOLTAGE GROUPS | NOTIFIABLE                              |                            | NON-NOTIFIABLE             |                            |
|----------------|-----------------------------------------|----------------------------|----------------------------|----------------------------|
|                | CONSEQUENCE <sup>9</sup><br>(frequency) | CONSEQUENCE<br>(frequency) | CONSEQUENCE<br>(frequency) | CONSEQUENCE<br>(frequency) |
|                | 1993-2025                               | 2021-2025                  | 2008-2025                  | 2021-2025                  |
| 230            | 200 (6.1)                               | 9 (1.8)                    | 304 (16.9)                 | 97 (19.4)                  |
| 400            | 19 (0.6)                                | 2 (0.4)                    | 35 (1.9)                   | 7 (1.4)                    |
| 11,000         | 41 (1.2)                                | 0 (0)                      | 13 (0.7)                   | 3 (0.6)                    |
| 25,000         | 5 (0.2)                                 | 0 (0)                      | 0 (0)                      | 0 (0)                      |
| 33,000         | 8 (0.2)                                 | 0 (0)                      | 2 (0.1)                    | 0 (0)                      |
| 66,000         | 3 (0.1)                                 | 1 (0.2)                    | 0 (0)                      | 0 (0)                      |
| 110,000        | 3 (0.1)                                 | 0 (0)                      | 1 (0.1)                    | 0 (0)                      |
| Total          | 302 (9.2)                               | 13 (2.6)                   | 390 (21.7)                 | 125 (25.0)                 |

**TABLE 4:** Voltage breakdown for electric shock accidents involving members of the public

<sup>8</sup> The first number represents casualties and the bracketed number represents accidents.

<sup>9</sup> The first number represents accidents and the bracketed number represents accidents per year.

3.5 Causal factors

Our investigations seek to identify the causal factor or factors contributing to accidents. The causal factors of non-notifiable accidents are not analysed due to the lack of consistent information. The causal factors of notifiable accidents fall into one or more broad categories as indicated in Figure 1F. As more than one causal factor can contribute to a single accident; percentages do not add up to 100%.

Our analysis shows:

- In notifiable accidents involving members of the public, the most common causes of electrical accidents were lack of maintenance, identified in 68 cases (23%), and misuse, identified in 46 cases (15%) (see Figure 1F).
- In 11 (21%) fatal electrical accidents, misuse of equipment was identified as the causal factor.
- Table 5 summarises the most common causal factors of notifiable electrical accidents over the past 33 years, as well as over the past 5 years.

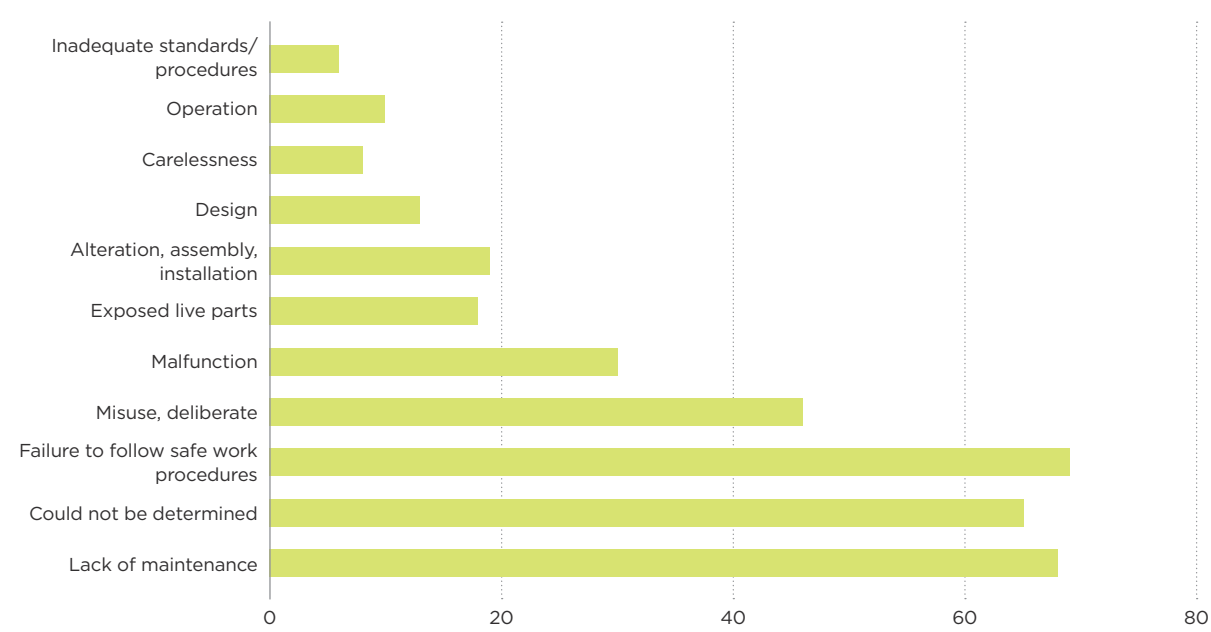


FIGURE 1F: Notifiable electrical accidents by causal factor

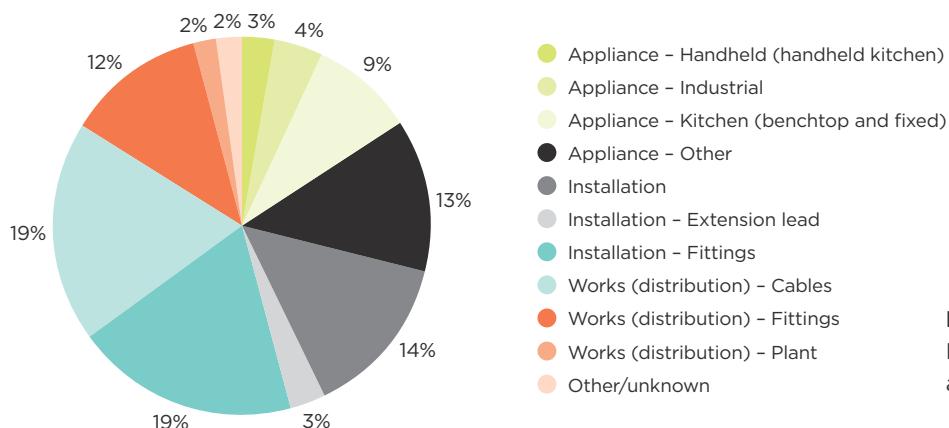
|             | PERIOD<br>1993-2025                                                                                                                 | PERIOD<br>2021-2025                                                                                |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Main causes | <div><div>- Lack of maintenance (23%)</div><div>- Failure to follow safe work procedures (23%)</div><div>- Misuse (15%)</div></div> | <div><div>- Malfunction (33%)</div><div>- Failure to follow safe work procedures (46%)</div></div> |

TABLE 5:  
Factors in notifiable  
electrical accidents  
involving members  
of the public

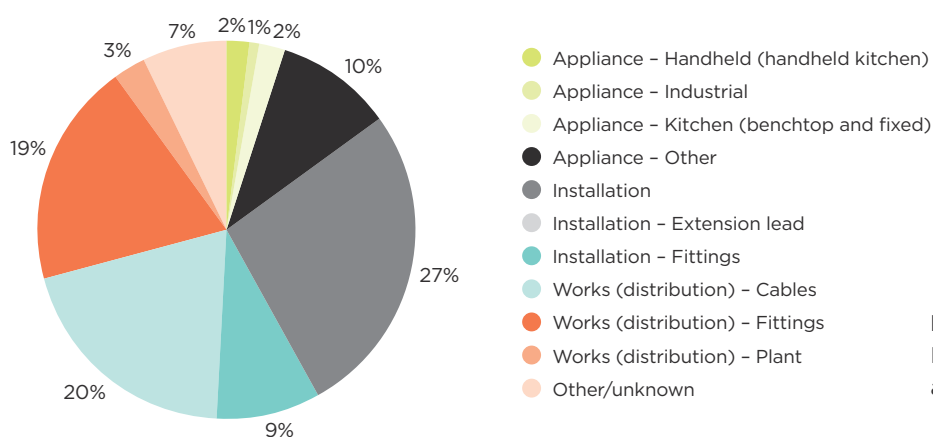
### 3.6 Equipment

Over 90% of notifiable and non-notifiable accidents involving members of the public were associated with 1 of 5 categories of equipment (see Figure 1G and Figure 1H):

- appliances (29% notifiable and 15% non-notifiable)
- domestic installation (include extension lead) wiring (17% and 27%)
- installation fittings<sup>10</sup> (19% and 9%)
- works or distribution cable (19% and 20%)
- works distribution fittings (12% and 19%).



**FIGURE 1G:**  
Notifiable electrical accidents by equipment



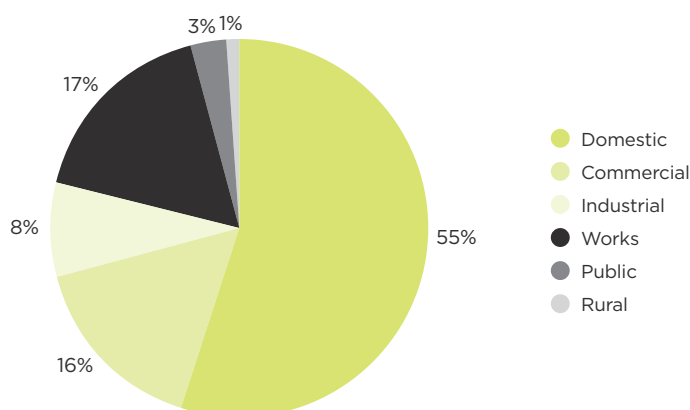
**FIGURE 1H:**  
Non-notifiable electrical accidents by equipment

<sup>10</sup> Domestic installation fittings include switches, plugs and light fittings.

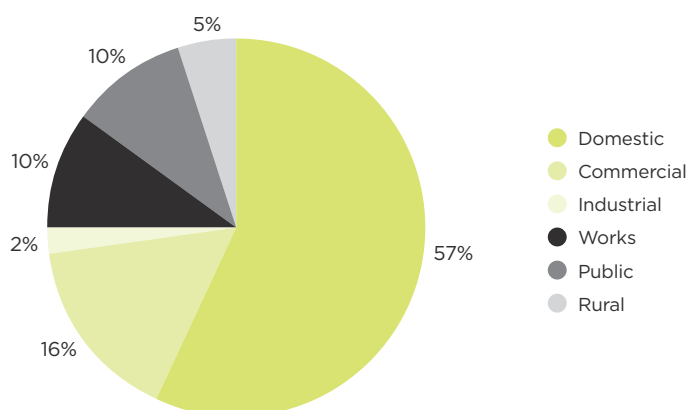
### 3.7 Environment

Figure 1I provides a more detailed breakdown of notifiable electrical accidents by environment type. Over half (55%) of notifiable accidents occurred in a domestic environment. A further 16% of accidents occurred in a commercial environment, while a similar level (17%) of accidents occurred near works.

Figure 1J presents a detailed breakdown of non-notifiable electrical accidents by environment type. Over half (57%) of the accidents occurred in the domestic environment, with 16% of accidents occurred in the commercial environment.



**FIGURE 1I:**  
Notifiable electrical  
accidents by environment



**FIGURE 1J:**  
Non-notifiable electrical  
accidents by environment

Our analysis shows:

- Thirty-three accidents (62%) of the 53 fatal accidents and 135 (53%) of the 256 injury accidents occurred in a domestic environment. 230V domestic systems were involved in 30 of the 33 domestic environment fatal accidents and in 116 of the 135 injury accidents.
- Ten (19%) of the 53 fatal accidents and 44 (17%) of the 256 injury accidents occurred in a work environment. Of these, 4 fatal and 23 injury accidents involved 11,000V systems.

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# 4.0

## Natural gas accidents

### IN THIS SECTION:

- 4.1 Current trends
- 4.2 Longer term trends
- 4.3 Causal factors
- 4.4 Equipment type

# Notifiable and non-notifiable accidents (natural gas) reported to us.

We analyse natural gas-related accidents of all types, including fires and explosions, whether there were fatalities, or any loss related to property. All non-notifiable accidents, except for those reported in bulk,<sup>11</sup> are included in this analysis.

This analysis examines accidents involving members of the public for 2025 and for the 33 year period from 1993 to 2025. It includes a comparison between the base period (1993–1997) and the current 5-year period (2021–2025).

Historically, data relating to gas accidents did not include the age of the victim. Recording data related to the age group of the victim for gas started with the introduction of an integrated case management system (ESI) in 2008. This section identifies general trends and examines general categories of appliances and other equipment involved in accidents.

## 4.1 Current trends

Analysis of notifiable gas accidents shows that during 2025:

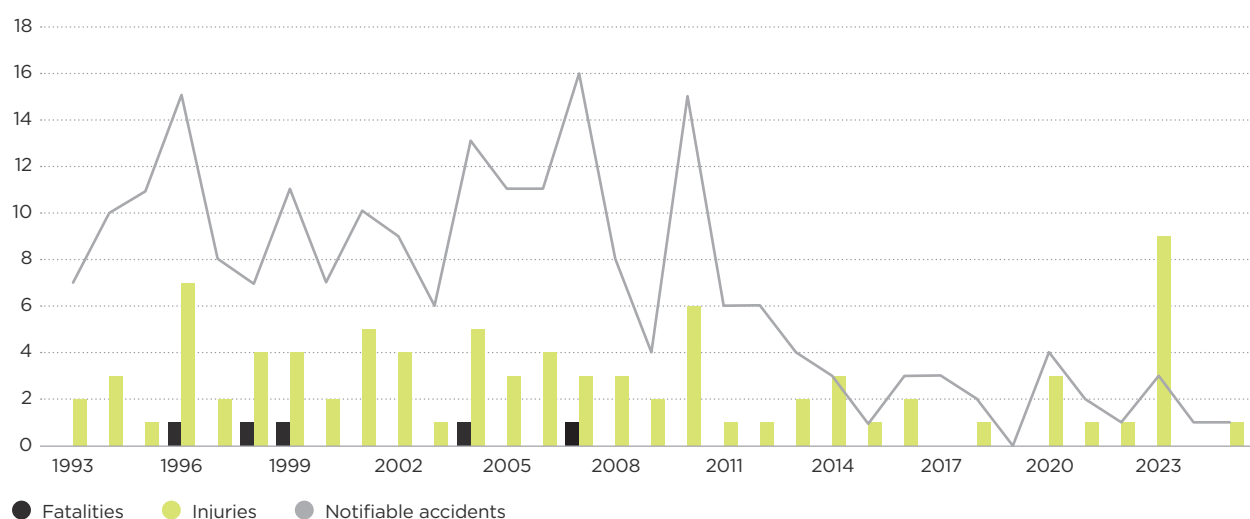
- There was 1 notifiable natural gas accident reported during the year. This accident involved a mains, services, and regulator station.
- In the past 33 years there have been 0.2 fatal accidents and 2.0 injury accidents per year on average.
- Two non-notifiable accidents were reported. These involved a cooker/oven and a laundry/dryer, respectively.
- Over the last 9 years, a total of 15 non-notifiable distribution accidents (involving mains, services, and regulator station etc) were reported after a 5-year period of no reported accidents. The average distribution accident number over the first 18 years (1993–2010) was 16.7. A potential reason for the decline in distribution accident reporting to us is the transfer of responsibility for workplace accidents investigation under workplace safety legislation (then Department of Labour) in 2009.

<sup>11</sup> For a certain period in the 1990s Energy Safety received information (notification) of third-party strikes in bulk. While all were recorded, in general Energy Safety did not investigate these 'bulk reported' and other low level incident events.

## 4.2 Longer term trends

Observations based on analysis of trends, consequence, and frequency for the 33 year period between 1993 and 2025 indicate that:

- A total of 219 notifiable accidents were reported. Of these, 151 (69%) of these were non-casualty accidents that resulted in property damage only.
- There were 5 fatal accidents, resulting in 5 fatalities and 65 injury accidents, injuring 87 people (see Figure 2A). Given the small number spread over a 33 year period, no clear trend can be identified for fatal and injury accidents.
- The most recent fatal accident occurred in 2007. Fixed space heaters were involved in 3 of these fatal accidents, while cookers and water heaters were involved in 1 accident each.
- A total of 666 non-notifiable accidents were reported to Energy Safety. A reduction in non-notifiable accidents has been observed over the last 20 years (see Figure 2B).
- Twenty-five non-notifiable accidents were reported in the most recent 5-year period compared with 121 in the initial 5-year period, a decrease of approximately four-fifths (see Figure 2B). The notifications of non-notifiable accidents related to gas distribution<sup>12</sup> have dropped in the past 17 years.<sup>13</sup>
- The number of non-notifiable accidents reported by the gas industry has declined to 6 accidents (1.2 per year) in the last 5 years compared with the 44 (8 per year) accidents within the base period. More non-notifiable gas distribution accidents were reported by the gas industry during 1998–2002 (18.0 per year) and 2003–2008 (15.3 per year) periods.
- Forty-two percent of non-notifiable accidents were reported to Energy Safety by the gas industry.



**FIGURE 2A:** Notifiable natural gas accidents

<sup>12</sup> Distribution includes mains, services and regulator stations.

<sup>13</sup> The main reason for this drop is the change of responsibility for reporting and investigating workplace accidents.

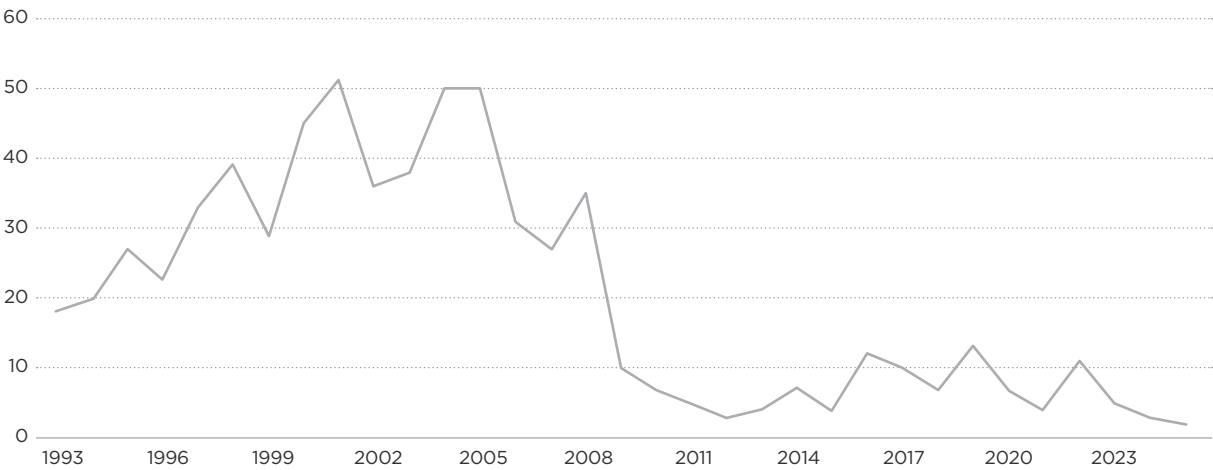


FIGURE 2B: Non-notifiable natural gas accidents

4.3 Causal factors

Table 6 gives the most common causes of notifiable natural gas accidents over the past 33 years, and over the past 5-year period.

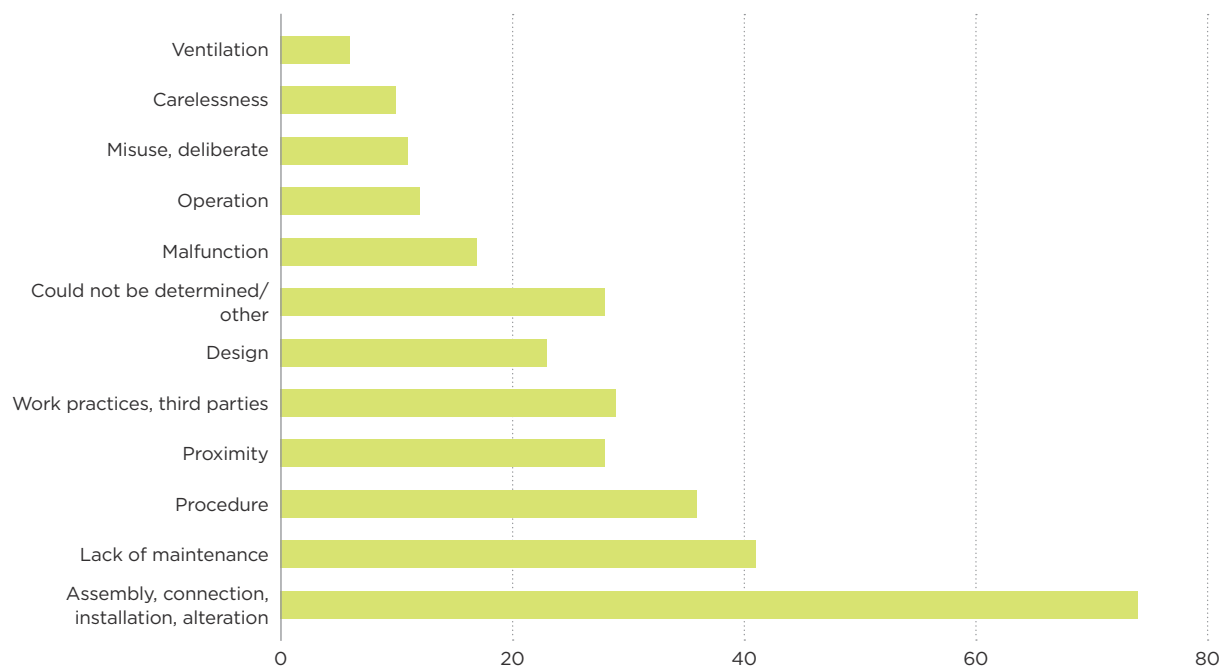
The most common causes<sup>14</sup> identified of notifiable accidents over the last 33 years (see Figure 2C) were:

- assembly, connection, installation and alteration<sup>15</sup> - 74 (34%)
- lack of maintenance - 41 (19%)
- failure to follow appropriate procedure - 36 (16%)
- appliances too close to combustible products (proximity) - 28 (13%)
- work practices and third-party damage - 29 (13%).

|             | PERIOD<br>1993-2025                                                                                                                                                                                                            | PERIOD<br>2020-2024                                                                                                                    |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Main causes | <div><div>- Assembly, connection, installation, alteration (34%)</div><div>- Lack of maintenance (19%)</div><div>- Procedure (16%)</div><div>- Work practice, interference by third-parties, operation error (13%)</div></div> | <div><div>- Assembly, connection, installation, alteration (38%)</div><div>- Procedure (38%)</div><div>- Malfunction (25%)</div></div> |

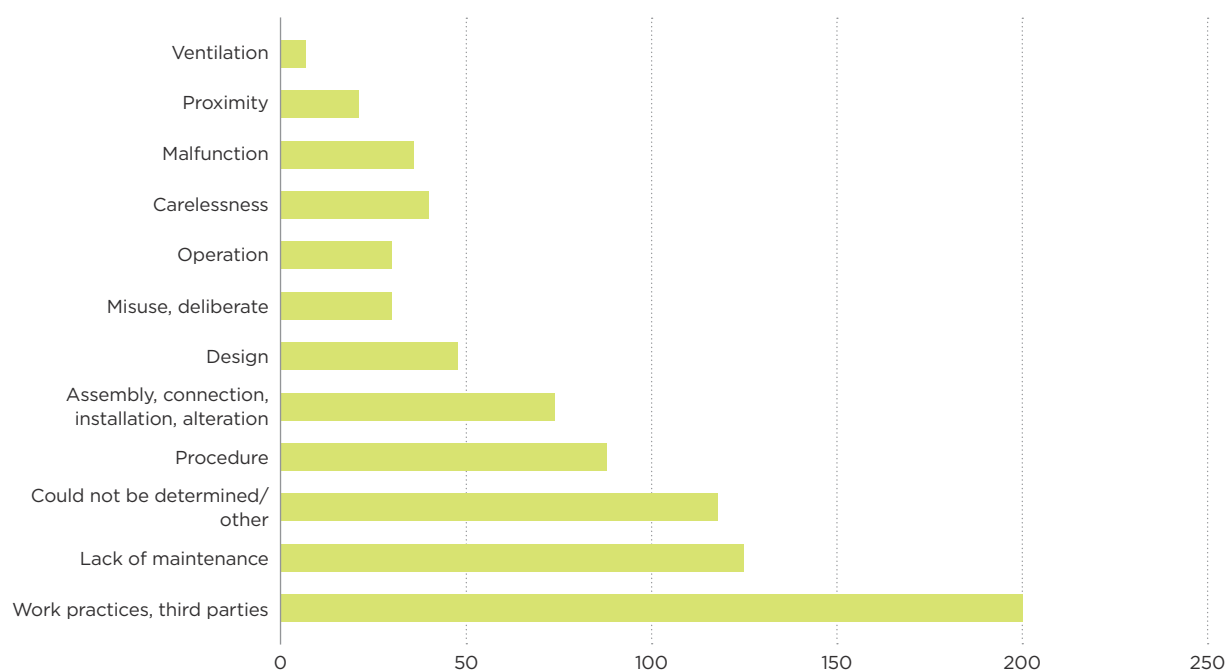
TABLE 6:  
Factors in notifiable natural gas accidents involving members of the public

<sup>14</sup> Many accidents may have had more than one cause attributed to them.  
<sup>15</sup> Incorrect work includes assembly, connection, installation and alteration.



**FIGURE 2C:** Notifiable natural gas accidents by causal factor

About a third (200) of the non-notifiable accidents reported were caused by failure to follow correct work practices, including third-party incidents involving non-gas industry workers. One hundred and twenty five (19%) were caused by lack of maintenance, 74 (11%) by assembly, connection, installation, alteration<sup>16</sup> and 88 (13%) by not following correct procedures (see Figure 2D).



**FIGURE 2D:** Non-notifiable natural gas accidents by causal factor

<sup>16</sup> Incorrect work includes incorrect assembly, connection, installation and alteration.

## 4.4 Equipment type

Table 7 and 8 give a more detailed breakdown of natural gas casualty and all natural gas accidents by equipment type. Three categories of appliance were involved in 77% of notifiable accidents (see Figure 2E).

- Water heaters or boilers – 72 (33%).
- Space heaters – 60 (27%).
- Cooking appliances – 38 (17%).

About 90% of these accidents involved a fire or explosion.

| EQUIPMENT TYPE                       | FATAL                                    |                            | INJURY                     |                            |
|--------------------------------------|------------------------------------------|----------------------------|----------------------------|----------------------------|
|                                      | CONSEQUENCE <sup>17</sup><br>(frequency) | CONSEQUENCE<br>(frequency) | CONSEQUENCE<br>(frequency) | CONSEQUENCE<br>(frequency) |
|                                      | 1993–2025                                | 2021–2025                  | 1993–2025                  | 2021–2025                  |
| Cookers and ovens                    | 1 (1)                                    | 0 (0)                      | 14 (11)                    | 1 (1)                      |
| Space heaters                        | 3 (3)                                    | 0 (0)                      | 22 (14)                    | 9 (2)                      |
| Water heaters                        | 1 (1)                                    | 0 (0)                      | 20 (17)                    | 1 (1)                      |
| Mains/service and regulator stations | 0 (0)                                    | 0 (0)                      | 18 (14)                    | 2 (1)                      |
| Total                                | 5 (5)                                    | 0 (0)                      | 87 (65)                    | 12 (5)                     |

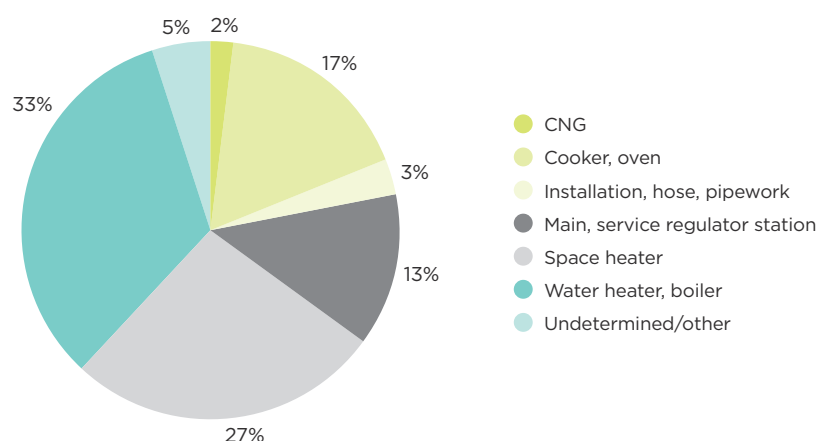
**TABLE 7:** Breakdown of natural gas casualty accidents involving members of the public by equipment type

| EQUIPMENT TYPE                       | NOTIFIABLE                            |                         | NON-NOTIFIABLE          |                         |
|--------------------------------------|---------------------------------------|-------------------------|-------------------------|-------------------------|
|                                      | ACCIDENTS <sup>18</sup><br>(per year) | ACCIDENTS<br>(per year) | ACCIDENTS<br>(per year) | ACCIDENTS<br>(per year) |
|                                      | 1993–2025                             | 2021–2025               | 1993–2025               | 2021–2025               |
| Cookers and ovens                    | 38 (1.2)                              | 1 (0.2)                 | 79 (2.4)                | 4 (0.8)                 |
| Space heaters                        | 60 (1.8)                              | 2 (0.4)                 | 135 (4.1)               | 4 (0.8)                 |
| Water heaters                        | 72 (2.2)                              | 2 (0.4)                 | 41 (1.2)                | 6 (1.2)                 |
| Mains/service and regulator stations | 28 (0.8)                              | 1 (0.2)                 | 315 (9.5)               | 7 (1.4)                 |
| Total                                | 219 (6.6)                             | 8 (1.6)                 | 666 (20.2)              | 25 (5.0)                |

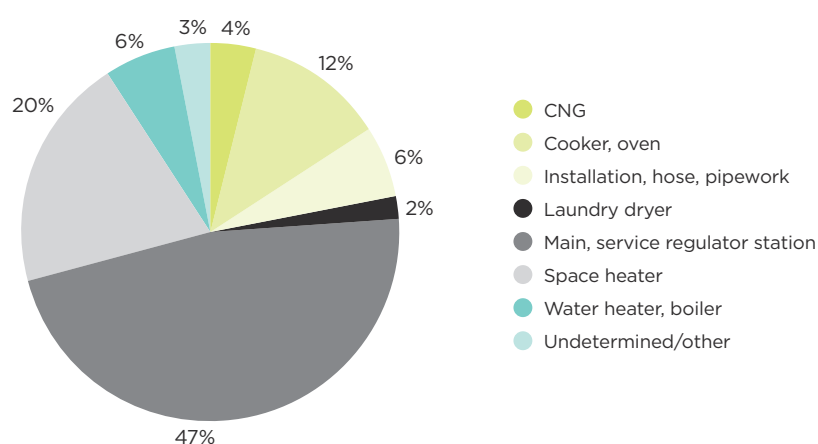
**TABLE 8:** Breakdown of natural gas accidents involving members of the public by equipment type

<sup>17</sup> The first number represents casualties and the bracketed number represents accidents.

<sup>18</sup> The first number represents accidents and the bracketed number represents accidents per year.



**FIGURE 2E:**  
Notifiable natural gas  
accidents by equipment



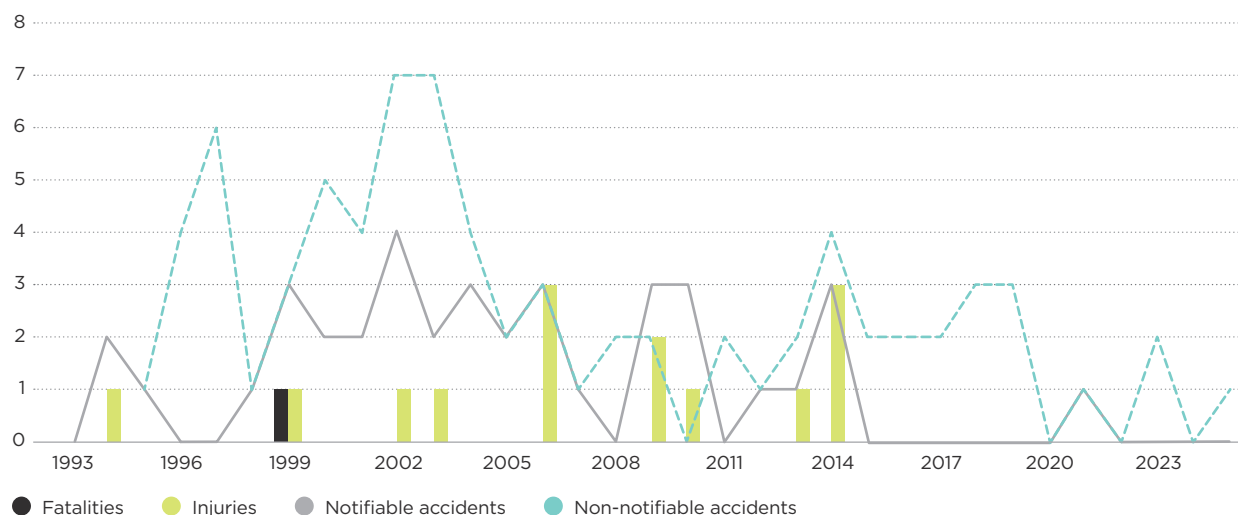
**FIGURE 2F:**  
Non-notifiable  
natural gas accidents  
by equipment

- Half (14 of 28) of the notifiable accidents in the distribution system caused injury to eighteen people.
- Half (315) of the 666 non-notifiable accidents reported to Energy Safety involved distribution equipment<sup>19</sup> (see Figure 2F) with a gas leak or escape being the outcome in over 82% of cases, and fire in 9% of these cases. Approximately 56% of distribution accidents, including third-party strikes, involved failure to follow correct work practices.
- Approximately one-third (32%) or 214 out of the 666 non-notifiable accidents reported to Energy Safety, involved heating equipment or cooking equipment. Fire was the outcome in about three quarters of these accidents.

### Cookers and ovens

- Seventeen percent (38) of the 219 notifiable accidents and 12% (79) of the 666 non-notifiable accidents involved cookers or ovens. Cookers and ovens were involved in one fatality (in 1999) and injury to 14 people (within 11 injury accidents), see Figure 2G.

<sup>19</sup> This includes mains, services, regulator stations and meters.



**FIGURE 2G:** Natural gas cooker and oven accidents

- Eleven (17%) of the total natural gas notifiable injury accidents (65) involved gas cookers or ovens. In the past 33 years there have been, on average, 1.2 notifiable accidents and 2.4 non-notifiable accidents involving cookers per year.
- Fifteen (39%) notifiable cooker accidents reported were caused by lack of maintenance and 12 (32%) were caused by assembly, connection, installation, and alteration.
- Twenty-two (28%) non-notifiable cooker accidents reported were caused by lack of maintenance, 13 (16%) were caused by operation issue and 18 (23%) caused by assembly, connection, installation, and alteration.

### Space heaters

- Twenty-eight percent (60) of the 219 notifiable accidents and 20% (135) of the 666 non-notifiable accidents involved space heaters. Space heaters were involved in 3 fatalities (3 fatal accidents) and injury to 22 people (within 14 injury accidents). The last fatal accident involving a space heater occurred 18 years ago in 2007 (see Figure 2H).
- Fourteen (22%) of the total injury accidents involved space heaters in the past 33 years. In the past 33 years there have been, on average, 1.8 notifiable accidents and 4.1 non-notifiable space heater accidents per year.
- Sixteen of 60 notifiable space heater accidents caused 3 fatalities and injury to 22 people.
- Twenty-four (40%) notifiable heater accidents reported were caused by assembly, connection, installation, and alteration. Fifteen (25%) were caused by design<sup>20</sup> fault and 13 (22%) were caused by proximity to a combustible product.
- Thirty-two (24%) non-notifiable accidents reported were caused by assembly, connection, installation, and alteration. Thirty-eight (28%) were caused by design fault and 39 (29%) were caused by lack of maintenance.

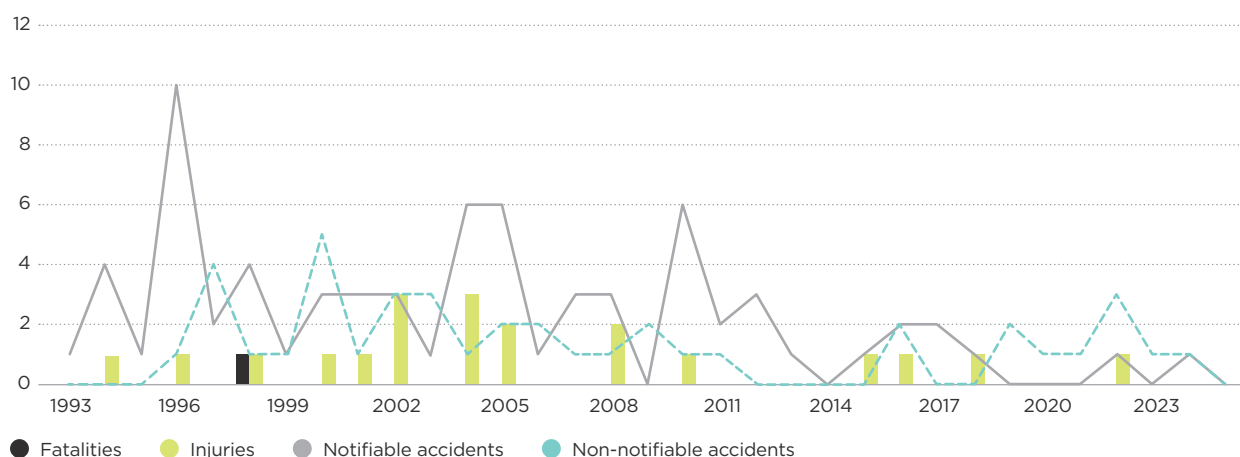
<sup>20</sup> This includes engineering problems with structure/material specifications or plans. Also clear ergonomic problems (making misuse or operation error likely).



**FIGURE 2H:** Natural gas space heater accidents

### Water heaters and boilers

- Thirty-three percent (72) of the 219 notifiable accidents and 6% (41) of the 666 non-notifiable accidents involved water heaters. Water heaters were involved in 1 fatality (in 1998) and injuries to 20 people (within 17 injury accidents), see Figure 2I.
- In the past 33 years, 23% of the total 87 injuries involved water heaters. On average, 2.2 notifiable accidents and 1.2 non-notifiable water heater accidents per year.
- Of the notifiable water heater accidents, 17 incidents (24%) were caused by lack of maintenance, and 28 incidents (39%) were caused by assembly, connection, installation, and alteration.
- Of the non-notifiable accidents, 12 (29%) were caused by lack of maintenance, 10 (24%) by proximity to a combustible product and 9 (22%) by assembly, connection, installation, and alteration.



**FIGURE 2I:** Natural gas water heater and boiler accidents

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# 5.0

## Liquefied petroleum gas (LPG)

### IN THIS SECTION:

- 5.1 Current trends
- 5.2 Longer term trends
- 5.3 Casual factors
- 5.4 Equipment
- 5.5 Environment

# Notifiable and non-notifiable accidents reported to Energy Safety involving liquefied petroleum gas (LPG).

This section includes LPG fuel gas-related accidents of all types, including fires and explosions, regardless of whether there were casualties or property loss. All non-notifiable accidents, except for those reported in bulk<sup>21</sup> are included in this analysis.

This analysis examines accidents involving members of the public in 2025, as well as accidents over the 33 year period from 1993 to 2025. It includes a comparison between the base period (1993–1997) and the current 5-year period (2021–2025). In addition to accidents involving members of the public, Energy Safety retains an interest in equipment, which is reflected in this analysis.

Historically, data relating to LPG accidents did not focus on the age of the victim. The recording of age-related data commenced with the introduction of an integrated case management system (ESI) in 2008. This section identifies general trends and examines general categories of appliances and other equipment involved in accidents.

LPG is normally used as a fuel for heating, cooking, or lighting. However, in a few cases, LPG is deliberately inhaled with serious consequences. (Energy Safety is not the lead agency for investigating incidents that involve the deliberate inhalation of LPG.)

Deliberate LPG inhalation accidents differ from other LPG accidents, as the fuel is knowingly misused or handled without any fault in the equipment or fuel itself. Analysis that included this data might give the impression that LPG is a more dangerous fuel than it is in normal use. Deliberate LPG inhalation accidents are not included in the LPG accident analysis.

## 5.1 Current trends

Examination of notifiable LPG accidents shows that during 2025:

- Two notifiable accidents were reported that involved injury or significant property damage. Over the past 33 years, the average annual notifiable accident number has been 14.0.
- There were no fatal LPG accidents reported in 2025. Over the last 33 years the average number of fatal accidents has been 1.2 per year resulting in an average of 1.4 fatalities per year.
- There were no reported notifiable injury accidents during 2025. Over the past 33 years, an average of 6.7 notifiable injury accidents per year has resulted in an average of 9.4 injuries per year.

<sup>21</sup> For a certain period in the 1990s Energy Safety received information (notification) of minor incidents in bulk. While all were recorded, in general Energy Safety did not investigate these 'bulk reported' and other low level incident events.

- Cookers are involved in all 3 notifiable accidents. None of the notifiable cooker accidents causing injury.
- Three non-notifiable accidents were reported to Energy Safety. This represents approximately one-fifteenth of the long term annual average number (19.3) over the past 33 years. All non-notifiable accidents resulted in fires.

5.2 Longer term trends

Observations based on analysis of trends, consequence, and frequency for the 33 year period between 1993 and 2025 indicate that:

- Thirty-nine fatal accidents (1.2 per year) resulted in 46 fatalities (1.4 per year).
- Cooking equipment was involved in 15 (38%) fatal accidents resulting in 19 (41%) fatalities.
- Cabinet heaters were involved in 12 (31%) fatal accidents resulting in 13 (28%) fatalities. The most recent cabinet heater fatal accident occurred in 2015.
- Fatal accidents involving fire or explosion are more frequent than a fatal accident involving carbon monoxide poisoning, but carbon monoxide poisoning is more deadly. Of the 46 fatalities, 24 involved fire or explosion (in 22 accidents) and 21 fatalities involved carbon monoxide poisoning in (16 cases). On average, 1.1 fatalities occurred per fire or explosion accident while an average of 1.3 fatalities occurred for carbon monoxide poisoning accidents.
- There is no clear long-term trend to indicate any change in the number of fatal accidents over the last 33 years (see Figure 3A). However, there appears to have been a spike in the number of fatal cabinet heater accidents between 2007 and 2012 compared to the long-term trend. Seven of the 12 fatal accidents occurred in the 6-year period (2007–2012) in comparison to 3 fatal accidents (4 fatalities) in the previous 14 years (1993–2006). Two fatal cabinet heater accidents occurred in 2015 and since then there have been no cabinet heater fatality.

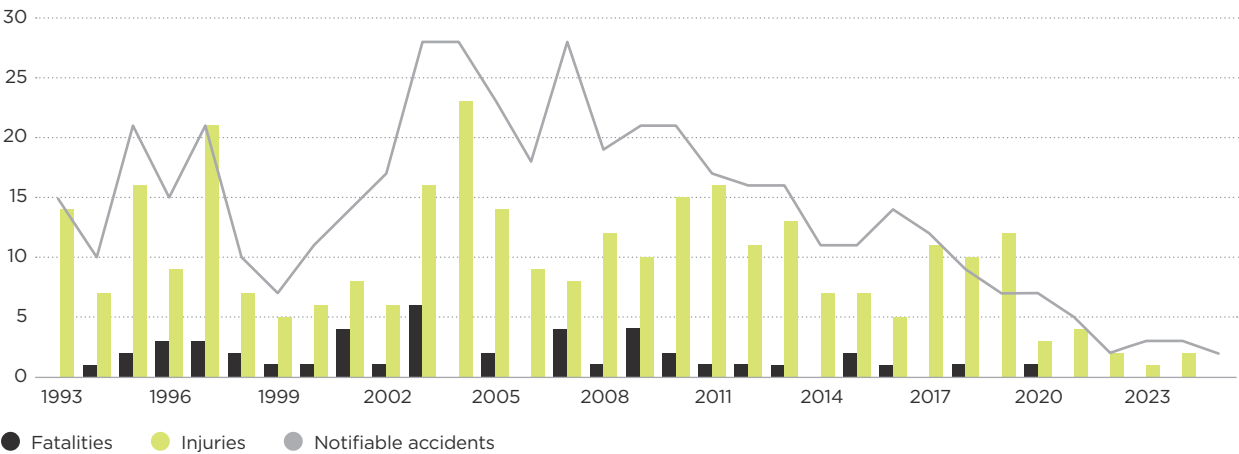


FIGURE 3A: Notifiable LPG accidents

- There have been 462 notifiable accidents reported. One hundred and fifty-eight (34%) of the total notifiable accidents and 239 (38%) of the 634 non-notifiable accidents were caused by poor assembly, connection, and installation of or alteration to, an appliance. When analysing gas related accidents, it is worth noting that multiple contributing causes may be identified for a single accident.
- There were 223 notifiable injury accidents, resulting in injuries to 310 people.
- Table 9 and Table 10 provide a more detailed breakdown of LPG casualty accidents and all LPG accidents by equipment type. Cooking appliances were involved in 39% and cabinet heaters in 26% of injury accidents. Together, these two items account for approximately two thirds of all injuries.
- Of the 462 notifiable accidents, 422 (91%) involved fires or explosions and 48% (202) of these fire accidents resulted in injuries.
- A total of 637 non-notifiable accidents were reported to Energy Safety, see Figure 3B. Of these, 173 accidents (27%) involved cabinet heaters; 98 accidents (15%) involved containers; 104 accidents (16%) involved barbecues; and 107 accidents (17%) involved cooking equipment.
- More than 72% (458) of non-notifiable accidents involved fires or explosions, while approximately 23% (149) involved gas escaping.
- Nineteen percent of the total 1,099 notifiable and non-notifiable accidents were reported by Health and Safety Inspectors, and 29% were reported by the New Zealand Fire Service (now Fire and Emergency New Zealand). However, notifications by Health and Safety Inspectors have significantly reduced since 2009 (accounting for only 1.3% of accidents reported in the last 15 years).

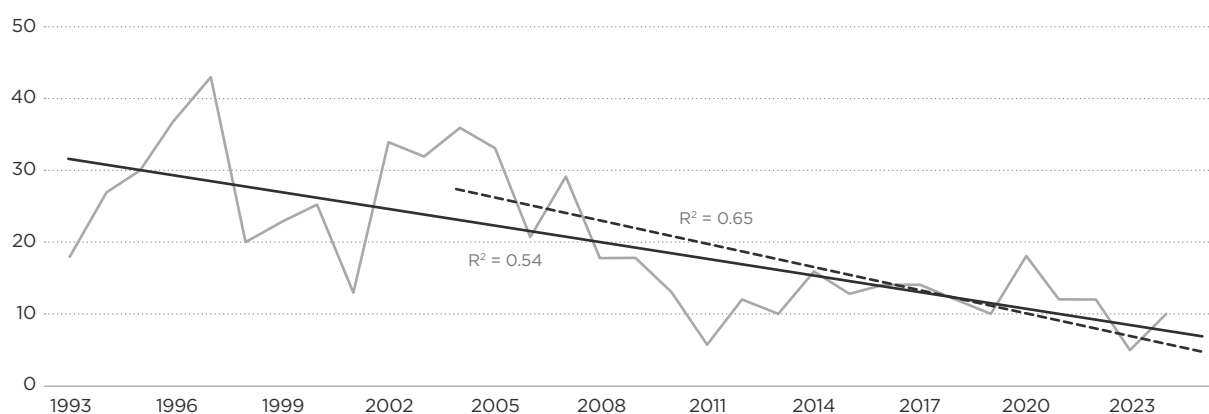
| EQUIPMENT TYPE                                                    | FATAL                                    |                            | INJURY                     |                            |
|-------------------------------------------------------------------|------------------------------------------|----------------------------|----------------------------|----------------------------|
|                                                                   | CONSEQUENCE <sup>22</sup><br>(frequency) | CONSEQUENCE<br>(frequency) | CONSEQUENCE<br>(frequency) | CONSEQUENCE<br>(frequency) |
|                                                                   | 1993-2025                                | 2021-2025                  | 1993-2025                  | 2021-2025                  |
| Cookers and ovens                                                 | 19 (15)                                  | 1 (1)                      | 130 (88)                   | 4 (4)                      |
| Cabinet heaters                                                   | 13 (12)                                  | 0 (0)                      | 67 (55)                    | 0 (0)                      |
| BBQ                                                               | 0 (0)                                    | 0 (0)                      | 7 (6)                      | 0 (0)                      |
| Refrigerator                                                      | 6 (5)                                    | 0 (0)                      | 12 (10)                    | 0 (0)                      |
| Containers (refillable)                                           | 4 (4)                                    | 0 (0)                      | 20 (13)                    | 0 (0)                      |
| Canister and canister equipment (mainly cookers) (non-refillable) | 6 (3)                                    | 0 (0)                      | 55 (32)                    | 1 (1)                      |
| <b>Total</b>                                                      | <b>46 (39)</b>                           | <b>1 (1)</b>               | <b>310 (223)</b>           | <b>8 (7)</b>               |

**TABLE 9:** Breakdown of LPG casualty accidents involving members of the public by equipment type

<sup>22</sup> The first number represents casualties and the bracketed number represents accidents.

| EQUIPMENT TYPE                                                          | NOTIFIABLE                            |                         | NON-NOTIFIABLE          |                         |
|-------------------------------------------------------------------------|---------------------------------------|-------------------------|-------------------------|-------------------------|
|                                                                         | ACCIDENTS <sup>23</sup><br>(per year) | ACCIDENTS<br>(per year) | ACCIDENTS<br>(per year) | ACCIDENTS<br>(per year) |
|                                                                         | 1993–2025                             | 2021–2025               | 1993–2025               | 2021–2025               |
| Cookers and ovens                                                       | 139 (4.2)                             | 9 (1.8)                 | 107 (3.2)               | 11 (2.2)                |
| Cabinet heaters                                                         | 144 (4.4)                             | 1 (0.2)                 | 173 (5.2)               | 1 (0.2)                 |
| BBQ                                                                     | 20 (0.6)                              | 0 (0.0)                 | 104 (3.2)               | 7 (1.4)                 |
| Refrigerator                                                            | 26 (0.8)                              | 0 (0.0)                 | 8 (0.2)                 | 1 (0.2)                 |
| Containers (refillable)                                                 | 26 (0.8)                              | 0 (0.0)                 | 94 (2.9)                | 3 (0.6)                 |
| Canister and canister<br>equipment (mainly<br>cookers) (non-refillable) | 38 (1.2)                              | 1 (0.2)                 | 32 (1.0)                | 5 (1.0)                 |
| <b>Total</b>                                                            | <b>462 (14.0)</b>                     | <b>15 (3.0)</b>         | <b>637 (19.3)</b>       | <b>42 (8.4)</b>         |

**TABLE 10:** Breakdown of LPG accidents involving members of the public by equipment type



**FIGURE 3B:** Non-notifiable LPG accidents

<sup>23</sup> The first number represents accidents and the bracketed number represents accidents per year.

### 5.3 Causal factors

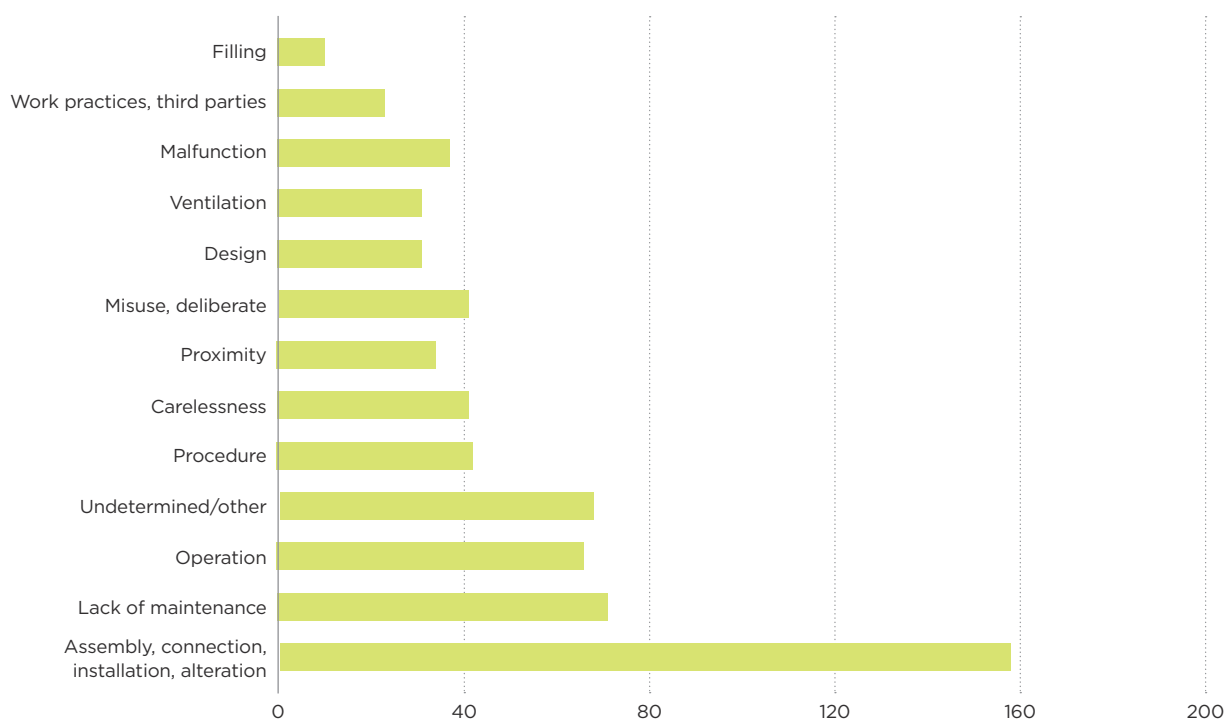
Table 11 gives the most common causes of LPG accidents over the past 32 years and the last 5 years. The main causes<sup>24</sup> of the notifiable accidents (see Figure 3C) have been:

- incorrect assembly, connection, installation or alteration (34%)
- incorrect operation (14%)
- lack of maintenance (15%)
- operating close to flammable materials (7%).

These causes were also the major contributors to non-notifiable accidents reported to Energy Safety (see Figure 3D).

|                    | PERIOD<br>1993-2025                                                                                                                                                                                                                                          | PERIOD<br>2021-2025                                                                                                                                                                                                                         |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Main causes</b> | <ul style="list-style-type: none"> <li>- Assembly, connection, installation, alteration (34%)</li> <li>- Operation error (14%)</li> <li>- Lack of maintenance (15%)</li> <li>- Design (7%)</li> <li>- Procedure (9%)</li> <li>- Carelessness (9%)</li> </ul> | <ul style="list-style-type: none"> <li>- Assembly, connection, installation, alteration (20%)</li> <li>- Lack of maintenance (13%)</li> <li>- Misuse, deliberate (20%)</li> <li>- Carelessness (7%)</li> <li>- Malfunction (27%)</li> </ul> |

**TABLE 11:**  
Factors in notifiable  
LPG accidents involving  
members of the public



**FIGURE 3C:** Notifiable LPG accidents by causal factor

<sup>24</sup> Many accidents may have had more than one cause attributed to them.

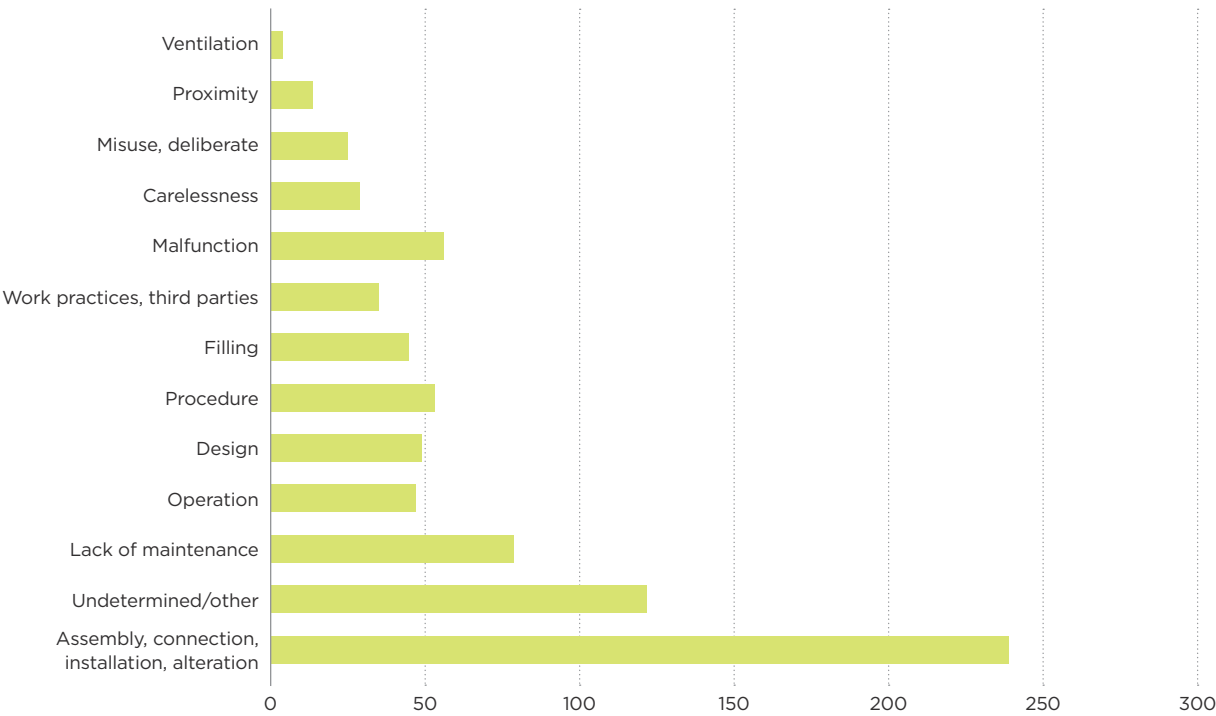


FIGURE 3D: Non-notifiable LPG accidents by causal factor

5.4 Equipment

The major contributors to notifiable accidents (see Figure 3E) have been:

- cabinet heaters 144 (31%)
- containers 30 (6%)
- cookers and ovens 139 (30%)
- space heater 39 (8%) .

This equipment has also contributed to a considerable proportion of non-notifiable accidents (see Figure 3F). Together, these 4 types of equipment account for 66% of the total number of non-notifiable accidents. Barbecues contributed 17% of non-notifiable LPG accidents, but for only about 4% of notifiable accidents.

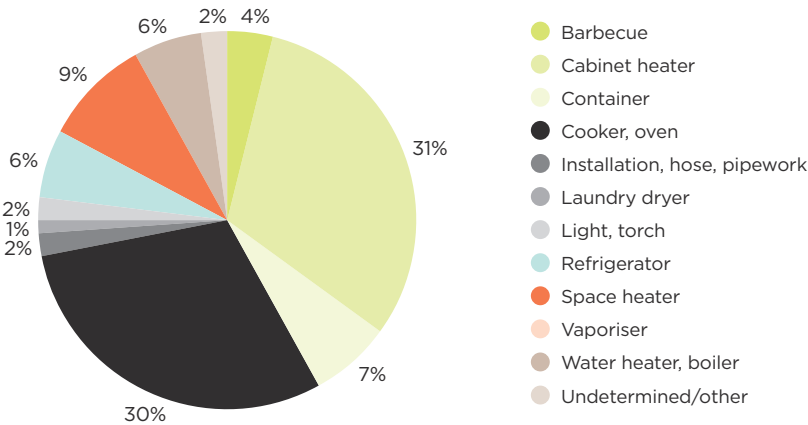
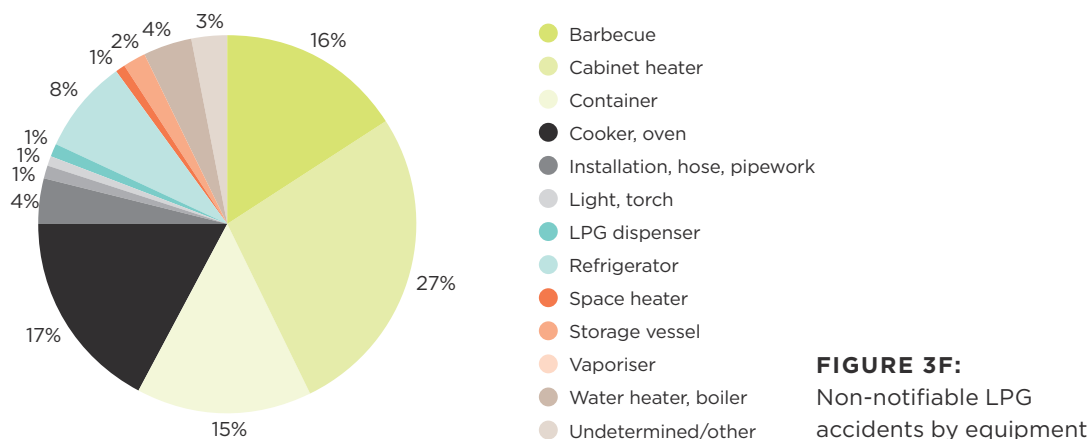


FIGURE 3E: Notifiable LPG accidents by equipment



- Gas equipment fuelled by canisters (non-refillable) were involved in 38 notifiable accidents over the past 33 years which is approximately 7% of the total LPG notifiable accidents.
- Three canister-fuelled notifiable accidents resulted in 6 fatalities (13% of the total LPG fatalities) and 32 notifiable accidents resulted in injuries to 55 people (18% of total LPG injuries).
- Eleven percent (49) of notifiable LPG accidents (462) occurred in caravans. Of these, 10 accidents were fatal, resulting in 11 fatalities. A further 27 of the notifiable accidents injured 41 people, representing 13% of the total LPG injuries (see Table 12).

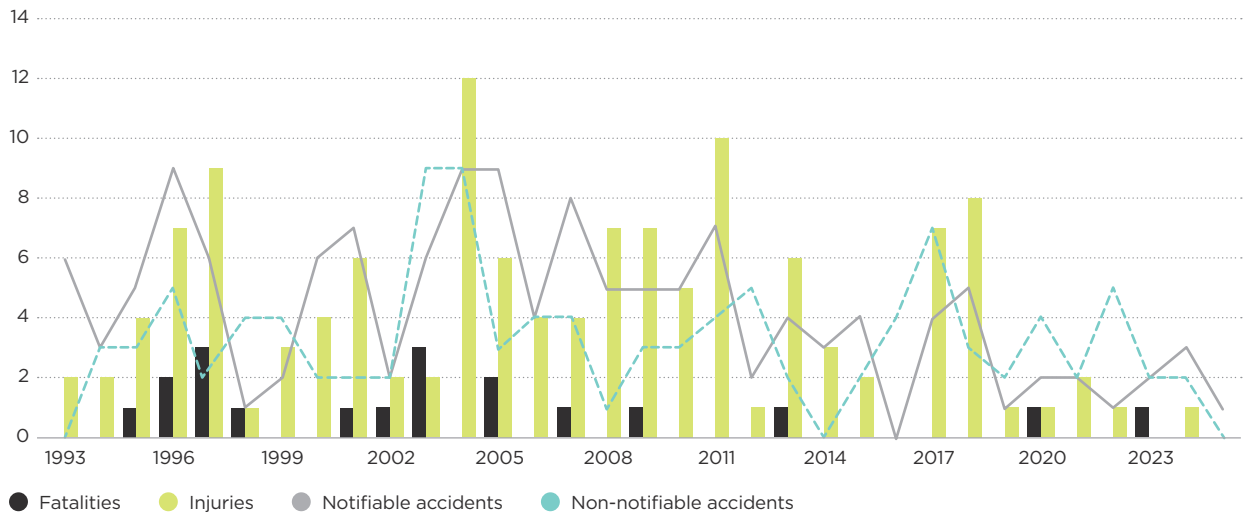
| ENVIRONMENT          | CONSEQUENCE <sup>25</sup><br>(frequency)<br>1993-2025 | CONSEQUENCE<br>(frequency)<br>2021-2025 |
|----------------------|-------------------------------------------------------|-----------------------------------------|
| Caravan or campervan | Fatal 11 (10)                                         | Fatal 0 (0)                             |
|                      | Injury 41 (27)                                        | Injury 1 (1)                            |
|                      | Notifiable (49)                                       | Notifiable (1)                          |
|                      | Non-notifiable (22)                                   | Non-notifiable (3)                      |

**TABLE 12:**  
Environment factors in  
LPG accidents involving  
members of the public

### Cookers and ovens

- Thirty percent (139) of the 462 notifiable accidents and 17% (107) of the 637 non-notifiable accidents involved cookers or ovens. Cookers and ovens were involved in 19 fatalities (15 fatal accidents) and injuries to 130 people (88 injury accidents), see Figure 3G.
- Forty-one percent of total fatalities and 42% of total injuries involved cookers or ovens. Over the past 33 years, there have been an annual average of 0.6 fatalities, 3.9 injuries, 4.2 notifiable accidents, and 3.2 non-notifiable accidents.
- Twenty (14%) notifiable cookers or ovens accidents reported were caused by incorrect operation and 53 (38%) caused assembly, connection, installation, and alteration.
- Forty-three (40%) non-notifiable accidents reported were caused by assembly, connection, installation, and alteration

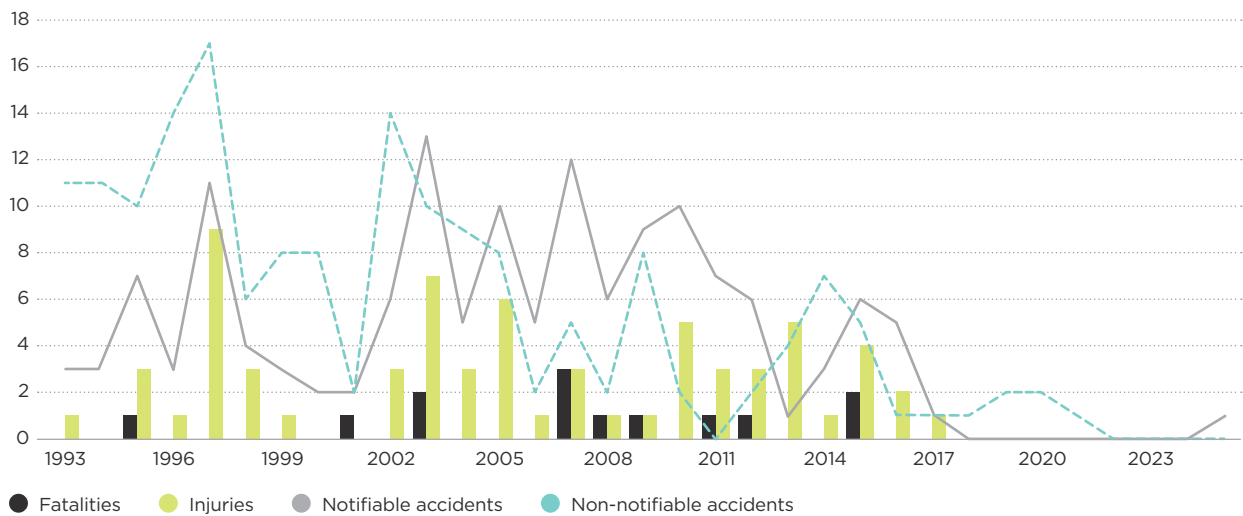
<sup>25</sup> The first number represents casualties and the bracketed number represents accidents.



**FIGURE 3G:** LPG cooker and oven accidents

Cabinet heaters

- Thirty-one percent (144) of the 462 notifiable accidents and 27% (173) of the 637 non-notifiable accidents involved cabinet heaters. Cabinet heaters were involved in 13 fatalities (12 fatal accidents), and injury to 67 people (within 55 injury accidents) (see Figure 3H).
- Twenty-eight percent of total LPG fatalities and 22% of total injuries involved cabinet heaters. In the past 33 years there have been 0.4 fatalities, 2.0 injuries, 4.3 notifiable accidents and 5.2 non-notifiable accidents per year on average.
- Twenty-three (16%) notifiable accidents reported were caused by lack of maintenance, 23 (16%) were caused by proximity to a combustible product and 39 (27%) were caused by assembly, connection, installation, and alteration.
- Twenty-six (15%) non-notifiable accidents reported were caused by lack of maintenance and 88 (51%) were caused by assembly, connection, installation, and alteration.



**FIGURE 3H:** LPG cabinet heater accidents

## Barbecue

- Four percent (20) of the 462 notifiable accidents and 16% (104) of the 637 non-notifiable accidents involved barbecues. Barbecues were not involved in any fatalities, but injured 7 people (6 injury accidents), see Figure 3I.
- In the past 33 years there have been 0.6 notifiable accidents and 3.2 non-notifiable accidents per year on average.
- Six (30%) notifiable accidents and 56 (54%) of non-notifiable accidents reported were caused by assembly, connection, installation, and alteration.

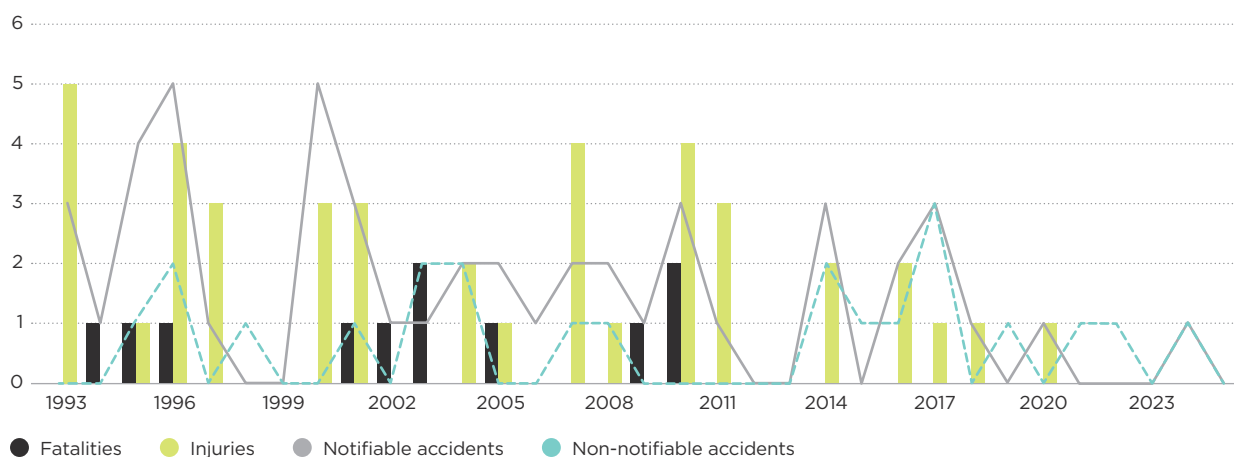


**FIGURE 3I:** LPG barbecue accidents

## 5.5 Environment

### Caravans and campervans

- Eleven percent (49) of the 462 notifiable accidents and 3% (22) of the 637 non-notifiable accidents occurred in caravans or campervans. Caravans and campervans were involved in 11 fatalities (10 fatal accidents) and injured 41 people (27 injury accidents) (see Figure 3J).
- Twenty-four percent (11) of total fatalities and 13% (41) of total injuries occurred in caravans or campervans. In the last 33 years there have been 0.3 fatalities, 1.2 injuries, 1.5 notifiable accidents and 0.7 non-notifiable accidents per year on average.
- Twenty-three (47%) notifiable accidents and 4 (18%) of non-notifiable accidents reported were caused by assembly, connection, installation, and alteration.



**FIGURE 3J:** LPG caravan accidents

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# Appendix

## IN THIS SECTION:

**Appendix 1:** Accidents and accident notification definitions

## Appendix 1: Accidents and accident notification definitions

The occupier or the person in charge of a non-work-related accident area is required by law to report to WorkSafe any accidents that are caused by electricity or gas that result in fatalities, serious injuries, or significant damage to property.

A notifiable electrical accident has the same meaning as a 'notifiable accident' in the Electricity Act 1992. A 'notifiable electrical accident' is defined as an accident that is caused wholly or partly by, or involves or affects, electricity, or involves or affects the generation, conversion, transformation, conveyance, or use of electricity, and results in:

- i. serious harm to any person, or
- ii. damage to any place or part of a place that renders that place or that part of that place unusable for any purpose for which it was used or designed to be used before that accident.

Serious harm means:

- death or injury that consists of or includes loss of consciousness, or
- injury that necessitates the person suffering the injury:
  - i. being admitted to hospital; or
  - ii. a notifiable injury or illness as defined in section 23 of the Health and Safety at Work Act 2015 (previously it was receiving medical treatment from a medical practitioner).

A notifiable gas accident has the same meaning as a 'notifiable accident' in the Gas Act 1992. A 'notifiable gas accident' is defined as an accident that:

- involves the production, conversion, supply, distribution, or use of gas, and results in:
  - i. serious harm to any person, or
  - ii. significant property damage.

Serious harm means:

- death or harm that incapacitates, or is likely to incapacitate, the person suffering harm for 48 hours or more
- harm that incapacitates, or is likely to incapacitate, the person suffering harm due to the inhalation of carbon monoxide, or
- a notifiable injury or illness as defined in section 23 of the Health and Safety at Work Act 2015 (previously it was 'harm of the kinds and descriptions that are serious harm under the Health and Safety in Employment Act 1992').

A non-notifiable gas accident is defined as an accident that:

- causes property loss, and/or
- causes injury below the threshold defined in the Gas Act 1992 and is involved with what is supposed to be a safe supply or use of fuel gas.



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ISSN: 2624-2958 (online)

Published: June 2026

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